DAVID Y. IGE
Ggovernor

FILE COPY
MAR 08 2017

KATHRYN S. MATAYOSHI
SUPERINTENDENT

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

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

RECEIVED
'17 FEB 24 P12:16
OFC. OF ENVIRONMENTAL
QUALITY CONTROL

February 17, 2017

TO: Scott Glenn
Director, Office of Environmental Quality Control
Department of Health

FROM: Duane Y. Kashiwai
Public Works Administrator, Facilities Development Branch

SUBJECT: **Draft Environmental Assessment (DEA-AFNSI) for Campbell High School, New Classroom Building Tax Map Key: (1) 9-1-001:002 (por.), Ewa, Oahu, Hawaii**

The State of Hawaii, Department of Education (DOE) hereby transmits the draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI) for the Campbell High School New Classroom Building project situated at TMK (1) 9-1-001:002 in the Ewa District on the island of Oahu, for publication in the next available edition of *The Environmental Notice*.

Enclosed is a completed OEQC Publication Form, two copies of the DEA-AFONSI, an Adobe Acrobat PDF file of the same, and an electronic copy of the publication form in Microsoft Word.

If there are any questions, please contact Brenda Lowrey, Facilities Planner, Planning Section, Facilities Development Branch, at (808) 784-5091.

DYK:jmb
Enclosures

c: William George, Project Management Section, Facilities Development Branch

17-377

AGENCY
PUBLICATION FORM

Project Name:	James Campbell High School Classroom Building Complex
Project Short Name:	Campbell HS New Classroom Building
HRS §343-5 Trigger(s):	Use of State Funds and Located on County Lands
Island(s):	O'ahu
Judicial District(s):	'Ewa
TMK(s):	(1)9-1-001:002 (por.)
Permit(s)/Approval(s):	Building Permits, Grading, Grubbing, Trenching, and Stockpiling Permits, Sewer Connection Permits, National Pollutant Discharge Elimination System Permit
Proposing/Determining Agency:	State of Hawai'i, Department of Education, Facilities Development Branch
Contact Name, Email, Telephone, Address	Brenda Lowrey, Brenda_Lowrey/FacilDev/HIDOE@notes.k12.hi.us (808) 377-8312, Facilities Development Branch, Planning Section, Rm. C-209, 3633 Waialae Avenue, Honolulu, HI 96816
Accepting Authority:	(for EIS submittals only)
Contact Name, Email, Telephone, Address	
Consultant:	Group 70 International, Inc.
Contact Name, Email, Telephone, Address	Christine Mendes Ruotola, AICP, christiner@g70.design (808) 523-5866, Group 70 International, Inc., 925 Bethel Street, 5th Floor, Honolulu, HI 96813

Status (select one)	**Submittal Requirements**
_X_ 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.
____ 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.

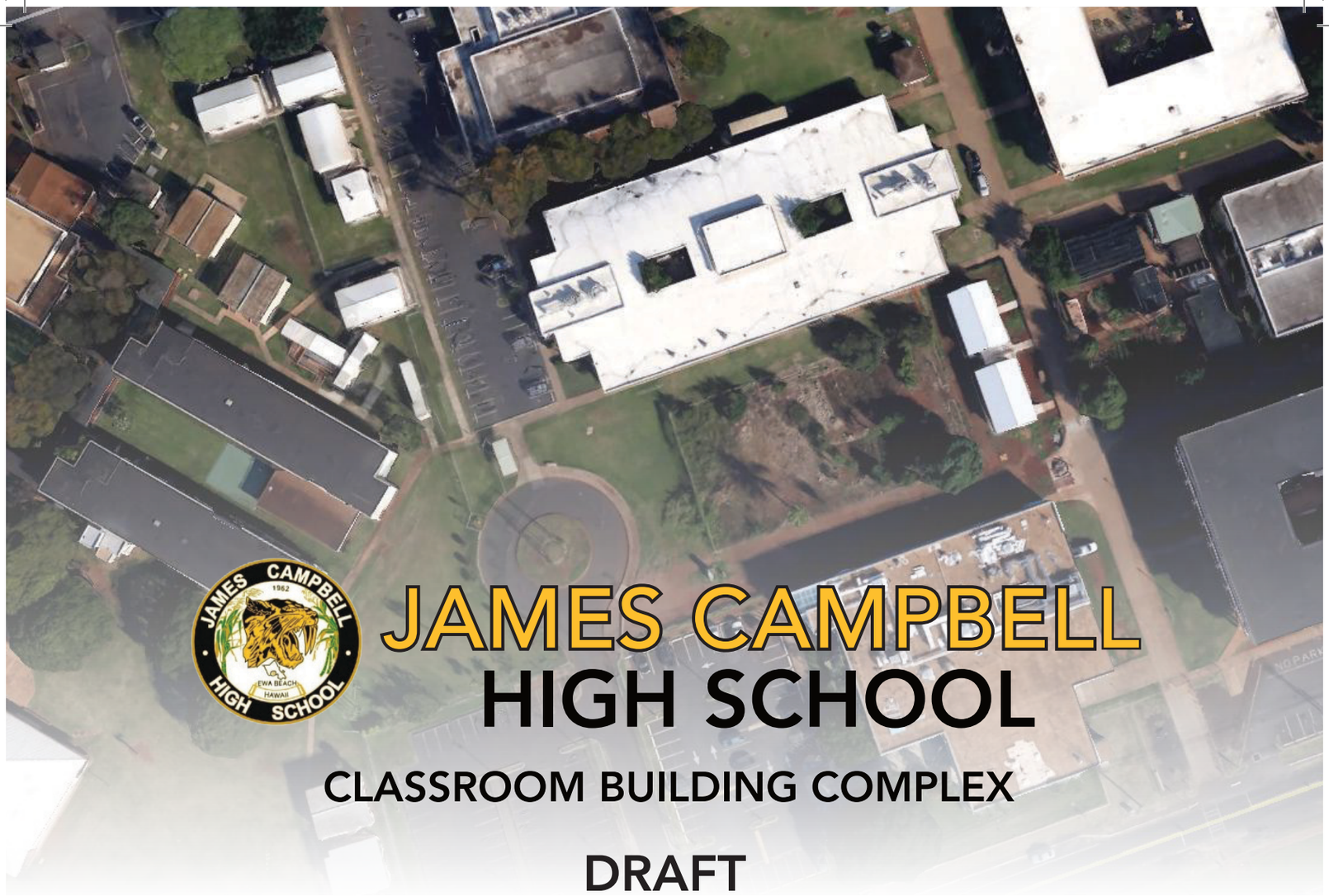
____ Withdrawal Identify the specific document(s) to withdraw and explain in the project summary section.

____ Other Contact the OEQC if your action is not one of the above items.

Project Summary

The State Department of Education (DOE) is proposing a new classroom building complex within the James Campbell High School campus located in 'Ewa, O'ahu, Hawai'i. The approximately 1.5 acre project site is located within the 30.31 acre campus situated on a portion of TMK (1) 9-1-001:002. The project site is located mauka of North Road on Residential zoned lands. The project parcel is owned by the City and County of Honolulu.

The Campbell HS Classroom Building will provide a new 3-story 52,000 gross square foot (sf) classroom building complex on the campus site. The complex, consisting of five buildings connected by walkways, will support the existing students and staff at Campbell High School with additional classrooms, new science labs, a culinary arts lab, a Hawaiian Studies classroom, faculty centers, and support spaces. The project will also reconfigure and repave the existing vehicle turnaround area to provide a thru driveway connection, additional tandem parking, and a bus loading area.



JAMES CAMPBELL HIGH SCHOOL

CLASSROOM BUILDING COMPLEX

DRAFT
ENVIRONMENTAL ASSESSMENT

Proposing Agency:

State of Hawai'i
Department of Education
Facilities Development Branch
P.O. Box 2630
Honolulu, HI 96804

Prepared by:

Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, HI 96813

FEBRUARY 2017

JAMES CAMPBELL HIGH SCHOOL CLASSROOM BUILDING COMPLEX

TMK (1) 9-1-001:002 (por.)
ʻEwa, Oʻahu, Hawaiʻi

Draft Environmental Assessment

This environmental document is prepared in accordance with the requirements of Chapter 343, HRS and Hawaiʻi Administrative Rules, Title 11, Department of Health.

Proposing Agency:
State of Hawaiʻi
Department of Education
Facilities Development Branch
P.O. Box 2630
Honolulu, HI 96804

Prepared by:
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, HI 96813

February 2017

Table of Contents

List of Figures iv
List of Tables iv
List of Appendices iv
List of Acronyms v

1.0 INTRODUCTION **1-1**
1.1 Project Information Summary 1-1
1.2 Project Site 1-2
1.3 Overview of the Planned Project 1-2
1.4 Purpose of the Environmental Assessment 1-2
1.5 Permits and Approvals Required 1-3
1.6 Agencies, Organizations and Individuals Contacted During the Pre-Consultation Process 1-3

2.0 DESCRIPTION OF THE PROJECT **2-1**
2.1 Project Location and Characteristics 2-1
2.2 Purpose of the Project 2-1
2.3 Description of Project 2-7
2.4 Project Utilities and Infrastructure 2-7
2.4.1 Water 2-7
2.4.2 Wastewater 2-8
2.4.3 Storm Drainage 2-8
2.4.4 Solid Waste Disposal 2-8
2.4.5 Other Utilities 2-8
2.4.6 Access, Roadways, and Parking 2-9
2.5 Construction Characteristics 2-9
2.5.1 Landscape Management 2-9
2.5.2 Excavations 2-10
2.5.3 General Construction 2-10
2.5.4 Summary of Projected Costs and Timeline of the Project 2-10

3.0 DESCRIPTION OF THE ENVIRONMENTAL SETTING, POTENTIAL IMPACTS, AND MITIGATION MEASURES **3-1**
3.1 Topography 3-1
3.2 Soils and Geologic Conditions 3-1
3.3 Climate 3-4
3.4 Natural Hazards 3-4

3.5 Flora and Fauna 3-5
3.6 Hazardous Materials 3-6
3.7 Air Quality 3-8
3.8 Noise 3-9
3.9 Utilities and Infrastructure 3-9
3.9.1 Water System 3-9
3.9.2 Wastewater 3-10
3.9.3 Storm Drainage 3-11
3.9.4 Electrical and Communications 3-11
3.10 Traffic and Roadways 3-12
3.11 Parking and Loading 3-15
3.12 Socio-Economic Characteristics 3-16
3.13 Public Facilities and Services 3-16
3.13.1 Educational Facilities 3-16
3.13.2 Recreational Facilities 3-17
3.13.3 Police 3-17
3.13.4 Fire 3-17
3.13.5 Emergency Medical Services 3-18
3.13.6 Solid Waste Management 3-18
3.14 Historic, Archaeological and Cultural Resources 3-18
3.14.1 Historic and Archaeological Resources 3-18
3.14.2 Cultural Resources 3-21
3.15 Visual Resources 3-22
3.16 Potential Cumulative and Secondary Impacts 3-26

4.0 ALTERNATIVES TO THE PROPOSED PROJECT 4-1
4.1 Alternative A – No-Action Alternative 4-1
4.2 Alternative B – Alternative Locations for the Proposed Project 4-1
4.3 Alternative C – Delaying Construction 4-1

5.0 PLANS AND POLICIES 5-1
5.1 Hawai‘i State Plan 5-1
5.2 Hawai‘i State Functional Plans 5-31
5.3 Hawai‘i State Land Use District Boundaries 5-31
5.4 Hawai‘i Coastal Zone Management Program 5-32
5.5 Hawai‘i 2050 Sustainability Plan 5-32
5.6 City and County of Honolulu General Plan 5-33
5.7 City and County of Honolulu – ‘Ewa Development Plan 5-34

5.8 City and County of Honolulu Land Use Ordinance Guidelines 5-35
5.9 Special Management Area 5-36

6.0 FINDINGS SUPPORTING THE ANTICIPATED DETERMINATION 6-1
6.1 Anticipated Determination 6-1
6.2 Reasons Supporting the Anticipated Determination 6-1
6.3 Summary 6-3

7.0 LIST OF REFERENCES 7-1

8.0 LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS RECEIVING COPIES OF THE EA 8-1

List of Figures

1-1 Project Location....1-4
1-2 TMK....1-5
1-3 State Land Use Designation....1-6
1-4 City and County of Honolulu Zoning....1-7
1-5 City and County of Honolulu 'Ewa Development Plan Land Use....1-8
1-6 Special Management Area....1-9
1-7 FEMA Flood Zone....1-10

2-1 Existing Site Plan....2-2
2-2 Site Plan of Improvements....2-3
2-3 Classroom Building Floor Plan, First Floor....2-4
2-4 Classroom Building Floor Plan, Second Floor....2-5
2-5 Classroom Building Floor Plan, Third Floor....2-6
2-6 Landscape Plan....2-11

3-1 Topography....3-2
3-2 Soils....3-3
3-3 Existing Peak Hour Traffic Volumes (Julian Ng Inc., 2016)....3-13
3-4 Portion of an early map of Honouliuli – Alexander 1873 (Keala Pono 2016)....3-20
3-5 Previous archaeological studies in the vicinity of the project area (Keala Pono 2016)....3-21
3-6 Site Photo Key....3-24
3-7a View from North Road looking southwest towards the Project Site....3-25
3-7b View from North Road looking north towards the Project Site....3-25
3-7c View from drop off circle looking northeast towards the Project Site....3-26

List of Tables

3-1 Fort Weaver Road and Aikanaka Street Existing and Future Conditions, Signalized Intersections....3-14
3-2 Fort Weaver Road and North Road Existing and Future Conditions, Signalized Intersections....3-14
3-3 Kilaha Street at North Existing and Future Conditions, Signalized Intersections....3-15

List of Appendices

A Preconsultation Letter, Comment Letters, and Responses
B Phase 1 Environmental Site Assessment
C Preliminary Engineering Report
D Traffic Evaluation
E Archaeological Assessment
F Cultural Impact Assessment

List of Acronyms

ADA	Americans with Disabilities Act
BMP	Best Management Practices
BWS	City and County of Honolulu Board of Water Supply
CAB	Clean Air Branch
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
CR	Coral Outcrop
DC	Detector Check
DOH	State of Hawai'i Department of Health
DPP	City and County of Honolulu Department of Planning and Permitting
EA	Environmental Assessment
EMS	Emergency Medical Services
FONSI	Finding of No Significant Impact
GPM	Gallons Per Minute
gsf	Gross square feet
HFD	Honolulu Fire Department
HPD	Honolulu Police Department
HRS	Hawai'i Revised Statutes
IBC	International Building Code
LID	Low Impact Development
LUO	City and County of Honolulu Land Use Ordinances
LUST	Leaking Underground Storage Tanks
MSL	Mean Sea Level
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation
RCRA	Resource Conservation and Recovery
ROH	Revised Ordinances of Honolulu
SAAQS	State Ambient Air Quality Standards
sf	Square feet
TMK	Tax Map Key
USDA	US Department of Agriculture
UST	Underground Storage Tanks

Section 1.0

INTRODUCTION

1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared in accordance with the requirements of Chapter 343, HRS and Hawai'i Administrative Rules, Title 11, Department of Health, which set forth the requirements for the preparation of environmental assessments.

1.1 PROJECT INFORMATION SUMMARY

Type of Document:	Environmental Assessment (EA)
Project Name:	James Campbell High School Classroom Building Complex
Proposing Agency:	State of Hawai'i Department of Education Facilities Development Branch P.O. Box 2360 Honolulu, HI 96804
Accepting Agency:	State of Hawai'i Department of Education Facilities Development Branch P.O. Box 2360 Honolulu, HI 96804
CH. 343, HRS Trigger:	Use of State Funds Use of County Lands
Project Location:	James Campbell High School 91-980 North Road 'Ewa Beach, O'ahu, Hawai'i *(Figure 1-1)*
Tax Map Key (TMK):	(1) 9-1-001:002 (por.) *(Figure 1-2)*
Landowner:	City and County of Honolulu
Project Area:	1.5 acres within the 30.31-acre school campus
State Land Use District:	Urban District *(Figure 1-3)*
City & County of Honolulu Zoning:	R-5 (Residential District) *(Figure 1-4)*
'Ewa Development Plan:	Residential and Low Density Apartment *(Figure 1-5)*
Special Design District:	None

Special Management Area: Not within SMA (*Figure 1-6*)

Flood Zone: D (Undetermined) (*Figure 1-7)*

Anticipated Determination: Finding of No Significant Impact (FONSI)

1.2 PROJECT SITE

The 1.5 acre project site is located within the 30.31 acre James Campbell High School Campus in ʻEwa, Oʻahu (*Figure 1-1*) situated on a portion of TMK (1) 9-1-001:002. . The project site is located mauka of North Road on Residential zoned lands (*Figure 1-4*). The project parcel is owned by the City and County of Honolulu. Within the property, James Campbell High School is adjacent to ʻIlima Intermediate School, Pohakea Elementary School, and Kaʻimiloa Elementary School (*Figure 1-1*).

1.3 OVERVIEW OF THE PLANNED PROJECT

The James Campbell High School Classroom Building Complex will provide a new 3-story 44,000 gross square foot (gsf) classroom building complex on the campus site. The complex, consisting of five buildings connected by walkways, will support the existing students and staff at James Campbell High School with additional classrooms, new science labs, a culinary arts lab, a Hawaiian Studies classroom, faculty centers, and support spaces. The project will also expand and repave the existing vehicle turnaround area to provide additional tandem parking and a bus loading area.

1.4 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

In accordance with the requirements of Chapter 343, Hawaiʻi Revised Statutes (HRS), an Environmental Assessment (EA) is being prepared as the proposed project utilizes State funds and is located on County lands. This Draft EA will be published in the Office of Environmental Quality Control Environmental Notice, which will commence a 30-day public review period.

This EA is presented in eight sections and includes the following: a detailed summary and project description; a list of necessary approvals; a description of the environmental setting; a discussion on potential impacts and proposed mitigation measures on identified natural, cultural, and socioeconomic resources as well as existing infrastructure; a description of alternatives; a discussion of the project's relationship to State and County land use plans and policies; findings supporting the anticipated determination; a list of references used in developing the EA; and a list of agencies, organizations, and individuals that participated in the pre-consultation phase of the EA.

After the 30-day review period of the Draft EA has concluded, public comments received will be considered and addressed to the extent feasible within the project scope and evaluation. A Final EA will then be prepared, highlighting key areas of the document that were revised, updated, or modified based upon information received during the public comment period. Upon acceptance of the Final EA, a Finding of No Significant Impact (FONSI) is anticipated.

1.5 PERMITS AND APPROVALS REQUIRED

Several other approvals will be required from the State of Hawai'i and City and County of Honolulu to implement the proposed action, some of which will include:

- Building Permits (Buildings, Electrical, Plumbing), and Sidewalk/Driveway Work – Department of Planning and Permitting (DPP)
- Grading, Grubbing, Trenching and Stockpiling Permits –DPP
- Sewer Connection Permits – DPP
- National Pollutant Discharge Elimination System (NPDES) Permit – Construction Storm Water – State Department of Health (DOH)

1.6 AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONTACTED DURING THE PRE-CONSULTATION PROCESS

A Pre-Consultation Memo and Participant Letter were sent on June 8, 2016 to initiate the environmental review process. These are included as *Appendix A.* A list of agencies and other parties that were presented notice of the proposed project or were contacted during the pre-consultation period of the Draft EA is provided in *Section 8.0* of this document. Additionally, a listing of those agencies that will be provided an opportunity to review the Draft EA is also provided in *Section 8.0*.



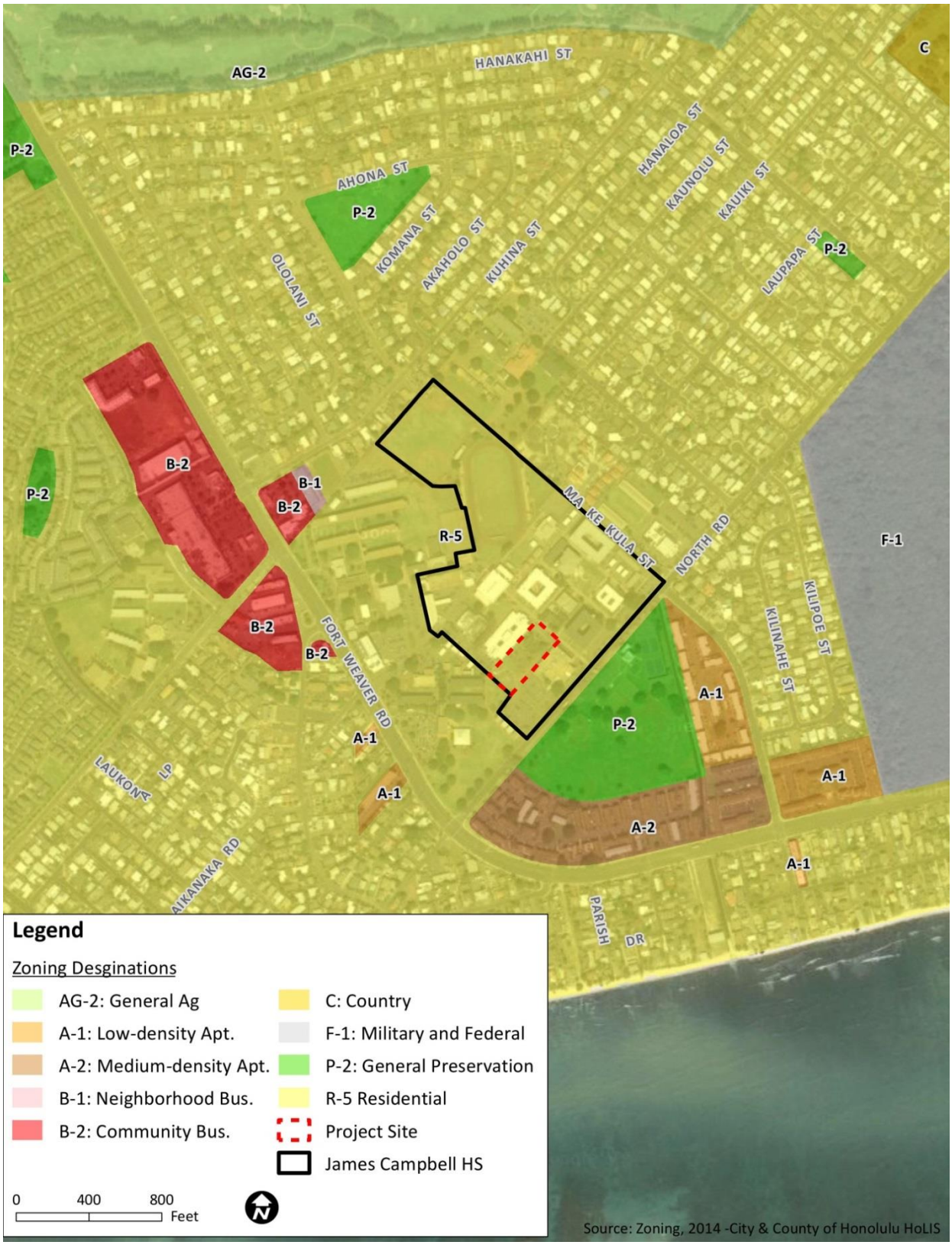
Project Location **Figure 1-1**



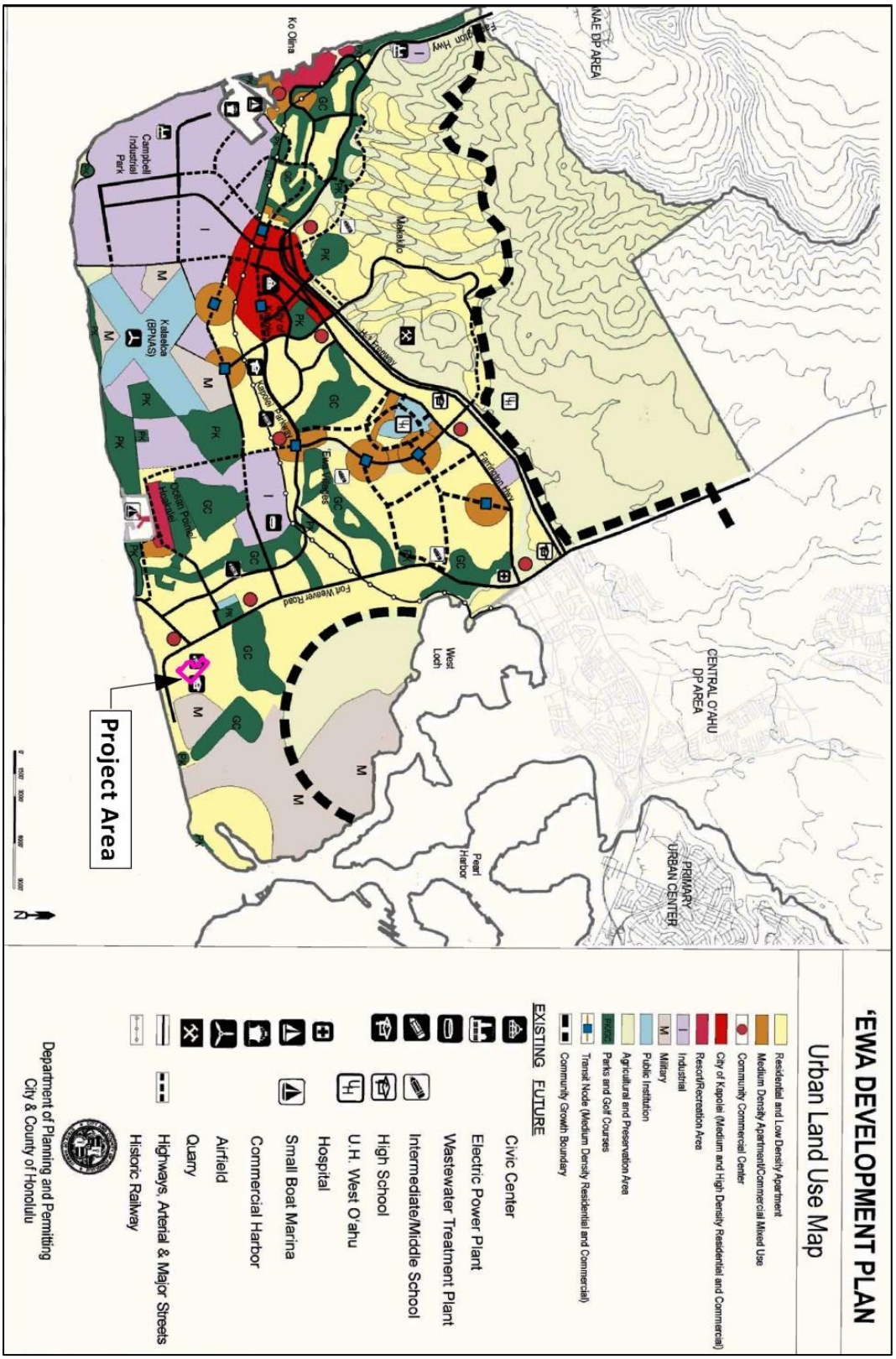
TMK (1) 9-1-001:002 **Figure 1-2**



State Land Use Designation **Figure 1-3**



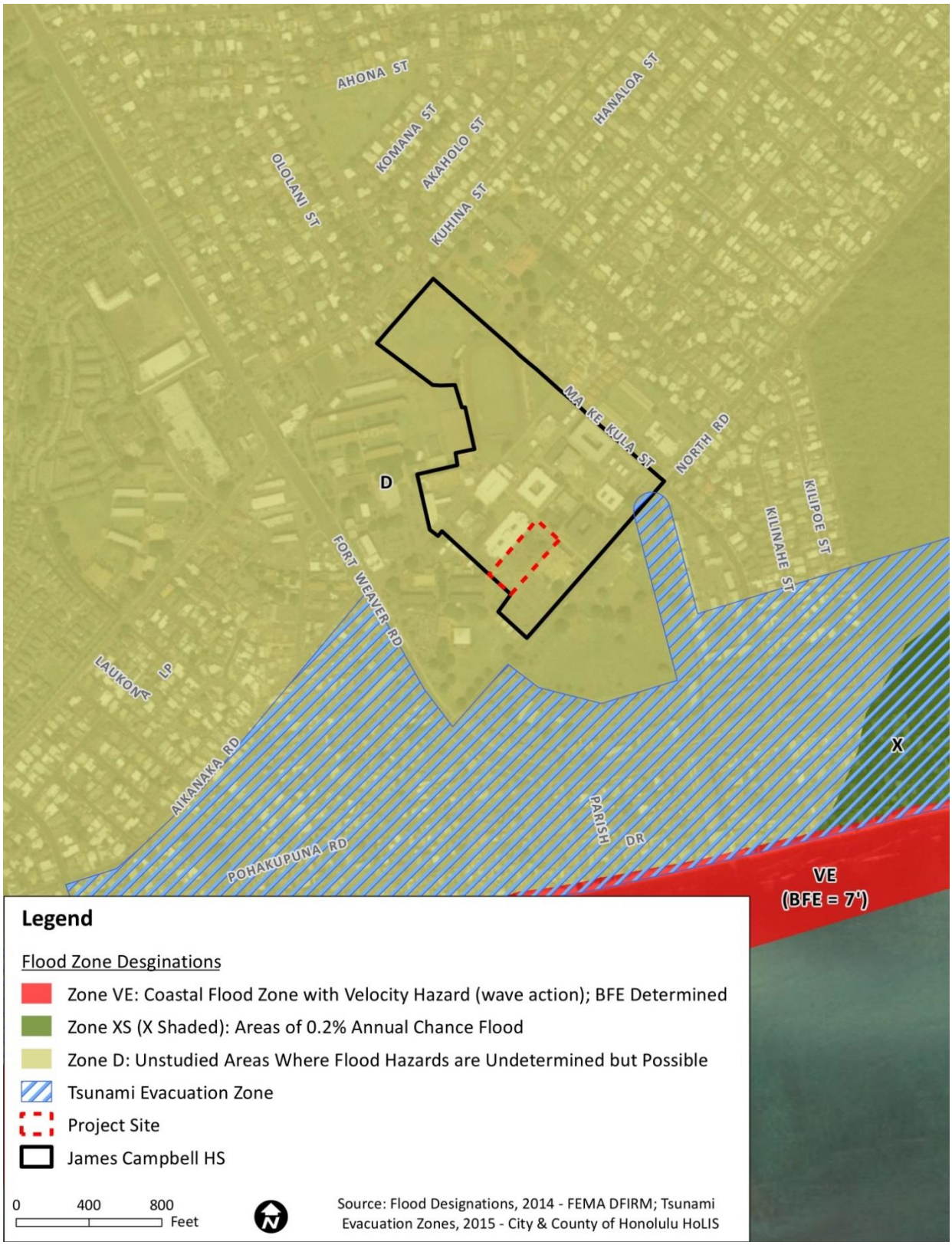
City and County of Honolulu Zoning **Figure 1-4**



City and County of Honolulu, 'Ewa Development Plan Land Use **Figure 1-5**



Special Management Area **Figure 1-6**



FEMA Flood Zone **Figure 1-7**

Section 2.0

DESCRIPTION OF THE PROJECT

2.0 DESCRIPTION OF THE PROJECT

2.1 PROJECT LOCATION AND CHARACTERISTICS

Location

The James Campbell High School Classroom Building Complex project site is located in the ʻEwa Beach District of the island of Oʻahu, Hawaiʻi (*Figure 1-1*). The site is within the traditional moku of ʻEwa and ahupuaʻa of Honouliuli. The project site is located on a portion of TMK (1) 9-1-001:002, and encompasses approximately 1.5 acres of the 57-acre parcel shared by ʻIlima Intermediate School, Pohakea Elementary School, Kaʻimiloa Elementary School, and James Campbell High School campuses (*Figure 1-2*). The project site is bounded by Our Lady of Perpetual Help School and Church to the north and northeast, and ʻIlima Intermediate School to the west. North Road bounds the project site directly to the east and southeast with residential communities located beyond. ʻEwa Beach Community Park is located directly opposite of North Road.

Ownership

The project site is owned by the City and County of Honolulu.

Adjacent Land Uses

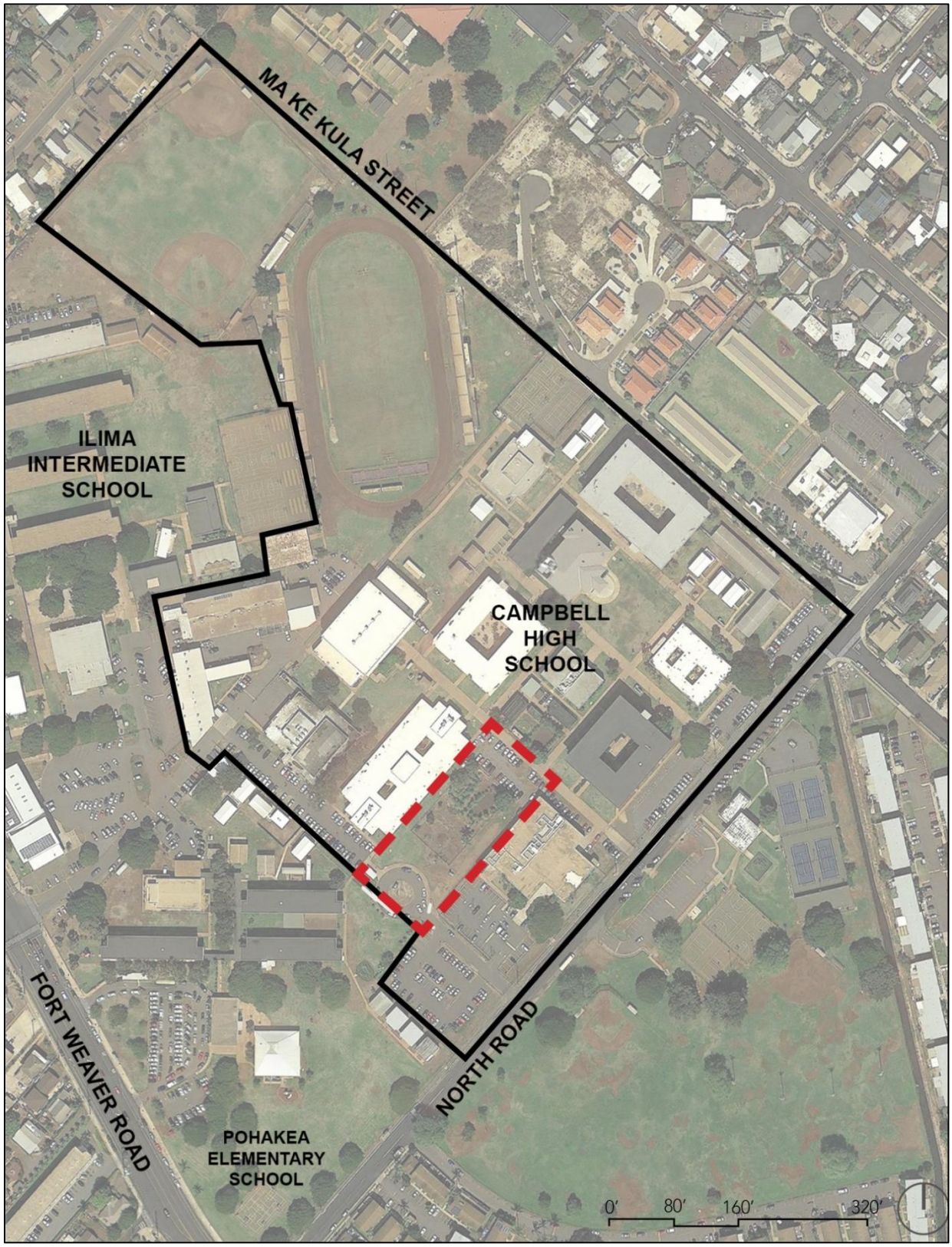
Land uses adjacent to the project site include school and residential areas immediately to the north, south, east and west. ʻEwa Beach Community Park is located southeast of the project site.

Existing On-Site Land Uses

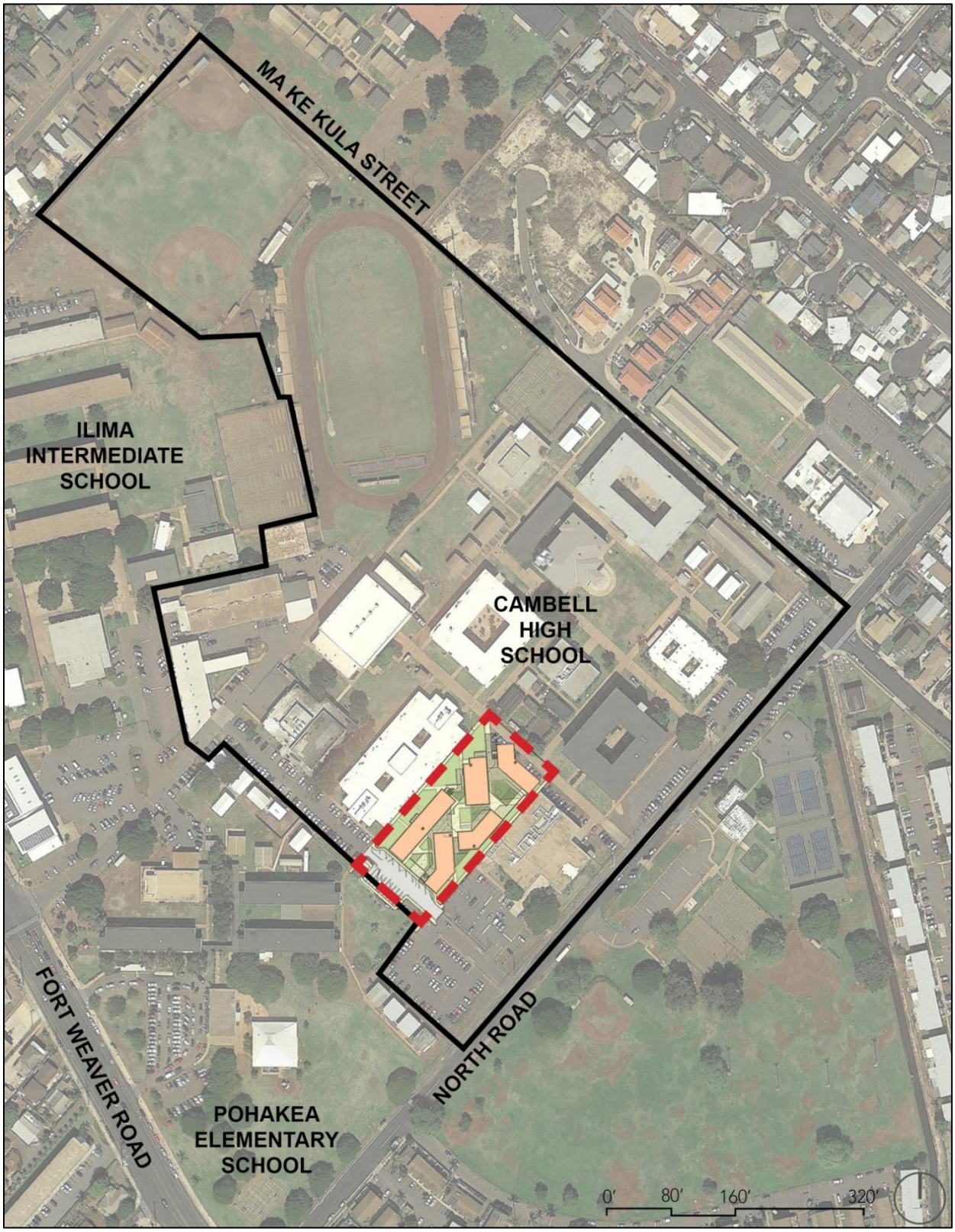
The project is located within the James Campbell High School campus. The existing campus consists of 11 major buildings and an athletic complex.

2.2 PURPOSE OF THE PROJECT

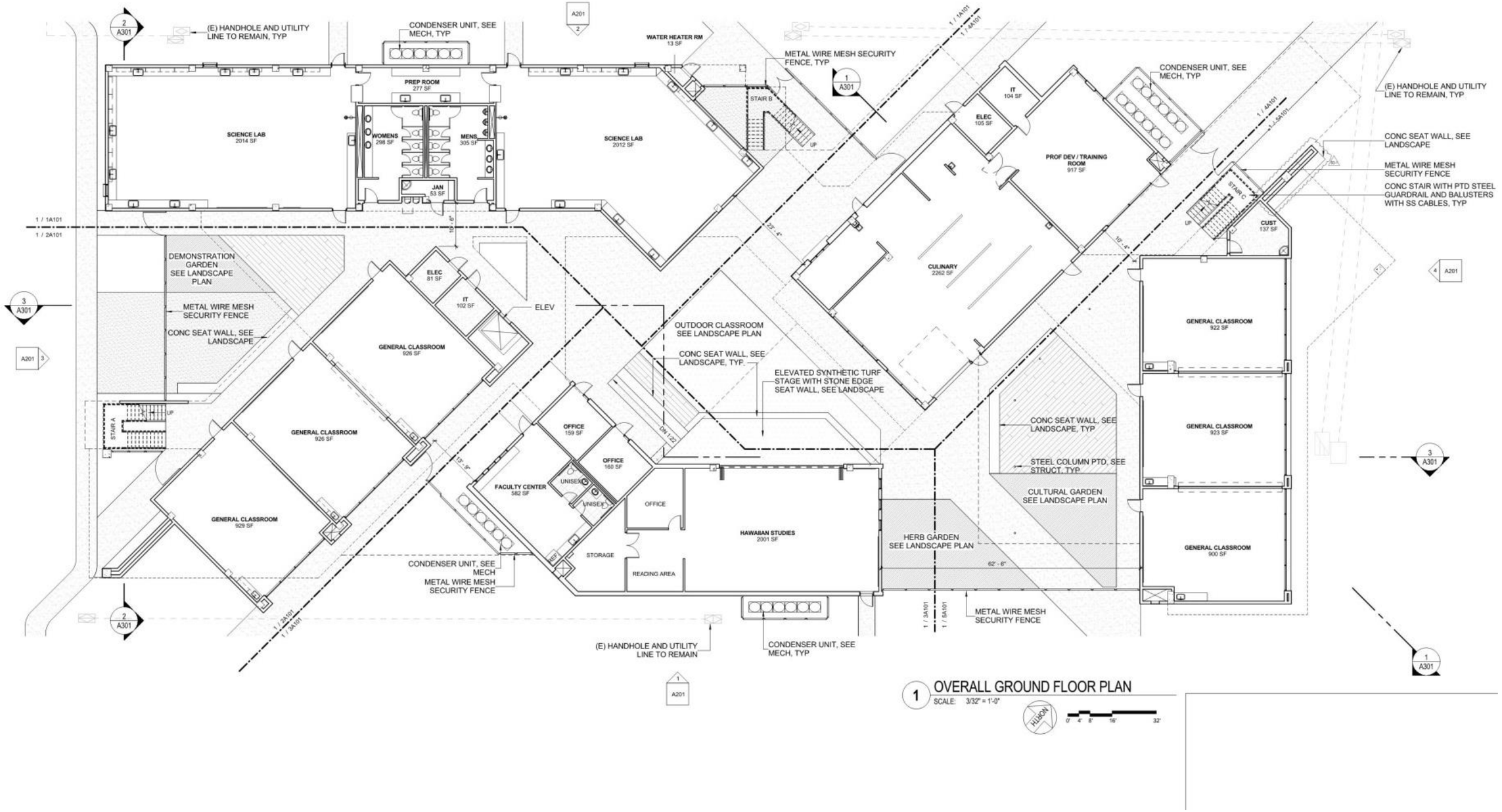
The James Campbell High School Classroom Building Complex project is intended to provide additional classroom and administrative space to support the existing large student body and administrative staff, as well as to accommodate the growing population. James Campbell High School's classroom facilities in the 2014-2015 academic year were over the space capacity by approximately 350 students. Enrollment in academic year 2019 is anticipated to grow to 3,600 students. The new classroom buildings will be located in a section of the campus that will serve as a welcoming entryway to the school. Repaved parking and a relocated bus drop-off area are intended to better serve the needs of the students and layout of the new buildings.



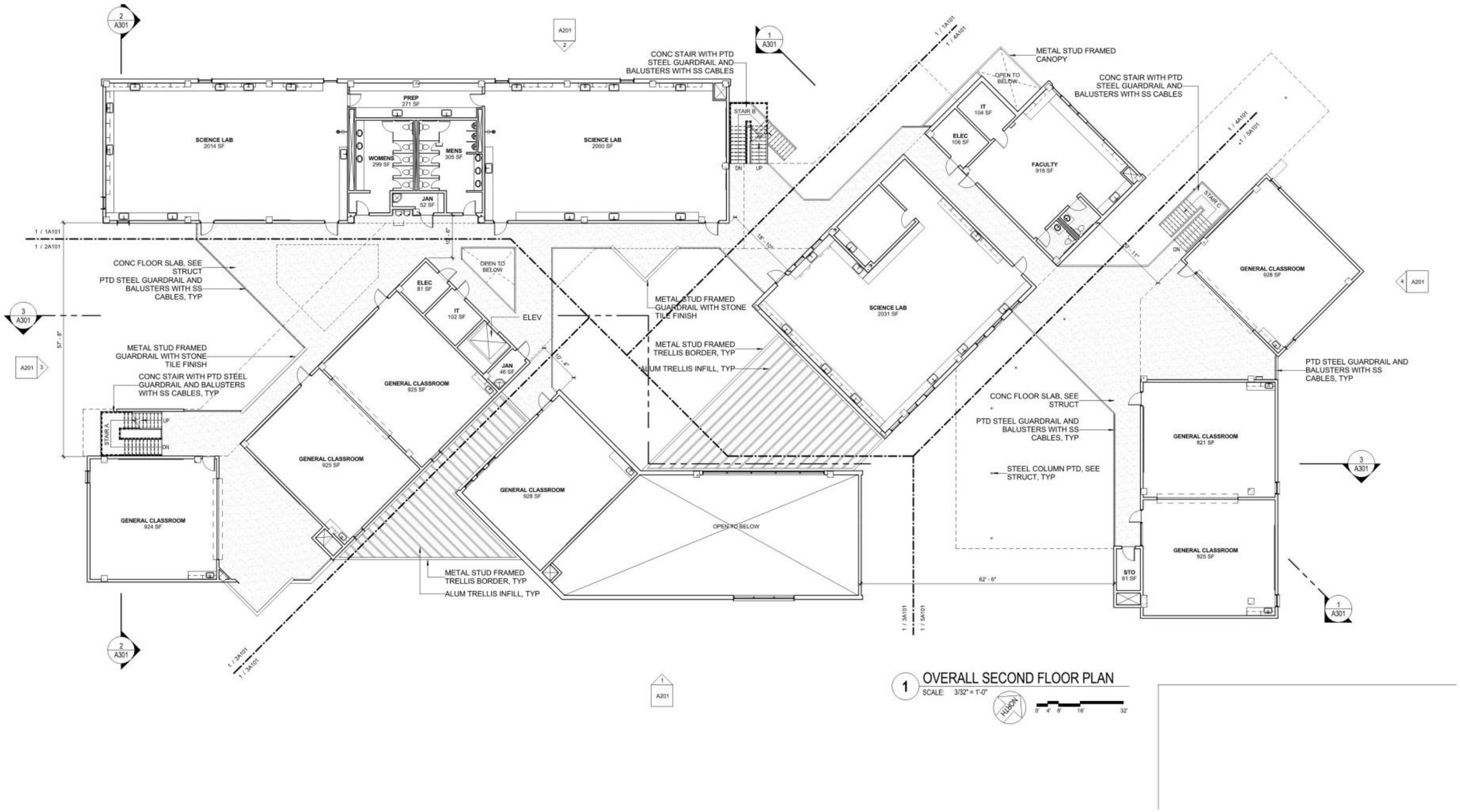
Existing Site Plan **Figure 2-1**



Site Plan of Improvements **Figure 2-2**

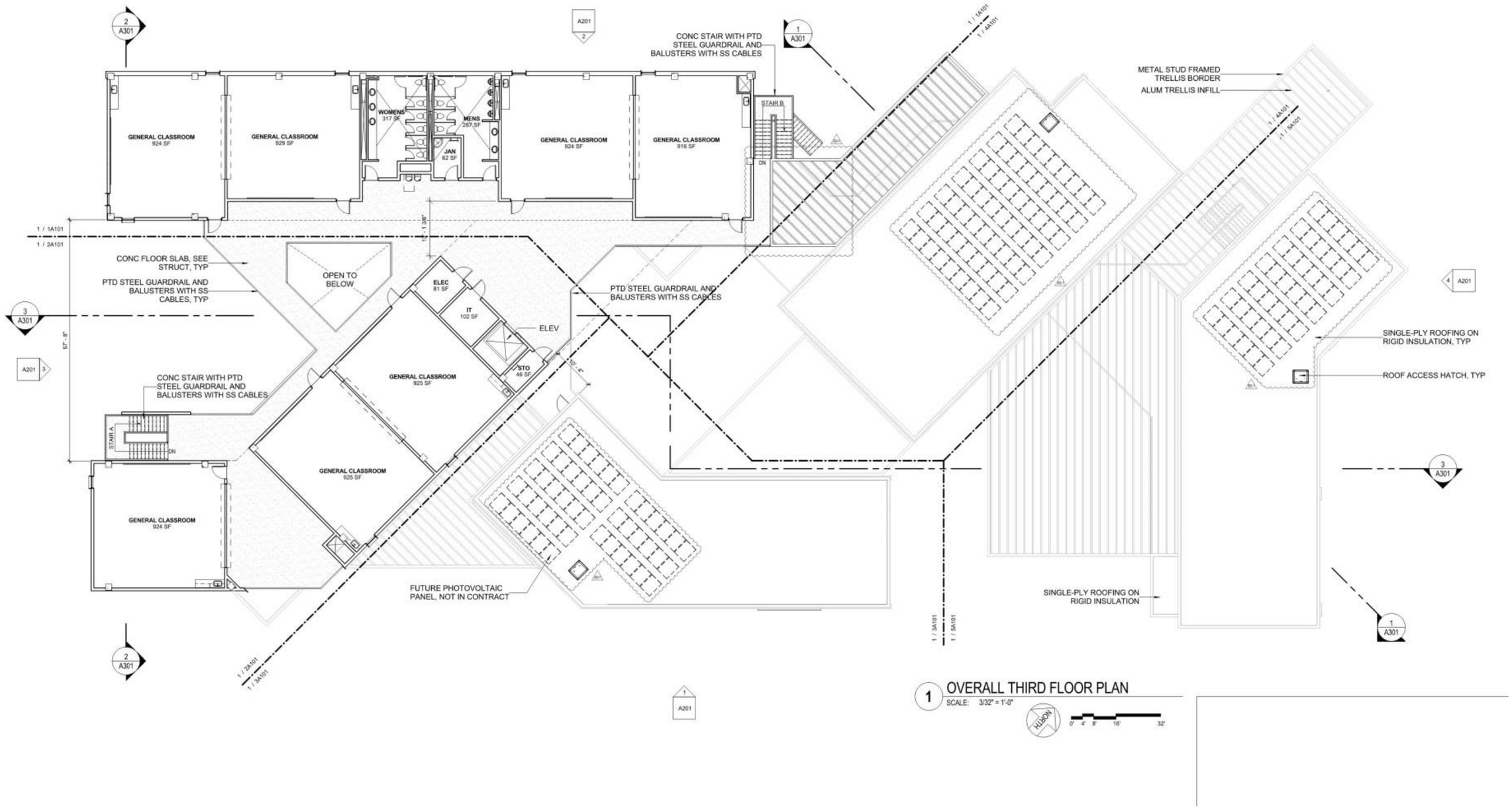


Classroom Building Floor Plan, First Floor **Figure 2-3**



Classroom Building Floor Plan, Second Floor

Figure 2-4



Classroom Building Floor Plan, Third Floor **Figure 2-5**

2.3 DESCRIPTION OF PROJECT

The James Campbell High School Classroom Building Complex project will construct a 3-story 44,000 gsf classroom building complex consisting of five buildings which will include 20 classrooms, two faculty center/workrooms, a culinary dining room, and support spaces on the school's former agriculture garden space. The project will also expand and repave the parking area between Pohakea Elementary School and the James Campbell High School library parking lot, and relocate the existing bus drop-off area. The new classroom buildings will meet the guidelines for Hawai'i Collaborative for High Performance Schools (HI-CHPS) for designing energy efficient, healthy, sustainable schools, and will have infrastructure suitable for photovoltaic installations.

2.4 PROJECT UTILITIES AND INFRASTRUCTURE

Overall existing conditions, impacts, and mitigation measures for utilities are discussed in *Chapter 3.0* of this document. The existing school site has water, electricity, wastewater, and solid waste collection services. The following section describes the physical characteristics of these site utilities with the addition of the new improvements.

2.4.1 Water

Domestic water service at James Campbell High School is provided by a Board of Water Supply (BWS) 12-inch water main along North Road and an 8-inch water main along Fort Weaver Road. A 2-inch meter located on the corner of Fort Weaver Road and North Road services the school. A private 6-inch domestic water line distributes water from the 2-inch meter to all campus buildings.

Fire protection water service at the campus is provided by the 12-inch BWS water main along North Road. Two 8-inch Detector Check (DC) meters along North Road service the campus. The two meters serve a private 8-inch fire protection water line that supplies multiple on-site fire hydrants along the fire access route.

The existing 2-inch potable water meter will need to be upsized to a 3-inch meter to meet the increased demand of 152 gallons per minute for the existing school campus and proposed classroom building complex. The project will connect an existing on-site 4-inch water line near Building O (northeast of the project area) for domestic water service.

The project will use the existing campus distribution system for new fire protection service. The existing 8-inch fire water line located along the existing roundabout will connect the entire classroom building complex to provide fire protection services. A portion of the existing fire water line will need to be re-rerouted around the proposed classroom buildings.

In addition, the two existing fire hydrants onsite will need to be relocated. All fire protection distribution will be designed in accordance to the State of Hawai'i's Water System Standards and the State Fire Code.

2.4.2 Wastewater

Wastewater service to the campus is provided through an existing 8-inch public sewer line and sewer structures along North Road. The site is served by a private wastewater collection system. The project site contains an existing 15-inch sewer line onsite within a sewer easement located on Me Ke Kula Street. The existing 8-inch sewer line connects to an existing sewer manhole located on Ma Ke Kula Street.

The sewer application for an additional 640 students was approved by the City and County of Honolulu DPP Wastewater Branch in August 2016. The existing onsite sewer system can be used to provide wastewater service to the project. The new sewer line proposed as part of the project will connect to an existing manhole located between the Library and Building O. The sewer system will be designed in accordance with the standards set by the Department of Wastewater Management and the Uniform Plumbing Code.

2.4.3 Storm Drainage

Stormwater at the campus is conveyed through a private drainage system that discharges to a public City and County of Honolulu 48-inch reinforced concrete pipe located along North Road. The on-site drainage system consists of a 36-inch drain line that runs parallel to North Road. An existing 18-inch drain line runs to the project site and is capped for future expansion.

The project is larger than one acre and will require an NPDES permit for installing Best Management Practices (BMPs). The project is also categorized as an A2 project for City stormwater quality requirements, which will require Low Impact Development (LID) features. Rain gardens will be developed at the project to collect and filter stormwater runoff through the soil matrix before entering the drainage system. Stormwater from the project will discharge into the City system and the improvements will be designed to comply with City drainage standards.

2.4.4 Solid Waste Disposal

Solid waste from the project site will be disposed of at an approved refuse disposal site. The project will generate some solid waste during construction. In addition, the operation and use of the site is anticipated to result in increased solid waste generation with an anticipated growing student body and increased overall occupancy at the school. Solid waste disposal and recycling programs that currently exist at the school will be maintained.

2.4.5 Other Utilities

The existing electrical service consists of two Hawaiian Electric Company (HECO) underground services to the campus. One HECO service is fed through a utility pole located on North Road to an electrical switchboard "D" located adjacent to Building A. The second HECO service is fed via an underground duct system throughout the James Campbell Complex (James Campbell High School;

Pohakea Elementary School, ʻIlima Intermediate School) to an electrical Switchboard C located adjacent to Building J. Secondary electrical distribution is fed to various buildings via underground electrical duct lines and handhole systems. The project will require additional electrical services to provide for lighting of the new classroom buildings. Electrical power will be reconnected to the existing classroom buildings. Electrical power, signal, and lighting systems will be established for the new classroom buildings.

2.4.6 Access, Roadways, and Parking

Access and Roadways
The James Campbell High School campus is bounded by North Road to the south and Ma Ke Kula Street (private) to the north. Existing vehicular access to the campus is from North Road, a two-way, two-lane roadway owned and maintained by the City and County of Honolulu. Private driveways throughout the campus provide access through the site to various parking lots and buildings on the campus. Fire access routes at the project site consist of 20 ft. wide sidewalks which run perpendicular to North Road. On-site fire hydrants are located along portions of the existing fire access routes.

Access to the new classroom buildings will be through the existing private driveways. In addition, access to the project will be provided with concrete sidewalks that connect to the existing facilities. All new sidewalks will be Americans with Disabilities Act (ADA) accessible.

Parking
The existing roundabout at the driveway will be converted to an additional parking and bus drop-off area. Preliminary design plans show that a total of 18 parking spaces and one ADA space will be provided.

The parking and bus drop off area design will comply with Honolulu Fire Department access requirements and the Revised Ordinances of Honolulu (ROH) LUO, Chapter 21.

2.5 CONSTRUCTION CHARACTERISTICS

2.5.1 Landscape Management

Clearing, grubbing and grading will be needed on the project site to develop the new facility. Landscaping will be planted along the perimeter of the classroom buildings. A landscape planting plan was prepared for the project, which include various plant species and bioswales for catching stormwater runoff onsite (*Figure 2-1*). Some of the additional landscaping and plants may include future establishment of green and variegated ti leaf (*Cordyline fruticose)*, alaheʻe (*Psydrax odoratum)*, puakenikeni (*Fagraea berteriana)*, hāʻawa (*Pittosporum)*, lonomea (*Sapindus oahuensis)*, kului (*Nototrichium sandwicense)*, hinahina (*Pentacarya heliotropioides)*, ʻohai (*Sesbania tomentosa)*, ʻuala (*Ipomoea batatas)*, and pili grass (*Heteropogon contortus*).

2.5.2 Excavations

The project site is generally level as the new buildings will be built in areas which are already developed. Modification to the topography for the classroom buildings will be minimal consisting of fine adjustments to site grades to allow for concrete walkways and ADA ramps. The conversion of the roundabout to a new parking lot and bus drop-off area is also expected to require minimal excavation.

2.5.3 General Construction

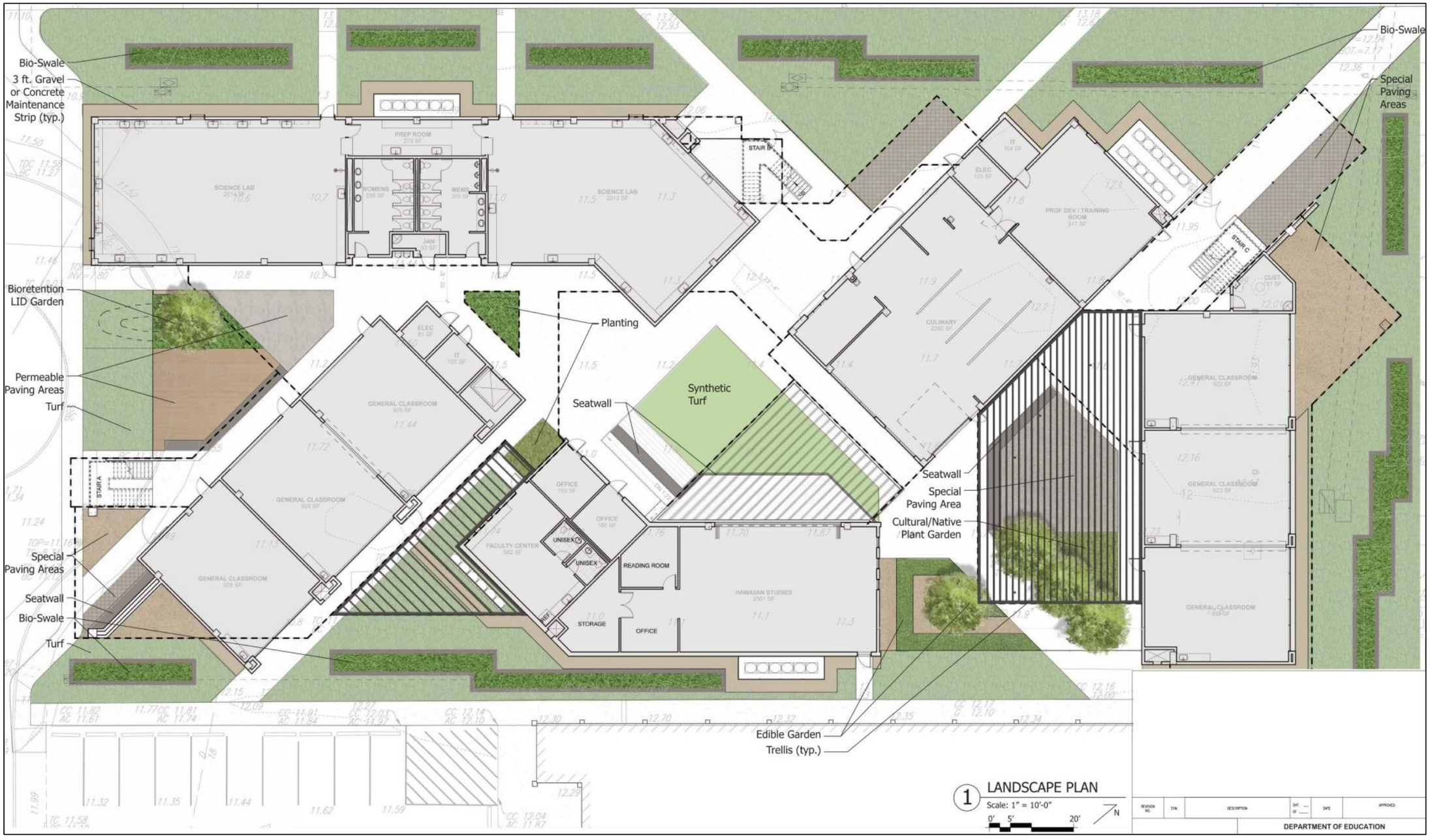
The construction of the project will include the formation and placement of foundations, the installation of mechanical equipment, electrical wiring equipment, drainage infrastructure, and general carpentry work, painting and many other trades and work associated with construction activities. Construction work will be performed in accordance with the Federal, State, and City approved design standards.

Construction activity hours will be from 7:00 am to 6:00 pm. Construction will adhere to applicable noise regulations as per Title 11, Chapter 46, of the Honolulu Administrative Rules 11-46. Typical construction vehicles will be used on the jobsite for the development of the project. These may include D9 dozers, front-end loaders, scraper, dump trucks, water trucks, etc. A permit from DOT Highways will be obtained for transport of oversize equipment and overweight loads.

The project will comply with NPDES permit requirements for construction activity. A NPDES permit for discharge of stormwater associated with construction activities will be obtained. The requirements of the approved NPDES permit and erosion control plan will be adhered to during construction as appropriate. Construction and grading plans for the project will be submitted to appropriate agencies for review and approval.

2.5.4 Summary of Projected Costs and Timeline of the Project

Costs for the James Campbell High School Classroom Building Complex project are estimated at $28 million. The project will be funded by the State of Hawai‘i. The projected is estimated for completion in May 2019.



Landscape Plan **Figure 2-6**

Section 3.0

DESCRIPTION OF THE ENVIRONMENTAL SETTING, POTENTIAL IMPACTS AND MITIGATION MEASURES

3.0 DESCRIPTION OF THE ENVIRONMENTAL SETTING, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the existing environmental setting and identifies possible impacts of the proposed project. Strategies to mitigate those potential impacts are also identified.

3.1 TOPOGRAPHY

Existing Conditions

James Campbell High School is located in ʻEwa Beach, Oʻahu. The developed property is approximately 10 feet above mean sea level (MSL) and is generally comprised of level terrain (*Figure 3-1*). The site generally slopes from the northeast to the southwest towards North Road and Pohakea Elementary School. The slopes on the property range from approximately 0.5% to 1%.

Anticipated Impacts and Mitigation Measures

No substantial changes to the site's topography will be made, although some excavation and grading will be required during the construction process to accommodate the new classroom buildings and improved parking areas. Best Management Practices (BMP) will be implemented pursuant to the required Grading Permit to mitigate any potential impacts of soil erosion and fugitive dust during any grading or excavation.

3.2 SOILS AND GEOLOGIC CONDITIONS

Existing Conditions

According to the *Geologic Map and Guide of Oahu, Hawaii* (1939), the site is situated within the ʻEwa Coral Plain, on the western part of the island. The ʻEwa Coral Plain is approximately eight miles long and is characterized by limestone deposits.

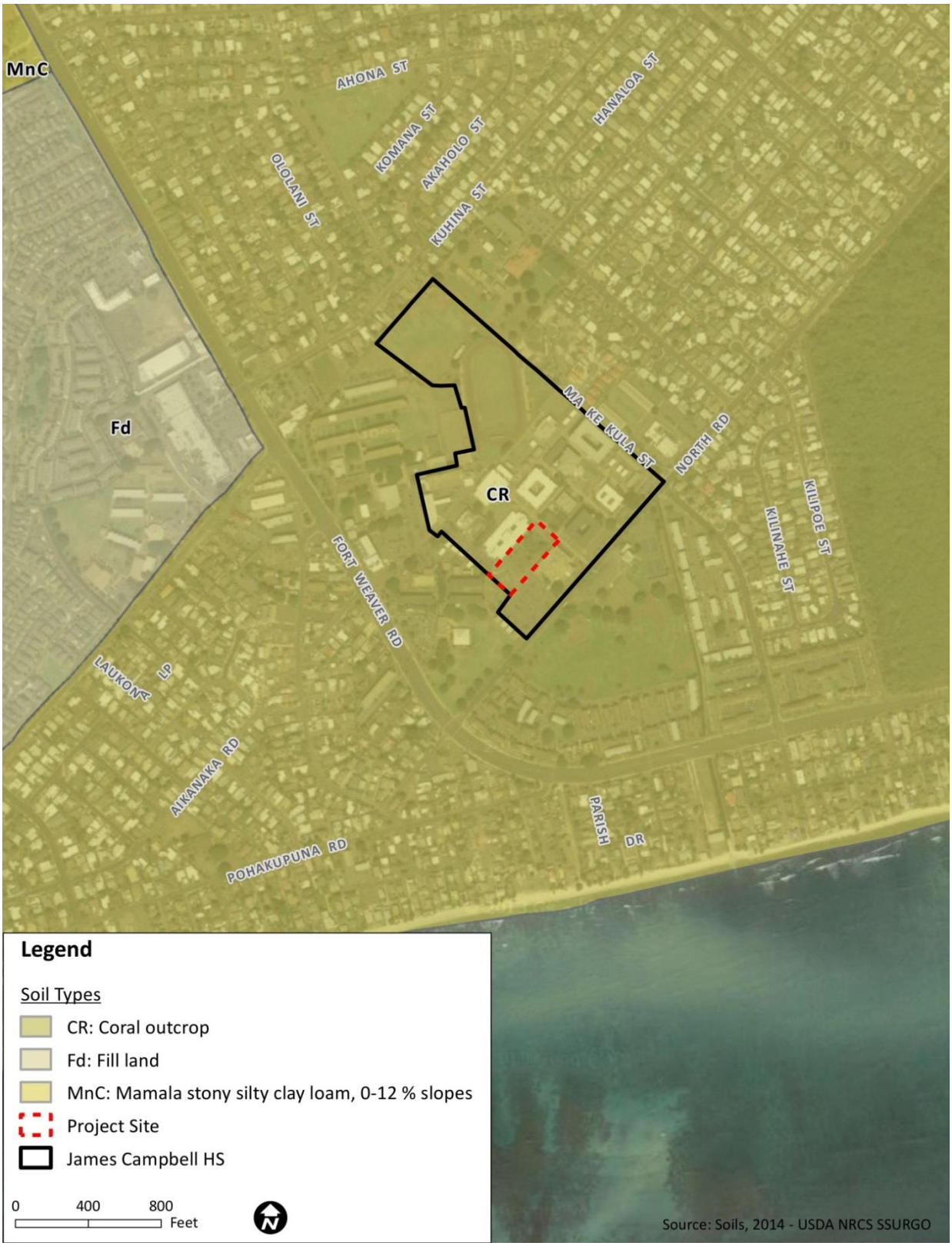
Soil types within the project site are identified in the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey. The USDA NRCS system classifies soils by type and permeability characteristics, including run-off and erosion. As depicted in *Figure 3-2,* the site consists of Coral outcrop (CR). Coral outcrop consists of coral and hardened calcareous sands. This type of soil is well drained. Permeability is moderately high to high and runoff is slow.

Anticipated Impacts and Mitigation Measures

The project development will not change the overall soil composition at the site. Due to grading and leveling, soil will be disturbed. During project construction, erosion control practices will comply with County, State, and Federal regulations. BMPs will be implemented pursuant to the required Grading Permit to mitigate potential impacts of soil erosion and fugitive dust during grading or excavation. At a minimum, these practices will include: sediment traps, silt fences, dust fences, inlet protection, stabilized construction entrances and truck wash-down areas. A State DOH NPDES permit will be obtained for the project prior to construction.



Topography **Figure 3-1**



Soils **Figure 3-2**

3.3 CLIMATE

Existing Conditions

According to the University of Hawai'i Geography Department *Climate of Hawai'i* interactive mapping tool, the annual average air temperature in 'Ewa Beach is 75°F. The average monthly low temperature is around 71°F in January and February and the average monthly high temperature is around 78°F in August. The western and southern regions of the island are typically drier than the windward and northern regions. The annual average rainfall in 'Ewa Beach is 17.86 inches, and the average rainfall per month is 1.78 inches. Rainfall in the region is fairly evenly distributed from November through February. The wettest month of the year is January with an average rainfall of 3.54 inches.

Anticipated Impacts and Mitigation Measures

The project will have no effect on climatic conditions, and therefore no mitigation measures are required.

3.4 NATURAL HAZARDS

Existing Conditions

Flooding

Based on the Federal Emergency Management Agency's *Flood Insurance Rate Map*, the project site is located in Zone D. Zone D is defined as, "Undetermined Flood Hazard" (*Figure 1-7*).

Tsunami

While tsunami inundation of low lying coastal areas is a natural phenomenon in Hawai'i, it is infrequent. The islands are exposed to the major tsunami wave generating areas of the Pacific Ocean. The project site is inland from the County's tsunami inundation evacuation zone (*Figure 1-7*).

Seismic Activity

Per the 2012 International Building Code (IBC) seismic design maps, the entire City and County of Honolulu could experience seismic activity around 0.15 of the earth's gravitational acceleration (g-force) under a 1.0 second spectral response acceleration event. In comparison, the County of Hawai'i, with its ongoing volcanic activity, could experience ground motion anywhere from 0.30 up to 1.23 of the earth's g-force, demonstrating that the island of Hawai'i could experience severe seismic activity.

Climate Change and Sea Level Rise

The effects of climate change are expected to be evident within this century, with global mean temperatures warming by at least 2.7 degrees Fahrenheit. With a warmer global climate, oceans are anticipated to warm leading to increased sea levels and acidic waters from increased levels of CO_2, which compounded will have increased threats to marine ecosystems.

Sea level rise is a primary factor driving historical shoreline changes in Hawai'i. The average annual global sea level rise over the last century was approximately 1.88 millimeters, with studies indicating that this rate may accelerate in the coming decades.

Climate researchers predict that rising sea levels mostly caused by man-made climate change will affect coastal locations around the State of Hawai'i. Sea level rise scenarios for Honolulu project up to a three ft. increase over the next 85 years.

Moreover, sea levels in the central western Pacific Ocean may reach approximately 1 ft. to 2.5 ft. higher than the global average sea level rise by the end of the century. These pressures may also exacerbate flooding issues, with sea level rise elevating groundwater tables during higher tides.

While detailed projections of sea level rise have not been completed for the West O'ahu region, the National Oceanic and Atmospheric Administration's (NOAA) online sea level rise and flooding viewer predict that the school site will be unaffected by up to 6-ft. increases in sea levels.

Anticipated Impacts and Mitigation Measures

The project is not expected to be affected by flood or tsunami inundation. To prevent ponding or localized flooding resulting from stormwater run-off, new drainage infrastructure for the project site will be designed and constructed to meet applicable standards. All construction will conform to relevant building codes to minimize the risk of wind and seismic damage.

The proposed project will not contribute to adverse impacts relating to existing climate change and sea level rise. In addition, the project is not anticipated to be affected by climate induced sea level rise.

The project will serve existing 'Ewa Beach students. The project is not expected to significantly contribute to existing greenhouse gas emissions and as a result is not anticipated to exacerbate overall long-term climate change. The buildings will be designed to meet the guidelines for the Hawai'i Collaborative for High Performance Schools (HI-CHPS) for designing energy efficient, healthy, sustainable schools, and will have infrastructure suitable for photovoltaic installations.

3.5 FLORA AND FAUNA

Existing Conditions

Flora

The project site is situated within a residential area of the 'Ewa Beach community, in the existing campus. The site is located on the school's former agriculture garden space and contains patches of lawn grass and scattered woody plant vegetation including a mango tree (*Mangifera indica*), coconut tree (*Cocos nucifera*), and papaya (*Carica papaya)* trees. No grasses, shrubs, or trees within the project site are known to be protected under State or Federal environmental laws.

Fauna

Due to the site's developed nature and location within a highly urbanized area, it is unlikely that threatened or endangered species are present on the site. Species commonly found in urban environments like James Campbell High School include feral cats (*Felis catus*), rats (*Rattus sp.*), house mouse (*Mus musculus*), and Indian mongoose (*Herpestes a. auropunctatus*). Birds common to the campus include the common mynah (*Acridotheres tristis*), Red crested Cardinal (*Paroaria coronate*),

Northern Cardinal (*Cardinalis cardinalis*), House Finch (*Capodacus mexicanus*), Java Sparrow (*Padda oryzivora*), Rock Pigeon (*Columba livia*), Spotted Dove (*Streptopelia chenensis*), Zebra Dove (*Geopelia striata*), Red-vented Bulbuls (*Pyconotus cafer*), and Japanese White-eye (*Zosterops japonicus*).

Urbanized areas like the James Campbell High School campus are typically not suitable habitats for threatened, endangered, or candidate faunal species. However, in consultation with the U.S. Fish and Wildlife Service, the endangered Hawaiian hoary bat, endangered Hawaiian stilt, endangered Hawaiian gallinule, endangered Hawaiian coot, endangered Hawaiian duck, endangered Hawaiian petrel, and the threatened Newell's shearwater may occur within the vicinity of the project. The wedge-tailed shearwater, which is protected under the Migratory Bird Treaty Act, may also occur within the vicinity of the project.

Anticipated Impacts and Mitigation Measures

None of the vegetation within the project site is known to be Federal or State threatened or endangered or candidate species. The construction of the proposed project is not expected to result in significant adverse impacts to existing plant species. The project will be located in a portion of the campus that is currently undeveloped containing a fence and trees, with portable buildings that will be relocated prior to construction. The project will include additional landscaping, synthetic turf, and LID strategies such as bioswales around the new buildings. Plant species may include green and variegated ti leaf (*Cordyline fruticose)*, alaheʻe (*Psydrax odoratum)*, puakenikeni (*Fagraea berteriana)*, hāʻawa (*Pittosporum)*, lonomea (*Sapindus oahuensis)*, kului (*Nototrichium sandwicense)*, hinahina (*Pentacarya heliotropioides)*, ʻohai (*Sesbania tomentosa)*, ʻuala (*Ipomoea batatas)*, and pili grass (*Heteropogon contortus*).

In an effort to minimize impacts to Hawaiian hoary bats or wedge-tailed shearwaters, construction mitigation measures will be implemented. Woody plants greater than 15 feet in height will not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). In addition, construction activities will be limited to daylight hours to avoid the use of construction work lights which may attract and disorient seabirds. Lighting for the project will be designed with shielding, and directed downward to avoid attracting seabirds.

3.6 HAZARDOUS MATERIALS

A Phase 1 Environmental Site Assessment was conducted for the project site by EnviroQuest, Inc. of Aiea, Hawaiʻi. The report is included as *Appendix B*.

Existing Conditions

Hazardous waste is defined as having a chemical composition or containing other properties that make it capable of causing illness, death, or some other harm to humans and other life forms when mismanaged or released into the environment.

Based on a review of Federal and State records, the report identified registered, permitted, or regulated units within 0.5 miles of the site that involve the management of hazardous substances or petroleum. No National Priorities List (NPL) or proposed NPL sites occur within 0.5 miles of the subject property. In

addition, no solid or hazardous waste landfills or facilities regulated under the U.S. Clean Air Act were identified in the vicinity of the project area.

Federal Comprehensive Environmental Resource Compensation and Liability Information
One Federal Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS), listed as USAF Palehua Solar Observatory at the Hickam Air Force Station, is located within 0.5 miles of the subject property, and does not impact the project area.

Federal Resource Conservation and Recovery
There are no Resource Conservation and Recovery (RCRA) Information System (RCRIS) treatment, storage, or disposal facilities near the project area. One Corrective Action Report for hazardous waste facilities (CORRACTS) was found within one mile of the property at Honolulu Wood Treating. These Federal RCRA sites do not affect the project site.

State Equivalent NPL and CERCLIS
One site on the DOH SITELIST, which is the State of Hawai'i equivalent of the EPA CERCLIS, is documented on the subject site. An additional DOH SITELIST is within a mile of the campus at the 'Ewa Beach Chevron. These sites do not pose environmental concerns for the project.

State Leaking Underground Storage Tanks
Leaking Underground Storage Tanks (LUST) are reported by the DOH. One LUST site is listed between 0.125 and 0.25 miles of the campus. Six other LUST sites are located between 0.25 to 0.5 miles from the campus. All sites are classified as "No Further Action" by the DOH and do not pose environmental threats to the project.

Underground Storage Tanks
No Underground Storage Tanks (UST) are registered on the project property. One UST facility is located southwest of the campus but does not pose any threats to the subject site.

State of Hawai'i Department of Health and Local Records
The DOH Hazard Evaluation and Emergency Response Office reported that there were no records for James Campbell High School or requested surrounding sites. In addition, local records at the County Real Property Assessment division did not reveal signs of environmental issues. Development on the school's site was first observed in 1968.

Environmental Lien and Activity and Use Limitations Search
A search of environmental liens and activity use limitations did not identify any environmental liens on the subject property.

Site Reconnaissance and Interviews
A site reconnaissance was conducted in April 2016 of the subject site and surrounding area, and consisted of a visual inspection. The reconnaissance revealed possible evidence of potential

environmental concern. However, visual inspections of the pad-mounted transformers at the southwest portion of the site showed no physical evidence for leaking liquids that would impact the environment.

An interview with the Vice Principal of James Campbell High School and questionnaire completed by Group 70 International, Inc. did not show concerns for hazardous environmental issues at the site.

Anticipated Impacts and Mitigation Measures

The review of all pertinent documentation and a visual site investigation did not reveal Recognized Environmental Concerns (REC) of the subject property. No mitigation measures for hazardous materials are recommended for the project.

3.7 AIR QUALITY

Existing Conditions

The State DOH, Clean Air Branch (CAB) has established the State Ambient Air Quality Standards (SAAQS). The DOH-CAB regularly samples ambient air quality at monitoring stations throughout the State, and annually publishes this information. On Oʻahu, there are four monitoring stations. The closest station to the project site is located in Kapolei in the Kapolei Business Park, which measures SO_2, CO, NO_2, PM_{10}, and $PM_{2.5}$.

In general, air quality in the State of Hawaiʻi continues to be one of the best in the nation, and criteria pollutant levels remain well below SAAQS. According to the *Annual Summary 2014 Hawaiʻi Air Quality Data,* air quality monitoring data compiled by the DOH indicates that the established air quality standards for all monitored parameters are consistently met throughout the State and on the island of Oʻahu. Present air quality in the project area is primarily affected by motor vehicles, with carbon monoxide being the most abundant of the pollutants emitted. Air quality data from the nearest monitoring stations suggest that all National and State air quality standards are currently being met, although occasional exceedances of the more stringent State standards for carbon monoxide may occur near congested roadway intersections.

Anticipated Impacts and Mitigation Measures

Construction

Two types of short-term air quality impacts that will result from the construction project are: 1) fugitive dust generation dust from vehicle movement and soil excavation and 2) on-site/off-site emissions from moving construction equipment and commuting construction workers. Air quality monitoring will be implemented to ensure compliance with National and State air quality standards.

State of Hawaiʻi Air Pollution Control regulations prohibit visible emissions of fugitive dust from construction activities at the property line. A dust control program will be implemented to control dust from construction activities. Fugitive dust emissions will be controlled through mitigation measures such as watering active work areas, using wind screens, keeping adjacent paved roads clean, covering open-bodied trucks and limiting the area to be disturbed at any given time.

Operations
Operations at the project site will not result in outputs that will adversely affect air quality. No noxious odors will be generated directly from the operation of the new classroom buildings. Negligible increases in the level of carbon monoxide emissions will result from the additional parking stalls. No adverse impacts associated with air quality, dust, and odors are anticipated to occur as a result of the project.

3.8 NOISE

Existing Conditions
Existing background ambient noise levels within the project area are largely attributed to motor vehicle traffic along streets bordering the project site and students from the school grounds. The noise levels around the project site are consistent with noise levels found in residential areas.

Anticipated Impacts and Mitigation Measures
The project is not likely to result in a significant increase in ambient noise levels, as the classroom buildings are serving the existing activities at the school. While noise will be generated during the construction period, the project is not expected to significantly impact the homes, businesses or organizations surrounding the project site. No mitigation measures are proposed at this time for the operations of the project, since the noise generated by current and proposed activities is not expected to exceed allowable levels. Construction activities will be monitored to comply with the provisions of the regulations for community noise control. The contractor will be required to obtain a noise permit if the noise levels from construction activities are expected to exceed allowable levels. Heavy vehicles traveling to and from project sites will comply with the State's administrative rules for vehicular noise control.

3.9 UTILITIES AND INFRASTRUCTURE

A Preliminary Engineering Report was completed by Group 70 International, Inc. in August 2016 and is included as *Appendix C*.

3.9.1 Water System

Existing Conditions
Domestic water service at James Campbell High School is provided by a BWS 12-inch water main along North Road and an 8-inch water main along Fort Weaver Road. A 2-inch meter located on the corner of Fort Weaver Road and North Road services the school. This meter was previously 6-inches in diameter but was downsized by the BWS in their ongoing effort to reduce excessive water use. A private 6-inch domestic water line distributes water from the 2-inch meter to all campus buildings.

Fire protection water service at the campus is provided by the 12-inch BWS water main along North Road. Two 8-inch Detector Check (DC) meters along North Road service the campus. The two meters serve a private 8-inch fire protection water line that supplies multiple on-site fire hydrants along the fire access route. The nearest fire hydrant to the project site is fire hydrant number L-03357 located off-site

along North Road. The fire hydrant has a psi of 95, residual pressure of 65, and flow rate of 2,000 gallons per minute (GPM).

Anticipated Impacts and Mitigation Measures

The project is expected to increase water demands by 125 GPM for domestic use, with a fire flow requirement of 2,000 GPM for two hours.

The existing 2-inch potable water meter will need to be upsized to a 3-inch meter to meet the increased demand of 125 GPM in addition to the existing usage of 152 GPM for the existing school campus and proposed classroom buildings. The existing water system has capacity to serve the new project. The project will connect an existing on-site 4-inch water line near Building O for domestic water service.

The project can tap into the existing campus distribution system for new fire protection service. The existing 8-inch fire water line located along the existing roundabout will connect to the entire classroom building complex to provide fire protection services. A portion of the existing fire water line will need to be re-rerouted around the proposed classroom buildings.

In addition, the two existing fire hydrants onsite will need to be relocated. All fire protection distribution will be designed in accordance to the State of Hawai'i's *Water System Standards (2002)* and the State Fire Code. The project will meet the requirements of the *NFPA 1 Uniform Fire Code.*

3.9.2 Wastewater

Existing Conditions

Wastewater service to the campus is provided through an existing 8-inch public sewer line and sewer structures along North Road. The project site is served by a private wastewater collection system.

The project site contains an existing 15-inch sewer line onsite within a sewer easement located on Ma Ke Kula Street. The existing 8-inch sewer line connects to an existing sewer manhole located on Ma Ke Kula Street.

Anticipated Impacts and Mitigation Measures

The sewer application for an additional 640 student classroom building complex was approved by the City and County of Honolulu DPP Wastewater Branch in August 2016.

The existing onsite sewer system can provide wastewater service to the project. The proposed sewer line will connect to an existing manhole located between the Library and Building O on the school campus.

The sewer system will be designed in accordance with the standards set by the Department of Wastewater Management and the Uniform Plumbing Code.

3.9.3 Storm Drainage

Existing Conditions

Stormwater at the campus is conveyed through a private drainage system that discharges to a City and County of Honolulu 48-inch reinforced concrete pipe located along North Road. The City drainage system ultimately discharges into the Pacific Ocean, approximately 2,000 feet southeast of the campus.

The on-site drainage system consists of a 36-inch drain line that runs parallel to North Road with grated inlets and manholes. An existing 18-inch drain line runs to the project site and is capped for future expansion.

Anticipated Impacts and Mitigation Measures

The project is larger than one acre and will require an NPDES permit for installing BMPs. The project is also categorized as an A2 project for City stormwater quality requirements, which will require LID features. Rain gardens will be developed at the project to collect and filter stormwater runoff through the soil matrix before entering the drainage system.

The Rational Method will be used to determine stormwater runoff quantity peak rates for the project. Peak rates will be designed for a ten year, one-hour storm. Stormwater from the project will discharge into the City system and the improvements will be designed to comply with City drainage standards.

Runoff from the new classroom buildings will be discharged through roof drains to rain gardens for water treatment before entering James Campbell High School's private drainage system. The proposed drainage system will be determined during the detailed design phase of the project.

A trench drain in the parking lot will connect to the drainage system. The proposed drainage system will also be determined during the design phase of the project.

During the construction period, erosion will be minimized through compliance with the City and County's grading ordinance and the applicable provisions of the DOH's Water Quality Standards (Title 11, Chapter 54, HAR) and Water Pollution Control requirements (Title 11, Chapter 55, HAR). Additionally, standard BMPs will be employed to minimize impacts, as detailed in subsequent construction plans. No significant storm drainage impacts are anticipated.

3.9.4 Electrical and Communications

Existing Conditions

Electrical, telephone and cable television services are provided to the James Campbell High School campus by HECO's underground distribution lines.

Anticipated Impacts and Mitigation Measures

A number of existing underground lines will be demolished. New distribution will be provided via an underground duct and handhole system. Existing underground ducts and handholes in conflict with the

new building footprint will also be relocated to new ducts and handholes, and new site electrical and communications lines will be routed underground via concrete encased PVC schedule 40 conduits. Handholes will be traffic rated where subject to vehicular traffic. Electrical power, signal, and lighting systems will be established for the new classroom buildings. No mitigation is proposed.

3.10 TRAFFIC AND ROADWAYS

A Draft Traffic Impact Analysis Report (TIAR) for the project site was prepared by Julian Ng Inc. (October 2016) and is provided as *Appendix D*.

Existing Conditions

North Road located southeast of the project, and Fort Weaver Road located southwest of the project, are the two primary roadways that serve James Campbell High School. Primary vehicular access to the campus is via driveways to several parking lots along the southeast side of the campus, fronting North Road. North Road is a two-lane minor collector street that intersects with Fort Weaver Road at a signalized intersection and provides access to private schools, the library, churches, and residential areas farther to the northeast. Parallel parking is permitted along the roadside.

Fort Weaver Road in the vicinity of North Road consists of two lanes for traffic in each direction, separated by a dedicated left turn lane. A bicycle lane, a parking lane, and concrete curb/gutter/sidewalk are provided on each side of the road. Fort Weaver Road generally flows north-south (north of the area) but turns to an east-west orientation (east of the area) near the North Road intersection.

2014 A.M and PM Peak Periods

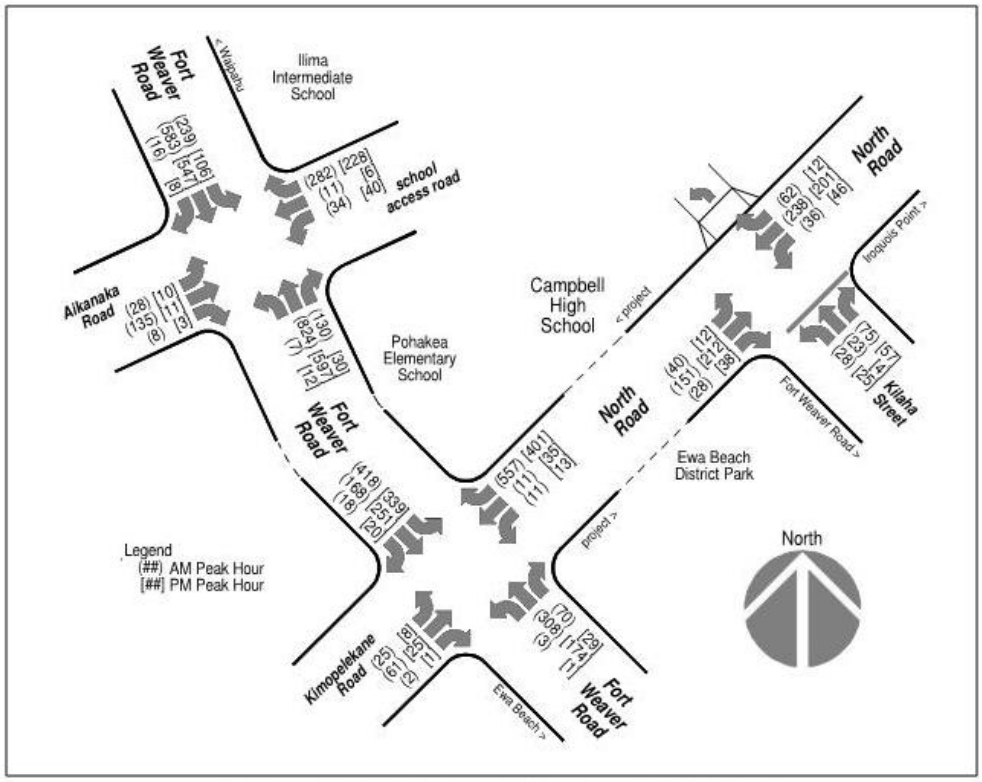
Traffic count data from the State Department of Transportation, Highways Division (2014) collected at a single point in time on September 30, 2014 show that Fort Weaver Road (approximately 0.3 miles east of North Road) is used by approximately 6,287 vehicles per day (total eastbound plus westbound). The total count for two-way traffic along Fort Weaver Road (approximately 1.6 miles north of Aikanaka Road) collected on October 14, 2014 was approximately 36,301 vehicles per day.

Traffic Analysis

In addition to existing traffic count data, manual turning movement counts were conducted during morning and afternoon peak periods during the first quarter of the 2016-2017 school year. *Figure 3-3* shows the peak hour turning volumes from the field counts at the surrounding intersections.

Existing Bus Service

Bus service is provided to the project site by City bus routes along Kamehameha Highway, including Routes 55, and 88A.



Existing Peak Hour Traffic Volumes (Julian Ng Inc., 2016) **Figure 3-3**

Anticipated Impacts and Mitigation Measures

The project will construct five new classroom buildings in an area that is presently the agricultural garden between the public library and the school, and will reconfigure the bus loading area and provide vehicular connection between the student parking lot on the North Road side of campus and the staff parking lot near the cafeteria.

The proposed new classrooms are intended to reduce existing overcrowding and to accommodate the growing student body. An increased number of students at the school is not anticipated to have significant traffic impacts on Fort Weaver Road north of ʻEwa Beach. The majority of any traffic increase would be due to students arriving in the morning or departing in the afternoon, with traffic being locally generated by students in close proximity to the school. Some of the traffic increase would be caused by additional staff required to support the higher enrollment, and would consist of longer trips from other parts of the island moving in the direct opposite of existing peak flow traffic. Because the school enrollment is already over capacity and continually growing, these traffic impacts would occur with or without the new classroom building complex.

Utilizing analysis procedures from the *2000 Highway Capacity Manual*, peak hour conditions were identified.

Field observations on the surrounding roads indicated varying cycle lengths in the signal operations. The Highway Capacity Manual defines Levels of Service (LOS) as follows:

Average Delay (seconds per vehicle)	General Description of Delay	LOS
≤10	Little or no delay	A
>10 and ≤25	Short traffic delays	B
>25 and ≤35	Average traffic delays	C
>35 and ≤55	Long traffic delays	D
>55 and ≤80	Very long traffic delays	E
>80	Very long traffic delays	F

The results of the intersection analyses of existing and future peak hour LOS are shown in *Table 3-1 to Table 3-3*. Note that the difference in LOS between existing and future traffic conditions is minimal.

Table 3-1: Fort Weaver Road and Aikanaka Street Existing and Future Conditions, Signalized Intersections

Fort Weaver Road and Aikanaka Street	AM Peak Hour				PM Peak Hour			
	Existing		Future		Existing		Future	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Fort Weaver Road Southbound Approach	26.3	C	36.2	D	25.6	C	27.3	C
Fort Weaver Road Southbound Left Turn Lane	43.1	D	73.9	E	18.6	B	21.3	C
Fort Weaver Road Northbound Approach	37.8	D	53.4	D	37.4	D	39.8	D
Fort Weaver Road Northbound Left Turn Lane	20.7	C	21.9	C	20.8	C	20.9	C
Aikanaka Street (Eastbound)	36.9	D	39.5	D	24.5	C	24.7	C
School Driveway (Westbound)	57.1	E	79.1	E	43.5	D	54.9	D
Overall Intersection	**36.6**	**D**	**50.0**	**D**	**33.4**	**C**	**37.6**	**D**

Table 3-2: Fort Weaver Road and North Road Existing and Future Conditions, Signalized Intersections

Fort Weaver Road and North Road	AM Peak Hour				PM Peak Hour			
	Existing		Future		Existing		Future	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Fort Weaver Road Southbound Approach	31.7	C	32.8	C	29.8	C	52.6	D
Fort Weaver Road Southbound Left Turn Lane	38.6	D	40.2	D	25.6	D	73.6	E
Fort Weaver Road Northbound Approach	27.0	C	36.2	D	28.9	C	33.2	C
Fort Weaver Road Northbound Left Turn Land	20.5	C	26.8	C	23.5	C	26.7	C
North Road (Westbound)	34.0	C	36.2	D	50.0	D	52.3	D
Kimopelekane Street (Eastbound)	30.4	C	27.4	C	21.4	C	18.5	B
Overall Intersection	**31.3**	**C**	**31.6**	**C**	**37.0**	**D**	**48.2**	**D**

Table 3-3: Kilaha Street at North Road Existing and Future Conditions, Signalized Intersections

Kilaha Street at North Road	AM Peak Hour				PM Peak Hour			
	Existing		Future		Existing		Future	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Kilaha Street Northbound Approach	26.5	D	34.8	D	30.3	D	44.1	E
North Road Eastbound Left Turns	8.1	A	8.3	A	7.9	A	8.1	A
North Road Westbound Left Turns	8.6	A	8.7	A	9.2	A	9.5	A

The above noted traffic impacts to the surrounding intersections are not anticipated to significantly alter access patterns.

While the project is not expected to have significant traffic impacts, the following mitigation measures are recommended for optimal traffic conditions:

- Higher peak hour traffic volumes could be expected with the increased enrollment of not only James Campbell High School, but other schools in the area. These increases in traffic volumes would occur with or without the project
- Consolidating two or all three of the lots into a single, long lot and reducing the number of driveways could improve conditions on the street.
- Management of the drop-off and pick-up activities will help to keep traffic moving within the parking lot(s)
- Construction activities and construction material or waste should be located and stored away from pedestrian and vehicular traffic. Sight lines for drivers on the campus roadway, as well as for drivers on adjacent streets, should be carefully maintained.
- Trucks delivering construction material and disposing of construction waste should be scheduled at times other than when students are arriving or departing (typically from 7:00 AM to 8:00 AM, and from 1:30 PM to 2:30 PM). Truck movements should be coordinated with the school.

3.11 PARKING AND LOADING

Existing Conditions

Per the City and County of Honolulu LUO Section 21-6.20, the current school requires 357 stalls. The school campus currently provides 290 parking stalls. As a public educational facility, loading spaces are determined by the DPP Director.

Anticipated Impacts and Mitigation Measures

The James Campbell High School Classroom Building project will include a repaved and expanded parking lot and bus turn-around area. The project will add 8 additional tandem stalls for a total of 16 new parking spaces and one ADA stall. The existing parking and bus drop-off area will also be restriped.

DOE will continue to coordinate with DPP to address parking and loading requirements on the school campus.

3.12 SOCIO-ECONOMIC CHARACTERISTICS

Existing Conditions

The project site is located in ʻEwa Beach, Oʻahu in Census tract 83.02. In 2010, the Census tract had a residential population of approximately 6,749, which was approximately 0.7% of Oʻahu's total population of 953,207 people. The ʻEwa Beach population in this Census tract is similar to the overall age of the Oʻahu population as a whole. The racial mix of the area is comprised of proportionately more Asians, Hawaiians and Pacific Islanders, and fewer Whites than the island as a whole. The median household income is $77,819, and approximately 14.7% of ʻEwa Beach's population lives below the poverty level. Residential areas near the project site consist primarily of single family homes, townhomes, and a public park.

Anticipated Impacts and Mitigation Measures

The project is not expected to result in adverse socio-economics impacts. In addition, the project will not result in an increase in the overall population of the ʻEwa District. The project may create short-term economic benefits as a result employment related to design and construction of the project. Upon completion, the new classroom building and parking improvements are expected to have beneficial long-term social impacts by providing the school with needed instructional space for its overcrowded facilities and growing student body. No specific socio-economic mitigation actions are recommended.

3.13 PUBLIC FACILITIES AND SERVICES

This section discusses the project's probable impact on public facilities and services of the project site and surrounding area.

3.13.1 Educational Facilities

Existing Conditions

The James Campbell Complex currently contains ten public schools operated under the State Department of Education (DOE). There are seven elementary schools, two intermediate schools, and one high school.

Educational facilities located near the project site include:

- Pohakea Elementary School located at 91-750 Fort Weaver Road, is approximately 0.4 miles away from the project site, and is the closest educational facility.
- Kaʻimiloa Elementary School located at 91-1028 Kehue Street, is approximately 0.4 miles away from the project site.
- ʻIlima Intermediate School located at 91-884 Fort Weaver Road, is approximately 0.5 miles away from the project site.

- ʻEwa Beach Elementary School located at 91-740 Papipi Road, is approximately 0.8 miles away from the project site.

Anticipated Impacts and Mitigation Measures

The project is not expected to result in impacts to existing educational facilities. The project will not result in an increase in the overall population of the ʻEwa District. The new building complex will help to provide additional instructional and faculty support space for the existing and future students, faculty, and staff at James Campbell High School. No mitigation is proposed.

3.13.2 Recreational Facilities

Existing Conditions

Recreational facilities located in the vicinity of the James Campbell High School campus include ʻEwa Beach Community Park, ʻEwa Beach Park, ʻEwa Beach Golf Club, and Puʻuloa Ocean Pointe District Park.

Anticipated Impacts and Mitigation Measures

The proposed project is not expected to significantly impact existing recreational facilities, therefore no mitigation is proposed.

3.13.3 Police

Existing Conditions

The James Campbell High School campus is served by Honolulu Police Department (HPD) District 8 which covers the area from Kaʻena Point to ʻEwa Beach. The Kapolei Substation is located at 1100 Kamokila Boulevard approximately 6.5 miles from the project site.

Anticipated Impacts and Mitigation Measures

This project should not impact the Police Department's operations or ability to provide adequate services to the surrounding community. District 8 police resources currently provide services for the existing James Campbell High School campus. No adverse impacts are anticipated and no mitigation measures are proposed.

3.13.4 Fire

Existing Conditions

The Honolulu Fire Department (HFD) has two fire stations within five miles of the school site - one in ʻEwa Beach (Fire Station 24), and one in Kapolei (Fire Station 40). Primary fire protection of the project site is served by Honolulu Fire Station 24 in ʻEwa Beach. Station 24 is located at 91-955 Kaileolea Drive, approximately 1.4 miles from the project site.

HFD works with the Emergency Medical Services (EMS), who dispatches the closest available unit. During an emergency, this may be either an EMS ambulance or a fire company depending on the type of emergency and location. Since there are only 16 EMS stations on Oʻahu, fire companies are frequently the first responder.

Anticipated Impacts and Mitigation Measures

This project is not expected to impact the Fire Department's operations or ability to provide fire protection services to the project area and the surrounding residential neighborhood. The planned classroom buildings will be designed to meet fire and building code requirements. This will include meeting fire flow requirements for water system improvements.

3.13.5 Emergency Medical Services

Existing Conditions

The nearest hospital to the project is The Queen's Medical Center – West Oʻahu, located approximately 4.8 miles away. Ambulance service is provided by the ʻEwa Beach Fire Station, which transports patients to the Queen's Medical Center – West Oʻahu.

Anticipated Impacts and Mitigation Measures

The proposed project will not impact the handling of EMS or medical emergencies. The Queen's Medical Center – West Oʻahu will continue to function in its present location and will be accessible to the project site in ʻEwa Beach. No mitigation is proposed.

3.13.6 Solid Waste Management

Existing Conditions

Solid waste and recycling collection for the project area is provided by a private contractor. Existing uses at the project site generate a demand for solid waste disposal.

Anticipated Impacts and Mitigation Measures

The building and general construction of the project will generate additional solid waste. Additional trash bins will be provided to accommodate the use of the new classrooms and additional solid waste generation at the school campus due to the anticipated growth at the school. Recycling programs that currently exist at James Campbell High School will be maintained. No mitigation is proposed.

3.14 HISTORIC, ARCHAEOLOGICAL AND CULTURAL RESOURCES

3.14.1 Historic and Archaeological Resources

An Archaeological Inventory Survey was completed by Keala Pono Archaeological Consulting LLC of Honolulu. The work included a pedestrian survey of 100% of the project are, and six test excavation trenches. Due to the lack of findings, the results are presented as an Archaeological Assessment (*Appendix E*).

Existing Conditions

The improvements to James Campbell High School are classified as a "State project." As such, they are subject to a historic preservation review process under the auspices of HRS, §6E-8. Under §6E-8(a), before the commencement of any State project, it is required that the State of Hawai'i, DLNR, State Historic Preservation Division (SHPD) review the effect of the project on known or potential historic properties.

History of the Project Site

The project area is located in the ahupua'a of Honouliuli and the 'ili of Pu'uloa. The Māhele of 1848 under King Kamehameha III which changed the traditional land tenure system in Hawai'i led to between 9,000 and 11,000 kuleana land claims awarded to kama'āina. Ninety-seven of the kuleana claims were awarded in Honouliuli, the majority of which were under Land Commission Award (LCA) 11216, granted to Kekau'onohi, the granddaughter of King Kamehameha I.

Kekau'onohi's lands in Pu'uloa were subsequently sold in 1849 to Isaac Montgomery, where it is believed that he and Kamehameha II established a salt works enterprise that shipped salt to the Pacific Northwest. *Figure 3-4* shows an early map of the project area in the 1870's.

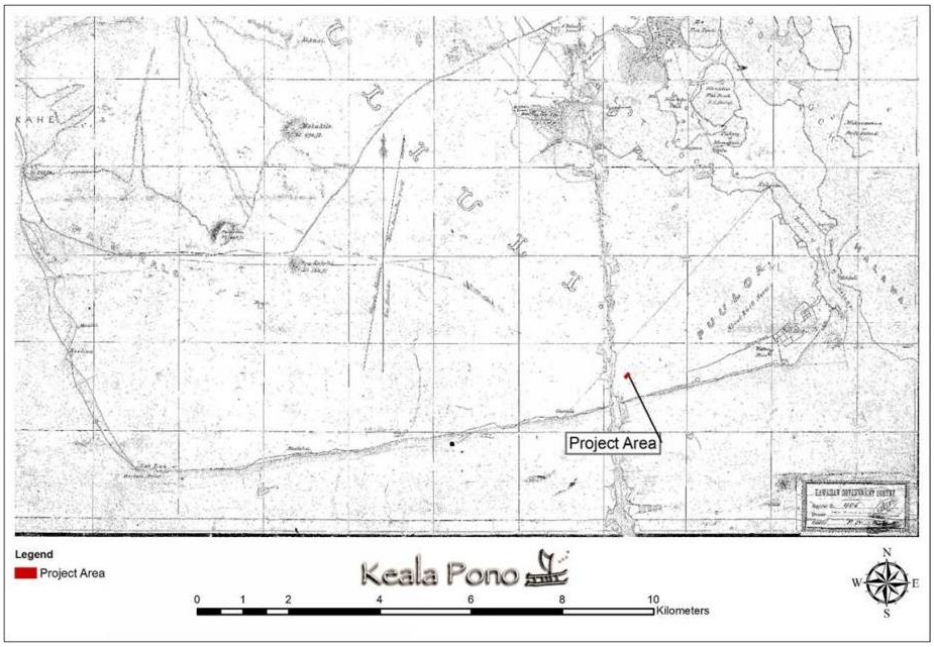
When Kekau'onohi's widower died, his second wife, Anadelia Amoe deeded the land to her sister's husband, John H. Coney. This land was ultimately sold to James Campbell for $95,000, and used for cattle ranching and leased for rice cultivation.

In 1899, Campbell leased his lands for 50 years to Benjamin Dillingham, who established the 'Ewa Sugar Plantation in the lower portion of Honouliuli, and Oahu Sugar Company's cane fields in the upper reaches of the ahupua'a. Dillingham also built the Oahu Railway and Land Company in Honouliuli which extended out to Wai'anae.

In the 1930's, the military leased 3,000 square feet from the Campbell Estate, bringing in more development to the area with infrastructure and capital improvements including approximately 18 miles of road. With the military's Campbell Estate lease expiration in 1940, the Navy leased 3,500 acres, where the 'Ewa Marine Corps Air Station, and later, the Barbers Point Naval Air Station were eventually built.

Over the years, military-related activities have impacted cultural and natural resources in the area, including a defensive line of barbed wire and gun emplacements along the coast, infrastructure of roads, sewers, water systems, electricity, gas, housing units, and bulldozing and grading in surrounding areas.

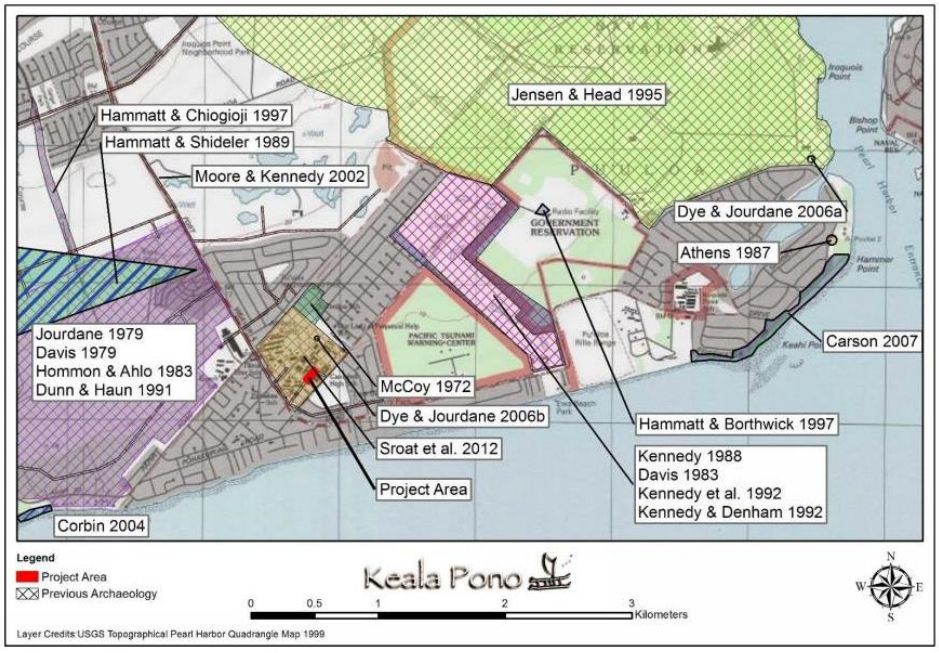
The James Campbell High School was built in 1962, in the current location of 'Ilima Intermediate School. Pōhākea Elementary School was constructed in the same year on the grounds of the current high school campus. According to a Hawai'i Reporter article, the construction of the school's football field included use of fill soil containing human remains. James Campbell High School graduated its first class in 1964. Ten years later, Pōhākea Elementary School was moved to its current location.



Portion of an early map of Honouliuli – Alexander 1873 (Keala Pono 2016) **Figure 3-4**

Previous Archaeological Research in the Vicinity of the Project

Information on known historic properties in the vicinity of the project site has been reported by numerous authors between 1933 and 2012. While fragmented walls, partial enclosures, and filled in sinkholes were identified, no human remains have been recovered from areas in the immediate vicinity of the school campus. The closest finding of human burial remains was documented as an inadvertent discovery by Athens (1987) at Iroquois Point (*Figure* 3-5).



Previous archaeological studies in the vicinity of the project area (Keala Pono 2016) **Figure 3-5**

Anticipated Impacts and Mitigation Measures

No surface archaeological remains were found during the pedestrian survey or during the subsurface testing, which consisted of six test trenches. The entire project area has been disturbed by modern development. Stratigraphy consisted of fill above a coral shelf.

Due to the negative findings and the shallow depth of the coral shelf, archaeological monitoring is not recommended. While the survey produced negative findings, it is still possible that human remains may be unearthed during construction activities. Should any human burials be discovered during construction activities, all work in the immediate area shall cease and an archaeologist from the State Historic Preservation Division (SHPD) shall be notified. All work in the area will be suspended until further recommendations are made for appropriate treatment of archaeological and/or cultural materials.

3.14.2 Cultural Resources

A Cultural Impact Assessment (CIA) was completed by Keala Pono Archaeological Consulting LLC of Honolulu (*Appendix F*). The CIA included background research of traditional and historic accounts in the ʻEwa area, and an ethnographic survey consisting of three interviews.

Existing Conditions

Ethnographic Survey

Keala Pono contacted individuals within the community who had/has ties to the project area or vicinity; are known Hawaiian cultural resource persons; or Hawaiian traditional practitioners. These individuals were referred by Keala Pono, Group 70 International, Inc., or other cultural resource professionals. The results of the interviews conducted for the ethnographic survey are summarized in this section.

The three interviewees for the CIA included Earl Arakaki, community member and author; Tesha Malama, ʻEwa Beach community leader; and Ivy Pantastico, community member and proprietor of Silva's Store.

Earl Arakaki, raised in ʻEwa Beach and graduate of Waipahu High School, recalls when James Campbell High and Intermediate School was first being built. A kiawe forest that was cleared for construction in the space that ʻIlima Intermediate School now stands. Arakaki also remembers when the James Campbell High School football field was first built and trucked dirt from Waikele Road, where a cemetery existed behind Waipahu Elementary School. He shared that families of those interred at the cemetery were notified to take the remains that were buried or take them to Mililani cemetery to be reburied. Because of the origin of the dirt and the fact that many bones went unclaimed, Arakaki recalls seeing bones in the soil when the football field was being developed.

Tesha Malama grew up in ʻEwa Beach and graduated from James Campbell High School. She served as the ʻEwa Neighborhood Board Chair and works for the State managing the old Naval Air Station at Barbers Point as part of the Kalaeloa Community Development District. Based on her background of living in the area, Malama remembers what used to be an art installation in the existing bus turnaround

area that was built over 50 years ago. She also shared about the changes that ʻEwa went through including the area of Ice Pond, which is the current location of Hoakalei resort, and the past prevalence of artesian wells in ʻEwa.

Ivy Pantastico moved from ʻAiea to ʻEwa in high school, and attended James Campbell High School. Pantastico recalls when Pohakea Elementary School was still being built. She also shared her memories of the changes in ʻEwa, and the town houses that were constructed along North Road in the 1970's.

Collectively, the three interviews shared a range of concerns and recommendations for the James Campbell High School improvements as summarized herein.

- Having a blessing for the project
- Being mindful of drainage to minimize flooding
- Linking parking lots together to provide better circulation and lessen traffic
- Making sure that the new classrooms are air conditioned
- Using funds for a new athletic complex
- Looking at long-term solutions for overcrowding
- One interviewee's suggestion was re-districting the schools instead of building a new high school. If students from Pohakea Elementary go to other elementary schools in the area, James Campbell High School would then incorporate the adjacent Pohakea Elementary campus as part of James Campbell High and utilize those buildings for Campbell's students.
- Another interviewee was in favor of building a new school for the district.

Anticipated Impacts and Mitigation Measures

Background research and ethnohistoric interviews indicate that ʻEwa is a culturally significant area, known for its traditional subsistence activities such as fishing, gathering plants, shellfish, and limu. Ethnographic interviewees identified two cultural resources on the James Campbell High School campus: fill of the football field, which is said to contain scattered iwi from a cemetery in Waipahu, and a work of art once located in the roundabout fronting the current agriculture garden and proposed project site. The piece of art is said to have been comprised of poles in the form of a volcano. However, the structure is no longer present. A third cultural resource was identified in an archaeological study from 2012 and consists of two infilled sinkholes.

The cultural resources identified lie outside of the area of proposed construction or are no longer present. The project is not expected to affect the cultural resources present on the campus.

3.15 VISUAL RESOURCES

Existing Conditions

The project site is located in the ʻEwa District on the island of Oʻahu. Scenic view sheds in the project area are identified in both the ʻEwa Development Plan and the City's Coastal View Study (1987). The project will not impede makai views nor will it impact any of the panoramic vistas identified in ʻEwa

(Coastal View Study, 1987). The project may be visible from roadway views toward the existing campus, however it will be designed to blend with the surrounding school site.

Figure 3-6 provides an aerial perspective of the general area. The project site is bounded by existing campus buildings and the 'Ewa Beach Public and School Library (*Figure 3-7a through 3-7c*). Beyond the immediate campus and region are views of mountainous landscapes looking west.

Anticipated Impacts and Mitigation Measures

The project will be developed on a portion of the existing James Campbell High School campus. The project will be slightly visible from North Road which borders the site on the east and southeast, but will not be very visible from other vantage points along Fort Weaver Road due to the existing placement of buildings and trees on the Pohakea Elementary School campus. The addition of the new facilities will fit with the existing setting and blend with the architectural features of the campus. The project design will maintain the visual resources of the area by meeting LUO development standards, such as height and setback requirements. Additionally, landscaping will be used to improve the visual character of the constructed site. No significant adverse impacts to coastal views, scenic vistas or existing landscapes are anticipated.



Site Photo Key **Figure 3-6**



View fromNorth Road looking southwest towards the Project Site
(Source: Google Maps, 2011) **Figure 3-7A**



View from North Road looking north towards the Project Site
(Source: Google Maps, 2011) **Figure 3-7B**



View from drop off circle looking northeast towards the Project Site.
(Source: Google Maps, 2015) **Figure 3-7C**

3.16 POTENTIAL CUMULATIVE AND SECONDARY IMPACTS

Cumulative effects are impacts which result from the incremental effects of an activity when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertake such other actions.

The new James Campbell High School classroom buildings and parking improvements will help improve the overall function of the school by accommodating the space needs of the school's growing student enrollment. The project will contribute to cumulative effects by bringing added value to the immediate property as an asset not only for James Campbell High School, and particularly students who attend the school, but also for the greater ʻEwa community.

Construction activity during the proposed project will generate direct employment as well as indirect and induced employment in construction-related industries. The project is expected to cost approximately $28 million which will be spent in Hawaiʻi. While additional employees will not be needed in the long-term, the project will help to provide essential instructional space for students and teachers, as well as faculty areas to support ongoing faculty development and training.

Short-term construction-related impacts on the environment will be generated by the project, and mitigation measures will be implemented to minimize these impacts. Construction related impacts will be temporary and will be in the immediate vicinity of the project site. Federal, State, and County environmental regulations will be met throughout the construction and operation of the project.

Section 4.0

ALTERNATIVES TO THE PROPOSED PROJECT

4.0 ALTERNATIVES TO THE PROPOSED PROJECT

This Draft EA evaluates alternatives to the proposed project described in *Section 2.0*. The following provides discussion of the alternatives to the proposed project.

4.1 ALTERNATIVE A – NO-ACTION ALTERNATIVE

The "No-Action" alternative is the baseline against which all other alternatives are measured. "No-action" refers to the future site and program conditions that will likely result should the proposed project not proceed.

The No-Action Alternative would involve not proceeding with the development of five new classroom buildings and parking improvements to provide additional permanent facilities on the James Campbell High School campus. This alternative will result in the continued lack of classroom space and modern facilities for the school's growing enrollment. The inconveniences and constraints associated with having inadequate facilities on the campus will continue to have negative impacts on students and faculty.

This alternative was eliminated because it would not properly address the current needs for new classrooms, labs, faculty centers, and parking improvements. The no-action alternative will continue to restrict the school's ability to properly serve the space and facility demands of its growing student body. In addition, many of the existing classrooms on campus for science and culinary arts are antiquated and do not serve as sufficient instructional spaces for STEM, culinary, and Hawaiian Studies purposes. Further, funds for this project have been appropriated, and taking No-Action to construct the new classroom building complex would result in the appropriation lapsing. Due to the many potential benefits of the proposed project, the "No-Action" alternative was not considered a desirable alternative.

4.2 ALTERNATIVE B – ALTERNATIVE LOCATIONS FOR THE PROPOSED PROJECT

The project's funding was appropriated to carry out the James Campbell High School Classroom Building Complex project. The location of the five new classroom buildings on the James Campbell High School campus was specifically sited on a vacant area of the campus to improve the school's functionality and minimize disruptions of existing school facilities. Other sites on campus were evaluated but each was less beneficial than the selected site. Accordingly, alternative project sites were not considered because State procurement laws do not allow a transfer of these funds to other locations.

4.3 ALTERNATIVE C – DELAYING CONSTRUCTION

The Delayed Action Alternative would involve postponing construction of the new classroom building complex and parking improvements to a date in the future. As a result, the school's issues with its existing classrooms being over capacity also may continue. The school would continue to have

inadequate space provisions to properly serve James Campbell High School students and for the teaching and administrative staff to provide appropriate services.

Thus, this alternative was eliminated from further consideration since the same concerns as those stated in the No-Action Alternative would persist. Delaying construction to a future date would result in higher construction costs due to inflation. Further, funding for the project could be lost if improvements were not implemented at this time.

Section 5.0

PLANS AND POLICIES

5.0 PLANS AND POLICIES

In this chapter, the project's consistency with applicable land use policies set forth in the State Environmental Policy, Hawai'i State Plan, State Land Use Law, State Coastal Zone Management Program, State 2050 Sustainability Plan, and City and County of Honolulu General Plan, 'Ewa Development Plan, Land Use Ordinance, and Special Management Area are discussed.

5.1 HAWAI'I STATE PLAN

The Hawai'i State Plan establishes a statewide planning system that provides goals, objectives, and policies that detail priority directions and concerns of the State of Hawai'i; these will be discussed as they relate to the proposed project.

Part I. Overall Theme, Goals, Objectives and Policies

It is the goal of the State, under the Hawai'i State Planning Act (Chapter 226, HRS), to achieve the following:

- A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i present and future generations.
- A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.
- Physical, social, and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life (Chapter 226-4, HRS).

Specific objectives and policies of the State Plan that pertain to the project are as follows:

Section 226-5 Objectives and policies for population

(a) Planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter.

(b) To achieve the population objective, it shall be the policy of this State to:

(1) Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each country.

(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.

(3) Promote increased opportunities for Hawai'i's people to pursue their socio-economic aspirations throughout the islands.

(4) Encourage research activities and public awareness programs to foster an understanding of Hawai'i's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawai'i's population

(5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.

Discussion: The project is meant to support the classroom needs and accommodate the faculty and students at James Campbell High School. The project is meant to meet existing demands of the overpopulated school in addition to the anticipated growth of the student body. The water demands for the project are evaluated in *Section 3.9*. Operations of the project are not expected to increase water or resource demands to unsupported levels.

Section 226-6 Objectives and policies for the economy--in general

(a) Planning for the State's economy in general shall be directed toward achievement of the following objectives:

(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited
(2) A Steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.
(3) Promote Hawai'i as an attractive market for environmentally and socially sound investment activities that benefit Hawai'i's people.
(4) Transform and maintain Hawai'i as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.
(5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawai'i.
(6) Seek broader outlets for new or expanded Hawai'i business investments.
(7) Expand existing markets and penetrate new markets for Hawai'i's products and services.
(8) Assure that the basic economic needs of Hawai'i's people are maintained in the event of disruptions in overseas transportation.
(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.
(10) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawai'i's small scale producers, manufacturers, and distributors.

(11) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.
(12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawai'i.
(13) Foster greater cooperation and coordination between the government and private sectors in developing Hawai'i's employment and economic growth opportunities.
(14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.
(15) Maintain acceptable working conditions and standards for Hawai'i's workers.
(16) Provide equal employment opportunities for all segments of Hawai'i's population through affirmative action and nondiscrimination measures.
(17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.
(18) Encourage businesses that have favorable financial multiplier effects within Hawai'i's economy, particularly with respect to emerging industries in science and technology.
(19) Promote and protect intangible resources in Hawai'i, such as scenic beauty and aloha spirit, which are vital to a healthy economy.
(20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new or innovative potential growth industries in particular.
(21) Foster a business climate in Hawai'i – including attitudes, tax and regulatory policies, and financial and technical assistance programs –that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.

Discussion: The project is meant to support the classroom needs and accommodate the faculty and students at James Campbell High School. This objective relating to planning for the State's economy in general is not applicable to the proposed project.

Section 226-7 Objectives and policies for the economy--agriculture

(a) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:

(1) Viability of Hawai'i's sugar and pineapple industries.
(2) Growth and development of diversified agriculture throughout the State
(3) An agriculture industry that continues to constitute a dynamic and essential component of Hawai'i's strategic, economic, and social well-being.

(b) To achieve the agriculture objectives, it shall be the policy of this State to:

(1) Establish a clear direction for Hawai'i's agriculture through stakeholder commitment and advocacy.

(2) Encourage agriculture by making the best use of natural resources.
(3) Provide the governor and the legislature with information and options needed for prudent decision-making for the development of agriculture.
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai'i's economy.
(6) Seek the enactment and retention of federal and state legislation that benefits Hawai'i's agricultural industries.
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawai'i's food producers and consumers in the State, nation, and world.
(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.
(12) In addition to the State's priority on food, expand Hawai'i's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.
(13) Promote economically competitive activities that increase Hawai'i's agricultural self-sufficiency, including the increased purchase and use of Hawai'i-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104.
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.
(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.
(17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, mäla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu.
(18) Increase and develop small-scale farms.

Discussion: The project is meant to support the classroom needs and accommodate the faculty and students at James Campbell High School. This objective relating to planning for the State's economy with regard to agriculture is not applicable to the proposed project.

Section 226-8 Objectives and policies for the economy--visitor industry

(a) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai'i's economy.

(1) Support and assist the promotion of Hawai'i's visitor attractions and facilities.
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people.
(3) Improve the quality of existing visitor destination areas by utilizing Hawai'i's strengths in science and technology.
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai'i's people.
(6) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the visitor industry.
(7) Foster a recognition of the contribution of the visitor industry to Hawai'i's economy and the need to perpetuate the aloha spirit.
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai'i's cultures and values.

Discussion: The project is meant to support the classroom needs and accommodate the faculty and students at James Campbell High School. This objective relating to planning for the State's economy with regard to the visitor industry is not applicable to the project.

Section 226-9 Objectives and policies for the economy--federal expenditures

(a) Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawai'i's economy.
(b) To achieve the federal expenditures objective, it shall be the policy of this State to:

(1) Encourage the sustained flow of federal expenditures in Hawai'i that generates long-term government civilian employment.
(2) Promote Hawai'i's supportive role in national defense, in a manner consistent with Hawai'i's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawai'i's economy.
(3) Promote the development of federally supported activities in Hawai'i that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai'i's environment.

(4) Increase opportunities for entry and advancement of Hawai'i's people into federal government service.
(5) Promote federal use of local commodities, services, and facilities available in Hawai'i.
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai'i.
(7) Pursue the return of federal controlled lands in Hawai'i that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.

Discussion: The project will be funded by the State of Hawai'i DOE. This objective is not applicable to the proposed project.

Section 226-10 Objectives and policies for the economy--potential growth and innovative activities

(a) Planning for the state's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversity Hawai'i's economic base.
(b) To achieve the potential growth and innovative activity objective, it shall be the policy of this State to:

(1) Facilitate investment and employment growth in economic activities that have the potential to expand and diversity Hawai'i's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors.
(2) Facilitate investment in innovative activity that may pose risks or be less labor intensive than other traditional business activity, but if successful, will generate revenue in Hawai'i through the export of services or products or substitution of imported services or products.
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements.
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable and equipped with the attitude necessary to undertake innovative activity.
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus.
(6) Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people.

(7) Enhance and promote Hawai'i's roles as a center for international relations, trade , finance, services, technology, education, culture, and the arts.
(8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste.
(9) Promote Hawai'i's geographic, environmental, social, and technological advantages to attract new or innovative economic activities to the State.
(10) Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawai'i's social, economic, physical, and environmental objectives.
(11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research;
(12) Develop, promote, and support research and educational training programs that will enhance Hawai'i's ability to attract and develop economic activities of benefit to Hawai'i; Foster a broader public recognition and understanding of the potential benefits of new or innovative growth-oriented industry in Hawai'i;
(13) Foster a broader public recognition and understanding of the potential benefits of new or innovative growth-oriented industry in Hawai'i.
(14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawai'i's social, economic, physical, and environmental objectives.
(15) Increase research and development of businesses and services in the telecommunications and information industries.
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation.
(17) Recognize and promote health care and health care information technology as growth industries.

Discussion: The project supports the objectives relating to planning for the State's economy with regard to innovative activities by training students in subjects such as STEM and culinary arts, which will be valuable to various industries in Hawai'i.

Section 226-10.5 Objectives and policies for the economy--information industry.

(a) Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawai'i as a leader in broadband and wireless communications and applications in the Pacific Region.
(b) To achieve the information industry objective, it shall be the policy of this State to:

(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawai'i and between Hawai'i and the world, and make high speed communication available to all residents and businesses in Hawai'i.

(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai‘i to accommodate future growth and innovation in Hawai‘i’s economy.
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawai‘i.
(4) Encourage mainland- and foreign- based companies of all sizes, whether information technology-focused of not, to allow their principals, employees, or contractors to live in and work from Hawai‘i, using technology to communicate with their headquarters, offices, or customers located out-of-state.
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry.
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawai‘i’s people.
(7) Provide opportunities for Hawai‘i’s people to obtain job training and education that will allow for upward mobility within the information industry.
(8) Foster a recognition of the contribution of the information industry to Hawai‘i’s economy.
(9) Assist in the promotion of Hawai‘i as a broker, creator, and processor of information in the Pacific.

Discussion: The project is supports planning for the State’s economy with regard to the information industry by providing STEM programs, which will equip James Campbell High School students with a relevant education for the technology and information industries.

Section 226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources.

(a) Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:

(1) Prudent use of Hawai‘i’s land-based, shoreline, and marine resources.
(2) Effective protection of Hawai‘i’s unique and fragile environmental resources.

(b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:

(1) Exercise an overall conservation ethic in the use of Hawai‘i’s natural resources.
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.

(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.
(8) Pursue compatible relationships among activities, facilities, and natural resources.
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.

Discussion: The project will use lands within the existing James Campbell High School campus. The project's use of this area is consistent with State and County land use districts and zoning designations. The project will be designed to include environmental preservation and energy conservation measures to the extent practicable. No endangered plant species, animal species, or habitats are present on the campus. The project is not anticipated to pose threats to Native Hawaiian endangered plant or animal species and habitats. In addition, the project site is not located along the shoreline and will not result in substantial impacts to environmental and marine resources.

Section 226-12 Objectives and policies for the physical environment--scenic, natural beauty, and historic resources.

(a) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/ historical resources:
(b) To achieve the scenic, natural beauty, and historic resources objectives, it shall be the policy of this State to:

(1) Promote the preservation and restoration of significant natural and historic resources.
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.
(3) Promote the preservation of views and vistas to enhance the landscapes, and other natural features.
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.

Discussion: The project will not impact existing scenic assets or cultural/historical resources at the project site since there are no scenic view sheds identified in the area or cultural/historic resources identified at the school campus. The new classroom building complex will add to the overall aesthetic of the campus and surrounding area.

A CIA and AA were conducted for the project. Both studies indicated that no effects on cultural, archaeological, or historical resources are anticipated as a result of the project.

Section 226-13 Objectives and policies for the physical environment--land, air, and water quality.

(a) Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:

(1) Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.
(2) Greater public awareness and appreciation of Hawai'i's environmental resources.

(b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:

(1) Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.
(2) Promote the proper management of Hawai'i's land and water resources.
(3) Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters.
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.
(5) Reduce the threat of life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.
(6) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.
(7) Encourage urban developments in close proximity to existing services and facilities.
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.

Discussion: Built on the existing James Campbell High School campus, the project will maintain Hawai'i's natural and scenic resources by building on existing urban lands. The project design will achieve the proper management of Hawai'i's land and water resources. The project site is not located along the shoreline and will not impact coastal resources. Further, stormwater BMPs will be implemented to reduce impacts to surface water quality. Mitigation measures will be carried out to address potential impacts to the physical environment (land, air, and water) that may occur as a result of the project.

Section 226-14 Objective and policies for facility systems--in general

(a) Planning for the State's facility systems in general shall be directed towards the achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.
(b) To achieve the general facility systems objective, it shall be the policy of this State to:

(1) Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.

Discussion: The project supports the objectives and policies for facility systems in Hawai'i. The new classroom building complex is necessary for the James Campbell High School to accommodate its large and growing student body. The campus currently does not have the necessary classroom space and infrastructure to expand its Hawaiian studies, culinary arts, and STEM programs. This project will enable the faculty and staff to better serve the needs of the school's students and broader community.

Section 226-15 Objectives and policies for facility systems--solid and liquid wastes

(a) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:

(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes
(2) Provision of adequate sewerage facilities for physical and economic activities

(b) To achieve solid and liquid waste objectives, it shall be the policy of this State to:

(1) Encourage adequate development of sewerage facilities that complement planned growth.
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.
(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.

Discussion: The project supports the objectives and policies for solid and liquid waste facility systems. As stated in *Section 3.9.2*, the project will result in additional wastewater generation due to anticipated growth in the student body. The project will also generate solid waste during construction; however during operations, solid waste generation is not anticipated to be significant enough to alter current solid water disposal services. The project will maintain basic public health and sanitation standards in treating and disposing solid and liquid wastes.

Section 226-16 Objectives and policies for facility systems--water

(a) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.

(b) To achieve the facility systems water objective, it shall be the policy of this State to:

(1) Coordinate development of land use activities with existing and potential water supply.
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.
(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.
(5) Support water supply services to areas experiencing critical water problems.
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.

Discussion: The project supports the objectives and policies for water as the new buildings will be supported by existing water supplies. As discussed in *Section 3.9.1* of this document the project will be able to use the existing distribution system for fire protection services. The new buildings will observe water conservation and efficiency measures through use of low flow and high efficiency plumbing fixtures.

Section 226-17 Objectives and policies for facility systems--transportation

(a) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:

(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.

(b) To achieve the transportation objectives, it shall be the policy of this State to:

(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter.
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives.
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties.
(4) Provide for improved accessibility to shipping, docking, and storage facilities.
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs.

(6) Encourage transportation systems that serve to accommodate present and future development needs of communities.
(7) Encourage a variety of carriers to offer increased opportunities and advantages to interisland movement of people and goods.
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs.
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification.
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment.
(11) Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation.
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives.
(13) Encourage the diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.

Discussion: The project supports the objectives and policies for transportation and was thoughtfully sited to minimize adverse effects to existing traffic patterns. The land use for this project on the existing James Campbell High School campus and off of the main roadways is also designed in accordance with transportation planning activities.

Section 226-18 Objectives and policies for facility systems--energy

(a) Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:

(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawai'i's dependence on imported fuels for electrical generation and ground transportation
(3) Greater diversification of energy generation in the face of threats to Hawai'i's energy supplies and systems;
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and
(5) Utility models that make the social and financial interests of Hawai'i's utility customers a priority.

(a) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable energy services to accommodate demand.
(b) To further achieve the energy objectives, it shall be the policy of this State to:

(1) Support research and development as well as promote the use of renewable energy sources.
(2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth.
(3) Base decisions of least-cost supply-side and demand-side energy resources options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits.
(4) Promote all cost effective conservation of power and fuel supplies through measures, including:

    (A) Development of cost-effective demand-side management programs
    (B) Education
    (C) Adoption of energy-efficient practices and technologies
    (D) Increasing energy efficiency and decreasing energy use in public infrastructure

(5) Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies.
(6) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth.
(7) Promote alternate fuels and transportation energy efficiency.
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications.
(9) Support actions that reduce, avoid, or sequester Hawai'i's greenhouse gas emissions through agriculture and forestry initiatives.
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects.
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources.
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawai'i.

Discussion: The new classroom building complex supports the objectives and policies for energy through the promotion of alternative energy production and reduction of imported fuels for electrical generation. The project will meet the guidelines for HI-CHPS for designing energy efficient and sustainable schools and will support infrastructure suitable for photovoltaic installations.

Section 226-18.5 Objectives and policies for facility systems--telecommunications

(a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people.

(b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.

(c) To further achieve the telecommunications objective, it shall be the policy of this State to:

(1) Facilitate research and development of telecommunications systems and resources.
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning.
(3) Promote efficient management and use of existing telecommunications systems and services.
(4) Facilitate the development of education and training of telecommunications personnel.

Discussion: The project is meant to support classroom needs and accommodate the faculty and students at James Campbell High School. This objective relating to the State's telecommunications facility systems is not applicable to the proposed project.

Section 226-19 Objectives and policies for socio-cultural advancement--housing

(a) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:

(1) Greater opportunities for Hawai'i's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawai'i's population.
(2) The orderly development of residential areas sensitive to community needs and other land uses.
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people.

(b) To achieve the housing objectives, it shall be the policy of this State to:

(1) Effectively accommodate the housing needs of Hawai'i's people.
(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.

(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.
(7) Foster a variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods that reflect the culture and values of the community.
(8) Promote research and development of methods to reduce the cost of housing construction in Hawai'i.

Discussion: The project is meant to support classroom needs and accommodate the faculty and students at James Campbell High School. This objective relating to the State's socio-cultural advancement with regard to housing is not applicable to the proposed project.

Section 226-20 Objectives and policies for socio-cultural advancement--health

(a) Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:

(1) Fulfillment of basic individual health needs of the general public
(2) Maintenance of sanitary and environmentally healthful conditions in Hawai'i's communities
(3) Elimination of health disparities by identifying and addressing social determinants of health.

(b) To achieve the health objectives, it shall be the policy of this State to:

(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems including substance abuse.
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.
(4) Foster an awareness of the need for personal health maintenance and preventative health care through education and other measures.
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.
(7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent

with the United States Congress' declaration of policy as codified in title 42 United States Code Section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.

Discussion: The project is meant to support classroom needs and accommodate the faculty and students at James Campbell High School. This objective relating to the State's socio-cultural advancement with regard to health is not applicable to the proposed project.

Section 226-21 Objectives and policies for socio-cultural advancement--education

(a) Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.

(b) To achieve the education objective, it shall be the policy of this State to:

(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.

(2) Ensure the provisions of adequate and accessible educational services and facilities that are designed to meet individual and community needs.

(3) Provide appropriate educational opportunities for groups with special needs.

(4) Promote educational programs which enhance understanding of Hawai'i's cultural heritage.

(5) Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands.

(6) Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.

(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.

(8) Emphasize quality educational programs in Hawai'i's institutions to promote academic excellence.

Discussion: The project will support Hawai'i's educational programs and activities by providing essential instructional space, updated facilities, and parking improvements for James Campbell High School's growing student body. In addition the Hawaiian Studies classroom and culinary arts lab will expand the school's ability to enhance students' cultural and vocational pursuits.

Section 226-22 Objectives and policies for socio-cultural advancement--social services

(a) Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social

services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.

(b) To achieve the social service objective, it shall be the policy of the State to:

(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.

(2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society.

(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawai'i's communities.

(4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.

(5) Support public and private efforts to prevent domestic abused and child molestation, and assist victims of abuse and neglect.

(6) Promote programs which assist people in need of family planning services to enable them to meet their needs.

Discussion: The project is meant to support classroom needs and accommodate the faculty and students at James Campbell High School. This objective relating to the State's socio-cultural advancement with regard to social services is not applicable to the proposed project.

Section 226-23 Objectives and policies for socio-cultural advancement--leisure

(a) Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.

(b) To achieve the leisure objective, it shall be the policy of this State to:

(1) Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.

(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.

(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.

(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.

(5) Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources.

(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.

(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people.
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.
(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai'i's population to participate in the creative arts.
(10) Assure adequate access to significant natural and cultural resources in public ownership.

Discussion: The new classroom building complex supports the objectives and policies relating to the State's socio-cultural advancement with regard to leisure. The Hawaiian Studies classroom and culinary arts classroom will foster and enhance Hawai'i's multi-cultural heritage through support for cultural education and creative arts.

Section 226-24 Objectives and policies for socio-cultural advancement--individual rights and personal well-being

(a) Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.
(b) To achieve the individual rights and personal well-being objective, it shall be the policy of this State to:

(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.
(2) Uphold and protect the national and state constitutional rights of every individual.
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.
(4) Ensure equal opportunities for individual participation in society.

Discussion: The project supports the objectives and policies for individual rights and personal well-being through the expansion of the campus with a new classroom building complex which will allow for more efficient and effective delivery of educational services for James Campbell High School students.

Section 226-25 Objectives and policies for socio-cultural advancement—culture

(a) Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai'i's people.
(b) To achieve the culture objective, it shall be the policy of this State to:

(1) Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i.

(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai'i's people and which are sensitive and responsive to family and community needs.

Discussion: The project supports Hawai'i's cultural advancement through the provision of a dedicated Hawaiian Studies classroom. This will enable James Campbell High School to better serve the needs of its students with a dedicated space that fosters knowledge and understanding of Hawai'i's indigenous cultural heritage and the history, values, customs, and art of its people.

Section 226-26 Objectives and policies for socio-cultural advancement--public safety

(a) Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:

(1) Assurance of public safety and adequate protection of life and property for all people.
(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people

(b) To achieve the public safety objectives, it shall be the policy of this State to:

(1) Ensure that public safety programs are effective and responsive to community needs.
(2) Encourage increased community awareness and participation in public safety programs.

(c) To further achieve public safety objectives related to criminal justice, it shall be the policy of this State to:

(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.

(d) To further achieve public safety objectives related to emergency management, it shall be the policy of this State to:

(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.
(2) Enhance the coordination between emergency management programs throughout the State.

Discussion: The project is meant to support the classroom space needs for the large and growing student body at James Campbell High School. This objective relating to the State's socio-cultural advancement with regard to public safety is not applicable to the proposed project.

Section 226-27 Objectives and policies for socio-cultural advancement--government

(a) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:

(1) Efficient, effective, and responsive government services at all levels in the State.
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.

(b) To achieve the government objectives, it shall be the policy of this State to:

(1) Provide for necessary public goods and services not assumed by the private sector.
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.
(3) Minimize the size of government to that necessary to be effective.
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawai'i.
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.
(6) Provide for a balanced fiscal budget.
(7) Improve the fiscal budgeting and management system of the State.
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.

Discussion: The project supports the objectives and policies of government. The new classroom building complex will be funded by the State, in response to the school's needs for its growing student body. This provision of public buildings on the James Campbell High School campus will provide the necessary public infrastructure for DOE students in the 'Ewa region.

Part III Priority Guidelines

Overall priority guidelines were established by the State of Hawai'i to address areas of statewide concern. It is the goal of the State to strive to improve the quality of life for Hawai'i's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: Economic development, population growth and land resource management, affordable housing crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.

Section 226-103 Economic priority guidelines

(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai'i's people and achieve a stable and diversified economy:

(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.

(A) Encourage investments which:

(i) Reflect long term commitments to the State;
(ii) Rely on economic linkages within the local economy;
(iii) Diversify the economy;
(iv) Reinvest in the local economy;
(v) Are sensitive to community needs and priorities;
(vi) Demonstrate a commitment to provide management opportunities to Hawai'i residents.

(B) Encourage investments in innovative activities that have a nexus to the State, such as:

(i) Present or former residents acting as entrepreneurs or principals;
(ii) Academic support from an institution of higher education in Hawai'i;
(iii) Investment interest from Hawai'i residents;
(iv) Resources unique to Hawai'i that are required for innovative activity;
(v) Complementary or supportive industries or government programs or projects.

(2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.

(3) Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.

(4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.

(5) Streamline the processes for building and development permit and review and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety, and welfare would not be adversely affected.

(6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawai'i's small-scale producers, manufacturers, and distributers.

(7) Continue to seek legislation to protect Hawai'i from transportation interruptions between Hawai'i and the continental United States.

(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics

(A) An industry that can take advantage of Hawai'i's unique location and available physical and human resources.
(B) A clean industry that would have minimal adverse effects on Hawai'i's environment.
(C) An industry that is willing to hire and train Hawai'i's people to meet the industry's labor needs at all levels of employment.
(D) An industry that would provide reasonable income and steady employment.

(9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawai'i business.

(10) Enhance the quality of Hawai'i's labor force and develop and maintain career opportunities for Hawai'i's people through the following actions.

(A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.
(B) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.
(C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.
(D) Promote career opportunities in all industries for Hawai'i's people by encouraging firms doing business in the State to hire residents.
(E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on –the-job training opportunities.
(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.

(b) Priority guidelines to promote the economic health and quality of the visitor industry:

(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawai'i's residents and visitors.
(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.
(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.

(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai'i's significant natural, scenic, historic, and cultural resources.
(5) Develop and maintain career opportunities in the visitor industry for Hawai'i's people, with emphasis on managerial positions.
(6) Support and coordinate tourism promotion abroad to enhance Hawai'i's share of existing and potential visitor markets.
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.
(9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.

(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:

(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai'i.
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.

(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:

(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.
(2) Assist in providing adequate, reasonably priced water for agricultural activities.
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.
(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai'i's agricultural community.
(6) Seek favorable freight rates for Hawai'i's agricultural products from interisland and overseas transportation operators.
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.

(10) Support the continuation of land currently in use for diversified agriculture.
(11) Encourage residents and visitors to support Hawai'i's farmers by purchasing locally grown food and food products.

(e) Priority guidelines for water use and development:

(1) Encourage the development, demonstration, and commercialization of renewable energy sources.
(2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.
(3) Increase the support for research and development of economically feasible alternative water sources.
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.

(f) Priority guidelines for energy use and development:

(1) Encourage the development, demonstration, and commercialization of renewable energy sources.
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.

(g) Priority guidelines to promote the development of the information industry:

(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawai'i.
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.
(3) Encourage the development of small businesses in the information field such as software development; the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.
(5) Encourage research activities, including legal research in the information and telecommunications fields.
(6) Support promotional activities to market Hawai'i's information industry services.

(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.

Discussion: The economic priority guidelines are not applicable to the proposed project.

Section 226-104 Population growth and land resources priority guidelines

(a) Priority guidelines to effect desired statewide growth and distribution:

(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai'i's people.
(2) Manage a growth rate for Hawai'i's economy that will parallel future employment needs for Hawai'i's people.
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.
(7) Support the development of high technology parks on the neighbor islands.

(b) Priority guidelines for regional growth distribution and land resource utilization:

(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.
(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.

(7) Pursue rehabilitation of appropriate urban areas.
(8) Support the redevelopment of Kakaʻako into a viable residential, industrial, and commercial community.
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.
(10) Identify critical environmental areas in Hawaiʻi to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.
(12) Utilize Hawaiʻi's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.
(13) Protect and enhance Hawaiʻi's shoreline, open spaces, and scenic resources.

Discussion: The project supports the population growth and land resources priority guidelines by providing appropriate facilities to accommodate the existing James Campbell High School faculty and students. Additionally, the new buildings will be State funded and located within a pre-developed site on the school campus.

Section 226-105 Crime and criminal justice

Priority guidelines in the area of crime and criminal justice:

(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.

Discussion: The priority guidelines in the area of crime and criminal justice are not applicable to the proposed project.

Section 226-106 Affordable housing

Priority guidelines for the provision of affordable housing:

(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.
(3) Improve information and analysis relative to land availability and suitability for housing.
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawai'i's low- and moderate-income households, gap-group households, and residents with special needs.
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai'i's people for the purchase of initial owner-occupied housing.
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.
(8) Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i.

Discussion" The priority guidelines for the provision of affordable housing are not applicable to the proposed project.

Section 226-107 Quality education

Priority guidelines to promote quality education:

(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement.
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs.
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decisionmaking responsibilities.
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for:
    (A) The electronic exchange of information
    (B) Statewide electronic mail

(C) Access to the Internet

Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives.

(6) Pursue the establishment of Hawai'i's public and private universities and colleges as research and training centers of the Pacific.
(7) Develop resources and programs for early childhood education.
(8) Explore alternatives for funding and delivery of educational services to improve the overall quality of education.
(9) Strengthen and expand educational programs and services for students with special needs.

Discussion: The project promotes the priority guidelines for quality education. The new classroom building complex will allow James Campbell High School to properly provide its students with a quality education, by creating necessary classroom space for the school's large student body. In addition, the newly dedicated spaces for a Hawaiian Studies classroom, culinary arts, and will provide students with the appropriate classroom environments to learn.

Section 226-108 Sustainability

Priority guidelines and principles to promote sustainability shall include:

(1) Encouraging balanced economic, social, community, and environmental priorities.
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State.
(3) Promoting a diversified and dynamic economy.
(4) Encouraging respect for the host culture.
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations.
(6) Encourage planning that respects and promotes living within the natural resources and limits of the State
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawai'i.

Discussion: The new classroom building complex supports the State's priority guidelines for sustainability through thoughtful site planning on the existing James Campbell High School campus. The new buildings will meet the guidelines for Hawai'i Collaborative for High Performance Schools (HI-CHPS), which promotes healthy and sustainable school learning environments. The buildings will also be suitable for photovoltaic installations to offset the school's use of fossil fuels for electricity.

Section 226-109 Climate change adaptation priority guidelines

Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural

resources; education; energy; higher education; health; historic preservation; water resources; the built environment; such as housing, recreation, transportation; and the economy shall:

(1) Ensure that Hawai'i's people are educated, informed, and aware of the impacts climate change may have on their communities.
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies.
(3) Invest in continued monitoring and research of Hawai'i's climate and the impacts of climate change on the State.
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change.
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change.
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments.
(7) Promote sector resilience in areas such as water, roads, airports, and public health by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options.
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities.
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans.
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.

Discussion: The project supports the priority guidelines for climate change and is not expected to significantly contribute to existing greenhouse gas emissions. The new buildings will be suitable for photovoltaic installations to offset the school's use of fossil fuels for electricity. As discussed in *Section 3.4* of this EA, the project is not expected to be affected by flood or tsunami inundation. To prevent ponding or localized flooding resulting from stormwater run-off, new drainage infrastructure for the project site will be designed and constructed to meet applicable standards. All construction will conform to relevant building codes to mitigate the risk of wind and seismic damage. In addition, the project is not anticipated to be affected by climate induced sea level rise. While detailed projections of sea level rise have not been completed for the West O'ahu region, NOAA's online sea level rise and flooding viewer predict that the school site will be unaffected by up to 6-foot increases in sea levels.

5.2 HAWAIʻI STATE FUNCTIONAL PLANS

The Hawaiʻi State Functional Plans serve to guide the implementation of policies, guidelines, and priorities of the State Plan within specific fields of activity. The following provides a discussion on the Functional Plans applicable to the project.

Education State Functional Plan

The Education State Functional Plan was produced in 1989 by the Department of Education through a participatory process and seeks to carry forth the goals and objectives of the State Plan. The Education Functional Plan identifies three clusters of goals. Cluster A provides policies related to four basic educational needs: academic excellence, basic skills, education workforce, and facilities and services. The implementing actions are identified for educational services and facilities as related to the project:

Objective A(4): Services and Facilities

Policy: Ensure the provisions of adequate and accessible educational services and facilities that are designed to meet individual community needs.

(a) Secure the resources necessary to implement and carry out a program to provide for safe and secure campus environments.

Discussion: The project supports the Education State Functional Plan. The provision of the new classroom building complex will enable the school to better serve its growing student body by providing additional instructional space, upgraded facilities, and parking improvements.

5.3 HAWAIʻI STATE LAND USE DISTRICT BOUNDARIES

Under the Chapter 205, HRS, all lands of the State are to be classified in one of four categories: urban, rural, agricultural, and conservation lands. The State Land Use Commission (LUC), an agency of the State Department of Business, Economic Development, and Tourism (DBEDT), is responsible for each district's standards and for determining the boundaries of each district (Chapter 205-2(a), HRS). The LUC is also responsible for administering all requests for district reclassifications and/or amendments to district boundaries, pursuant to Chapter 205-4, HRS, and the HAR, Title 15, Chapter 15 as amended. Under this Chapter, all lands in Hawaiʻi are classified into four land use districts: (1) Conservation, (2) Agricultural; (3) Urban, and (4) Rural.

The Urban District generally includes lands characterized by "city-like" concentrations of people, structures and services. This District also includes vacant areas for future development. Jurisdiction of this district lies primarily with the respective counties. Generally, lot sizes and uses permitted in the district area are established by the respective County through ordinances or rules.

Discussion: As classified by the State of Hawaiʻi LUC, the project site is situated within the State Urban District (*Figure 1-3*). The proposed use within the property is consistent with permitted uses for the Urban District, and will not require district reclassification or boundary amendments.

5.4 HAWAIʻI COASTAL ZONE MANAGEMENT PROGRAM

The Coastal Zone Management Act of 1972 (16 USC Section 1451), as amended through Public Law 104-150, created the coastal management program and the National Estuarine Research Reserve system. The coastal states are authorized to develop and implement a state coastal zone management program. Hawaiʻi Coastal Zone Management (CZM) Program received federal approval in the late 1970's. The objectives and policies of the State's Hawaiʻi Coastal Zone Management (CZM) Program, Section 205A-2, HRS, are to protect valuable and vulnerable coastal resources including the following: recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, marine resources, and beaches. The objectives of the program are also to reduce coastal hazards, stimulate public participation in coastal management, and to improve the review process for activities proposed within the coastal zone. The Coastal Zone Management area is defined in Section 205A-1 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 United States territorial sea." Each county is responsible for designating a Special Management Area (SMA) that extends inland from the shoreline. Development within this SMA is subject to County approval to ensure the proposal is consistent with the policies and objectives of the Hawaiʻi CZM Program.

Discussion: The project supports the Hawaiʻi CZM Program by identifying and analyzing historic resources in the project area and identifying and preserving existing public views to and along the shoreline. The existing recreational resources in the area will not be adversely affected by the new classroom building complex. The project also concentrates development in an appropriately zoned and pre-developed area to ensure minimal adverse environmental effects to the coastal regions of ʻEwa. The entire project site is not within the SMA as delineated by the City and County of Honolulu (*Figure 1-6*).

5.5 HAWAIʻI 2050 SUSTAINABILITY PLAN

The Hawaiʻi 2050 Sustainability Plan has as its main goals and objectives respect for culture, character, beauty, and history of the state's island communities; balance among economic, community, and environmental priorities; and an effort to meet the needs of the present without compromising the ability of future generations to meet their own needs.

The 2050 Plan delineates five goals toward a sustainable Hawaiʻi accompanied by strategic actions for implementation and indicators to measure success or failure. The goals and strategic actions that are pertinent to the James Campbell High School Classroom Building project are as follows.

Goal Four: Our community is strong, healthy, vibrant and nurturing, providing safety nets for those in need.

Strategic Actions:

- *Strengthen public education.*

Discussion The project will include a new classroom building complex and parking improvements on the James Campbell High School campus. The project will provide essential instructional and faculty space for the school's growing student body. In addition the new classrooms will provide the necessary facility upgrades needed to properly support STEM class activities and the culinary arts.

5.6 CITY AND COUNTY OF HONOLULU GENERAL PLAN

Adopted by resolution in 1977, the 1992 revised edition of the General Plan for the City and County of Honolulu sets forth the long-range objectives for the general welfare and prosperity of the people of Oʻahu and broad policies to attain those objectives. The Draft 2035 Oʻahu General Plan Update was published in November 2012. Public comments are still under review by the DPP and its consultant. The General Plan Update provides objectives and policies intended to guide and coordinate City land use planning and regulation, and budgeting for operations and capital improvements.

The James Campbell High School Classroom Building Complex project is consistent with the applicable objectives and policies of the City and County of Honolulu Draft 2035 Oʻahu General Plan Update described below.

Natural Environment

Objective A: To protect and preserve the natural environment.

- *Policy 1: Protect Oʻahu's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.*
- *Policy 7: Protect the natural environment from damaging levels of air, water, and noise pollution.*
- *Policy 8: Protect plants, birds, and other animals that are unique to the State of Hawaiʻi and the Island of Oʻahu.*

Physical Development and Urban Design

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

- *Policy 2: Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and other public facilities and services.*
- *Policy 5: Provide for more compact development and intensive use of urban lands where compatible with the physical and social character of existing communities.*

Health and Education

Objective B: To provide a wide range of educational opportunities for the people of Oʻahu to.

- *Policy 1: Support educational programs that encourage the development of employable skills.*

- *Policy 4: Encourage the construction of school facilities that are designed for flexibility and high levels of use.*

Discussion: The James Campbell High School Classroom Building Complex project supports the objectives of the General Plan. Development of the project will provide instructional and lab space for classes in the sciences, culinary arts, Hawaiian Studies, and other general education subjects. The additional faculty centers will also enable the school staff to better support educational opportunities for students at the school. Both the classroom building complex and expanded and repaved parking lot will be built within the existing campus, which is located away from the shoreline, thereby providing a more compact development and intensive use of urban lands. In addition, since the five new buildings will be built within the campus, and existing utilities such as water supply, sewage treatment, drainage, transportation and other services are available near the project site. Construction BMPs will help to mitigate potential temporary impacts to air, water, and soil quality.

5.7 CITY AND COUNTY OF HONOLULU – ʻEWA DEVELOPMENT PLAN

The Island of Oʻahu is divided into eight Development Plan areas. Each plan implements the objectives and policies of the General Plan and serves as a guide for public policy, investment, and decision-making within each respective region. Together with the General Plan, the plans guide population and land use growth over a 20- to 25-year time span.

The project site is located within the region encompassed by the ʻEwa Development Plan. The Plan was last revised by the County DPP in 2013. The Plan's vision and implementing policies are oriented to maintaining and enhancing the region's ability to serve as a second urban center of Oʻahu, protecting agricultural land and open space, building master planned residential communities, protecting natural, historic, and cultural resources, and providing adequate infrastructure to meet the needs of new and existing development.

The project is consistent in supporting the applicable objectives and policies of the ʻEwa Development Plan described below.

Section 3.4 Historic and Cultural Resources

Section 3.4.1 General Policies

Retain significant vistas wherever possible.

Section 3.5 Natural Resources

Section 3.5.1 General Policies

Require surveys for proposed new development areas to identify endangered species habitat, and require appropriate mitigations for adverse impacts on endangered species due to new development.

Reduce light pollution's adverse impact on wildlife and human health and its unnecessary consumption of energy by using, where sensible, fully shielded lighting fixtures using lower wattage.

Section 3.9 Existing and Planned Residential Communities

Section 3.9.1 General Policies

Overall Density - To achieve the desired compactness and character of development in planned residential communities, develop with the housing density of the aggregate area zoned for residential use (including the streets) in the range of 10 to 15 units per acres. (This average does not include areas zoned for commercial or industrial use.)

Discussion: The project site is designated as an elementary school in Residential and Low Density Apartment lands on the ʻEwa Development Plan Land Use Map *(Figure 1-5)*. The Residential and Low Density Apartment designation includes single family detached homes, attached homes or townhomes, small low density, low rise, multi-family residences, stacked flats, apartment buildings, and various relatively low density community support facilities that are permitted, including neighborhood commercial centers, elementary schools and churches. The five new buildings will be located within the existing James Campbell High School campus.

The designs of the classroom building complex will fit with the character of James Campbell High School and will include appropriate architectural building forms and materials that match the ʻEwa character and architectural heritage. Landscaping will be incorporated to improve the visual character of the constructed site and may include the placement of species such as green and variegated ti leaf (*Cordyline fruticose)*, alaheʻe (*Psydrax odoratum)*, puakenikeni (*Fagraea berteriana)*, hāʻawa (*Pittosporum)*, lonomea (*Sapindus oahuensis)*, kului (*Nototrichium sandwicense)*, hinahina (*Pentacarya heliotropioides)*, ʻohai (*Sesbania tomentosa)*, ʻuala (*Ipomoea batatas)*, and pili grass (*Heteropogon contortus*).

5.8 CITY AND COUNTY OF HONOLULU LAND USE ORDINANCE GUIDELINES

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 County General Plan and development plans. The LUO is also intended to provide reasonable development and design standards. These standards are applicable to the location, height, bulk and size of structures, yard areas, off-street parking facilities, and open spaces, and the use of structures and land for agriculture, industry, business, residences or other purposes (Revised Ordinance for the City and County of Honolulu, Chapter 21).

Discussion: The subject property is designated as R-5 Residential by the City and County of Honolulu's LUO *(Figure 1-4)*. The intent of R-5 zoning district is to provide areas for urban residential development. Pursuant to Section 21-3.70-1 of the LUO, the use of this zoning district for a high school is permitted subject to approval of a CUP-minor application by the DPP.

5.9 SPECIAL MANAGEMENT AREA

The project area is not located within the Special Management Area (SMA) *(Figure 1-6)*, which was established to preserve, protect, and where possible, to restore the natural resources of the coastal zone of Hawai'i. Special controls on development within the SMA are necessary to avoid permanent loss of valuable resources and foreclosure of management options. The review guidelines of Section 25-3.2 of the Revised Ordinances of Honolulu (ROH) are used by the Department of Planning and Permitting and the City Council for the review of developments proposed in the SMA. These guidelines are derived from Section 205A-26 HRS.

Discussion: The entire James Campbell High School Classroom Building Complex project area is not within the SMA as delineated by the City and County of Honolulu, and as such does not require an additional review under State CZM and County SMA rules (*Figure 1-6*).

Section 6.0

FINDINGS SUPPORTING THE ANTICIPATED DETERMINATION

6.0 FINDINGS SUPPORTING THE ANTICIPATED DETERMINATION

6.1 ANTICIPATED DETERMINATION

Based on a review of the significance criteria outlined in Chapter 343, HRS, and Section 11-200-12, State Administrative Rules, Contents of EA, the project has been determined to not result in significant adverse effects on the natural or human environment. A Finding of No Significant Impact (FONSI) is anticipated.

6.2 REASONS SUPPORTING THE ANTICIPATED DETERMINATION

The potential impacts of the James Campbell High School Classroom Building Complex project have been fully examined and discussed in this EA. As stated earlier, there are no significant environmental impacts expected to result from the project. This determination is based on the assessments as presented below for criterion (1) to (13).

(1) Involve an irrevocable loss or destruction of any natural or cultural resources.

The archaeological and cultural landscapes have been documented in studies conducted specifically for the project area. As detailed in *Section 3.15* of this report, the project does not involve any known loss or destruction of existing natural, cultural, archaeological or historical resources. The only specific area of concern is the unknown potential for the inadvertent discovery of subsurface historical or cultural resources, including the unknown possibility of iwi kūpuna (ancestral remains). If any cultural or archaeological resources are unearthed or ancestral remains are inadvertently discovered, the DLNR, SHPD, Oʻahu Island Burial Council representative, and participating interests from lineal descendants and individuals will be notified. The treatment of these resources will be conducted in strict compliance with the applicable historic preservation and burial laws.

(2) Curtail the range of beneficial uses of the environment.

The project activities will not curtail the range of beneficial uses of the environment. Existing uses conform to existing land use designations. The project would actually increase beneficial uses of the area, by providing new facilities for students and administrative staff which is appropriate for their growing needs.

(3) Conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.

The project does not conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.

(4) Substantially affects the economic or social welfare of the community or State.

The project will result in short-term economic benefits during construction that include direct, indirect, and induced employment opportunities and multiplier effects, but not at a level that would generate significant economic activity. The project will also provide a new building facility on the campus that will improve the existing public educational service for 'Ewa district students, their families, and the staff at the school.

(5) Substantially affects public health.

The project is consistent with existing land uses and is not expected to affect public health. However, there will be temporary short-term impacts to air quality emanating from possible dust emissions and temporary degradation of the acoustic environment in the immediate vicinity resulting from construction equipment. The project will comply with State and County regulations during the construction period and BMPs will be used to minimize temporary impacts. Since the project will include the construction a new classroom building at the school site, temporary changes to campus operations will be made to minimize the effects to surrounding areas of the campus.

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

The project will provide a new classroom building complex and parking improvements on the James Campbell High School campus for existing students and staff at the school. The approval of the project will not have substantial secondary impacts, such as population changes or effects on public facilities.

(7) Involves a substantial degradation of environmental quality.

The project will not involve a substantial degradation of environmental quality. Long-term impacts to air and water quality, noise, and natural resources would be minimal. The use of standard construction and erosion control BMPs will minimize the anticipated construction-related short-term impacts.

(8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.

Developing the classroom facilities will not have substantial negative effects upon the environment, and will not involve a precursor for other future actions.

(9) Substantially affects a rare, threatened or endangered species, or its habitat.

The project area does not contain identified rare, threatened, or endangered species or habitat. No impact is anticipated.

(10) Detrimentally affects air or water quality or ambient noise levels.

General temporary impacts associated with construction are identified in *Section 3.0* of this EA. Mitigation measures which are outlined in this EA will be applied during the on-going construction activity. No detrimental long-term impacts to air, water, or acoustic quality are anticipated with the project improvements.

(11) Affects or is likely to suffer damage by being located in an environmentally sensitive area such as flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

The entire project site lies within Zone D (Undetermined Flood Hazard) and lies outside of the designated tsunami zone (*Figure 1-7*). The project site is not located in an environmentally sensitive area, such as a flood plain, beach, erosion-prone area, geologically-hazardous land, estuary, fresh water or coastal water. The project improvements will comply with necessary requirements and codes. No impact is anticipated.

(12) Substantially affects scenic vistas and view-planes identified in county or state plans or studies.

The project will be located on the existing James Campbell High School campus. The addition of the new facilities will fit with the existing campus setting. Landscaping will also be incorporated to improve the visual character of the constructed site and area. There are no existing scenic vistas and view-planes identified in City or State plans within the project vicinity. No significant adverse impacts are anticipated.

(13) Require substantial energy consumption.

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

6.3 SUMMARY

Based on the above findings, further consideration of the project's impacts through the preparation of an Environmental Impact Statement is not warranted. The EA recommends mitigation measures to alleviate impacts when such impacts are identified. A Finding of No Significant Impact (FONSI) is anticipated for this project.

The project is consistent with the Hawai'i State Land Use District Boundaries; the Hawai'i State Plan and Functional Plans; the 2050 Sustainable Plan, the Hawai'i Coastal Zone Management Plan, the City's General Plan and 'Ewa Development Plan; the City's Zoning Ordinance, and the Special Management Area.

The project will have beneficial effects on the students, faculty, and staff of James Campbell High School by providing new instructional space and parking to support existing overcrowding and a growing student body. Overall, the project will provide a public benefit while resulting in minimal impacts to the surrounding environment.

Section 7.0

LIST OF REFERENCES

7.0 LIST OF REFERENCES

City and County of Honolulu. Department of Land Utilization. 1987. *Coastal View Study.* Posted at: http://www.honolulutraffic.com/Admin_Record/Administrative_Record_rev_2.28.12/Administrative_Record_Volumes_1-11/Vol001_AR00000001/AR00011890.pdf

City and County of Honolulu, Planning Department. 1992. *General Plan for City and County of Honolulu.*

City and County of Honolulu, Department of Planning and Permitting. 2013. *'Ewa Development Plan.* Posted at: http://www.honoluludpp.org/Portals/0/pdfs/planning/ewa/ewa5yr/Ewa_DP_2013_securedcopy.pdf

City and County of Honolulu. 2014. *Revised Ordinances of Honolulu, Chapter 21, Land Use Ordinance.* Posted at: https://www.honolulu.gov/ocs/roh/193-site-ocs-cat/975-roh-chapter-21.html

Giambelluca, T.W., X. Shuai, M.L. Barnes, R.J. Alliss, R.J. Longman, T. Miura, Q. Chen, A.G. Frazier, R.G. Mudd, L. Cuo, and A.D. Businger. 2014. *Evapotranspiration of Hawai'i.* Final report submitted to the U.S. Army Corps of Engineers – Honolulu District and the Commission on Water Resource Management, State of Hawaii. Posted at: http://climate.geography.hawaii.edu/interactivemap.html

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. N.D. Web Soil Survey. Posted at http://websoilsurvey.nrcs.usda.gov/ Accessed: 27 June 2016.

State of Hawai'i, Land Use Commission. State Land Use Districts. Posted at: http://luc.hawaii.gov/about/state-land-use-districts/

Stearns, H.T. 1939. *Geologic map and guide of the island of Oahu, Hawaii.* Prepared in cooperation with the U.S. Department of the Interior Geological Survey. Posted at: https://pubs.er.usgs.gov/publication/70099108

University of Hawaii at Mānoa Sea Grant College Program. June 2014. Climate Change Impacts in Hawai'i – A summary of climate change and its impacts to Hawai'i's ecosystems and communities.

US Geological Survey. 2012. Seismic Design Maps for International Building Code. Posted at: http://earthquake.usgs.gov/hazards/designmaps/pdfs/?code=IBC&edition=2012 Accessed: 15 July 2016.

GIS DATA SOURCES

Aerial Imagery
Note: Different areas may have different aerial updates
Google Earth Aerial Imagery, 2013

Agricultural Lands of Importance to the State of Hawai'i (ALISH)
State Department of Agriculture, 1977 (Original)

Conservation District Subzones
State Land Use Commission, September 2015

DFIRM/Flood Hazard Zones
FEMA 2014 (O'ahu)

Important Agriculture Lands
State Land Use Commission, April 2015

Land Study Bureau (LSB) Detailed Land Classification
Original LSB Studies:
O'ahu, 1972

Parks
City and County of Honolulu, September 2015

Street Centerline (Roads)
City and County of Honolulu, September 2015

Soils
U.S. Department of Agriculture, Natural Resources Conservation Service, 2014

Special Management Area
City and County of Honolulu, 2011

State Land Use Districts
State Land Use Commission, February 2016

Tax Map Key
City and County of Honolulu, February 2016

Tsunami Evacuation Zone
City and County of Honolulu, 2015

Zoning
City and County of Honolulu, February 2016

Section 8.0

LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS RECEIVING COPIES OF THE EA

8.0 LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS RECEIVING COPIES OF THE EA

Respondents and Distribution	Pre-Consultation	Pre-Consultation Comments Received	Receiving Draft EA
Federal Agencies			
U.S. Fish and Wildlife Service	X	X	X
U.S. National Marine Fisheries Service	X		X
U.S. National Resources Conservation Service	X		X
State of Hawai'i Agencies			
Department of Accounting and General Services	X	X	X
Department of Agriculture	X		X
Department of Business, Economic Development & Tourism (DBEDT)	X		X
DBEDT, Energy Division	X		X
DBEDT, Hawai'i Housing and Finance Development Corporation	X	X	X
DBEDT, Strategic Industries Division	X		X
DBEDT, Office of Planning	X	X	X
Department of Hawaiian Home Lands	X		X
Department of Health (DOH)	X		X
DOH, Clean Water Branch	X	X	X
DOH, Environmental Planning Office	X		X
Department of Human Services	X	X	X
Department of Land and Natural Resources (DLNR)	X	X	X
DLNR, O'ahu Land Division	X	X	
DLNR, Commission on Water Resources Management	X	X	X
DLNR, Engineering Division	X	X	X
Department of Labor and Industrial Relations	X		X
DLNR, State Historic Preservation Division	X		X
Department of Transportation	X	X	X
Office of Hawaiian Affairs	X		X
City and County of Honolulu Agencies			
Board of Water Supply	X	X	X
Department of Community Services	X		X

Respondents and Distribution	Pre-Consultation	Pre-Consultation Comments Received	Receiving Draft EA
Department of Design and Construction	X	X	X
Department of Environmental Services	X		X
Department of Facility Maintenance	X	X	X
Department of Planning and Permitting	X	X	X
Department of Parks and Recreation	X	X	
Department of Transportation Services	X	X	X
Fire Department	X	X	X
Police Department	X	X	X
Elected Officials			
Senator Will Espero– State Senate District 19	X	X	X
Representative Matthew LoPresti – State House District 41	X		X
Councilmember Ron Menor – Honolulu City Council District 9	X		X
Libraries			
Hawai'i State Library, Hawai'i Documents Center	X		X
'Ewa Beach Public and School Library	X		X
Organizations, Individuals, and Consulted Parties			
Hawaiian Electric Company	X	X	X
'Ewa Neighborhood Board No. 23	X		X

Appendix A

PRECONSULTATION LETTER AND COMMENTS

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:
01EPIF00-2016-TA-0365

JUL 0 5 2016

Ms. Christine Mendes Ruotola
Principal
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawai'i 96813-4307

Subject: Technical Assistance for the Proposed James Campbell High School Classroom Building Complex Project, 'Ewa Beach, O'ahu

Dear Ms. Mendes Ruotola:

The U.S. Fish and Wildlife Service received your letter on June 10, 2016, requesting our comments on the proposed James Campbell High School Classroom Building Complex Project. The project is located at the James Campbell High School campus, 91-980 North Road, 'Ewa Beach, O'ahu [TMK: (1) 9-1-001:002 (portion)]. We understand Group 70 International, Inc. will be preparing the Draft Environmental Assessment (DEA) for the project in accordance with Chapter 343, Hawai'i Revised Statutes on behalf of the State of Hawai'i, Department of Education. The project proposes to construct a classroom building complex on 1.5 acres within the 30.31 acre James Campbell High School campus. The classroom building complex will contain five buildings, three stories tall, connected by walkways, which will add additional classrooms, new science labs, a culinary arts lab, a Hawaiian Studies classroom, faculty centers, and support spaces. In addition, the existing vehicle turnaround area will be expanded and repaved to provide additional tandem parking and a bus loading area.

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 in accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*). There is no federally designated critical habitat within the immediate vicinity of the proposed project. Our data indicate that the following federally listed species may occur within the vicinity of the project: the endangered Hawaiian hoary bat or opeapea (*Lasiurus cinereus semotus*), the endangered Hawaiian stilt or aeo (*Himantopus mexicanus knudseni*), the endangered Hawaiian gallinule or alae ula (*Gallinula galeata sandvicensis*), the endangered Hawaiian coot or alae keokeo (*Fulica alai*), the endangered Hawaiian duck or koloa maoli (*Anas wyvilliana*), the endangered Hawaiian petrel or ua u (*Pterodroma sandwichensis*), and the threatened Newell's shearwater or ao (*Puffinus newelli*). Also, the wedge-tailed shearwater or ua u kani (*Puffinus pacificus*), a species protected under the Migratory Bird Treaty Act (16 U.S.C. 703-712] (MBTA), may occur within the project vicinity. We offer the following comments to assist you in preparing the DEA.

Hawaiian hoary bat

The Hawaiian hoary bat roosts in both exotic and native woody vegetation and, while foraging, will leave young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the breeding season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. To minimize impacts to the endangered Hawaiian hoary bat, 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 Hawaiian hoary bats in the project area.

Hawaiian waterbirds

The Hawaiian stilt, Hawaiian coot, Hawaiian gallinule, and Hawaiian duck, collectively referred to as Hawaiian waterbirds, occur at various sites within the vicinity of the project area (*e.g.*, Pearl Harbor, Pouhala Marsh). Hawaiian waterbirds, in particular, the Hawaiian stilt, is known to nest in sub-optimal locations (*e.g.*, any ponding water) if present. Hawaiian waterbirds attracted to sub-optimal habitat may suffer adverse impacts, such as predation, reduced reproductive success due to disturbance within the vicinity of a nest, injury or death from being hit by a vehicle and thus the project may create an attractive nuisance. Therefore, we recommend you design the proposed project in a manner that minimizes the amount of time standing water is present during construction, thereby, reducing the potential to attract waterbirds.

Hawaiian seabirds

Outdoor lighting, such as street lights and night-time work, can adversely impact listed and migratory seabird species found in the vicinity of the proposed project. Seabirds fly at night and are attracted to artificially lighted areas which can result in disorientation and subsequent fallout due to exhaustion or collision with objects such as utility lines, guy wires, and towers that protrude above the vegetation layer. Once grounded, they are vulnerable to predators or often struck by vehicles along roadways. Wedge-tailed shearwater nesting colonies are located on offshore islets and several locations on O'ahu and every year many young shearwaters are downed and struck along O'ahu roadways. Any increase in the use of night-time lighting, particularly during each year's peak fallout period (September 15 through December 15), could result in additional seabird injury or mortality.

If night-time work is proposed for your project, impacts to seabirds can be minimized by shielding outdoor lights to the maximum extent possible, eliminating night-time construction, and providing all project staff with information about seabird fallout and that downed birds can be taken to Sea Life Park for rehabilitation. All lights, including street lights, should be shielded so the bulb can only be seen from below and use the lowest wattage bulbs possible. The DEA should address all potential impacts to seabirds and outline conservation measures to minimize these impacts.

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 the ESA compliance.

General Comments

Hawai'i's native ecosystems are heavily impacted by exotic invasive plants. Whenever possible we recommend using native species for landscaping. If native plants do not meet the landscaping objectives, we recommend choosing species that are thought to have a low risk of becoming invasive. The following websites are good resources to use when choosing landscaping plants: Pacific Island Ecosystems at Risk (http://www.hear.org/Pier/), Weed Risk Assessment for Hawai'i and Pacific Islands (http://www.botany.hawaii.edu/faculty/daehler/wra/) and Global Compendium of Weeds (http://www.hear.org/gcw/).

The proposed project may cause soil erosion and sedimentation; therefore we are attaching the Service's recommended Best Management Practices regarding sedimentation and erosion control. We encourage you to incorporate the relevant practices into your project design.

We appreciate your efforts to conserve listed species and we look forward to reviewing the DEA for the proposed project. If you have questions about our comments, please contact Leila Gibson, Fish and Wildlife Biologist (phone: 808-792-9400, email: leila_gibson@fws.gov).

Sincerely,

Aaron Nadig
Island Team Manager
O'ahu, Kaua'i, North Western Hawaiian Islands,
and American Samoa

Enclosure: Service BMPs for erosion and sediment control

U.S. Fish and Wildlife Service
Recommended Standard Best Management Practices

The U.S. Fish and Wildlife Service (USFWS) recommends the following measures to be incorporated into project planning to avoid or minimize impacts to fish and wildlife resources. Best Management Practices (BMPs) include the incorporation of procedures or materials that may be used to reduce either direct or indirect negative impacts to aquatic habitats that result from project construction-related activities. These BMPs are recommended in addition to, and do not over-ride any terms, conditions, or other recommendations prepared by the USFWS, other federal, state or local agencies. If you have questions concerning these BMPs, please contact the USFWS Aquatic Ecosystems Conservation Program at 808-792-9400.

1. Authorized dredging and filling-related activities that may result in the temporary or permanent loss of aquatic habitats should be designed to avoid indirect, negative impacts to aquatic habitats beyond the planned project area.

2. Dredging/filling in the marine environment should be scheduled to avoid coral spawning and recruitment periods, and sea turtle nesting and hatching periods. Because these periods are variable throughout the Pacific islands, we recommend contacting the relevant local, state, or federal fish and wildlife resource agency for site specific guidance.

3. Turbidity and siltation from project-related work should be minimized and contained within the project area by silt containment devices and curtailing work during flooding or adverse tidal and weather conditions. BMPs should be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.

4. All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment should be inspected for pollutants including, but not limited to; marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP – see *http://www.haccp-nrm.org/Wizard/default.asp*) can help to prevent attraction and introduction of non-native species.

5. Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (*e.g.*, with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.

6. Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.

7. All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetation matting, hydro-seeding, etc.

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB
Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP
Hitoshi Hida AIA

March 3, 2017

Mr. Aaron Nadig
United States Department of the Interior
Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Honolulu, HI 96850

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(ʻEwa Beach, Oʻahu, Hawaiʻi)

Dear Mr. Nadig:

Thank you for your comment letter received dated June 17, 2016 concerning the Pre-Consultation for the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project. The following responses are offered to your comments:

1. We acknowledge that no federally designated critical habitat occur within the immediate vicinity of the proposed project.
2. We note that the following listed species may occur within the vicinity of the project: Hawaiian hoary bat, Hawaiian stilt, Hawaiian gallinule, Hawaiian coot, Hawaiian duck, Hawaiian petrel, Newell's shearwater, and the wedge-tailed shearwater.
3. To minimize impacts to the endangered Hawaiian hoary bat, which may occur within the vicinity of the project, woody plants greater than 15 feet tall will not be disturbed, removed, or trimmed during the bat birthing and pup rearing season from June 1 – September 15.
4. We understand that Hawaiian waterbirds may be attracted to sub-optimal habitat and may suffer adverse impacts, such as predation, reduced reproductive success due to nest disturbances, and injury or death from being hit by a vehicle. Therefore, the design of the proposed project will minimize the amount of time standing water is present during construction activities to reduce the potential to attract waterbirds.
5. In an effort to minimize potential impacts to Hawaiian seabirds such as the wedge-tailed shearwaters, outdoor lighting for the project will be shielded. Construction activities will also be limited to daylight hours. A discussion on lighting will be included in Section 3.5 Flora and Fauna of the Draft EA.

6. We acknowledge the threats to Hawai'i's native ecosystems from non-native invasive plants. The project intends to incorporate native plant species into the landscaped elements of the project. The plant species are identified in Section 3.5 of the Draft EA.
7. We appreciate the resources you have provided on Best Management Practices for sedimentation and erosion control. The project will take appropriate measures prior to and during project construction to control fugitive dust emissions and will implement the appropriate Best Management Practices to the extent applicable.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DAVID Y. IGE
GOVERNOR

DOUGLAS MURDOCK
COMPTROLLER

AUDREY HIDANO
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1204.6

JUL 20 2016

RECEIVED
JUL 22 2016
GROUP 70 INT'L

Ms. Christine Mendes Ruotola, AICP
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Pre-Consultation for Chapter 343, HRS Environmental Assessment for James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001: 002 (por)

Thank you for the opportunity to comment on the subject project. 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, please call me at 586-0402 or your staff may call Ms. Gayle Takasaki of the Public Works Division at 586-0584.

Sincerely,

DOUGLAS MURDOCK
Comptroller

c: Mr. John C. H. Chung, DOE Project Management Facilities

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong
AIA

Sheryl B. Seaman
AIA, ASID, LEED AP

Roy H. Nihei
AIA, CSI, LEED AP

James I. Nishimoto
AIA

Stephen Yuen
AIA

Linda C. Miki
AIA

Charles Y. Kaneshiro
AIA, LEED AP

Jeffrey H. Overton
AICP, LEED AP

Christine Mendes Ruotola
AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil
AIA, LEED AP

Tom Young, MBA
AIA

Paul T. Matsuda
PE, LEED AP

Ma Ry Kim
RIBA, ARB

Craig Takahata
AIA

OF COUNSEL

Ralph E. Portmore
FAICP

Hitoshi Hida
AIA

March 3, 2017

Mr. Douglas Murdock
State of Hawai‘i
Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(‘Ewa Beach, O‘ahu, Hawai‘i)

Dear Mr. Murdock:

Thank you for your comment letter dated July 20, 2016 concerning the Pre-Consultation for the Chapter 343, Hawai‘i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

We acknowledge that the Department of Accounting and General Services (DAGS) has no comments to offer at this time, as the project does not impact any of the DAGS' projects or existing facilities.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DAVID Y. IGE
GOVERNOR

CRAIG K. HIRAI
EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM
HAWAII HOUSING FINANCE AND DEVELOPMENT CORPORATION
677 QUEEN STREET, SUITE 300
Honolulu, Hawaii 96813
FAX: (808) 587-0600

IN REPLY REFER TO:

16:PEO/44

June 17, 2016

RECEIVED
JUN 20 2016
GROUP 70 INT'L

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear. Ms. Ruotola:

Re: Pre-Consultation for Chapter 343, HRS, Environmental Assessment for James Campbell High School Classroom Building Complex, TMK: (1) 9-1-001:002 (por.), Ewa Beach, Oahu, Hawaii

Thank you for seeking our comments for the preparation of an Environmental Assessment pursuant to Chapter 343, HRS, for the proposed subject project. We have no housing-related comments to offer at this time.

Sincerely,

for Craig K. Hirai
Executive Director

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB
Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP
Hitoshi Hida AIA

March 3, 2017

Mr. Craig K. Hirai
State of Hawai‘i
Department of Business, Economic Development and Tourism
Hawai‘i Housing Finance and Development Corporation
677 Queen Street, Suite 300
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(‘Ewa Beach, O‘ahu, Hawai‘i)

Dear Mr. Hirai:

Thank you for your comment letter dated June 17, 2016 concerning the Pre-Consultation for the Chapter 343, Hawai‘i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

We acknowledge that the Hawai‘i Housing Finance and Development Corporation has no housing-related comments to offer at this time.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DAVID Y. IGE
GOVERNOR

RACHAEL WONG, DrPH
DIRECTOR

PANKAJ BHANOT
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, Hawaii 96813

June 22, 2016

RECEIVED
JUN 24 2016
GROUP 70 INT'L

Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307
Attn: Christine Mendes Ruotola

Dear Ms. Ruotola:

Subject: Pre- Consultation for Chapter 343, HRS Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.) (Ewa Beach, Oahu, Hawaii)

This is in response to your letter dated June 8, 2016 requesting the Department of Human Services (DHS) review and comment on the above-named project.

The DHS has reviewed the map of proposed classroom building complex for James Campbell High School. A check of DHS' internal data system and Google Maps has found a DHS licensed group child care facility as well as a registered family child care home in the near vicinity that may be affected during the construction phase of the building complex.

If you have any questions or need further information, please contact Ms. Jill Arizumi, Child Care Program Specialist, at (808) 586-5240.

Sincerely,

Scott Nakasone
Assistant Division Administrator

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB
Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP
Hitoshi Hida AIA

March 3, 2017

Mr. Scott Nakasone
State of Hawai'i
Department of Human Services
820 Mililani Street, Suite 606
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
('Ewa Beach, O'ahu, Hawai'i)

Dear Mr. Nakasone:

Thank you for your comment letter dated June 22, 2016 concerning the Pre-Consultation for the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

Thank you for informing us that a DHS licensed Group Child Care facility and a DHS registered Family Child Care home are both located in the vicinity of the project area. The project will ensure that construction related impacts on air, noise, and traffic are minimized with the implementation of Best Management Practices as described in Section 3.0 of the Draft EA.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

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:

06042PGH.16

June 20, 2016

RECEIVED
JUN 23 2016
GROUP 70 INT'L

Ms. Christine Mendes Ruotola
Principal
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307

Dear Mr. Mendes Ruotola:

SUBJECT: Pre-Consultation Comments for Chapter 343, HRS Environmental Assessment for James Campbell High School Classroom Building Complex

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated June 8, 2016, requesting comments on your project. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/05/Clean-Water-Branch-Std-Comments.pdf

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You may be required to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55).

For NPDES general permit coverage, a Notice of Intent (NOI) form must be submitted at least 30 calendar days before the commencement of the discharge. An application for a NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, you must submit the applicable form ("CWB Individual NPDES Form" or "CWB NOI Form") through the e-Permitting Portal and the hard copy certification statement with the respective filing fee ($1,000 for an individual NPDES permit or $500 for a Notice of General Permit Coverage). Please open the e-Permitting Portal website located at: https://eha-cloud.doh.hawaii.gov/epermit/. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool and locate the appropriate form. Follow the instructions to complete and submit the form.

3. If your project involves work in, over, or under waters of the United States, it is highly recommended that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 835-4303) regarding their permitting requirements.

   Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and Hawaii Administrative Rules (HAR), Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

5. It is the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. Project planning should:

   a. Treat storm water as a resource to be protected by integrating it into project planning and permitting. Storm water has long been recognized as a source of irrigation that will not deplete potable water resources. What is often overlooked is that storm water recharges ground water supplies and feeds streams and estuaries; to ensure that these water cycles are not disrupted, storm water cannot be relegated as a waste product of impervious surfaces. Any project planning must recognize storm water as an asset that sustains and protects

natural ecosystems and traditional beneficial uses of State waters, like community beautification, beach going, swimming, and fishing. The approaches necessary to do so, including low impact development methods or ecological bio-engineering of drainage ways must be identified in the planning stages to allow designers opportunity to include those approaches up front, prior to seeking zoning, construction, or building permits.

b. Clearly articulate the State's position on water quality and the beneficial uses of State waters. The plan should include statements regarding the implementation of methods to conserve natural resources (e.g. minimizing potable water for irrigation, gray water re-use options, energy conservation through smart design) and improve water quality.

c. Consider storm water Best Management Practice (BMP) approaches that minimize the use of potable water for irrigation through storm water storage and reuse, percolate storm water to recharge groundwater to revitalize natural hydrology, and treat storm water which is to be discharged.

d. Consider the use of green building practices, such as pervious pavement and landscaping with native vegetation, to improve water quality by reducing excessive runoff and the need for excessive fertilization, respectively.

e. Identify opportunities for retrofitting or bio-engineering existing storm water infrastructure to restore ecological function while maintaining, or even enhancing, hydraulic capacity. Particular consideration should be given to areas prone to flooding, or where the infrastructure is aged and will need to be rehabilitated.

If you have any questions, please visit our website at: http://health.hawaii.gov/cwb/, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

Darryl Lum for

ALEC WONG, P.E., CHIEF
Clean Water Branch

GH:ak

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

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 7, 2016

Group 70 International, Inc.
Attention: Ms. Christine Mendes Ruotola
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

via email: cruotola@group70int.com

Dear Ms. Ruotola:

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment – James Campbell High School Classroom Building Complex

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the Land Division – Oahu District on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 8, 2016

Group 70 International, Inc.
Attention: Ms. Christine Mendes Ruotola
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

via email: cruotola@group70int.com

Dear Ms. Ruotola:

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment – James Campbell High School Classroom Building Complex

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments previously sent you on July 7, 2016, enclosed are comments from the Engineering Division on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 12, 2016

Group 70 International, Inc.
Attention: Ms. Christine Mendes Ruotola via email: cruotola@group70int.com
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

Dear Ms. Ruotola:

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment – James Campbell High School Classroom Building Complex

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments previously sent you on July 7 and 8, 2016, enclosed are comments from the Commission on Water Resource Management on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP

Hitoshi Hida AIA

March 3, 2017

Mr. Russell Y. Tsuji
State of Hawai‘i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(‘Ewa Beach, O‘ahu, Hawai‘i)

Dear Mr. Tsuji:

Thank you for your comment letters dated July 7, 2016, July 8, 2016, and July 12, 2016 concerning the Pre-Consultation for the Chapter 343, Hawai‘i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

We appreciate you distributing the pre-consultation packet to the DLNR Divisions for their review and comments. We will directly respond to the comments received from the Land Division – O‘ahu District, Engineering Division, and Commission on Water Resource Management.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 14, 2016

RECEIVED
LAND DIVISION
2016 JUN 20 AM 6:04
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM

FROM 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

TO: FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment – James Campbell High School Classroom Building Complex
LOCATION: Ewa Beach, Island of Oahu; TMK: (1) 9-1-001:002 (por.)
APPLICANT: State Department of Education

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 **July 6, 2016**.

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: TChee

Print Name: Tiffany Chee
Date: June 17, '16

cc: Central Files

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP

Hitoshi Hida AIA

March 3, 2017

Mr. Timothy Chee
State of Hawai'i
Department of Land and Natural Resources
Land Division, O'ahu District
P.O. Box 621
Honolulu, HI 96809

Subject: Pre-Consultation Chapter 343, HRS for Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
('Ewa Beach, O'ahu, Hawai'i)

Dear Mr. Chee:

Thank you for your comment letter dated June 17, 2016 concerning the Pre-Consultation for the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

We acknowledge that the Land Division – O'ahu District has no comments to offer on the project.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DAVID Y. IGE
GOVERNOR OF HAWAII

2016 JUN 15 AM 11:02 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

June 14, 2016

RECEIVED
LAND DIVISION
2016 JUL -7 AM 11:03
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM

TO: FR:

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

TO:
FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment – James Campbell High School Classroom Building Complex
LOCATION: Ewa Beach, Island of Oahu; TMK: (1) 9-1-001:002 (por.)
APPLICANT: State Department of Education

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 **July 6, 2016**.

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: 7/5/16

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

To: Land Division
Ref: Pre-Consultation for Chapter 343, HRS Environmental Assessment – James Campbell High School Classroom Building Complex

COMMENTS

DLNR Engineering has no input regarding the Chapter 343 Environmental Assessment.

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 or 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).

National Flood Insurance Program establishes the rules and regulations of the NFIP - Title 44 of the Code of Federal Regulations (44CFR). The NFIP Zone X is a designation where there is no perceived flood impact. Therefore, the NFIP does not regulate any development within a Zone X designation.

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.

The applicant should include water demands and infrastructure required to meet project needs. Please note that the projects within State lands requiring water service from the Honolulu Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

The applicant is required to provide water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update projections.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 7/5/10

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP

Hitoshi Hida AIA

March 3, 2017

Mr. Carty S. Chang
State of Hawai'i
Department of Land and Natural Resources
Engineering Division
P.O. Box 621
Honolulu, HI 96809

Subject: Pre-Consultation Chapter 343, HRS for Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
('Ewa Beach, O'ahu, Hawai'i)

Dear Mr. Chang:

Thank you for your comment letter dated July 5, 2016 concerning the Pre-Consultation for the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project. The following responses are offered to your comments:

1. The subject property is not within a designated Flood Hazard. As noted in Section 3.4 of the Draft EA, the project area is within the Flood Zone D (Undetermined) according to the Flood Insurance Rate Map (FIRM).
2. Section 3.8 of the Draft EA includes water demands and infrastructure required to meet the project's needs. We note that projects within State lands requiring water service from the Honolulu Board of Water Supply will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.
3. Water demands and calculations will be provided to the Engineering Division for inclusion in the State Water Projects Plan Update projections.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DAVID Y. IGE
GOVERNOR OF HAWAII

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

RECEIVED
LAND DIVISION
2016 JUL 11 AM 11:05
DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
COMMISSION ON WATER
RESOURCE MANAGEMENT
2016 JUN 15 AM 11:05

June 14, 2016

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 Chapter 343, HRS Environmental Assessment – James Campbell High School Classroom Building Complex
LOCATION: Ewa Beach, Island of Oahu; TMK: (1) 9-1-001:002 (por.)
APPLICANT: State Department of Education

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 **July 6, 2016**.

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.
(x) Comments are attached.

Signed: /s/ Jeffrey T. Pearson, P.E.
Print Name: Deputy Director
Date: July 7, 2016

cc: Central Files

RED 4429.3
14071

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON

WILLIAM D. BALFOUR, JR.
KAMANA BEAMER, PH.D.
MICHAEL G. BUCK
NEIL HANNAHS
MILTON D. PAVAO
VIRGINIA PRESSLER, M.D.

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

July 7, 2016

REF: RFD.4429.3

TO: Mr. Russell Tsuji, Administrator
Land Division Oahu, DLNR-LD

FROM: Jeffrey T. Pearson, P.E., Deputy Director
Commission on Water Resource Management

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment - James Campbell High School Classroom Building Complex

FILE NO.: RFD.4429.3
TMK NO.: (1) 9-1-001:002 (por.)

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at http://dlnr.hawaii.gov/cwrm.

Our comments related to water resources are checked off below.

- [ ] 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
- [X] 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- [ ] 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.
- [X] 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at http://www.usgbc.org/leed. A listing of fixtures certified by the EAP as having high water efficiency can be found at http://www.epa.gov/watersense.
- [X] 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at http://hawaii.gov/dbedt/czm/initiative/lid.php.
- [X] 6. We recommend the use of alternative water sources, wherever practicable.
- [ ] 7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at http://energy.hawaii.gov/green-business-program.
- [X] 8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at

http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf.

☐ 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

☐ 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.

☐ 11. A Well Construction Permit(s) is (are) are required before the commencement of any well construction work.

☐ 12. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.

☐ 13. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.

☐ 14. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.

☐ 15. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a steam channel.

☐ 16. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.

☐ 17. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.

☐ 18. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

☐ OTHER:

If you have any questions, please contact Lenore Ohye of the Commission staff at 587-0216.

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB
Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP
Hitoshi Hida AIA

March 3, 2017

Mr. Jeffrey T. Pearson, P.E.
State of Hawai'i
Department of Land and Natural Resources
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
('Ewa Beach, O'ahu, Hawai'i)

Dear Mr. Pearson:

Thank you for your comment letter dated July 7, 2016 concerning the Pre-Consultation for the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project. The following responses are offered to your comments:

1. We are coordinating with the Engineering Division throughout the EA process and will be providing the Engineering Division with water demands for the State Water Projects Plan during the detailed design phase of the project.

2. We acknowledge your comment on the use of water efficient fixtures and practices for the project. The project will include the installation of water efficient fixtures throughout the project as appropriate.

3. Best Management Practices (BMPs) for stormwater management may include low impact development measures such as rain gardens.

4. Since the project will connect to existing water supplies, alternative water sources will not be used.

5. A landscape plan was developed for the project and includes suitable BMPs for landscape irrigation.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DAVID Y. IGE
GOVERNOR

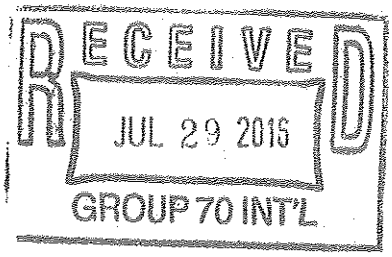
FORD N. FUCHIGAMI
DIRECTOR

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

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

IN REPLY REFER TO:
STP 8.1992

July 27, 2016



Ms. Christine Mendes Ruotola, AICP, LEED, AP
Principal
Group 70 International
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: James Campbell High School Classroom Building Complex
Pre-Assessment Consultation for Environmental Assessment (EA)
Ewa Beach, Oahu, Hawaii
TMK: (1) 9-1-001:002 (por.)

Our Department of Transportation's (DOT) comments on the subject project are as follows:

Airports Division (DOT-AIR)

1. The proposed school site is approximately 3 miles from the end of Runway 22L of Kalaeloa Airport (JRF) and approximately 4 miles from the end of Runways 8L and 8R of the Honolulu International Airport (HNL).

2. The subject property is located outside of both the Kalaeloa and the Honolulu International Airport, Noise Exposure Map noise contours. However, the proposed project may be subject to single event noise from aircraft operations.

3. Due to the proximity of the project to the airports there is a potential for fumes, smoke, vibrations, odors, etc. that may result from aircraft flight operations over the proposed development.

4. Federal Aviation Administration Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants On or Near Airports requires a minimum distance of five (5) statute miles between the farthest edge of the Air Operations Area (AOA) and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure space. Therefore, we recommend using appropriate landscaping and building design criteria that prevents wildlife being attracted to the site.

5. In the event a photovoltaic (PV) system is considered for installation, please provide DOT-AIR and the Federal Aviation Administration (FAA) your proposed plans for review prior to construction. PV systems can create a hazardous condition for a pilot due to possible glint and glare reflected from the PV array, and therefore additional studies and/or mitigation may need to be undertaken.

Highways Division (DOT-HWY)

The Draft EA should consider traffic impacts to State highway facilities.

If there are any questions, please contact Mr. Norren Kato of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Sincerely,

FORD N. FUCHIGAMI
Director of Transportation

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB
Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP
Hitoshi Hida AIA

March 3, 2017

Mr. Ford Fuchigami
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
('Ewa Beach, O'ahu, Hawai'i)

Dear Mr. Fuchigami:

Thank you for your comment letter dated July 27, 2016 concerning the Pre-Consultation for the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project. The following responses are offered to your comments:

Airports Division:

1. We acknowledge that the school site is approximately 3 miles from the end of Runway 22L of Kalaeloa Airport and approximately 4 miles from the end of Runways 8L and 8R of the Honolulu International Airport. As the project site is within the existing school campus, we understand that the proximity of the school poses potential for receiving fumes, smoke, vibrations, odors, etc. resulting from aircraft flight operations over the campus.
2. We note that the Federal Aviation Administration Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants On or Near Airports requires a minimum distance of five statute miles between the farthest edge of the Air Operations Area and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure space. Appropriate landscaping materials will be chosen for the project to prevent attracting wildlife to the site.
3. We understand that photovoltaic systems can create hazardous conditions for pilots due to possible glint and glare reflected from the PV array. In the event a photovoltaic system is considered for installation, the applicant will provide DOT-AIR and the Federal Aviation Administration the proposed plans prior to construction.

Highways Division:

1. A traffic impact assessment was prepared for the project and is included in the Draft EA. Section 3.10 provides an examination of traffic impacts.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

OFFICE OF PLANNING
STATE OF HAWAII

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

DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
DIRECTOR
OFFICE OF PLANNING

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

Ref. No. P-15207

June 21, 2016



Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Pre-Assessment Consultation for Chapter 343, HRS Environmental Assessment James Campbell High School Classroom Building Complex, Ewa Beach, Oahu, Hawaii;
Tax Map Key: (1) 9-1-001:002 (por)

Thank you for the opportunity to provide comments on this pre-assessment consultation for a Draft Environmental Assessment (Draft EA) on the Campbell High School new classroom building complex, Ewa Beach, Oahu. The pre-consultation review material was transmitted to our office via letter dated June 8, 2016.

It is our understanding that this State Department of Education (DOE) sponsored project, proposes a new three-story 52,000 square foot classroom complex on the campus of James Campbell High School. The new complex will have five buildings connected by walkways, with additional classroom spaces, a science lab, a culinary arts room, a Hawaiian studies room, a faculty centers, and support spaces. The project will also repave the existing vehicle turnaround area, provide additional parking, and create a bus loading area.

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

1. Pursuant to the 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. OP provides technical assistance to State and county agencies in administering the statewide planning system in Hawaii Revised Statutes (HRS) Chapter 226, the Hawaii State Plan. The Hawaii State Plan provides goals, objectives, policies, and priority guidelines for growth, development, and the allocation of resources throughout the State in areas of state interest including but not limited to the economy, agriculture, the visitor

industry, federal expenditure, the physical environment, facility systems, socio-cultural advancement, climate change adaptation, and sustainability.

The Draft EA should include an analysis that addresses whether the proposed project conforms to or is in conflict with the goals, objectives, policies, and priority guidelines listed in the Hawaii State Plan. This analysis should address all of these themes. If any of these are not applicable, the Draft EA should state that these are "not applicable." The most efficient method is summarizing these in tabular form, followed by discussion passages.

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 definition of "coastal zone management area").

   HRS § 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 project conforms to the objectives and policies of the Hawaii CZM program set forth in HRS § 205A-2. The assessment on compliance with HRS § 205A-2 is an important component for satisfying the requirements of HRS Chapter 343. These objectives and policies include recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, beach protection, and marine resources.

3. Pursuant to HAR § 11-200-10(6) – identification and summary of impacts and alternatives considered; in order to ensure that water resources and coastal resources of Mamala Bay remain protected, the negative effects of stormwater inundation ensuing from development should be evaluated in the Draft EA. During heavy storm events, storm runoff can transport upslope sediment, land-based pollutants, and other toxins produced by human actions to the nearshore marine environment.

   The Draft EA should examine potential benefits and/or negative impacts resulting from this project on coastal and marine resources. Issues that may be examined in the Draft EA include, but are not limited to, project site characteristics in relation to erosion controls on flood prone areas, undeveloped open spaces, and the absorption characteristics of the soil. Furthermore, it should differentiate between the existing permeable surfaces versus hardened surfaces in the area that may have a cumulative effect on the volume and velocity of storm runoff. These items, as well as the marine

water quality classification, should be considered when developing mitigation measures to protect the coastal ecosystem.

The enclosed map of this project, as well as resources available to us, indicate that this project is located approximately 0.25 mile mauka of the coastline. The campus is located in an urban/residential setting, which has a mixture of residential homes, an athletic field, commercial areas, Pohakea Elementary and Ilima Intermediate schools, a park, and numerous roadways that run throughout the area. It appears that the area has extensive drain gutters along the adjacent roadways, however it is unclear what drainage infrastructure is present on the school campus.

The Draft EA should examine the cumulative impact on coastal resources from land-based polluted runoff and sediment loss. It should take into account the natural features in the area, the nearby Ewa Beach Community Park, undeveloped open spaces, any down-sloping topography, and hardened non-permeable surfaces that may have a cumulative effect on the volume and velocity of storm runoff. This analysis should also account for existing drainage infrastructure that may directly connect the school campus to the coastline.

Furthermore, since this project involves the expansion and paving of a parking lot and a vehicle turnaround area, the DOE should consider the use of permeable surfaces, vegetated filter strips, rain gardens, and landscaping to treat stormwater. The DOE should consider designing the parking area with water absorbing materials, rather than allow the rainfall to flow into storm drains or pond on the proposed parking/turnaround area. Permeable parking lot materials, such as porous concrete pavers, will allow rainfall to be filtered on-site, rather than to sheet flow downslope and into drainage systems.

OP has resources available to assist in the development of projects with practices which mitigate sediment and stormwater control on land, thus protecting the nearshore environment. 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 practices best suited for this project. The evaluative tools that should be consulted 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 (BMP's) for stormwater control management, reducing non-permeable surfaces, and incorporating land features that minimize damaging 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

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP

Hitoshi Hida AIA

March 3, 2017

Mr. Leo R. Asuncion
State of Hawai'i
Office of Planning
235 South Beretania Street, 6th Floor
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
('Ewa Beach, O'ahu, Hawai'i)

Dear Mr. Asuncion:

Thank you for your comment letter dated June 21, 2016 concerning the Pre-Consultation for the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project. The following responses are offered to your comments:

1. The Draft EA provides a general description of action's technical, economic, social, and environmental characteristics, and provides an analysis of the project's consistency with State environmental, social, and economic goals and policies. In addition, Section 5.1 of the Draft EA includes an analysis of the project's conformance to the Hawai'i State Plan.

2. Section 5.4 of the Draft EA includes an assessment of the project's conformance with the objectives and policies of the Hawai'i Coastal Zone Management Program set forth in HRS 205A-2.

3. We appreciate the resources you have provided on stormwater control and Low Impact Development (LID) strategies for the project. Applicable information will be crosschecked and incorporated into the analysis of the project in the Draft EA, to ensure the water resources and coastal resources of Mamala Bay remain protected from negative effects of stormwater inundation as a result of the development.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

KIRK CALDWELL, MAYOR

DUANE R. MIYASHIRO, Chair
ADAM C. WONG, Vice Chair
DAVID C. HULIHEE
KAPUA SPROAT
BRYAN P. ANDAYA

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

July 7, 2016

RECEIVED
JUL 13 2016
GROUP 70 INT'L

Ms. Christine Mendes Ruotola
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Your Letter Dated June 8, 2016 Requesting Comments on the Environmental Assessment for the Proposed James Campbell High School Classroom Building Complex – Tax Map Key: 9-1-001: 002

Thank you for the opportunity to comment on the proposed classroom building complex.

The existing water system is adequate to accommodate the proposed improvements 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.

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

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB
Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP
Hitoshi Hida AIA

March 3, 2017

Mr. Ernest Y.W. Lau, P.E.
City and County of Honolulu
Board of Water Supply
650 S. King Street
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(ʻEwa Beach, Oʻahu, Hawaiʻi)

Dear Mr. Lau:

Thank you for your comment letter dated July 7, 2016 concerning the Pre-Consultation for the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project. The following responses are offered to your comments:

1. We acknowledge that the existing water system is adequate to accommodate the proposed project improvements. We note 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. We understand that the final decision on the availability of water will be confirmed when the building permit application is submitted for approval.
2. When water is made available for the project, the applicant will pay the Water System Facilities Charges for resources development, transmission and daily storage.
3. On-site fire protection requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

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

KIRK CALDWELL
MAYOR

ROBERT J. KRONING, P.E.
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

RECEIVED
JUL - 7 2016
GROUP 70 INT'L

July 1, 2016

Group 70 International
Attn: Christine Ruotola
925 Bethel Street, 5th Floor
Honolulu, HI 96813-4307

Dear Ms. Ruotolo

Subject: Pre- Consultation for Chapter 343, HRS Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 8-1-001:002 (por.) Ewa Beach, Oahu, Hawaii

The Department of Design and Construction has no comments at this time.

Thank you for the opportunity to review and comment. If there are any further questions, please call me at 768-8480.

Sincerely,

Robert J. Kroning, P.E.
Director

RJK:ms(655727)

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP

Hitoshi Hida AIA

March 3, 2017

Mr. Robert J. Kroning, P.E.
City and County of Honolulu
Department of Design and Construction
650 S. King Street, 11th Floor
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(ʻEwa Beach, Oʻahu, Hawaiʻi)

Dear Mr. Kroning:

Thank you for your comment letter dated July 1, 2016 concerning the Pre-Consultation for the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

We acknowledge that the Department of Design and Construction has no comments on the project at this time.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

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 16-483

June 28, 2016

RECEIVED
JUN 27 2016
GROUP 70 INT'L

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

SUBJECT: Pre-Consultation for Chapter 343, HRS Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
('Ewa Beach, O'ahu, Hawai'i)

Thank you for the opportunity to review and provide our input regarding your letter dated June 8, 2016, on the above-subject project.

We have no comments at this time, as we do not have any Department of Facility Maintenance facilities or easements on the subject property.

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

Sincerely,

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

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB
Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP
Hitoshi Hida AIA

March 3, 2017

Mr. Ross S. Sasamura, P.E.
City and County of Honolulu
Department of Facility Maintenance
1000 Uluohia Street, Suite 215
Honolulu, HI 96707

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(ʻEwa Beach, Oʻahu, Hawaiʻi)

Dear Mr. Sasamura:

Thank you for your comment letter dated June 28, 2016 concerning the Pre-Consultation for the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

We acknowledge that the Department of Facility Maintenance (DFM) does not have any comments to offer, as there are no DFM facilities or easements on the subject property.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

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

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2016/ELOG-1516(AB)

June 29, 2016

Ms. Christine Mendes Ruotola
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

Dear Ms. Ruotola:

SUBJECT: Draft Environmental Assessment Pre-Consultation
James Campbell High School Classroom Building Complex
91-980 North Road – Ewa Beach
Tax Map Key: 9-1-1: 2 (por.)

Thank you for the opportunity to provide pre-consultation comments for the forthcoming Environmental Assessment (EA). The subject parcel is within the R-5 Residential District, is not within the Special Management Area, and is developed with a complex consisting of several public schools. The proposed Project involves the construction of a new 3-story, 52,000-square-foot classroom complex consisting of five buildings and connecting walkways. The Project will also expand the existing vehicle turnaround area. The Department of Planning and Permitting has the following comments:

Planning Division:

1. The EA should include a discussion of the consistency of the Project with the Oahu General Plan and the Ewa Development Plan.

2. The EA should include an analysis of the possible impact of sea level rise on the Project. If it is likely that sea level rise will increase the risk of flooding during the life of the Project structures, the EA should discuss how the design of the Project and proposed operations at the site will address that risk, and provide resilience in recovering from any flooding. The national standard for making such project assessments has been developed by the U.S. Army Corps of Engineers (USACE). The USACE issued an Engineering Regulation (ER 1100-2-8162) which provides guidance for incorporating the direct and indirect physical effects of projected future sea level changes. The guidance can be used as a basis for assessing the potential impact that may be experienced by project near shoreline areas. See http://www.corpsclimate.us/rccslca.cfm for more details.

Please contact Eugene Takahashi at 768-8035 should further clarification is needed regarding these comments.

Land Use Permits Division: The EA should include a discussion of compliance with the Land Use Ordinance (LUO). A waiver may be required from the development standards of the LUO. If a waiver is required, please include it in the list of required permits in the EA. Should you have any questions concerning these comments, please contact Alex Beatty of our Land Use Approvals Branch at 768-8032.

Thank you for the opportunity to review and comment on this upcoming Project. Should you have further questions, please contact Alex Beatty at 768-8032.

Very truly yours,

for George I. Atta, FAICP
Director

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP

Hitoshi Hida AIA

March 3, 2017

Ms. Kathy Sokugawa, Acting Director
City and County of Honolulu
Department of Planning and Permitting
650 S. King Street, 7th Floor
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(ʻEwa Beach, Oʻahu, Hawaiʻi)

Dear Ms. Sokugawa:

Thank you for your comment letter dated June 29, 2016 concerning the Pre-Consultation for the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project. The following responses are offered to your comments:

1. Sections 5.6 and 5.7 of the Draft EA discuss the project's consistency with the Oʻahu General Plan and the ʻEwa Development Plan.
2. We acknowledge that sea level rise will likely increase the risk of flooding for the ʻEwa plain and appreciate the resources you have provided for USACE guidance on future sea level changes. Section 3.4 of the Draft EA includes a brief analysis of the possible impacts of sea level rise on the project area.
3. Section 5.8 of the EA includes a discussion of the project's compliance with the Land Use Ordinance..

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

DEPARTMENT OF PARKS & RECREATION

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHELE K. NEKOTA
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

June 30, 2016

RECEIVED
JUL 11 2016
GROUP 70 INT'L

Ms. Christine Mendes Ruotola, AICP, LEED, AP
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4398

Dear Ms. Mendes Ruotola:

SUBJECT: Pre-Consultation for Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
Ewa Beach, Oahu, Hawaii

Thank you for the opportunity to review and comment at the Pre-Consultation stage of the Environmental Assessment for the James Campbell High School Classroom Building Complex.

The Department of Parks and Recreation has no comment as the proposed project will have no impact on any of our programs and facilities. You may remove us as a consulted party to the balance of the EIS process.

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

Sincerely,

Michele K. Nekota
Director

MKN:jr
(655868))

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP

Hitoshi Hida AIA

March 3, 2017

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

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(ʻEwa Beach, Oʻahu, Hawaiʻi)

Dear Ms. Nekota:

Thank you for your comment letter dated June 30, 2016 concerning the Pre-Consultation for the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

We acknowledge that the Department of Parks and Recreation has no comments to offer on the project as it will have no impact on any of the Department's programs and facilities. Per your request, we will remove your office as a consulted party.

Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

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

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR

MARK N. GARRITY, AICP
DEPUTY DIRECTOR

TP6/16-656740R

July 8, 2016

RECEIVED
JUL -7 2016
GROUP 70 INT'L

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

SUBJECT: Pre-Consultation for Environmental Assessment (EA), James Campbell High School Classroom Building Complex, Ewa Beach, Oahu, Hawaii

In response to your letter dated June 8, 2016, we have the following comments:

1. The EA should include a traffic impact study to evaluate existing traffic conditions of the surrounding roadways, possible increase in traffic and pedestrian volumes as a result of the project, including short-term impacts during construction and long-term impacts after construction, and measures to mitigate these impacts applying complete streets principles wherever possible.

2. The access driveway should be designed with the highest pedestrian and bicycle safety measures.

3. All parking needs for the proposed facility (students, employees and visitors) should be handled on-site.

4. Any damage to the existing roadway and sidewalk area caused by the project should be restored to its original or better condition.

5. The area Neighborhood Board, as well as the area residents, businesses, emergency personnel (fire, ambulance and police), Oahu Transit Services, Inc. (TheBus), etc., should continue to 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.

6. 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.), but not during school dismissal periods for the safety of the students and to minimize any possible disruption to traffic on the local streets.

7. 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,

Michael D. Formby
Director

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB
Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP
Hitoshi Hida AIA

March 3, 2017

Mr. Michael D. Formby
City and County of Honolulu
Department of Transportation Services
650 S. King Street, Third Floor
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(ʻEwa Beach, Oʻahu, Hawaiʻi)

Dear Mr. Formby:

Thank you for your comment letter dated July 8, 2016 concerning the Pre-Consultation for the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project. The following responses are offered to your comments:

1. A traffic impact analysis was completed for the project to evaluate existing traffic conditions, potential increases in traffic and pedestrian values, and mitigation measures.
2. The access driveway is located along an existing driveway on the campus and will be implemented with the highest pedestrian and bicycle safety measures.
3. 16 new parking stalls and one ADA stall will be constructed for the project on-site. Discussions about the future parking needs for the campus are ongoing between the Hawaiʻi Department of Education and the Honolulu Department of Planning and Permitting.
4. We note that any existing roadway and sidewalk area damaged by the project will be restored to its original condition or better.
5. The ʻEwa Neighborhood Board, as well as area residents, businesses, emergency personnel, Oahu Transit Services, will be kept apprised of the details of the project and any impacts the project may have on the adjoining street area network.
6. The transport of construction materials and equipment to and from the project site will be limited to off-peak traffic hours, and outside of school dismissal periods for the safety of the students and to minimize any disruptions to local traffic.
7. Although it is not anticipated, a street usage permit from the City Department of Transportation Services will be obtained for any construction-related activity that may require the temporary closure of any traffic lane on a City street.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

June 23, 2016

RECEIVED
JUN 27 2016
GROUP 70 INT'L

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

Subject: Chapter 313, Hawaii Revised Statutes Environmental Assessment
James Campbell High School Classroom Building Complex
Ewa Beach, Oahu, Hawaii
Tax Map Key: 9-1-001: 002 (Por.)

In response to your letter dated June 8, 2016, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; Uniform Fire Code [UFC]™, 2012 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1.)

   A fire department access road shall extend to within 50 feet of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; UFC™, 2012 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter

constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; UFC™, 2012 Edition, Section 18.3.1, as amended.)

3. The unobstructed width and unobstructed vertical clearance of a fire apparatus access road shall meet county requirements. (NFPA 1; UFC™, 2012 Edition, Section 18.2.3.4.1.1 and 18.2.3.4.1.2, as amended.)

4. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Battalion Chief Terry Seelig of our Fire Prevention Bureau at 723-7151 or tseelig@honolulu.gov.

Sincerely,

SOCRATES D. BRATAKOS
for Assistant Chief

SDB/SY:bh

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP
Norman G.Y. Hong AIA
Sheryl B. Seaman AIA, ASID, LEED AP
Roy H. Nihei AIA, CSI, LEED AP
James I. Nishimoto AIA
Stephen Yuen AIA
Linda C. Miki AIA
Charles Y. Kaneshiro AIA, LEED AP
Jeffrey H. Overton AICP, LEED AP
Christine Mendes Ruotola AICP, LEED AP
James L. Stone, Arch.D., AIA, LEED AP
Katherine M. MacNeil AIA, LEED AP
Tom Young, MBA AIA
Paul T. Matsuda PE, LEED AP
Ma Ry Kim RIBA, ARB
Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP
Hitoshi Hida AIA

March 3, 2017

Mr. Socrates D. Bratakos
City and County of Honolulu
Fire Department
636 South Street
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(ʻEwa Beach, Oʻahu, Hawaiʻi)

Dear Mr. Bratakos:

Thank you for your comment letter dated June 23, 2016 concerning the Pre-Consultation for the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project. The following responses are offered to your comments:

1. We note that fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet from fire department access roads as measured by an approved route around the exterior of the building or facility. Compliance with the National Fire Protection Association (NFPA) 1 Uniform Fire Code requirements will be outlined in the Draft EA.

2. As discussed in Section 3.8 of the Draft EA, the project will tap into the existing campus distribution system to supply the required fire flow for fire protection to all premises of the new buildings. The project will meet the requirements of the NFPA 1 Uniform Fire Code.

3. The unobstructed width and unobstructed vertical clearance of the school's fire apparatus access road will meet county requirements.

4. Civil drawings will be submitted to the HFD for review and approval.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

KIRK CALDWELL
MAYOR

LOUIS M. KEALOHA
CHIEF

MARIE A. McCAULEY
CARY OKIMOTO
DEPUTY CHIEFS

OUR REFERENCE MT-DK

June 22, 2016

RECEIVED
JUN 27 2016
GROUP 70 INT'L

Ms. Christine Mendes Ruotola, AICP, LEED AP
Principal
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813-4307

Dear Ms. Ruotola:

This is in response to your letter of June 8, 2016, requesting comments on a Pre-Consultation, Draft Environmental Assessment, for the James Campbell High School Classroom Building Complex project in Ewa Beach.

Based on the information provided, this project should have no significant impact on the services or operations of the Honolulu Police Department at this time.

If there are any questions, please call Major Sean Naito of District 8 (Kapolei) at 723-8403.

Thank you for the opportunity to review this project.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By
MARK TSUYEMURA
Management Analyst VI
Office of the Chief

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP

Hitoshi Hida AIA

March 3, 2017

Mr. Cary Okimoto, Acting Chief of Police
City and County of Honolulu
Police Department
801 South Beretania Street
Honolulu, HI 96813

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(ʻEwa Beach, Oʻahu, Hawaiʻi)

Dear Chief Okimoto:

Thank you for your comment letter dated June 22, 2016 concerning the Pre-Consultation for the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

We acknowledge that the project should have no significant impact on the services or operations of the Honolulu Police Department at this time.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

From: "Sen. Will Espero" <senespero@capitol.hawaii.gov>
Date: July 12, 2016 at 10:27:54 AM HST
To: "'cruotola@group70int.com'" <cruotola@group70int.com>
Subject: James Campbell High School

Aloha Group 70,

SUBJECT:
Pre-Consultation for Chapter 343, HRS Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(‘Ewa Beach, O’ahu, Hawai’i)

I want to express my support for a new air conditioned classroom building on the Campbell High School campus due to the growing student population. Unfortunately, the student population at the school has outpaced the needed improvements required over recent years. This latest proposal will be significantly help the overcrowding, and will place students in a comfortable environment for learning.

I am in full support of the 3 story 52,000 gross square feet that is being considered, and I know many families support it as well.

Thank you for the opportunity to share my thoughts.

Will Espero, Vice-President
Hawaii State Senate
District 19, Ewa Beach

1-808-586-6360

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong AIA

Sheryl B. Seaman AIA, ASID, LEED AP

Roy H. Nihei AIA, CSI, LEED AP

James I. Nishimoto AIA

Stephen Yuen AIA

Linda C. Miki AIA

Charles Y. Kaneshiro AIA, LEED AP

Jeffrey H. Overton AICP, LEED AP

Christine Mendes Ruotola AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil AIA, LEED AP

Tom Young, MBA AIA

Paul T. Matsuda PE, LEED AP

Ma Ry Kim RIBA, ARB

Craig Takahata AIA

OF COUNSEL

Ralph E. Portmore FAICP

Hitoshi Hida AIA

March 3, 2017

Mr. Will Espero
Hawai'i State Senate, District 19 'Ewa Beach
Hawai'i State Capitol, Room 206
Honolulu, HI 96813
senespero@capitol.hawaii.gov

Subject: Pre-Consultation for Chapter 343, HRS Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
('Ewa Beach, O'ahu, Hawai'i)

Dear Senator Espero:

Thank you for your comment letter dated July 12, 2016 concerning the Pre-Consultation for the Chapter 343, Hawai'i Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

We appreciate your support for the James Campbell High School Building Complex project. We agree that the new classroom buildings will help with the overcrowding issues and growing enrollment of the school.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

From: "Liu, Rouen" <rouen.liu@hawaiianelectric.com>
Date: July 6, 2016 at 5:34:05 PM HST
To: "'mail1@group70int.com'" <mail1@group70int.com>
Cc: "Kuwaye, Kristen" <kristen.kuwaye@hawaiianelectric.com>
Subject: James Campbell High school Classroom Building Complex project - pre-consultation

Dear Ms. Christine Mendes Ruotola,

Thank you for the opportunity to comment on the subject project. Hawaiian Electric Company has no objection to the project. Should HECO have existing easements and facilities on the subject property, we will need continued access for maintenance of our facilities. We appreciate your efforts to keep us apprised of the subject project in the planning process. As the proposed James Campbell High school Classroom Building Complex project comes to fruition, please continue to keep us informed. Further along in the design, we will be better able to evaluate the effects on our system facilities.
If you have any questions, please call me at 1-808-543-7245.

Sincerely,

Rouen Q. W. Liu
Permits Engineer
Hawaiian Electric Company, Inc.
Tel: (808) 543-7245
Email: Rouen.liu@hawaiianelectric.com

GROUP 70
INTERNATIONAL

PRINCIPALS

Francis S. Oda, Arch.D., FAIA, AICP, LEED AP

Norman G.Y. Hong
AIA

Sheryl B. Seaman
AIA, ASID, LEED AP

Roy H. Nihei
AIA, CSI, LEED AP

James I. Nishimoto
AIA

Stephen Yuen
AIA

Linda C. Miki
AIA

Charles Y. Kaneshiro
AIA, LEED AP

Jeffrey H. Overton
AICP, LEED AP

Christine Mendes Ruotola
AICP, LEED AP

James L. Stone, Arch.D., AIA, LEED AP

Katherine M. MacNeil
AIA, LEED AP

Tom Young, MBA
AIA

Paul T. Matsuda
PE, LEED AP

Ma Ry Kim
RIBA, ARB

Craig Takahata
AIA

OF COUNSEL

Ralph E. Portmore
FAICP

Hitoshi Hida
AIA

March 3, 2017

Mr. Rouen Q. Q. Liu
Hawaiian Electric Company, Inc.
820 Ward Avenue
Honolulu, HI 96814

Subject: Pre-Consultation Chapter 343, HRS for Draft Environmental Assessment
James Campbell High School Classroom Building Complex
TMK: (1) 9-1-001:002 (por.)
(ʻEwa Beach, Oʻahu, Hawaiʻi)

Dear Mr. Liu:

Thank you for your comment letter dated July 6, 2016 concerning the Pre-Consultation for the Chapter 343, Hawaiʻi Revised Statutes (HRS) Draft Environmental Assessment (EA) for the James Campbell High School Classroom Building Complex project.

We acknowledge that the Hawaiian Electric Company (HECO) has no objection to the project. We note that if HECO has existing easements and facilities on the property, HECO will require continued access for maintenance of the facilities.

We will provide you a copy of the Draft EA for your review. Thank you for your participation in the environmental review process.

Sincerely,
GROUP 70 INTERNATIONAL, INC.

Christine Mendes Ruotola, AICP, LEED AP
Principal

Appendix B

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

EnviroQuest

Phase 1 Environmental Site Assessment

Campbell High School
91-980 N Rd
Waipahu, O'ahu, Hawai'i 96797

Identified as
First Division Tax Map Key
9-4-049, Parcel 046
Honolulu, Hawaii

Latitude (North) 21° 18' 58.53
Longitude (West) 158° 0' 30.28''

Prepared For:

Group 70 International
925 Bethel Street, 5th Floor
Honolulu, HI 96813

Prepared By:

EnviroQuest, Inc.
95-029 Hekaha Street, Suite 21
Aiea, HI 96701
808-486-5881

Project Number: 10045
Project Manager: Miles T. Nirei

May 2016

TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS..... III

1. EXECUTIVE SUMMARY.....1

2. INTRODUCTION.....2

2.1 Purpose.....2
2.2 Limitations and Exclusions.....3

3. SITE DESCRIPTION.....4

3.1 Location and Zoning.....4
3.2 Site and Vicinity Characteristics and Topography.....4
3.3 Physiography.....4
3.4 Site Geology and Hydrogeology.....4
3.5 Federal and State Records..... 5
3.5.1 Federal CERCLIS.....6
3.5.2 Federal RCRA.....6
3.5.3 State Equivalent NPL and CERCLIS.....6
3.5.4 State Leaking Underground Storage Tanks.....6
3.5.5 State Underground Storage Tanks (UST).....6
3.5.6 State of Hawaii Department of Health Record Review.....7
3.6 Local Records..... 7
3.7 Environmental Lien and AUL Search..... 7

4. SITE RECONNAISSANCE AND INTERVIEWS..... 8

4.1 Site Reconnaissance.....8
4.1.1 Current Activities.....8
4.1.2 Building Materials.....8
4.1.3 Hazardous Materials.....8
4.1.4 Transformers and Oil-Filled Electrical Equipment.....8
4.1.5 Solid Waste Disposal..... 8
4.2 Interviews and User or Owner Questionnaires.....9

5. ENVIRONMENTAL CONCERNS AND RECOMMENDATIONS..... 10

6. CONCLUSIONS.....11

7. REFERENCES.....12

8. SIGNATURE OF ENVIRONMENTAL PROFESSIONAL.....13

FIGURES

1. Site Location Map
2. Area Map
3. Google Satellite
4. Tax Map Key
5. Underground Injection Control Areas Map
6. Request to Access a Government Record
7. HECO Correspondence
8. City and County of Honolulu, Real Property Assessment
9. User and Owner Questionnaire
10. Proposed Site

APPENDICES

1. EDR Radius Map™ Reports
1a. EDR Historical Topographic Map
1b. EDR Sanborn© Map
1c. EDR Aerial Photo
1d. EDR City Directory
1e. EDR Tax Map Key
1f. EDR Environmental Lien Report
1g. EDR Building Permit Report
2. Photographs

ABBREVIATIONS AND ACRONYMS

ASTM	American Society for Testing and Materials
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CFR	Code of Federal Regulations
EDR	Environmental Data Resources Inc.
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
HEER	Hazard Evaluation and Emergency Response Office
HDOH	State of Hawai`i Department of Health
HWS	Hazardous Waste Site
LUST	Leaking Underground Storage Tank
MSL	Mean sea level
NFRAP	No Further Remedial Action Planned
NFA	No Further Action
NPL	National Priority List
PCB	Polychlorinated biphenyl
Ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conversation and Recovery Information System
SHWB	Solid and Hazardous Waste Branch
SQG	Small Quantity Generator
TMK	Tax Map Key
TSD	Treatment, Storage and Disposal
UIC	Underground injection control
UST	Underground storage tank

1. EXECUTIVE SUMMARY

EnviroQuest Inc. was retained by Group 70 International to perform a Phase 1 Environmental Site Assessment of approximately 21,000 square foot portion within Campbell High School.

The City and County of Honolulu Tax Map Key 9-1-001, Parcel 2, is located at 91-750 Fort Weaver Road, Ewa Beach, Hawaii in the City and County of Honolulu on the island of O'ahu, Hawai'i (ref. City and County of Honolulu Real Property Assessment). The parcel is listed as 57 acres. Campbell High School occupies 38 acres of the parcel. The site is located on the south central coast of the island of Oahu. The property owner is City and County of Honolulu.

The Phase 1 Environmental Site Assessment was performed in conformance with the scope and limitations of ASTM Practice E 1527-13, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (2013) and did not include any testing or sampling.

As per ASTM standards, a Phase 1 does not investigate subsurface, therefore, if any subsurface disturbance may occur, further investigation may be recommended in conducting a Phase 2 assessment.

The subject site is located near the southern portion of the school and north of the Ewa Beach Public and School Library. The subject site is a portion of land that is a mix of bare ground, grassy lawn, a fenced area (school garden) and two wooden single story portable buildings. (Appendix 2 Photo Log). At the time of this investigation, there was no sign of activity in the field and fenced in area. There were signs of it being the school's working garden. The subject site is surrounded on three sides with buildings and the fourth is a roundabout roadway adjacent to Pohakea Elementary School.

After review of historical documents obtained through EDR and local government files, documented records do not indicate the subject parcel to have any environmental issues. State of Hawaii Department of Health (HDOH), Hazard Evaluation and Emergency Response (HEER) Office, did not have any records regarding the subject address and any of the address surrounding the high school. HDOH Solid and Hazardous Waste Branch did not have any records that would effect the subject site.

Review of all pertinent documentations and visual site investigation did not reveal a Recognized Environmental Concerns (REC) of the subject site.

2. INTRODUCTION

2.1. PURPOSE

EnviroQuest Inc. was retained by Group 70 International to conduct a Phase 1 Environmental Site Assessment of an approximate 21,000 square foot portion of the 38-acre James Campbell High School located at a 91-980 N. Rd. The James Campbell High School is part of the 57-acre site identified as Tax Map Key 9-1-001, Parcel 2, with a street address of 91-750 Fort Weaver Rd., Ewa Beach, Hawaii in the City and County of Honolulu on the island of O'ahu, Hawai'i. The 21,000 square foot subject site is located near the southern portion of the school and north of the Ewa Beach Public and School Library. The subject site is a portion of land that is a mix of bare ground, grassy lawn, a fenced area (unused school farm) and two wooden single story portable buildings. The site is located on the south central coast of the island of Oahu. The property's registered owner is City and County of Honolulu (Fig 8 City and County of Honolulu Real Property Assessment Division).

This environmental site assessment was performed to identify recognized environmental conditions at the property and propose recommendations for additional investigation, if warranted. "Recognized environmental conditions" means the presence, or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water on the property (Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process ASTM E 1527-13). This term is not intended to include *de minimus* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies.

Hazardous substances are those substances defined under Section 101 of the Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). They are listed under Title 40 of the Code of Federal Regulations (CFR) Part 302. They include hazardous substances and toxic pollutants regulated under the Clean Water Act, hazardous wastes regulated under the Resource Conservation and Recovery Act (RCRA), and hazardous air pollutants regulated under the Clean Air Act. Petroleum products include crude oil, gasoline, kerosene, diesel oil, jet fuel, fuel oil, lubricating oil, natural gas, liquefied natural gas, and synthetic gas usable for fuel.

This assessment was conducted in accordance with ASTM Standard E 1527-13, "Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process" (2013). The scope of work consisted of four major components:

1. Site Description
    - Location and Legal Description
    - Site and Vicinity Characteristics
    - Site Description
    - Physiography
    - Site Geology
2. Records Review
    - Federal and State Records
    - Local Records
    - Site History
3. Site Reconnaissance
    - Site Reconnaissance
    - Interviews

4. Conclusions and Recommendations

2.2. LIMITATIONS AND EXCLUSIONS

EnviroQuest Inc. has performed the service in accordance with the Agreement and ASTM Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process E1527-13; no guarantees are either expressed or implied.

The record search was limited to information available from public sources and, to a limited extent, records provided for review by the current property owner. This information changes continually and is frequently incomplete. Unless we have actual knowledge to the contrary, information obtained from interviews, or provided to us by third parties has been assumed to be correct and complete.

EnviroQuest Inc. does not assume any liability for the misrepresentation of information or for items not visible, accessible, or present on the site at the time of the site visit.

Because of the uncertainty in identifying and characterizing conditions beneath the surface of the ground, no environmental investigation can show or prove the absence of hazardous substances at the site. Likewise, because environmental regulatory programs are constantly evolving and changing, statements about the acceptability of the site for human health and the environment are relative only to the regulatory program in place today. Future programs could change the way these conditions are viewed, and could require additional action to address hazardous conditions at the site.

Work for this project was performed and this report was prepared in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. Opinions and judgments expressed herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal opinions. It is intended for the exclusive use of Group 70 International, for specific application to the site. This report is not meant to represent a legal opinion. No other warranty, expressed or implied, is made. Any reliance on this report by third parties shall be at such party's sole risk.

EnviroQuest relied on verbal information provided by individuals indicated in this report and EnviroQuest can only relay this information and cannot be responsible for its accuracy or completeness. Any questions regarding our work and this report, the presentation of the information, and the interpretation of the data are welcome and should be referred to the project manager.

3. SITE DESCRIPTION

This section describes the physical characteristics of the site, including land uses, topography, geology, and hydrogeology.

3.1. LOCATION AND ZONING

The partial parcel reviewed is an approximate 21,000 square foot portion of James Campbell High School (Figure 2). The property parcel is identified as Tax Map Key (TMK) 9-1-001, Parcel 2. Campbell High School is located on the south central coast of the island of Oahu, north of the Pacific Ocean. The subject site is located on the southwest side of the campus. The property is zoned for residential and is less than ½ mile north of the Pacific Ocean. Currently the property owner is City and County of Honolulu.

The site is located at the southern portion of the campus. South of the site is the school library, north is Building J (Fine and Performing Arts), east is the campus farm parcel and Building K (Music), and west is Pohakea Elementary School.

3.2. SITE AND VICINITY CHARACTERISTICS AND TOPOGRAPHY

The parcel is located on the central coastal plain of the island of Oahu. The nearest body of water is the West Loch of Pearl Harbor, Pacific Ocean, approximately ½ mile south of the subject property. The topography of the surrounding area is relatively flat. The elevation of the parcel is approximately 10 feet above mean sea level (msl).

3.3. PHYSIOGRAPHY

The Hawaiian Islands lie at the northern margin of the tropics (21 degrees north latitude), but have a subtropical climate due to cool trade winds. These northeasterly trades prevail for much of the year, usually blowing from 10 to 15 knots. The average daily temperature varies between 64° F and 85° F in winter and between 75° F and 90° F in summer. The average annual rainfall for the Ewa plains is on average of 18 inches (ref. National Oceanic and Atmosphere Administration).

3.4. SITE GEOLOGY AND HYDROGEOLOGY

The island of Oahu is the third largest of the Hawaiian Islands. Oahu is formed by the erosional remnants of two volcanoes. They are the Waianae range to the west and the Ko'olau range to the east. The Waianae volcano is a shield volcano, estimated to have formed 2.4 to 3.6 million years ago, and consists mainly of a thick cap of alkalic, basaltic rock. Kolekole Pass and the south flank of the Waianae shield are currently in the rejuvenation stage. Dike orientations define the northwest and southwest rift zone (Junik, et al., 1998).

The Ko'olau volcano is also a shield volcano, and is estimated to have formed 1.8 to 2.6 million years ago, and lacks an alkalic, basaltic rock cap. It has a well define major dike complex trending northwest-to-southwest. A third, minor rift zone referred to as the Ka'au rift trends southward from Ka'au crater, near the upland crest of the Ko'olau Ridge. After a long dormant period and periods of deep erosion, the Ko'olau volcano developed abundant and scattered rejuvenation stage vents, typically aligned on northeast striking fissures (Junik, et al., 1998).

The soil found at the site is classified as Coral outcrop. The soil surface texture is of bedrock. The hydrologic group falls under Class D, which has a very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer. The soil drainage class is excessively drained. The hydrologic status is not hydric (Appendix 1).

Basal groundwater is formed by rainwater percolating down through the residual soils and permeable volcanic rock. The portion of the island situated below sea level, except within rift zones of the volcanoes, is saturated with ocean salt water. Fresh water forms a basal lens called the "Ghyben-Herzberg" lens. A zone of transition between the fresh groundwater and the ocean salt water occurs due to the constant movement of the interface due to tidal fluctuations, seasonal fluctuations in recharge and discharge and aquifer development (Junik, et al., 1998).

Downward percolation of rainwater may be stopped by impermeable layers such as dense lava flows, alluvial clay layers or volcanic ash. The groundwater then forms a perched or high-level aquifer, which is

not in contact with ocean salt water. Recharge of the aquifer occurs in areas of high rainfall, which are the interior mountainous areas. The ground water flows from the recharge areas to the areas of discharge along the shoreline. Frictional resistance to groundwater flow causes it to pile up within the island until it attains sufficient hydraulic head to overcome friction. Therefore, basal groundwater tends to slope towards the shoreline (Junik, et al., 1998).

The Waipahu Aquifer System, which is part of the Pearl Harbor Aquifer Sector (System Identifier 30203116, 12211), underlies the property. The aquifer is classified as a basal, unconfined (where the water table is the upper surface of the saturated aquifer), flank. The Status Code describes development stage, utility, salinity, uniqueness, and vulnerability to contamination. The groundwater is currently used as ecologically important. The groundwater contains low in salinity (250-1000 mg/l of Cl- and is considered irreplaceable. The groundwater has a high vulnerability for contamination (Mink and Lau 1990). The water table in all unconfined basal aquifer is 40 ft. or less above sea level.

3.5. Federal and State Records

EnviroQuest Inc. reviewed publicly available federal, state, and local records to assess the potential presence of hazardous substances and petroleum at the site. Federal and state environmental databases were searched to identify operations on the subject property and vicinity properties regulated by the U.S. Environmental Protection Agency (EPA) and/or State of Hawaii Department of Health (HDOH) (Appendix 1.) Section 5 contains a detailed discussion on environmental issues identified during record reviews.

A standardized database report was commissioned from Environmental Data Resources (contained in Appendix 1), which compiles information from the following federal and state databases:

- National Priorities List (NPL) and proposed NPL sites
- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS/NFRAP) sites
- Corrective Action Report for hazardous waste facilities (CORRACTS)
- Hazardous waste treatment, storage, and disposal facilities (TSD)
- Emergency response notification system for spills (ERNS)
- Large quantity and small quantity generators of hazardous waste (LG GEN/SM GEN)
- State landfills and other solid waste sites (SWLF)

This information was supplemented by a review of databases specific to Hawai`i, including:

- Underground Storage Tank (UST) sites registered with the State of Hawai`i
- Leaking Underground Storage Tank (LUST) sites listed by the State of Hawai`i
- Groundwater contamination maps for the State of Hawai`i (HDOH 1998)
- Release reports under the State Contingency Plan
- State Contingency Plan list of sites being addressed by the HDOH Hazard Evaluation and Emergency Response (HEER) office

In addition to identifying potential hazardous substance and petroleum release sites, the report included in Appendix 1 contains information about the physical characteristics of the site, including soil geology and floodplain information.

Based on information compiled from these sources, EnviroQuest Inc. identified registered, permitted, or regulated units identified within one-half mile of the site that involve management of hazardous substances or petroleum. There were no NPL or proposed NPL sites within one-half mile of the property. No solid or hazardous waste landfills, or facilities regulated under the Clean Air Act were identified.

3.5.1 Federal CERCLIS

CERCLIS is a Federal database maintaining national information on over 15,000 sites identified as hazardous or potentially hazardous, which may require action. These sites are currently being investigated or an investigation has been completed regarding the release of hazardous substances. The most serious of this list as ranked by the hazardous ranking system are eligible for listing onto the NPL.

There is one listed federal CERCLIS within 0.5 miles of the subject site. This site listed as USAF Palehua Solar Observatory, Hickam Air Force Station is between ¼ - ½ miles west southwest of subject site. This site does not impact the subject site.

There are no federal CERCLIS sites that impact the subject site.

3.5.2 Federal RCRA

The Resource Conservation and Recovery (RCRA) Information System (RCRIS) is a national system used to track events and activities that fall under the jurisdiction of RCRA. There are three significant subsets to RCRIS:

- RCRA TSD's. Includes facilities that treat, store, dispose of, or incinerate hazardous waste.
- RCRA generators. Includes hazardous waste generators, which create more than 100 kilograms of hazardous waste per month or meet other RCRA requirements.
- RCRA CORRACTS. Includes sites with reported corrective actions.

The database search identified no RCRA TSDs and there is one (1) CORRACTS within one-mile of the property (Honolulu Wood Treating, 91-921 Hanua Street) northeast of the campus. Additionally, the HDOH RCRA records indicated that there is one (1) RCRA conditionally exempted small quantity generator (CESQG) listed within one mile of the subject property. This CESQG is the high school campus.

These federal RCRA sites do not impact the subject site.

3.5.3 State Equivalent NPL and CERCLIS

Spills and releases of hazardous substances that occur in Hawaii are reported to the DOH under the notification requirement in the Hawaii Environmental Response Law. Spills and releases that are not cleaned up or remediated under the oversight of DOH emergency response personnel are evaluated for potential inclusion onto the SITELIST database. The sites on the SITELIST are considered to pose an environmental or health threat and are prioritized for further investigations and potential remediation. The sites on SITELIST are the State's equivalent of the EPA CERCLIS.

Based on EDR document review, there is one site on the SITELIST on the subject site and one (1) site within one (1) mile of the subject site.

Ewa Beach Chevron, 91-909 Fort Weaver Rd is within ¼ - ½ mile radius of the campus.

This site does not pose an environmental concern to subject site.

3.5.4 State Leaking Underground Storage Tanks

The DOH maintains a report on LUST. The report is a comprehensive listing of reported LUSTs in Hawaii. The EDR database search identified seven (7) LUST sites within ½ mile radius of the site. No LUST's were located on the subject site.

One (1) LUST site (Fastop Ewa Beach, 91-831 Fort Weaver Rd) listed between 1/8 - ¼ mile of the campus. The LUST site received a "No Further Action" letter December 2001. Six (6) LUST sites were located between ¼ - ½ mile radius of the campus. The Department of Health, Solid and Hazardous Waste Branch, LUST section, classify the six (6) LUST sites as "No Further Action".

None of these sites pose an environmental threat to the subject property.

There are no LUST facilities that impact the subject site.

3.5.5 State UST

Certain USTs are required to be registered by federal or state regulations. For regulated USTs, notifications must be filed for existing UST's, UST's closed in place, UST removed and new UST's. All current registered UST's are monitored with leak detection systems, regularly inspected, and are of a double walled construction.

There are no UST registered on the subject property. Certain UST's are required to be registered by federal or state regulations. For regulated USTs, notifications must be filed for existing USTs, USTs closed in place, and new USTs. The database search shows 1 UST facility within ¼ mile west southwest of the campus. The UST facilities are mapped out in the colorized EDR report in Appendix 1.

There are no UST facilities that impact the subject site.

3.5.6 State of Hawaii Department of Health Record Review

EnviroQuest Inc. requested Department of Health (DOH) Hazard Evaluation and Emergency Response Office (HEER) and Solid and Hazardous Waste Branch (SHWB) public files on March 13, 2016 for the subject site as well as adjoining sites (Figure 6).

HEER Office reported that no records were in their files for Campbell High School or any of the requested surrounding sites (Figure 6).

Solid and Hazardous Waste Branch provided files on the subject site from the Hazardous Waste Section regarding management of hazardous waste. There were no government records reporting of any release to the environment.

3.6. Local Records

City and County of Honolulu (CCH) Real Property Assessment division records were reviewed to compile an ownership and lease history (Figure 8).

City and County of Honolulu's Real Property Tax Assessment division records shows Fee Owner: City and County of Honolulu. CCH records classify property as residential. CCH shows parcel 9-1-001, Parcel 2 as address 91-750 Fort Weaver Rd, Ewa Beach, Oahu, Hawaii 96706 (Figure 8).

Research documents compiled by EDR were reviewed. Documents provided were: Historic topographic Maps, Aerial Photographs, Sanborn Fire Insurance Company Maps, Environmental Lien and AUL Reports, City Directory Image Report, Building Permit Report and Property Tax Map Report. (Appendix A)

Historical Topographical maps for 1953, 1959, 1962, 1968, 1983, 1998, 1999 and 2013 were reviewed (Appendix 1a). Historical Topographical maps showed no signs of environmental issues. No development was observed on the site between 1953-1962. Development of the site was first observed in 1968.

Certified Sanborn Fire Insurance maps were not found for parcel.

Aerial photographs maps for 1974, 1976, 1985, 1992, 2000 and 2004 were reviewed (Appendix 1c). Aerial photograms showed no structures or development on the maps.

3.7. Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

The EDR report did not identify environmental liens on the subject site (Appendix 1f).

4. SITE RECONNAISSANCE AND INTERVIEWS

4.1 SITE RECONNAISSANCE

On April 18, 2016 Mr. Miles Nirei of EnviroQuest Inc. conducted a site reconnaissance. The limited site reconnaissance consisted of a visual inspection of the subject site and surrounding area. Mr. Shayne Greenland, Vice President, Campbell High School gave access to the site.

The subject property is located on Campbell High School, 91-980 N Rd, Waipahu, Oahu, Hawaii. The project site is 21,000 sq ft within the TMK parcel. At the time of the site visit, the project site was bare soil, grass lawn, a chain link fence surrounding a school agricultural area and two wooden single story portable buildings. The area is surrounded on three sides with concrete walkway. On the west end is a roundabout roadway. Both the north and south side were building. The south side was the public and school library. The north side is a classroom building. On the east side across the portables is an active school farming area.

The site reconnaissance revealed possible evidence of potential environmental concerns.

4.1.1 Current Activities

The subject site is currently a part of Campbell High School. There are three distinct areas , undeveloped area, a fenced in small farm area and two wooden classroom portables. The site is asphalt and concrete throughout the property. The small farm area looked at the time of the site investigation as being unused.

4.1.2 Building Materials

Presently the subject site has two small wooden single story portable classrooms on the western end of the site. According to aerial photographs and verbal communication with Mr. Greenland, VP of Campbell High School, the portables are approximately 10 years old.

4.1.3 Hazardous Materials

Site investigation showed no hazardous materials on the subject site.

4.1.4 Transformers and Oil-Filled Electrical Equipment

There is a pad-mounted transformer located at southwest end of the subject site (Appendix 2 Photo log). A request to HECO for information regarding the transformer was sent (Fig 7a). HECO response reported no PCB's in their transformer (Fig 7b)

Visual inspections showed no evidence of the transformers liquids leaking and impacting the environment.

4.1.5 Solid Waste Disposal

There was no visual solid waste disposal observed on the subject site.

4.2 INTERVIEWS AND USER OR OWNER QUESTIONNAIRES

On April 18, 2016, this investigator met with Mr. Shayne Greenland, Vice Principal, Campbell High School. Mr. Greenland informed this investigator that to his knowledge the project site was never developed except for a paved parking area located on the west side of the site. Mr. Greenland indicated that approximately 10 years ago the lot was removed and replaced by two single level wooden portable classroom buildings. Mr. Greenland was also asked about the pad-mounted transformer located on the southwest end of the project site and if he knew if they were the property of the school or Hawaiian Electric Co. Mr. Greenland did not know.

User and Owner Questionnaire was sent to Group 70 International to be completed. The Questionnaire did not show any concerns for environmental issues (Fig 9).

5. ENVIRONMENTAL CONCERNS AND RECOMMENDATIONS

This section identifies environmental concerns observed at the property along with recommendations for addressing those concerns.

After document review, personal interviews and visual assessment of the subject site, there were no recognized environmental conditions (REC).

Government records reviews show no environmental infiltration from surrounding properties.. Therefore, record reviews or visual investigations do not indicate any real condition that would indicate any environmental issues. No government documents were discovered regarding the subject site.

As per the ASTM standards, a Phase I does not involve a subsurface investigation. There is no indication of contamination on subject site.

6. CONCLUSIONS

A Phase 1 Environmental Site Assessment was conducted of an approximate 21,000 square foot portion within James Campbell High School.

The Phase 1 Environmental Site Assessment was performed in conformance with the scope and limitations of ASTM Practice E 1527-13, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” (2013) and did not include any testing or sampling.

As per ASTM standards, a Phase 1 does not investigate subsurface, therefore, if any subsurface disturbance may occur, further investigation may be recommended in conducting a Phase 2 assessment.

After conducting a visual investigation of the site and review of historical documents obtained through EDR and local government files, documented records did not reveal any Recognized Environmental Concerns (REC) of the subject site.

7. REFERENCES

American Society for Testing and Materials. 2005. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. ASTM Standard E 1527-05.

Juvik, Sonia P. and James O. Juvik, editors. 1998. Atlas of Hawai`i, Third Edition. Department of Geography, University of Hawai`i at Hilo. Honolulu, University of Hawai`i Press.

John F. Mink and L. Stephen Lau. 1993. Aquifer identification and Classification for the Island of Hawai'i: Groundwater Protection Strategy for Hawai'i. Technical Report No. 191

City and County of Honolulu Real Property Assessment and Tax Billing Information, www.honolulupropertytax.com

Environmental Data Resources Inc., 6 Armstrong Road, Shelton, CT 06484, data collection on 91-980 N Rd, Waipahu, HI 96797

National Oceanic and Atmosphere Administrative, www.noaa.gov

Personal Communication with:

Mr. Shayne Greenland, Vice President, Campbell High School

8. SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

This Phase I Environmental Site Assessment was completed by EnviroQuest, Inc. Questions and comments on this report may be directed to the undersigned:



Miles T. Nirei, M.S.
Senior Environmental Scientist

EnviroQuest, Inc.
95-029 Hekaha Street, Suite 21
Aiea, HI 96701

Telephone: (808) 486-5881
Facsimile: (808) 486-5889
Email: eqi@enviroquestinc.com

FIGURES

FIGURE 1
SITE LOCATION MAP

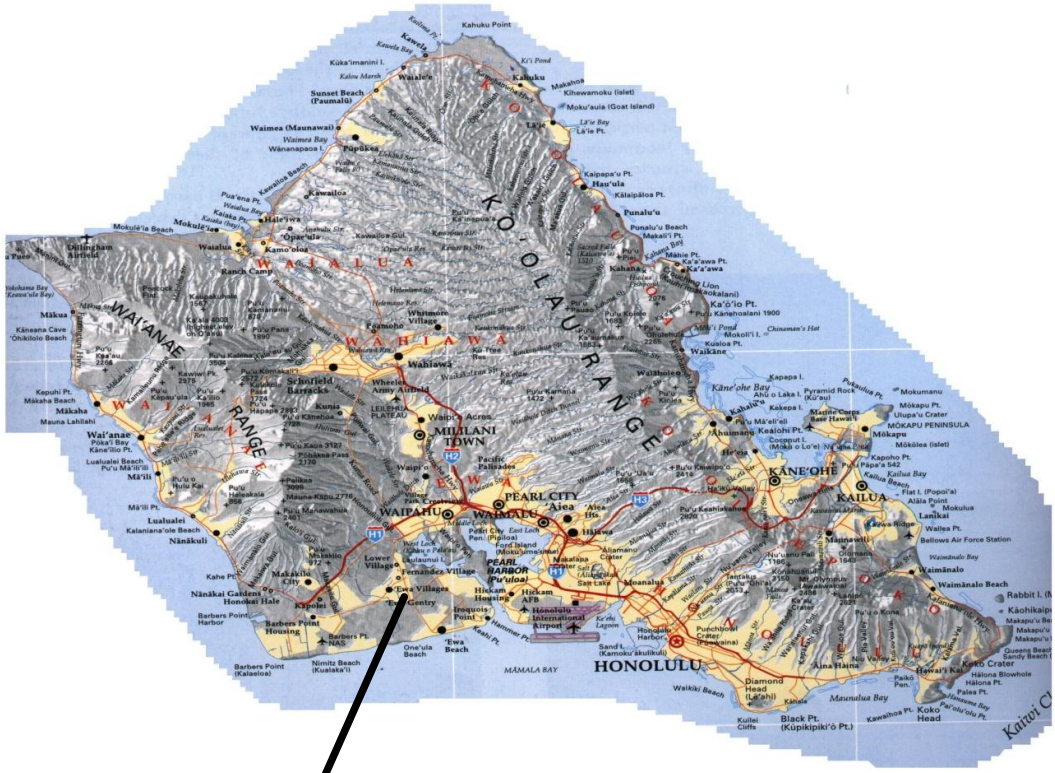
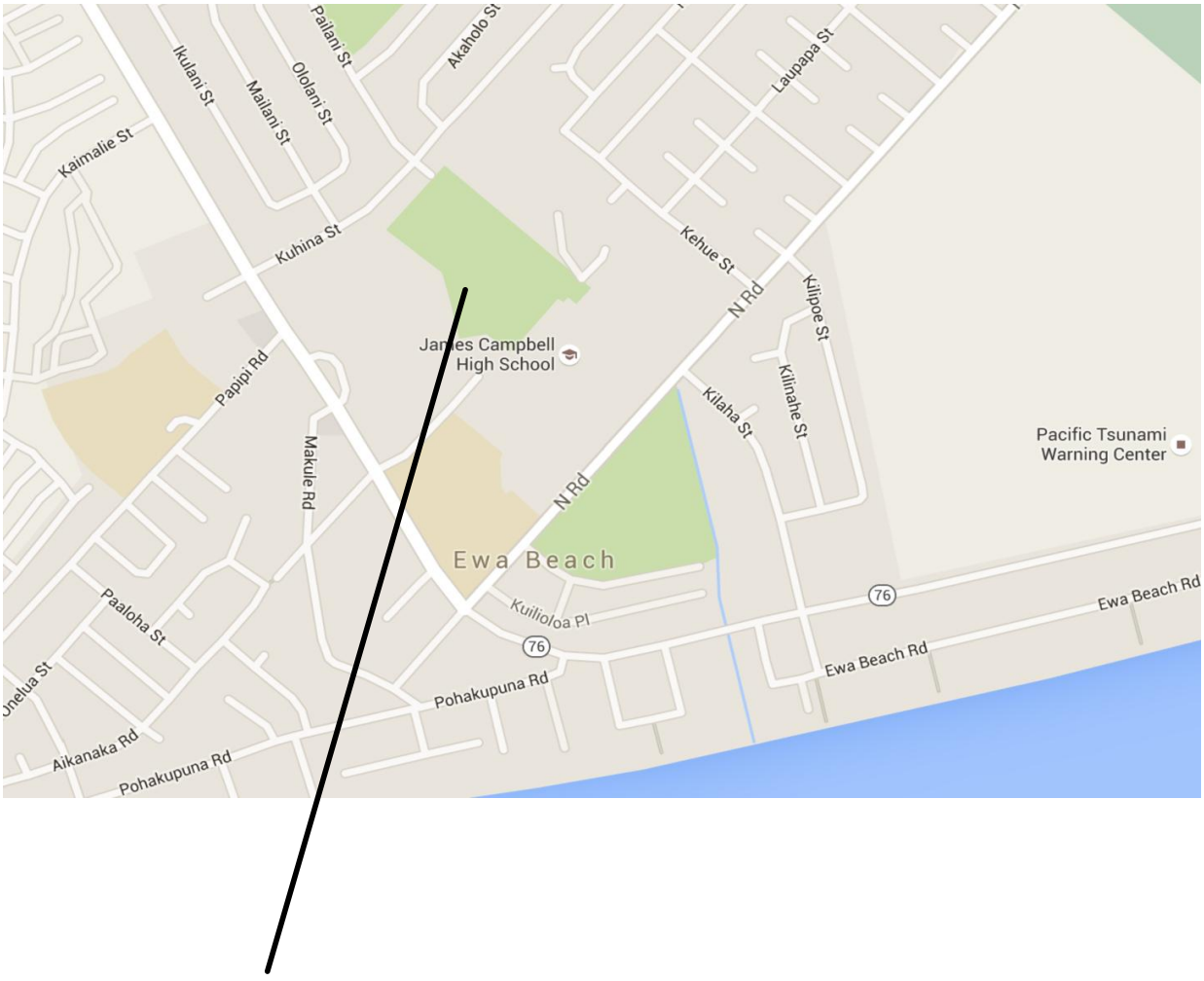

Kahuku Point
Sunset Beach (Paumalū)
Waimea (Maunawai)
Pūpūkea
Kawailoa
Haleʻiwa
Waialua
Dillingham Airfield
Mokuleʻia Beach
Kaʻena Point
Mākua
Kāneana Cave
Waiʻanae
Waiʻanae Range
Schofield Barracks
Wahiawā
Whitmore Village
Waipiʻo Acres
MILILANI TOWN
Waipiʻo
WAIPAHU
PEARL CITY
ʻAiea
WAIMALU
Halawa
PEARL HARBOR (Puʻuloa)
Hickam Housing
Hickam AFB
Honolulu International Airport
Ewa Villages
Ewa Beach
Iroquois Point
Barbers Point Housing
Barbers Point Harbor
Nimitz Beach (Kualakaʻi)
Nānākuli
Makakilo City
Lualualei
Waiʻanae Range
Koʻolau Range
Kāneʻohe
Kailua
Kāneʻohe Bay
Mōkapu Peninsula
Mōkōlea (islet)
Waimānalo
Waimānalo Beach
Bellows Air Force Station
Lanikai
Mokulua
Makapuʻu Point
Rabbit I.
Kāohikaipu
Koko Crater
Hālona Blowhole
Hālona Pt.
Koko Head
Diamond Head (Leahi)
Waikīkī Beach
Honolulu
Black Pt. (Kūpikipikiʻō Pt.)
Kuilei Cliffs
Kaʻala
Waiʻalae
Kāhala
Maunalua Bay
Kawaihoa Pt.
Kaʻōʻio Pt.
Punaluʻu
Kaipapaʻu Pt.
Kahana
Kaʻaʻawa
Kaʻaʻawa Pt.
Kualoa Pt.
Waikāne
Kapapa I.
Mokumanu
Pyramid Rock (Kuʻau)
Mōkapu Pt.
Ulupaʻu Crater
Kaʻōhao Pt.
Kaʻōhao Pt.
Kaʻōhao Pt.

FIGURE 2
AREA MAP



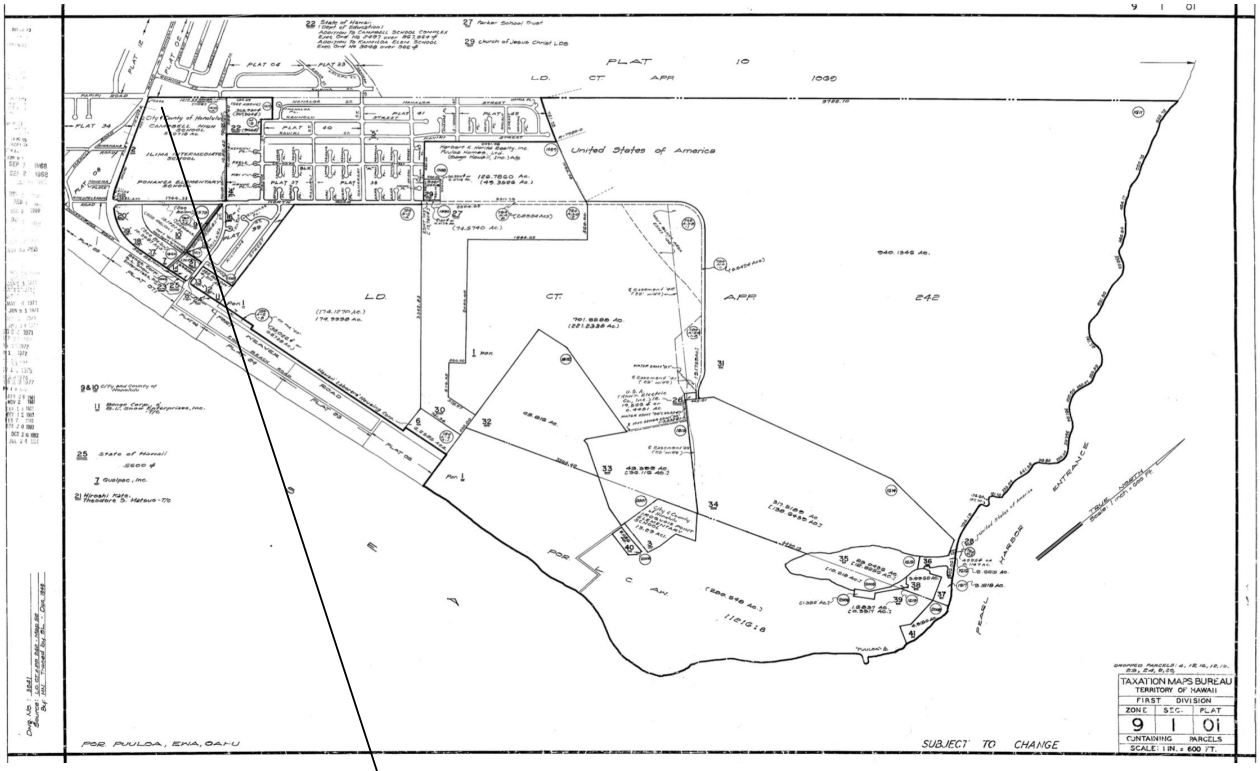
Project Site

FIGURE 3
Google Satellite



Project Site

FIGURE 4
Tax Map Key
9-1-001, Parcel 002



Project Site

FIGURE 5
UNDERGROUND INJECTION CONTROL AREAS MAP

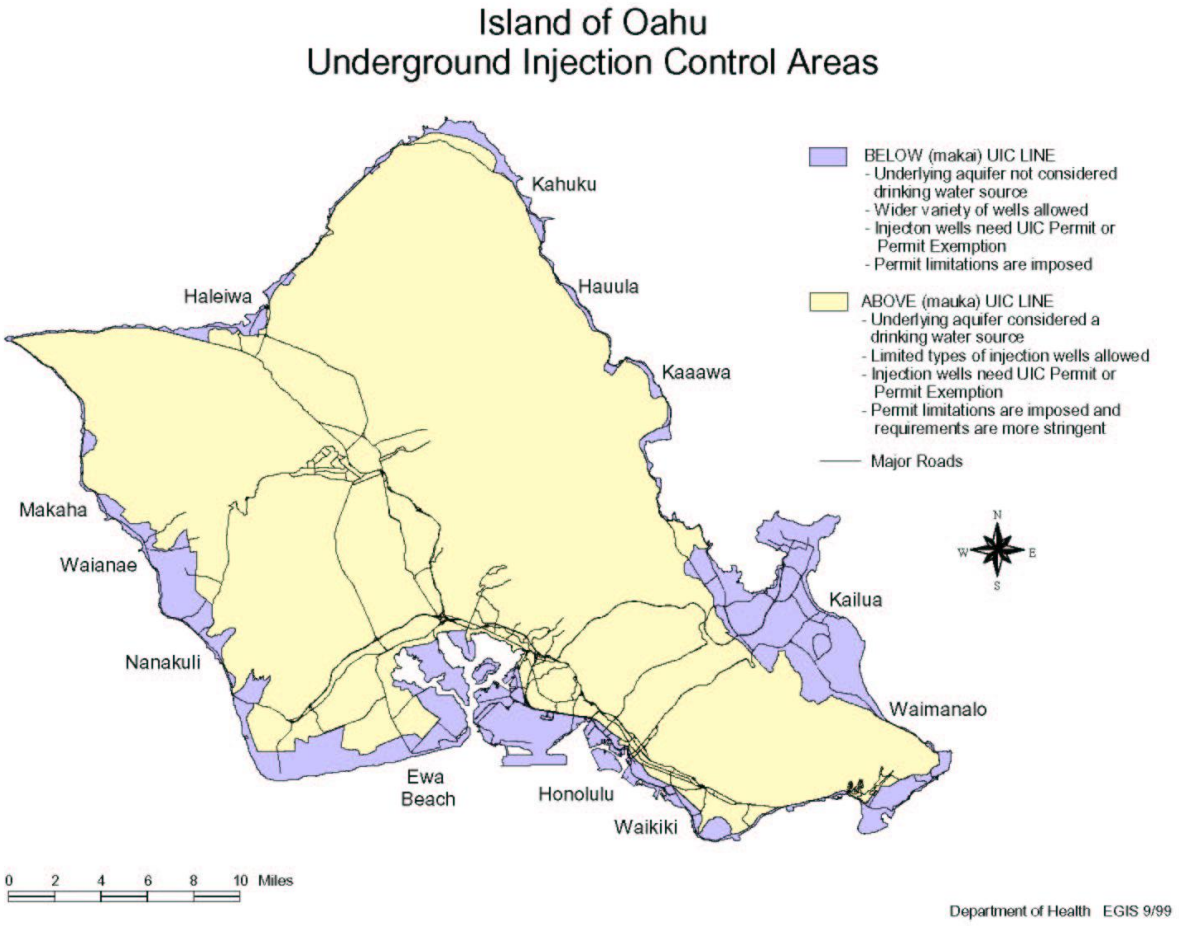


FIGURE 6

NOTICE TO REQUESTER

TO: Miles Nirei / EQI
FROM: Mae Domingo / HEER Office (808) 586-4249
(Agency/name & telephone number of contact person at agency)

DATE REQUEST RECEIVED: April 13, 2016
DATE OF THIS NOTICE: April 18, 2016

GOVERNMENT RECORDS YOU REQUESTED (attach copy of request or provide brief description below):

attached

NOTICE IS PROVIDED TO YOU THAT YOUR REQUEST:

☐ **Will be granted in its entirety**
☒ **Cannot be granted because**
- ☒ Agency does not maintain the records. Agency believed to maintain records: _____
- ☐ Agency needs a further description or clarification of the records requested. Please contact the agency and provide the following information: _____
- ☐ Request requires agency to create a summary or compilation from records not readily retrievable.

☐ **Is denied in its entirety** ☐ **Will be granted only as to certain parts**
based upon the following exemption provided in HRS § 92F-13 and/or § 92F-22 and other laws cited below (portions of records that agency will not disclose should be described in general terms).

RECORDS OR INFORMATION WITHHELD	APPLICABLE STATUTES	AGENCY JUSTIFICATION
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

REQUESTER'S RESPONSIBILITIES:

You are required to (1) pay any lawful fees assessed; (2) make any necessary arrangements with the agency to inspect, copy or receive copies as instructed below; and (3) provide the agency any additional information requested. If you do not comply with the requirements set forth in this notice within 20 business days after the postmark date of this notice or the date the agency makes the records available, you will be presumed to have abandoned your request and the agency shall have no further duty to process your request. Once the agency begins to process your request, you may be liable for any fees incurred. If you wish to cancel or modify your request, you must advise the agency upon receipt of this notice.

METHOD & TIMING OF DISCLOSURE:

Records available for public access in their entireties must be disclosed within a reasonable time, not to exceed 10 business days, or after receipt of any prepayment required. Records not available in their entireties must be disclosed within 5 business days of this notice or after receipt of any prepayment required. If incremental disclosure is authorized by HAR § 2-71-15, the first increment must be disclosed within 5 business days of this notice or after receipt of any prepayment required.

For questions about this notice, please contact the person named above. Questions regarding compliance with the UIPA may be directed to the Office of Information Practices at 808-586-1400 or oip@hawaii.gov.

FIGURE 6 Cont.

FG 4115

REQUEST TO ACCESS A GOVERNMENT RECORD

DATE: 4/13/16

TO: *Hazard Evaluation and Emergency Response Office* *(Fax No. 586-7537)*

FROM: EQI Miles Nirei

Name or Alias
Contact Information: Phone No. 808.680.9650 Fax No.

Mailing address:

E-mail address: miles.nirei@gmail.com

RECEIVED
DEPARTMENT OF HEALTH
2016 APR 13 P 2:03
HEER OFFICE

Although you are not required to provide any personal information, you should provide enough information to allow the agency to contact you about this request. The processing of this request may be stopped if the agency is unable to contact you. Therefore, please provide any information that will allow the agency to contact you (name or alias, telephone or fax number, mailing address, e-mail address, etc.).

I WOULD LIKE THE FOLLOWING GOVERNMENT RECORD:

Describe the government record as specifically as possible so that it can be located. Try to provide a record name, subject matter, date, location, purpose, or names of persons to whom the record refers, or other information that could help the agency identify the record. A complete and accurate description of the government record you request will prevent delays in locating the record. Attach a second page if needed.

91-980 North Rd Ewa Beach 96706 -NR
91-831 Ft. Weaver Rd Ewa Beach -NR
91-909 Ft Weaver Rd Ewa Beach -NR

** No record found on the site/facility or address request. **
M.Domingo
04/15/16

I WOULD LIKE: (please check one or more of the options below)

☐ **To inspect the government record.**

☐ **A copy of the government record:** (Please check one of the options below.) See the back of this page for information about fees that you may be required to pay for agency services to process your record request. Note: Copying and transmission charges may also apply to certain options.

- ☐ Pick up at agency (*date and time*): _____
- ☐ Mail
- ☐ Fax (toll free and only if available)
- ☐ Other, if available (please specify): _____

☐ If the agency maintains the records in a form other than paper, please advise in which format you would prefer to have the record.

☐ Electronic ☐ Audio ☐ Other (please specify): _____

☐ Check this box if you are attaching a request for waiver of fees in the public interest (see waiver information on back).

SEE BACK FOR IMPORTANT INFORMATION

FOR OFFICE USE ONLY

Project Manager _____ *Program Manager* _____

Date _____ *Date* 4/15/16

OIP 1 (rev. 9/12/01)

FIGURE 6 Cont.

NOTICE TO REQUESTER

TO: Miles Nirei, EQI / miles.nirei@gmail.com UST Section
(Requester's name)

FROM: Hawaii Dept. of Health, Solid and Hazardous Waste Branch, Amy Liana, (808) 586-4226, amy.liana@doh.hawaii.gov
(Agency, and agency contact person's name, telephone number, & email address)

DATE THAT THE RECORD REQUEST WAS RECEIVED BY AGENCY: 4/13/16

DATE OF THIS NOTICE: 4/26/16

GOVERNMENT RECORDS YOU REQUESTED (attach copy of request or provide brief description below):
1.
2.
3.
4.

THIS NOTICE IS TO INFORM YOU THAT YOUR RECORD REQUEST:

The UST records are ready Pls. call for appt.

☒ **Will be granted in its entirety.**

☐ **Cannot be granted. Agency is unable to disclose the requested records for the following reason:**

- ☒ Agency does not maintain the records. (HRS § 92F-3)
  Other agency that is believed to maintain records: _____
- ☐ Agency needs further clarification or description of the records requested. Please contact the agency and provide the following information: _____
- ☐ Request requires agency to create a summary or compilation from records, but requested information is not readily retrievable. (HRS § 92F-11(c))

☐ **Will be granted in part and denied in part,** OR ☐ **Is denied in its entirety**
Although the agency maintains the requested records, it is not disclosing all or part of them based on the exemptions provided in HRS § 92F-13 and/or § 92F-22 or other laws cited below.
(Describe the portions of records that the agency will not disclose.)

RECORDS OR INFORMATION WITHHELD	APPLICABLE STATUTES	AGENCY JUSTIFICATION

REQUESTER'S RESPONSIBILITIES:

You are required to (1) pay any lawful fees and costs assessed; (2) make any necessary arrangements with the agency to inspect, copy or receive copies as instructed below; and (3) provide the agency any additional information requested. If you do not comply with the requirements set forth in this notice within 20 business days after the postmark date of this notice or the date the agency makes the records available, you will be presumed to have abandoned your request and the agency shall have no further duty to process your request. Once the agency begins to process your request, you may be liable for any fees and costs incurred. If you wish to cancel or modify your request, you must advise the agency upon receipt of this notice.

OIP (rev. 12/1/2015)

METHOD & TIMING OF DISCLOSURE:

Records available for public access in their entireties must be disclosed within a reasonable time, not to exceed 10 business days from the date the request was received, or after receipt of any prepayment required. Records not available in their entireties must be disclosed within 5 business days after this notice or after receipt of any prepayment required. HAR § 2-71-13(c). If incremental disclosure is authorized by HAR § 2-71-15, the first increment must be disclosed within 5 business days of this notice or after receipt of any prepayment required.

Method of Disclosure:

☐ Inspection at the following location: _____

☐ As requested, a copy of the record(s) will be provided in the following manner:

- ☐ Available for pick-up at the following location: _____
- ☐ Will be mailed to you.
- ☐ Will be transmitted to you by other means requested: _____

Timing of Disclosure: All records, or the first increment if applicable, will be made available or provided to you:

☐ On _____, 20___.

☐ **After prepayment** of 50% of fees and 100% of costs, as estimated below.

For incremental disclosures, each subsequent increment will be disclosed within 20 business days after:

- ☐ The prior increment (if one prepayment of fees is required and received), or
- ☐ Receipt of each incremental prepayment, if prepayment for each increment is required.

Records will be disclosed in increments because the records are voluminous and the following extenuating circumstances exist:

- ☐ Agency must consult with another person to determine whether the record is exempt from disclosure under HRS chapter 92F.
- ☐ Request requires extensive agency efforts to search, review, or segregate the records or otherwise prepare the records for inspection or copying.
- ☐ Agency requires additional time to respond to the request in order to avoid an unreasonable interference with its other statutory duties and functions.
- ☐ A natural disaster or other situation beyond agency's control prevents agency from responding to the request within 10 business days.

ESTIMATED FEES & COSTS AND PAYMENT:

FEES: For personal record requests under Part III of chapter 92F, HRS, the agency may charge you for its costs only, and fee waivers do not apply.

For public record requests under Part II of chapter 92F, HRS, the agency is authorized to charge you fees to search for, review, and segregate your request (even if a record is subsequently found to not exist or will not be disclosed in its entirety). The agency must waive the first $30 in fees assessed for general requesters, OR in the alternative, the first $60 in fees when the agency finds that the request is made in the public interest. Only one waiver is provided for each request. *See* HAR §§ 2-71-19, -31 and -32.

COSTS: For either personal or public record requests, the agency may charge you for the costs of copying and delivering records in response to your request, and other lawful fees and costs.

PREPAYMENT: The agency may require prepayment of 50% of the total estimated fees and 100% of the total estimated costs prior to processing your request. If a prepayment is required, the agency may wait to start any search for or review of the records until the prepayment is received by the agency. Additionally, if you have outstanding fees or costs

FIGURE 6 Cont.

from previous requests, including abandoned requests, the agency may require prepayment of 100% of the unpaid balance from prior requests before it begins any search or review for the records you are now seeking.

The following is an itemization of what you must pay, based on the estimated fees and costs that the agency will charge you and the applicable waiver amount that will be deducted:

For public record requests only:

Fees:	Search	Estimate of time to be spent: 15 mins hours ($2.50 for each 15-minute period)	$ 2.50X3
	Review & segregation	Estimate of time to be spent: 15 mins hours ($5.00 for each 15-minute period)	$ 5.00X2
	Fees waived	☑ general ($30), OR ☐ public interest ($60) (Only one waiver per request)	<$ 30.00X3
	Other	_____ (Pursuant to HAR §§ 2-71-19 & 2-71-31)	$
	Total Estimated Fees:		$ 0

For public or personal record requests:

Costs:	Copying	Estimate of # of pages to be copied: _____ (@ $____ per page, pursuant to HRS § 92-21)	$
	Delivery	Postage	$
	Other	_____	$ 0
	Total Estimated Costs:		$

TOTAL ESTIMATED FEES AND COSTS from above: $ 0

☐ **The estimated fees and costs above are for the first incremental disclosure only. Additional fees and costs, and no further fee waivers, will apply to future incremental disclosures.**

☐ **PREPAYMENT IS REQUIRED** (50% of fees + 100% of costs, as estimated above) $

☐ **UNPAID BALANCE FROM PRIOR REQUESTS** (100% must be paid before work begins) $

TOTAL AMOUNT DUE AT THIS TIME $ 0

Payment may be made by: ☐ cash
☐ personal check payable to _____
☐ other _____

For questions about this notice or the records being sought, please contact the agency person named at the beginning of this form. Please note that the Office of Information Practices (OIP) does not maintain the records of other agencies, and a requester must seek records directly from the agency it believes maintains the records. If the agency denies or fails to respond to your written request for records or if you have other questions regarding compliance with the UIPA, then you may contact OIP at (808) 586-1400, oip@hawaii.gov, or 250 South Hotel Street, Suite 107, Honolulu, Hawaii 96813.

FIGURE 6 Cont.

RECEIVED APR 13 2016

RECEIVED APR 13 2016

REQUEST TO ACCESS A GOVERNMENT RECORD

This is a model form that may be used by a Requester to provide sufficient information for an agency to process a record request. Although the Requester is not required to use this form or to provide any personal information, the agency needs enough information to contact the Requester with questions about this request or to provide its response. This request may not be processed if the agency has insufficient information or is unable to contact the Requester.

DATE: 4/13/16

TO: DOH/EMD/Solid and Hazardous Waste Branch, 919 Ala Moana Blvd., Room 212
Agency that Maintains the Government Record

Phone No: (808) 586-4226, Fax No: (808) 586-7509
Agency's Contact Information

FROM: ~~[illegible]~~ EQ1 MILES NIKEI
Requester's Name or Alias

808. 630. 9650 miles.nikei@gmail.com
Requester's Contact Information

AS THE REQUESTER, I WOULD LIKE THE FOLLOWING GOVERNMENT RECORD:

Describe the government record as specifically as possible so that it can be located. Try to provide a record name, subject matter, date, location, purpose, or names of persons to whom the record refers, or other information that could help the agency identify the record. A complete and accurate description of the requested government record will prevent delays in locating the record. Attach additional pages if needed.

91-980 North Rd Ewa Beach 96706

✓ 91-831 FT WEAVER RD, EWA BEACH 9-201183

✓ 91-909 FT WEAVER RD, EWA BEACH 9-201224

I WOULD LIKE: (Please check one or more of the options below, as applicable)

☒ To inspect the government record

☐ A copy of the government record: (Please check only one of the options below.) See the next page for information about fees and costs that you may be required to pay for agency services to process your record request. Note: Copying and transmission charges may also apply to certain options.

- ☐ Pick up at agency (date and time): _____
- ☐ Mail (address): _____
- ☐ E-mail (address): _____
- ☐ Fax (toll free and only if available; provide fax number): _____
- ☐ Other, if available (please specify): _____

☐ If the agency maintains the records in a form other than paper, please advise in which format you would prefer to have the record.

☐ Electronic ☐ Audio ☐ Other (please specify): _____

☐ Check this box if you are attaching a request for waiver of fees in the public interest (See waiver information on next page).

OIP 1 (rev. 12/1/2015)

4/13

FIGURE 6 Cont.

NOTICE TO REQUESTER

TO: Miles Nirei, EQI / miles.nirei@gmail.com HW Section
(Requester's name)

FROM: Hawaii Dept. of Health, Solid and Hazardous Waste Branch, Amy Liana, (808) 586-4226, amy.liana@doh.hawaii.gov
(Agency, and agency contact person's name, telephone number, & email address)

DATE THAT THE RECORD REQUEST WAS RECEIVED BY AGENCY: 4/13/16

DATE OF THIS NOTICE: 4/26/16

GOVERNMENT RECORDS YOU REQUESTED (attach copy of request or provide brief description below):
1.
2.
3.
4.

The HW records are ready. Pls call for appt.

THIS NOTICE IS TO INFORM YOU THAT YOUR RECORD REQUEST:

☒ **Will be granted in its entirety.**

☐ **Cannot be granted. Agency is unable to disclose the requested records for the following reason:**

- ☒ Agency does not maintain the records. (HRS § 92F-3)
  Other agency that is believed to maintain records: _____
- ☐ Agency needs further clarification or description of the records requested. Please contact the agency and provide the following information: _____
- ☐ Request requires agency to create a summary or compilation from records, but requested information is not readily retrievable. (HRS § 92F-11(c))

☐ **Will be granted in part and denied in part,** OR ☐ **Is denied in its entirety**
Although the agency maintains the requested records, it is not disclosing all or part of them based on the exemptions provided in HRS § 92F-13 and/or § 92F-22 or other laws cited below.
(Describe the portions of records that the agency will not disclose.)

RECORDS OR INFORMATION WITHHELD	APPLICABLE STATUTES	AGENCY JUSTIFICATION

REQUESTER'S RESPONSIBILITIES:

You are required to (1) pay any lawful fees and costs assessed; (2) make any necessary arrangements with the agency to inspect, copy or receive copies as instructed below; and (3) provide the agency any additional information requested. If you do not comply with the requirements set forth in this notice within 20 business days after the postmark date of this notice or the date the agency makes the records available, you will be presumed to have abandoned your request and the agency shall have no further duty to process your request. Once the agency begins to process your request, you may be liable for any fees and costs incurred. If you wish to cancel or modify your request, you must advise the agency upon receipt of this notice.

OIP (rev. 12/1/2015)

METHOD & TIMING OF DISCLOSURE:

Records available for public access in their entireties must be disclosed within a reasonable time, not to exceed 10 business days from the date the request was received, or after receipt of any prepayment required. Records not available in their entireties must be disclosed within 5 business days after this notice or after receipt of any prepayment required. HAR § 2-71-13(c). If incremental disclosure is authorized by HAR § 2-71-15, the first increment must be disclosed within 5 business days of this notice or after receipt of any prepayment required.

Method of Disclosure:

☐ Inspection at the following location: _____

☐ As requested, a copy of the record(s) will be provided in the following manner:

- ☐ Available for pick-up at the following location: _____
- ☐ Will be mailed to you.
- ☐ Will be transmitted to you by other means requested: _____

Timing of Disclosure: All records, or the first increment if applicable, will be made available or provided to you:

☐ On _____, 20___.

☐ **After prepayment** of 50% of fees and 100% of costs, as estimated below.

For incremental disclosures, each subsequent increment will be disclosed within 20 business days after:

- ☐ The prior increment (if one prepayment of fees is required and received), or
- ☐ Receipt of each incremental prepayment, if prepayment for each increment is required.

Records will be disclosed in increments because the records are voluminous and the following extenuating circumstances exist:

- ☐ Agency must consult with another person to determine whether the record is exempt from disclosure under HRS chapter 92F.
- ☐ Request requires extensive agency efforts to search, review, or segregate the records or otherwise prepare the records for inspection or copying.
- ☐ Agency requires additional time to respond to the request in order to avoid an unreasonable interference with its other statutory duties and functions.
- ☐ A natural disaster or other situation beyond agency's control prevents agency from responding to the request within 10 business days.

ESTIMATED FEES & COSTS AND PAYMENT:

FEES: For personal record requests under Part III of chapter 92F, HRS, the agency may charge you for its costs only, and fee waivers do not apply.

For public record requests under Part II of chapter 92F, HRS, the agency is authorized to charge you fees to search for, review, and segregate your request (even if a record is subsequently found to not exist or will not be disclosed in its entirety). The agency must waive the first $30 in fees assessed for general requesters, OR in the alternative, the first $60 in fees when the agency finds that the request is made in the public interest. Only one waiver is provided for each request. *See* HAR §§ 2-71-19, -31 and -32.

COSTS: For either personal or public record requests, the agency may charge you for the costs of copying and delivering records in response to your request, and other lawful fees and costs.

PREPAYMENT: The agency may require prepayment of 50% of the total estimated fees and 100% of the total estimated costs prior to processing your request. If a prepayment is required, the agency may wait to start any search for or review of the records until the prepayment is received by the agency. Additionally, if you have outstanding fees or costs

FIGURE 6 Cont.

from previous requests, including abandoned requests, the agency may require prepayment of 100% of the unpaid balance from prior requests before it begins any search or review for the records you are now seeking.

The following is an itemization of what you must pay, based on the estimated fees and costs that the agency will charge you and the applicable waiver amount that will be deducted:

For public record requests only:

Fees:	Search	Estimate of time to be spent: 15 mins hours ($2.50 for each 15-minute period)	$ 2.50 x 3
	Review & segregation	Estimate of time to be spent: 15 mins hours ($5.00 for each 15-minute period)	$ 5.00 x 2
	Fees waived	☑ general ($30), OR ☐ public interest ($60) (Only one waiver per request)	<$ 31.50 x 3
	Other	_____ (Pursuant to HAR §§ 2-71-19 & 2-71-31)	$
	Total Estimated Fees:		$ 0

For public or personal record requests:

Costs:	Copying	Estimate of # of pages to be copied: _____ (@ $____ per page, pursuant to HRS § 92-21)	$
	Delivery	Postage	$
	Other	_____	$
	Total Estimated Costs:		$ 0

TOTAL ESTIMATED FEES AND COSTS from above: $ 0

☐ **The estimated fees and costs above are for the first incremental disclosure only. Additional fees and costs, and no further fee waivers, will apply to future incremental disclosures.**

☐ **PREPAYMENT IS REQUIRED** (50% of fees + 100% of costs, as estimated above) $

☐ **UNPAID BALANCE FROM PRIOR REQUESTS** (100% must be paid before work begins) $

TOTAL AMOUNT DUE AT THIS TIME $ 0

Payment may be made by: ☐ cash
☐ personal check payable to _____
☐ other _____

For questions about this notice or the records being sought, please contact the agency person named at the beginning of this form. Please note that the Office of Information Practices (OIP) does not maintain the records of other agencies, and a requester must seek records directly from the agency it believes maintains the records. If the agency denies or fails to respond to your written request for records or if you have other questions regarding compliance with the UIPA, then you may contact OIP at (808) 586-1400, oip@hawaii.gov, or 250 South Hotel Street, Suite 107, Honolulu, Hawaii 96813.

FIGURE 6 Cont.

RECEIVED APR 13 2016
RECEIVED APR 13 2016

REQUEST TO ACCESS A GOVERNMENT RECORD

This is a model form that may be used by a Requester to provide sufficient information for an agency to process a record request. Although the Requester is not required to use this form or to provide any personal information, the agency needs enough information to contact the Requester with questions about this request or to provide its response. This request may not be processed if the agency has insufficient information or is unable to contact the Requester.

DATE: 4/13/16

TO: DOH/EMD/Solid and Hazardous Waste Branch, 919 Ala Moana Blvd., Room 212
Agency that Maintains the Government Record

Phone No: (808) 586-4226, Fax No: (808) 586-7509
Agency's Contact Information

FROM: ~~ENTIRE NAME~~ EQ1 MILES NIKAI
Requester's Name or Alias

808. 630. 9650 miles.nikai@gmail.com
Requester's Contact Information

AS THE REQUESTER, I WOULD LIKE THE FOLLOWING GOVERNMENT RECORD:

Describe the government record as specifically as possible so that it can be located. Try to provide a record name, subject matter, date, location, purpose, or names of persons to whom the record refers, or other information that could help the agency identify the record. A complete and accurate description of the requested government record will prevent delays in locating the record. Attach additional pages if needed.

✓ 91-980 North Rd Ewa Beach 96706 HI DOE James Campbell High School HW-1372M

✓ 91-831 FT Weaver RD, Ewa Beach Aloha Gas Ewa Food Mart HW-1018

91-909 FT Weaver RD, Ewa Beach

I WOULD LIKE: (Please check one or more of the options below, as applicable)

☒ To inspect the government record

☐ A copy of the government record: (Please check only one of the options below.) See the next page for information about fees and costs that you may be required to pay for agency services to process your record request. Note: Copying and transmission charges may also apply to certain options.

- ☐ Pick up at agency (date and time): _____
- ☐ Mail (address): _____
- ☐ E-mail (address): _____
- ☐ Fax (toll free and only if available; provide fax number): _____
- ☐ Other, if available (please specify): _____

☐ If the agency maintains the records in a form other than paper, please advise in which format you would prefer to have the record.

☐ Electronic ☐ Audio ☐ Other (please specify): _____

☐ Check this box if you are attaching a request for waiver of fees in the public interest (See waiver information on next page).

OIP 1 (rev. 12/1/2015)

4/13

FIGURE 6 Cont.

NOTICE TO REQUESTER

TO: Miles Nirei, EQI / miles.nirei@gmail.com SW Section
(Requester's name)

FROM: Hawaii Dept. of Health, Solid and Hazardous Waste Branch, Amy Liana, (808) 586-4226, amy.liana@doh.hawaii.gov
(Agency, and agency contact person's name, telephone number, & email address)

DATE THAT THE RECORD REQUEST WAS RECEIVED BY AGENCY: 4/13/16

DATE OF THIS NOTICE: 4/26/16

GOVERNMENT RECORDS YOU REQUESTED (attach copy of request or provide brief description below):
1.
2.
3.
4.

THIS NOTICE IS TO INFORM YOU THAT YOUR RECORD REQUEST: There are no SW records.

☐ **Will be granted in its entirety.**

☑ **Cannot be granted. Agency is unable to disclose the requested records for the following reason:**

- ☑ Agency does not maintain the records. (HRS § 92F-3)
  Other agency that is believed to maintain records: _____
- ☐ Agency needs further clarification or description of the records requested. Please contact the agency and provide the following information: _____
- ☐ Request requires agency to create a summary or compilation from records, but requested information is not readily retrievable. (HRS § 92F-11(c))

☐ **Will be granted in part and denied in part,** OR ☐ **Is denied in its entirety**
Although the agency maintains the requested records, it is not disclosing all or part of them based on the exemptions provided in HRS § 92F-13 and/or § 92F-22 or other laws cited below.
(Describe the portions of records that the agency will not disclose.)

RECORDS OR INFORMATION WITHHELD	APPLICABLE STATUTES	AGENCY JUSTIFICATION

REQUESTER'S RESPONSIBILITIES:

You are required to (1) pay any lawful fees and costs assessed; (2) make any necessary arrangements with the agency to inspect, copy or receive copies as instructed below; and (3) provide the agency any additional information requested. If you do not comply with the requirements set forth in this notice within 20 business days after the postmark date of this notice or the date the agency makes the records available, you will be presumed to have abandoned your request and the agency shall have no further duty to process your request. Once the agency begins to process your request, you may be liable for any fees and costs incurred. If you wish to cancel or modify your request, you must advise the agency upon receipt of this notice.

OIP (rev. 12/1/2015)

FIGURE 6 Cont.

METHOD & TIMING OF DISCLOSURE:

Records available for public access in their entireties must be disclosed within a reasonable time, not to exceed 10 business days from the date the request was received, or after receipt of any prepayment required. Records not available in their entireties must be disclosed within 5 business days after this notice or after receipt of any prepayment required. HAR § 2-71-13(c). If incremental disclosure is authorized by HAR § 2-71-15, the first increment must be disclosed within 5 business days of this notice or after receipt of any prepayment required.

Method of Disclosure:

☐ Inspection at the following location: _____

☐ As requested, a copy of the record(s) will be provided in the following manner:

- ☐ Available for pick-up at the following location: _____
- ☐ Will be mailed to you.
- ☐ Will be transmitted to you by other means requested: _____

Timing of Disclosure: All records, or the first increment if applicable, will be made available or provided to you:

☐ On _____, 20___.

☐ **After prepayment** of 50% of fees and 100% of costs, as estimated below.

For incremental disclosures, each subsequent increment will be disclosed within 20 business days after:

- ☐ The prior increment (if one prepayment of fees is required and received), or
- ☐ Receipt of each incremental prepayment, if prepayment for each increment is required.

Records will be disclosed in increments because the records are voluminous and the following extenuating circumstances exist:

- ☐ Agency must consult with another person to determine whether the record is exempt from disclosure under HRS chapter 92F.
- ☐ Request requires extensive agency efforts to search, review, or segregate the records or otherwise prepare the records for inspection or copying.
- ☐ Agency requires additional time to respond to the request in order to avoid an unreasonable interference with its other statutory duties and functions.
- ☐ A natural disaster or other situation beyond agency's control prevents agency from responding to the request within 10 business days.

ESTIMATED FEES & COSTS AND PAYMENT:

FEES: For personal record requests under Part III of chapter 92F, HRS, the agency may charge you for its costs only, and fee waivers do not apply.

For public record requests under Part II of chapter 92F, HRS, the agency is authorized to charge you fees to search for, review, and segregate your request (even if a record is subsequently found to not exist or will not be disclosed in its entirety). The agency must waive the first $30 in fees assessed for general requesters, OR in the alternative, the first $60 in fees when the agency finds that the request is made in the public interest. Only one waiver is provided for each request. *See* HAR §§ 2-71-19, -31 and -32.

COSTS: For either personal or public record requests, the agency may charge you for the costs of copying and delivering records in response to your request, and other lawful fees and costs.

PREPAYMENT: The agency may require prepayment of 50% of the total estimated fees and 100% of the total estimated costs prior to processing your request. If a prepayment is required, the agency may wait to start any search for or review of the records until the prepayment is received by the agency. Additionally, if you have outstanding fees or costs

FIGURE 6 Cont.

from previous requests, including abandoned requests, the agency may require prepayment of 100% of the unpaid balance from prior requests before it begins any search or review for the records you are now seeking.

The following is an itemization of what you must pay, based on the estimated fees and costs that the agency will charge you and the applicable waiver amount that will be deducted:

For public record requests only:

Fees:	Search	Estimate of time to be spent: 10 mins ~~hours~~ ($2.50 for each 15-minute period)	$ 2.50x3
	Review & segregation	Estimate of time to be spent: _____ hours ($5.00 for each 15-minute period)	$
	Fees waived	☒ general ($30), OR ☐ public interest ($60) (Only one waiver per request)	<$ 30.00x3
	Other	_____ (Pursuant to HAR §§ 2-71-19 & 2-71-31)	$
	Total Estimated Fees:		$ 0

For public or personal record requests:

Costs:	Copying	Estimate of # of pages to be copied: _____ (@ $____ per page, pursuant to HRS § 92-21)	$
	Delivery	Postage	$
	Other	_____	$
	Total Estimated Costs:		$ 0

TOTAL ESTIMATED FEES AND COSTS from above: $ 0

☐ **The estimated fees and costs above are for the first incremental disclosure only. Additional fees and costs, and no further fee waivers, will apply to future incremental disclosures.**

☐ **PREPAYMENT IS REQUIRED** (50% of fees + 100% of costs, as estimated above) $

☐ **UNPAID BALANCE FROM PRIOR REQUESTS** (100% must be paid before work begins) $

TOTAL AMOUNT DUE AT THIS TIME $ 0

Payment may be made by: ☐ cash
☐ personal check payable to _____
☐ other _____

For questions about this notice or the records being sought, please contact the agency person named at the beginning of this form. Please note that the Office of Information Practices (OIP) does not maintain the records of other agencies, and a requester must seek records directly from the agency it believes maintains the records. If the agency denies or fails to respond to your written request for records or if you have other questions regarding compliance with the UIPA, then you may contact OIP at (808) 586-1400, oip@hawaii.gov, or 250 South Hotel Street, Suite 107, Honolulu, Hawaii 96813.

FIGURE 6 Cont.

RECEIVED APR 13 2016
RECEIVED APR 13 2016

REQUEST TO ACCESS A GOVERNMENT RECORD

This is a model form that may be used by a Requester to provide sufficient information for an agency to process a record request. Although the Requester is not required to use this form or to provide any personal information, the agency needs enough information to contact the Requester with questions about this request or to provide its response. This request may not be processed if the agency has insufficient information or is unable to contact the Requester.

DATE: 4/13/16

TO: DOH/EMD/Solid and Hazardous Waste Branch, 919 Ala Moana Blvd., Room 212
Agency that Maintains the Government Record

Phone No: (808) 586-4226, Fax No: (808) 586-7509
Agency's Contact Information

FROM: ~~ENVIRONMENTAL~~ EQ | MILES NIKAI
Requester's Name or Alias

808. 630. 9650 miles.nikai@gmail.com
Requester's Contact Information

AS THE REQUESTER, I WOULD LIKE THE FOLLOWING GOVERNMENT RECORD:

Describe the government record as specifically as possible so that it can be located. Try to provide a record name, subject matter, date, location, purpose, or names of persons to whom the record refers, or other information that could help the agency identify the record. A complete and accurate description of the requested government record will prevent delays in locating the record. Attach additional pages if needed.

91-980 North Rd EWA BEACH 96706

91-831 FT WEAVER RD, EWA BEACH

91-909 FT WEAVER RD, EWA BEACH

I WOULD LIKE: (Please check one or more of the options below, as applicable)

☒ To inspect the government record

☐ A copy of the government record: (Please check only one of the options below.) See the next page for information about fees and costs that you may be required to pay for agency services to process your record request. Note: Copying and transmission charges may also apply to certain options.

- ☐ Pick up at agency (date and time): _____
- ☐ Mail (address): _____
- ☐ E-mail (address): _____
- ☐ Fax (toll free and only if available; provide fax number): _____
- ☐ Other, if available (please specify): _____

☐ If the agency maintains the records in a form other than paper, please advise in which format you would prefer to have the record.

☐ Electronic ☐ Audio ☐ Other (please specify): _____

☐ Check this box if you are attaching a request for waiver of fees in the public interest (See waiver information on next page).

OIP 1 (rev. 12/1/2015)

4/13

FIGURE 7

EnviroQuest

April 24, 2016

Hawaiian Electric Company
Attn: Ms. Dana Tree

Ms. Tree,

I respectfully request information regarding a pole mount transformer located at James Campbell High School, 91-980 N Rd, Ewa Beach, HI 96706. Tax Map Key 9-1-001, Parcel 002.

I request the following information regarding this transformer:

1. Is the transformer PCB free?
2. If it is PCB free, when was the liquid changed?
3. Are there any reports of the transformer leaking? If it has leaked, when was the leak and what actions were taken.

Thank you for your assistance in this matter.

Respectfully,

Miles Nirei
Senior Environmental Scientist

98-029 Hekaha Street, Suite 21 Aiea, Hawaii 96701 P 808.486.5881 F 808.486.5889
6-15-17 Kamitsuruma, Minami-ku, Sagamihara-shi, Kanagawa-ken 252-0302 Japan P 042.851.5675 F 042.851.5682

TSC 2.5.1
Due Diligence Inquiries

April 27, 2016

Mr. Miles Nirei
EnviroQuest
98-029 Hekaha Street, Suite 21
Aiea, Hawaii 96701
Transmitted via email: miles.nirei@gmail.com

Dear Mr. Nirei:

Subject: **Transformer Information**
James Campbell High School
91-980 North Road
Ewa Beach, Oahu, Hawaii

In response to your request for information regarding Hawaiian Electric transformers at the above referenced location, we are providing the following information:

Pole / Vault Number	Transformer Number	Address	Date Purchased	PCB Status
P8	39790	91-1000 North Rd	8/1/1982	Non-PCB
V9161	78498	91-750 North Rd	3/2/2007	Non-PCB
V8247T	71258	91-884 Fort Weaver Rd	6/16/2000	Non-PCB
V8247	78497	91-884 Fort Weaver Rd	3/2/2007	Non-PCB
V10201	89834	91-980 North Rd	12/15/2014	Non-PCB

If you have any other questions, please contact me at 808.543.4517.

Sincerely,

Dana Tree
Environmental Scientist

FIGURE 8
City and County of Honolulu Real Property Information



Previous Parcel | Next Parcel | Return to Main Search Page | Honolulu Home | Real Property Home

Owner and Parcel Information Print Owner Info

Parcel Number	910010020000	**Data current as of**	April 18, 2016
Owner Name	CITY AND COUNTY OF HONOLULU Fee Owner	**Project Name**	
Location Address	91-750 FORT WEAVER CAMPBELL RD	**Plat Map**	Plat Map PDF
Property Class	RESIDENTIAL	**Parcel Map**	GIS Parcel Map
Land Area (approximate sq ft)	2,486,048	**Legal Information**	
Land Area (acres)	57.0718		

Assessment Information Show Historical Assessments Print Assessment Info

Assessment Year	Property Class	Assessed Land Value	Dedicated Use Value	Land Exemption	Net Taxable Land Value	Assessed Building Value	Building Exemption	Net Taxable Building Value	Total Property Assessed Value	Total Property Exemption	Total Net Taxable Value
2016	RESIDENTIAL	$ 41,267,300	$ 0	$ 41,267,300	$ 0	$ 18,896,200	$ 18,896,200	$ 0	$ 60,163,500	$ 60,163,500	$ 0

Appeal Information Print Appeal Info

No appeal information on parcel.

Land Information Print Land

Property Class	Square Footage	Acreage	Agricultural Use Indicator
RESIDENTIAL	2,486,048	57.0718	

Improvement Information

No improvement information available for this parcel.

Other Building and Yard Improvements

Description	Quantity	Year Built	Area
GROSS BUILDING VALUE	1	2001	173,600
GROSS BUILDING VALUE	1	2001	1,096,100
GROSS BUILDING VALUE	1	2001	822,400
GROSS BUILDING VALUE	1	2001	205,200
GROSS BUILDING VALUE	1	2001	159,000
GROSS BUILDING VALUE	1	2001	1,093,500
GROSS BUILDING VALUE	1	2001	17,200

EnviroQuest

USER OR OWNER QUESTIONAIRES

EQI Project #: 10045 Project Site: 91-980 N Rd, Ewa Beach

Interviewer: Miles Nirei Date: _____

Interviewee: _____ Title: _____

(1.) Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).
Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

(2.) Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).
Are you aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

(3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).
As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

(4.) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).
Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

(5.) Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).
Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,
(a.) Do you know the past uses of the property?

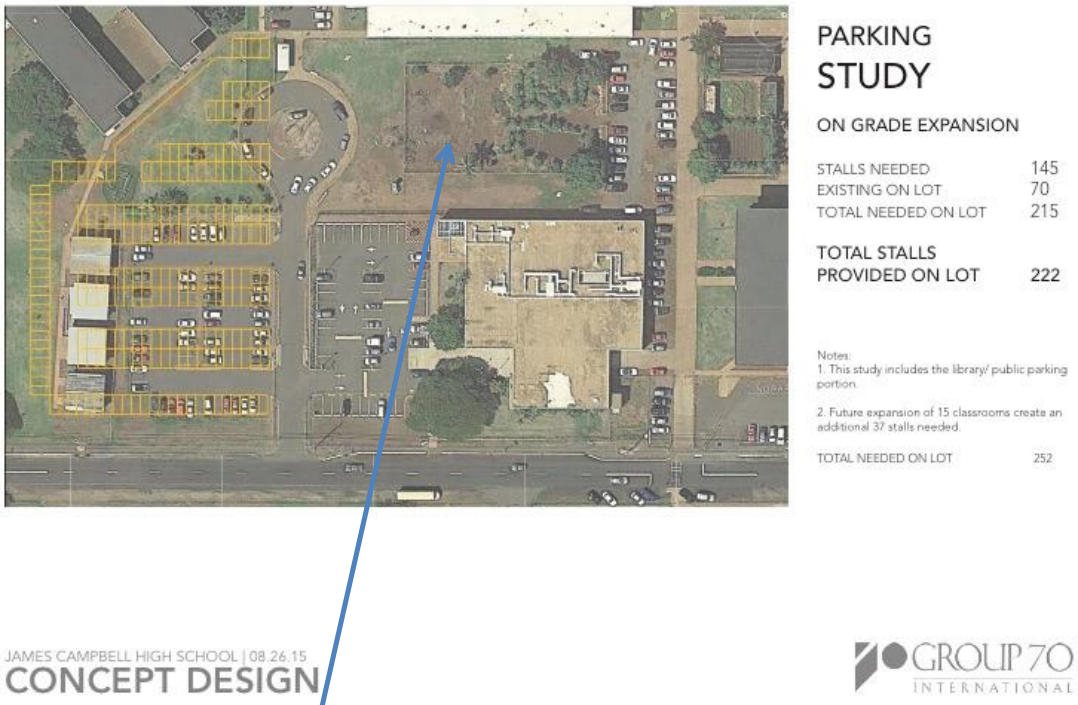
(b.) Do you know of specific chemicals that are present or once were present at the property?

(c.) Do you know of spills or other chemical releases that have taken place at the property?

(d.) Do you know of any environmental cleanups that have taken place at the property?

(6.) The degree of obviousness of the presence of likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).
As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?

FIGURE 10
Proposed Site



Subject Site

APPENDIX 1

EDR Radius Map Report with Geo Check

Project Number: EQI 10045
Campbell High School
91-980 North Road
Ewa Beach, HI 96706

Inquiry Number: 4589248.2s
April 12, 2016

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	7
Orphan Summary	106
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-8
Physical Setting Source Map Findings	A-10
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

91-980 NORTH ROAD
EWA BEACH, HI 96706

COORDINATES

Latitude (North):	21.3162600 - 21° 18' 58.53''
Longitude (West):	158.0084120 - 158° 0' 30.28''
Universal Tranverse Mercator:	Zone 4
UTM X (Meters):	602841.4
UTM Y (Meters):	2357334.2
Elevation:	10 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5941087 PEARL HARBOR, HI
Version Date:	2013
West Map:	5941343 EWA, HI
Version Date:	2013

MAPPED SITES SUMMARY

Target Property Address:
91-980 NORTH ROAD
EWA BEACH, HI 96706

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	CAMPBELL HIGH SCHOOL	91-980 NORTH RD	ECHO		TP
A2	CAMPBELL HIGH SCHOOL	910980 NORTH ROAD	FTTS		TP
A3	CAMPBELL HIGH SCHOOL	91-980 NORTH ROAD	FINDS, ECHO		TP
A4	AUTO SHOP/PHOTO DARK	91-980 NORTH RD	HI SPILLS		TP
A5	ANA 747 FUEL SPILL	91-980 NORTH RD	FTTS, HIST FTTS		TP
A6	CAMPBELL HIGH SCHOOL	91-980 NORTH RD	FINDS		TP
A7	CAMPBELL HIGH SCHOOL	91-980 NORTH ROAD	FINDS, ECHO		TP
Reg	PEARL HARBOR NAVAL C	US NAVAL COMMAND	NPL, SEMS, US ENG CONTROLS, US INST CONTROL, ROD,..	Same	4682, 0.887, NNE
8	JMH, INC DBA EWA MAR	91-831 FT WEAVER RD	HI LUST, HI UST, HI Financial Assurance	Higher	1265, 0.240, WSW
B9	EWA BEACH CHEVRON SS	91-909 FT WEAVER RD	HI LUST, HI UST, HI Financial Assurance	Higher	1641, 0.311, West
B10	EWA BEACH CHEVRON	91-909 FORT WEAVER R	HI SHWS, HI SPILLS	Higher	1641, 0.311, West
B11	7-11 EWA BEACH	91-924 MAKULE ST	HI LUST, HI UST, HI Financial Assurance	Higher	1671, 0.316, West
B12	TEXACO STATION 61100	91 914 FORT WEAVER R	RCRA-CESQG, HI LUST, HI UST, HI Financial...	Higher	1691, 0.320, WNW
13	USAF PALEHUA SOLAR O	SO TIP OF WAIANAE MT	SEMS-ARCHIVE, FINDS	Higher	1736, 0.329, WSW
14	C&CH EWA BEACH FIRE	91-832 POHAKUPUNA RD	HI LUST, HI UST	Lower	1855, 0.351, SSW
15	GENTRY HOMES LTD ARE	91-500 FT WEAVER RD	HI LUST, HI UST	Lower	1857, 0.352, SE
16	EWA BEACH WASTEWATER	91-690 POHAKUPUNA RD	HI LUST, HI UST, HI Financial Assurance	Lower	2570, 0.487, SW
17	HONOLULU WOOD TREATI	91 921 HANUA ST	SEMS-ARCHIVE, CORRACTS, RCRA-TSDF, RCRA-CESQG,...	Higher	3189, 0.604, NE
18	PUULOA-EX NAS BAR PO		FUDS	Higher	4250, 0.805, NNE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 7 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
CAMPBELL HIGH SCHOOL 91-980 NORTH RD EWA BEACH, HI 96706	ECHO	N/A
CAMPBELL HIGH SCHOOL 910980 NORTH ROAD EWA BEACH, HI 96706	FTTS	N/A
CAMPBELL HIGH SCHOOL 91-980 NORTH ROAD EWA BEACH, HI 96706	FINDS Registry ID:: 110059707580 ECHO	N/A
AUTO SHOP/PHOTO DARK 91-980 NORTH RD EWA BEACH, HI 96706	HI SPILLS	N/A
ANA 747 FUEL SPILL 91-980 NORTH RD EWA BEACH, HI 96706	FTTS HIST FTTS	N/A
CAMPBELL HIGH SCHOOL 91-980 NORTH RD EWA BEACH, HI 96706	FINDS Registry ID:: 110011652434	N/A
CAMPBELL HIGH SCHOOL 91-980 NORTH ROAD EWA BEACH, HI 96706	FINDS Registry ID:: 110063704969 ECHO	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

Proposed NPL---------- Proposed National Priority List Sites

EXECUTIVE SUMMARY

NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators
RCRA-SQG ..... RCRA - Small Quantity Generators

Federal institutional controls / engineering controls registries

LUCIS ..... Land Use Control Information System

Federal ERNS list

ERNS ..... Emergency Response Notification System

State and tribal landfill and/or solid waste disposal site lists

HI SWF/LF ..... Permitted Landfills in the State of Hawaii

State and tribal leaking storage tank lists

INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST ..... Underground Storage Tank Listing
INDIAN UST ..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

HI ENG CONTROLS ..... Engineering Control Sites
HI INST CONTROL ..... Sites with Institutional Controls

State and tribal voluntary cleanup sites

HI VCP ..... Voluntary Response Program Sites
INDIAN VCP ..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

HI BROWNFIELDS ..... Brownfields Sites

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

EXECUTIVE SUMMARY

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
HI CDL	Clandestine Drug Lab Listing
US CDL	National Clandestine Laboratory Register

Local Land Records

LIENS 2	CERCLA Lien Information

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
HI SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
RMP	Risk Management Plans
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
HI AIRS	List of Permitted Facilities
HI DRYCLEANERS	Permitted Drycleaner Facility Listing
HI UIC	Underground Injection Wells Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR Hist Auto---------- EDR Exclusive Historic Gas Stations
EDR Hist Cleaner---------- EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

HI RGA HWS---------- Recovered Government Archive State Hazardous Waste Facilities List
HI RGA LF---------- Recovered Government Archive Solid Waste Facilities List
HI RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 10/30/2015 has revealed that there is 1 NPL site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PEARL HARBOR NAVAL C	***US NAVAL COMMAND***	***NNE 1/2 - 1 (0.887 mi.)***	***0***	***10***

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for

listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 01/11/2016 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
USAF PALEHUA SOLAR O	*SO TIP OF WAIANAE MT*	*WSW 1/4 - 1/2 (0.329 mi.)*	*13*	*90*

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 12/09/2015 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HONOLULU WOOD TREATI	*91 921 HANUA ST*	*NE 1/2 - 1 (0.604 mi.)*	*17*	*93*

State- and tribal - equivalent CERCLIS

HI SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Health.

A review of the HI SHWS list, as provided by EDR, and dated 01/22/2016 has revealed that there is 1 HI SHWS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
EWA BEACH CHEVRON	*91-909 FORT WEAVER R*	*W 1/4 - 1/2 (0.311 mi.)*	*B10*	*84*

State and tribal leaking storage tank lists

HI LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Health's Active Leaking Underground Storage Tank Log Listing.

A review of the HI LUST list, as provided by EDR, and dated 01/13/2016 has revealed that there are 7 HI LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JMH, INC DBA EWA MAR Release ID: 950107	*91-831 FT WEAVER RD*	*WSW 1/8 - 1/4 (0.240 mi.)*	*8*	*79*

Release ID: 930070
Facility Id: 9-201183
Facility Status: Site Cleanup Completed (NFA)

EWA BEACH CHEVRON SS	***91-909 FT WEAVER RD***	***W 1/4 - 1/2 (0.311 mi.)***	***B9***	***81***

Release ID: 040005
Facility Id: 9-201224
Facility Status: Site Cleanup Completed (NFA)

7-11 EWA BEACH	***91-924 MAKULE ST***	***W 1/4 - 1/2 (0.316 mi.)***	***B11***	***85***

Release ID: 980103
Facility Id: 9-201184
Facility Status: Site Cleanup Completed (NFA)

TEXACO STATION 61100	***91 914 FORT WEAVER R***	***WNW 1/4 - 1/2 (0.320 mi.)***	***B12***	***87***

Release ID: 020002
Release ID: 980141
Facility Id: 9-200324
Facility Status: Site Cleanup Completed (NFA)

Lower Elevation	Address	Direction / Distance	Map ID	Page
C&CH EWA BEACH FIRE	***91-832 POHAKUPUNA RD***	***SSW 1/4 - 1/2 (0.351 mi.)***	***14***	***91***

Release ID: 940178
Facility Id: 9-200071
Facility Status: Site Cleanup Completed (NFA)

GENTRY HOMES LTD ARE	***91-500 FT WEAVER RD***	***SE 1/4 - 1/2 (0.352 mi.)***	***15***	***92***

Release ID: 940169
Facility Id: 9-202975
Facility Status: Site Cleanup Completed (NFA)

EWA BEACH WASTEWATER	***91-690 POHAKUPUNA RD***	***SW 1/4 - 1/2 (0.487 mi.)***	***16***	***92***

Release ID: 050042
Facility Id: 9-200136
Facility Status: Site Cleanup Completed (NFA)

State and tribal registered storage tank lists

HI UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Health's Listing of Underground Storage Tanks.

A review of the HI UST list, as provided by EDR, and dated 01/13/2016 has revealed that there is 1 HI UST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JMH, INC DBA EWA MAR	***91-831 FT WEAVER RD***	***WSW 1/8 - 1/4 (0.240 mi.)***	***8***	***79***

Tank Status: Permanently Out of Use
Tank Status: Currently in Use
Facility Id: 9-201183
Date Closed: 07/10/1995
Date Closed: 02/25/1993

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 01/31/2015 has revealed that there is 1 FUDS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PUULOA-EX NAS BAR PO		NNE 1/2 - 1 (0.805 mi.)	18	104

ROD: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 11/25/2013 has revealed that there is 1 ROD site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PEARL HARBOR NAVAL C	***US NAVAL COMMAND***	***NNE 1/2 - 1 (0.887 mi.)***	***0***	***10***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

Site Name	Database(s)
JACKSON CONSTRUCTION LANDFILL	HI SHWS

OVERVIEW MAP - 4589248.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

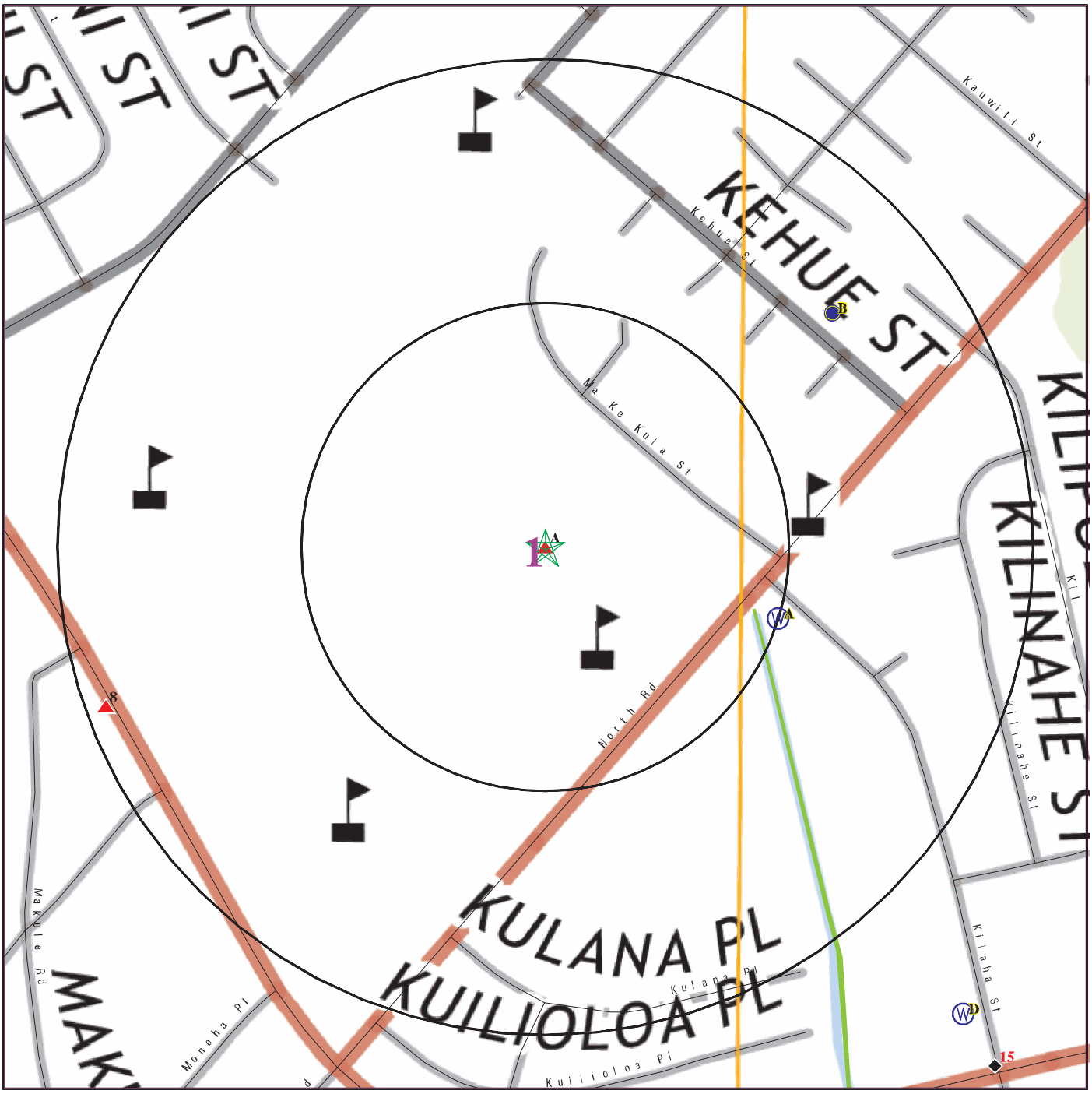
N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Campbell High School	CLIENT:	Enviroquest
ADDRESS:	91-980 North Road Ewa Beach HI 96706	CONTACT:	Miles Nirei
		INQUIRY #:	4589248.2s
LAT/LONG:	21.31626 / 158.008412	DATE:	April 12, 2016 12:42 pm

Copyright © 2016 EDR, Inc. © 2015 TomTom Rel. 2015.

DETAIL MAP - 4589248.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Campbell High School	CLIENT:	Enviroquest
ADDRESS:	91-980 North Road Ewa Beach HI 96706	CONTACT:	Miles Nirei
		INQUIRY #:	4589248.2s
LAT/LONG:	21.31626 / 158.008412	DATE:	April 12, 2016 12:43 pm

Copyright © 2016 EDR, Inc. © 2015 TomTom Rel. 2015.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	1	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	1	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	1	NR	1
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
HI SHWS	1.000		0	0	1	0	NR	1
State and tribal landfill and/or solid waste disposal site lists								
HI SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
HI LUST	0.500		0	1	6	NR	NR	7
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
HI UST	0.250		0	1	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
HI ENG CONTROLS	0.500		0	0	0	NR	NR	0
HI INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
HI VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
HI BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HI CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
HI SPILLS	TP	1	NR	NR	NR	NR	NR	1
HI SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	1	NR	1
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	1	NR	1
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP	2	NR	NR	NR	NR	NR	2
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP	1	NR	NR	NR	NR	NR	1
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	3	NR	NR	NR	NR	NR	3
HI AIRS	TP		NR	NR	NR	NR	NR	0
HI DRYCLEANERS	0.250		0	0	NR	NR	NR	0
HI Financial Assurance	TP		NR	NR	NR	NR	NR	0
CA HAZNET	TP		NR	NR	NR	NR	NR	0
HI UIC	TP		NR	NR	NR	NR	NR	0
ECHO	TP	3	NR	NR	NR	NR	NR	3
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
HI RGA HWS	TP		NR	NR	NR	NR	NR	0
HI RGA LF	TP		NR	NR	NR	NR	NR	0
HI RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		10	0	2	8	4	0	24

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **CAMPBELL HIGH SCHOOL** **ECHO** **1017825120**
Target **91-980 NORTH RD** **N/A**
Property **EWA BEACH, HI 96706**

Site 1 of 7 in cluster A

Actual:
10 ft.

ECHO:
Envid: 1017825120
Registry ID: 110011652434
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110011652434

A2 **CAMPBELL HIGH SCHOOL** **FTTS** **1010414399**
Target **910980 NORTH ROAD** **N/A**
Property **EWA BEACH, HI 96706**

Site 2 of 7 in cluster A

Actual:
10 ft.

FTTS INSP:
Inspection Number: 20070604HI-08 1
Region: 09
Inspection Date: 06/04/07
Inspector: KATHY VON GELDERN
Violation occurred: Yes
Investigation Type: AHERA, Enforcement, State Conducted
Investigation Reason: Neutral Scheme, State
Legislation Code: TSCA
Facility Function: User

A3 **CAMPBELL HIGH SCHOOL MISCELLANEOUS R&M FY2013** **FINDS** **1016871598**
Target **91-980 NORTH ROAD** **ECHO** **N/A**
Property **EWA BEACH, HI 96706**

Site 3 of 7 in cluster A

Actual:
10 ft.

FINDS:

Registry ID: 110059707580

Environmental Interest/Information System
US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

ECHO:
Envid: 1016871598
Registry ID: 110059707580
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110059707580

A4 **AUTO SHOP/PHOTO DARKROOM & INDUSTRIAL ARTS DEPTS AT CAMPBELL** **HI SPILLS** **S106816369**
Target **91-980 NORTH RD** **N/A**
Property **EWA BEACH, HI 96706**

Site 4 of 7 in cluster A

Actual:
10 ft.

HI SPILLS:

Island:	Oahu
Supplemental Loc. Text:	Not reported
Case Number:	19930210-1
HID Number:	Not reported
Facility Registry Id:	Not reported
Lead and Program:	HEER EP&R
ER:	Not reported
Units:	Auto Shop/Photo Darkroom & Industrial Arts Depts at Campbell High School
Substances:	Photo Chemical Odor
Less Or Greater Than:	Not reported
Numerical Quantity:	Not reported
Units:	Odor
Activity Type:	Response
Activity Lead:	Not reported
Assignment End Date:	Not reported
Result:	SOSC NFA
File Under:	Not reported
Latitude:	Not reported
Longitude:	Not reported

A5 **ANA 747 FUEL SPILL** **FTTS** **1004464994**
Target **91-980 NORTH RD** **HIST FTTS** **N/A**
Property **EWA BEACH, HI 96706**

Site 5 of 7 in cluster A

Actual:
10 ft.

FTTS INSP:

Inspection Number:	19911018HI908 1
Region:	09
Inspection Date:	10/18/91
Inspector:	K. CHANG
Violation occurred:	No
Investigation Type:	AHERA, Enforcement, State Conducted
Investigation Reason:	Neutral Scheme, State
Legislation Code:	TSCA
Facility Function:	User

HIST FTTS INSP:

Inspection Number:	19911018HI908 1
Region:	09
Inspection Date:	Not reported
Inspector:	K. CHANG
Violation occurred:	No
Investigation Type:	AHERA, Enforcement, State Conducted
Investigation Reason:	Neutral Scheme, State
Legislation Code:	TSCA
Facility Function:	User

A6
Target Property

CAMPBELL HIGH SCHOOL
91-980 NORTH RD
EWA BEACH, HI 96706

FINDS **1016293308**
N/A

Site 6 of 7 in cluster A

Actual: 10 ft.

FINDS:

Registry ID: 110011652434

Environmental Interest/Information System

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

A7
Target Property

CAMPBELL HIGH SCHOOL IMPROVEMENTS TO TRACK & FIELD COMPLEX
91-980 NORTH ROAD
EWA BEACH, HI 96706

FINDS **1017742394**
ECHO **N/A**

Site 7 of 7 in cluster A

Actual: 10 ft.

FINDS:

Registry ID: 110063704969

Environmental Interest/Information System

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

ECHO:

Envid: 1017742394
Registry ID: 110063704969
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110063704969

NPL **PEARL HARBOR NAVAL COMPLEX** **NPL** **1000707626**
Region **US NAVAL COMMAND** **SEMS** **HI4170090076**
NNE **PEARL HARBOR, HI 96860** **US ENG CONTROLS**
1/2-1 **US INST CONTROL**
4682 ft. **ROD**
PRP

NPL:

EPA ID:	HI4170090076
Cerclis ID:	0904481
EPA Region:	09
Federal:	Y
Final Date:	1992-10-14 00:00:00
Site Score:	70.819999999999993
Latitude:	+21.388880
Longitude:	-157.98333

Category Details:

NPL Status:	Currently on the Final NPL
Category Description:	Surface Water Adjacent To Site-Other-Unknown
Category Value:	WETLAND

Site Details:

Site Name:	PEARL HARBOR NAVAL COMPLEX
Site Status:	Final
Site Zip:	96860
Site City:	PEARL HARBOR
Site State:	HI
Federal Site:	Yes
Site County:	HONOLULU
EPA Region:	09
Date Proposed:	07/29/91
Date Deleted:	Not reported
Date Finalized:	10/14/92

Substance Details:

NPL Status:	Currently on the Final NPL
Substance ID:	Not reported
Substance:	Not reported
CAS #:	Not reported
Pathway:	Not reported
Scoring:	Not reported

NPL Status:	Currently on the Final NPL
Substance ID:	A023
Substance:	DDE
CAS #:	72-55-9
Pathway:	SURFACE WATER PATHWAY
Scoring:	3

NPL Status:	Currently on the Final NPL
Substance ID:	A046
Substance:	POLYCHLORINATED BIPHENYLS
CAS #:	1336-36-3
Pathway:	SURFACE WATER PATHWAY
Scoring:	3

NPL Status: Currently on the Final NPL

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Substance ID: A059
Substance: BROMODICHLOROMETHANE
CAS #: 75-27-4
Pathway: AIR PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: A059
Substance: BROMODICHLOROMETHANE
CAS #: 75-27-4
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: C049
Substance: ETHYLBENZENE
CAS #: 100-41-4
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: C315
Substance: CHROMIC ACID
CAS #: 7738-94-5
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: C320
Substance: CHROMIUM, HEXAVALENT
CAS #: 18540-29-9
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: C460
Substance: MERCURY
CAS #: 7439-97-6
Pathway: SURFACE WATER PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: C497
Substance: STODDARD SOLVENT
CAS #: 8052-41-3
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: C517
Substance: XYLENE, M-
CAS #: 108-38-3
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: C525

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Substance: BROMACIL
CAS #: 314-40-9
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: C573
Substance: DIAZINON
CAS #: 333-41-5
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: D004
Substance: ARSENIC
CAS #: 7440-38-2
Pathway: GROUND WATER PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: P037
Substance: DIELDRIN
CAS #: 60-57-1
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: U028
Substance: BIS(2-ETHYLHEXYL)PHTHALATE
CAS #: 117-81-7
Pathway: SURFACE WATER PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: U036
Substance: CHLORDANE
CAS #: 57-74-9
Pathway: SURFACE WATER PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: U037
Substance: CHLOROBENZENE
CAS #: 108-90-7
Pathway: AIR PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: U037
Substance: CHLOROBENZENE
CAS #: 108-90-7
Pathway: SURFACE WATER PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: U061
Substance: DDT

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

CAS #: 50-29-3
Pathway: SURFACE WATER PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: U079
Substance: TRANS-DICHLOROETHYLENE, 1,2-
CAS #: 156-60-5
Pathway: AIR PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: U079
Substance: TRANS-DICHLOROETHYLENE, 1,2-
CAS #: 156-60-5
Pathway: GROUND WATER PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: U079
Substance: TRANS-DICHLOROETHYLENE, 1,2-
CAS #: 156-60-5
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: U210
Substance: TETRACHLOROETHENE
CAS #: 127-18-4
Pathway: AIR PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: U210
Substance: TETRACHLOROETHENE
CAS #: 127-18-4
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: U220
Substance: TOLUENE
CAS #: 108-88-3
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: U228
Substance: TRICHLOROETHYLENE (TCE)
CAS #: 79-01-6
Pathway: SOIL EXPOSURE PATHWAY
Scoring: 2

Summary Details:

Conditions at Proposal July 29, 1991): The Pearl Harbor Naval Complex occupies at least 6,300 acres in Pearl Harbor on the Island of Oahu, Honolulu County, Hawaii. Land around the complex supports agriculture, aquaculture,

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

industry, urban,and commercial uses. The complex consists of these major facilities: Naval Shipyard, Naval Supply Center, Naval Station, Submarine Base, Public Works Center, Inactive Ships, and Navy Maga ine Lualualei Westlock Branch and Waipio Peninsula).The Pearl Harbor Naval Complex began operation in 1901 when the Navy received an appropriation to acquire land for a naval station. After the attack by the Japanese on December 7, 1941, industrial activity at the complex skyrocketed, reaching 24,000 civilians by mid-1943. After World War II, activity declined and has fluctuated with the Navy s requirements. In 1983, the Navy identified 30 potential ha ardous waste sources within the six facilities. Subsequently, an additionalsource was identified. The 31 sources include unlined landfills, pesticide disposal pits, chromic acid disposal areas, PCB disposal areas, mercury-contaminated harbor sediments, leaking underground solvent tanks, waste oil facilities, and numerous other types of sources resulting from industrial activities at the complex. Six of the sources were initially evaluated, based primarily on toxicity of contaminants present, availability of waste quantity information, sampling results, affected populations, and a documented release of a ha ardous substance. Many investigations have found ha ardous substances -- including mercury, chromium, PCBs, pesticides, trichloroethene, trans-1,2-dichloroethene, and other volatile organic compounds -- in soil in the six areas, thus exposing workers on the site less than 100) to potential contamination. Many of these chemicals have also been found at the remaining 25 areas identified to date.) Tetrachloroethene was found15.2 feet below ground surface in one area. Soils beneath the site are permeable, facilitating movement of contaminants into ground water. Approximately 110,700 people obtain drinking water from wells within 2 miles of the six sources.In 1988, the Navy detected bis 2-ethylhexyl)phthalate in sediment samples taken from a National Wildlife Refuge that borders an abandoned Navy landfill. The refuge contains habitat for four Federally endangered species, as well as wetlands. Pearl Harbor and nearby portions of the Pacific Ocean contain recreational and commercial fisheries, habitat for endangered species, wetlands, and water-contact recreation areas. The volatile organic compounds in on-site soil also create apotential for gases to be released to the atmosphere. Status October 1992): EPA and the Navy are planning to negotiate a Federal Facilities Agreement under CERCLA Section 120 to cover future activities at the site. The descriptionof the site release) is based on information available at the time the site was scored. The description may change as additional information is gathered on the sources and extent of contamination. See FR 5600, February 11, 1991 or subsequentFR notices.)

Site Status Details:
- NPL Status: Final
- Proposed Date: 07/29/1991
- Final Date: 10/14/1992
- Deleted Date: Not reported

Narratives Details:
- NPL Name: PEARL HARBOR NAVAL COMPLEX
- City: PEARL HARBOR
- State: HI

SEMS:
- Site ID: 904481
- EPA ID: HI4170090076
- Federal Facility: Y

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

NPL: Currently on the Final NPL
Non NPL Status: Not reported

Following information was gathered from the prior CERCLIS update completed in 10/2013:
Site ID: 0904481
EPA ID: HI4170090076
Facility County: HONOLULU
Short Name: PEARL HARBOR NAVAL COMPLE
Congressional District: 1
IFMS ID: 091S
SMSA Number: Not reported
USGC Hydro Unit: Not reported
Federal Facility: Federal Facility
DMNSN Number: 0.00000
Site Orphan Flag: N
RCRA ID: Not reported
USGS Quadrangle: Not reported
Site Init By Prog: Not reported
NFRAP Flag: Not reported
Parent ID: Not reported
RST Code: Not reported
EPA Region: 09
Classification: Not reported
Site Settings Code: SU
NPL Status: Currently on the Final NPL
DMNSN Unit Code: Not reported
RBRAC Code: Not reported
RResp Fed Agency Code: USNV
Non NPL Status: Not reported
Non NPL Status Date: / /
Site Fips Code: 15003
CC Concurrence Date: / /
CC Concurrence FY: Not reported
Alias EPA ID: Not reported
Site FUDS Flag: Not reported

CERCLIS Site Contact Name(s):
Contact ID: 9000059.00000
Contact Name: Eugenia Chow
Contact Tel: (415) 972-3160
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

Contact ID: 9270722.00000
Contact Name: Christopher Lichens
Contact Tel: (415) 972-3149
Contact Title: Remedial Project Manager (RPM)
Contact Email: Not reported

Contact ID: 9271193.00000
Contact Name: Judy Huang
Contact Tel: (415) 972-3681
Contact Title: Remedial Project Manager (RPM)
Contact Email: Not reported

CERCLIS Site Alias Name(s):

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Alias ID: 101
Alias Name: PEARL HARBOR NAVAL STATION
Alias Address: Not reported
HI
Alias ID: 201
Alias Name: PEARL HARBOR NAVAL SUPPLY CTR
Alias Address: Not reported
HI
Alias ID: 301
Alias Name: PEARL HARBOR NAVY PUBLIC WORKS CTR
Alias Address: Not reported
HI
Alias ID: 401
Alias Name: PEARL HARBOR PWC MAKALAPA PESTICIDE PIT
Alias Address: Not reported
HI
Alias ID: 501
Alias Name: NAVAL SUBMARINE BASE
Alias Address: Not reported
HI
Alias ID: 601
Alias Name: PEARL HARBOR NAVAL SHIPYARD
Alias Address: Not reported
HI
Alias ID: 602
Alias Name: PEARL HARBOR NAVAL COMPLEX
Alias Address: US NAVAL STATION
TRIPLER AMC, HI 96859
Alias ID: 603
Alias Name: PEARL HARBOR NAVAL COMPLEX
Alias Address: US NAVAL STATION
PEARL HARBOR, HI 96782
Alias ID: 9270362
Alias Name: PEARL HARBOR NAVAL COMPLEX
Alias Address: Not reported
PEARL HARBOR, HI 92101-5001
Alias ID: 601
Alias ID: 101
Alias ID: 501
Alias ID: 301
Alias ID: 401
Alias ID: 201
Alias Comments: PREVIOUS EPA ID# AZD 981 416 977PREVIOUS EPA ID# AZD 981 416 977PREVIOUS EPA ID# AZD 981 416 977PREVIOUS EPA ID# AZD 981 416 977PREVIOUS EPA ID# AZD 981 416 977PREVIOUS EPA ID# AZD 981 416 977

Site Description: OU 00: Pearl Harbor Naval Complex (PHNC) encompasses 12,600 acres of land and water on the southern shore of the island of Oahu, Hawaii. PHNC has been subdivided into 18 geographic study areas (GSAs), of which eight GSAs are discussed in this record of decision (ROD) and include: Ford Island, Halawa-Main gate, Naval Housing, Public Works Center (PWC) Main Complex, Pearl Harbor Naval Shipyard, Iroquois Point, Waipio Peninsula, and West Loch.

Ford Island is a 450-acre island surrounded by water, located within Pearl Harbor. Twenty-two transformer sites are located in this GSA: -TA01: Located at Building S286, the site includes the surrounding area of vegetation to the east, concrete to the southeast, and an asphalt patch to the west. -TC01: The site includes a concrete pad located between Buildings 11 and S-32, and its surrounding area. -TC04: This site consists of Building S257 and

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

the surrounding area, which consists of grass, old asphalt, and gravel. -TC06D: The site is located across the street from Building 54 and includes an elevated concrete pad surrounded by pavement and grass. -TC07D: This location consists of Building S258 and the surrounding area including grass and concrete pavement. -TD01: The site is located near Wasp Boulevard and includes the transformer area and surrounding concrete pavement and grass. -TD02: Located adjacent to Building 169. The fenced site includes the transformer pad and surrounding grass. -TD03: The site is adjacent to Building 164 and includes the transformer pad and surrounding area, including grass on the north side of the transformer. -TD05: The site includes Building 176 and surrounding grass and concrete sidewalk. -TD07: This site includes Building 175 and surrounding grass and a concrete sidewalk. -TF01/TF01D: This collocated site adjacent to Building 77 includes the concrete pads and surrounding grass and pavement. -TF04: The site includes Building 208 and its surrounding area, including grass to the southwest. -TF05: This site includes Building S295, the concrete sidewalk to the east, and grass to the south and north. -TF07: The site is adjacent to Building 37 and consists of the concrete pad and surrounding grass and concrete. -TF09: This site includes Building S99 and surrounding concrete pavement. -TF17: The site includes Building 75 and surrounding gravel and concrete sidewalk. -TF18: The site is adjacent to Building 87 and includes the concrete pad and surrounding area (a concrete driveway is located northwest, and grass is located southwest). -TG01: This site includes Building S253 and surrounding grass on the north, east, and south sides. -TG03: This site includes Building S254, the surrounding concrete slab to the west and north, and grass to the north and east. Yorktown Boulevard is to the south. -TG06: The site is adjacent to Building 453 and includes a concrete pad and surrounding asphalt. -TI03: The site includes Building S251 and the surrounding area. A concrete slab is located south and southwest of the building; the concrete slab is surrounded by grass. -TI04D: The site includes the area adjacent to Langley Avenue and surrounding concrete. Grass is beyond the concrete. Halawa-Main Gate encompasses the region west of the shoreline of Pearl Harbor to Kamehameha Highway. The 10 transformer sites located in this GSA are listed below: -Former Building 653: The site includes Building 653 and its surrounding soil and grass. -H2: The site is adjacent to Building 1377 and includes a concrete pad surrounded by gravel and grass. -H3: The site is near Building 1333 and includes a concrete pad surrounded by grass and soil and a concrete sidewalk. -J12: The site is adjacent to Building 1613 and includes a concrete pad surrounded by grass and soil. -J16: The site includes Building 662 and surrounding concrete and soil. -J17: The site includes Building S-967, which is located on a concrete pier, and surrounding asphalt and concrete. -J21: This site includes a concrete block building surrounded by soil, vegetation, and gravel. -J29: The site includes a concrete pad surrounded by soil and vegetation and a concrete fence. -K15: The site is next to Building 427 and includes the transformer area and surrounding soil and vegetation. -K20: This site is next to Building 484 and includes the transformer area and surrounding asphalt, vegetation, and gravel. Naval Housing is located between Kamehameha Highway and the H-1 freeway. One transformer site is located in this GSA: -M3: This site includes an outdoor concrete pad surrounded by a fence. The fenced area is bordered by soil on three sides and asphalt on the remaining side. PWC Main Complex is located on the east side of the H-1 freeway in a residential and commercial area of PHNC. One transformer site is located in this GSA: -M5: This site consists of an outdoor concrete pad surrounded by a fence and soil and asphalt drive. Pearl Harbor Naval Shipyard is located within PHNC. It is bounded by the waters of Pearl Harbor on its north and western boundaries and by Hickam Air Force Base to the south. Seven transformer sites are located in this GSA: -A4: The site consists of an outdoor concrete pad and surrounding

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

fence, soil, and grass. -A8: This site consists of an outdoor concrete pad and surrounding asphalt to a fence line, with grass outside the fence. -C8: The site is adjacent to Building 1673 and consists of an outdoor concrete pad and surrounding asphalt. -C13: This site consists of an outdoor concrete pad and surrounding fence. The fence is surrounded by soil. -E11: The site includes Building 53 and surrounding asphalt and concrete. -E25: This site includes an outdoor concrete pad surrounded by asphalt and a fence. -K: This site includes Building 42 and surrounding gravel and grass. Iroquois Point is located on the western side of Pearl Harbor near the mouth of the harbor. It is the location of the Puuloa military housing area. One transformer site is located in this GSA: -I4: The site includes an outdoor concrete pad and surrounding area that is fenced off from the general public. Waipio Peninsula separates the Middle and West Lochs of Pearl Harbor. One transformer site is located in this GSA: -W11: The site consists of an outdoor concrete pad and surrounding gravel and fence. West Loch is located on the western side of Pearl Harbor. Two transformer sites are located in this GSA: -FS11: The site includes an outdoor concrete pad surrounded by a tall, concrete brick wall, which is surrounded by grass. -Former Building 33: The site includes Building 33 and its surrounding concrete and soil. Available historical records at PHNC indicate that PCBs were present in the dielectric fluid used in many of the former and existing transformers. The PCB-containing fluids may have been released to concrete surfaces or surface soil by leaking directly from the transformers or during regular transformer testing and maintenance. Transformer maintenance included periodic sampling to test the dielectric properties of the transformer fluid. Once testing was completed, the fluid was reportedly poured onto the adjacent areas, such as the grass, concrete pad, or building wall. All active transformers at PHNC have been replaced or retro filled with non-PCB-containing dielectric fluid. The following investigations were completed for the 45 transformer sites at PHNC: An initial assessment study (IAS) was conducted in 1983 at 30 potentially contaminated sites at PHNC. The assessment of sites was based on records of past hazardous waste storage operations and disposal practices. The study concluded that three sites warranted further investigation to assess potential long-term impacts to human health or the environment. Sampling was not included in the IAS. A site inspection (SI) was conducted at PHNC in December 1990 to inspect 20 transformer locations. The SI identified PCB-contaminated soil at seven transformer locations that required further evaluation. Two additional transformer locations were later investigated by PWC in 1991 as part of a separate SI. Transformer locations TC-01 and J-16 were identified as PCB-contaminated and required further evaluation. In 1996, an engineering evaluation/cost analysis (EE/CA) was prepared for various transformer substations at PHNC. The EE/CA recommended excavation of PCB-contaminated soil at transformer sites TC-01 and J-16. An action memorandum (AM) documented the Navy's decision to conduct removal actions at the transformer sites. This EE/CA and AM did not include the remaining transformers discussed in this ROD. A non-time-critical removal action (NTCRA) was conducted for transformer sites TC-01 and J-16 from December 2000 to August 2001. SI sampling defined the lateral and vertical extent of PCB contamination in soils at concentrations that exceeded the cleanup levels before the removal action. A total of 154 cubic yards (cy) of PCB-containing soil was excavated from TC-01 and J-16. The soil from the two transformer sites was stockpiled at former Naval Air Station (NAS) Barbers Point until it was transported to the thermal desorption unit for treatment in 2003 and 2004. A remedial investigation (RI) for the Ford Island GSA was conducted between December 1999 and June 2000 to evaluate the impact of PCB-contaminated dielectric fluid that may have been released to surface soil and concrete surfaces. The RI concluded that following sites required further evaluation: TA-01, TC-04, TC-06D, TC-07D, TD-01, TD-02,

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

TD-03, TD-05, TD-07, TF-01/TF-01D, TF-04, TF-05, TF-07, TF-09, TF-17, TF-18, TG-01, TG-03, TG-06, TI-03, and TI-04D In 2001, an SI report, field sampling plan, quality assurance project plan, and health and safety plan were prepared for transformer sites located at Halawa-Main Gate GSA, Naval Housing, PWC Main Complex, Waipio Peninsula and West Loch GSAs. The plans include inspection and environmental sampling guidelines that were used to evaluate the presence or absence of PCB contamination. The following sites were identified as requiring further evaluation: - Halawa-Main Gate: Former Building 653, H-2, H-3, J-12, J-17, J-21, J-29, K-15, and K-20 - Naval Housing: M-3 - PWC Main Complex: M-5 - Pearl Harbor Naval Shipyard: A-4, A-8, C-8, C-13, E-11, E-25, and K - Waipio Peninsula: W-11 - West Loch: FS11, Former Building 33 An additional SI of transformer sites was conducted between November and December 2001 at PHNC. Biased field sampling was conducted to determine the presence or absence of PCBs at each transformer site. Sampling results were used to classify each site for further evaluation or for "no further action." In addition to the sites listed above at Halawa-Main Gate, PWC Main Complex, and Pearl Harbor Naval Shipyard, site J-16 at Halawa-Main Gate was identified as requiring further evaluation. An SI for Iroquois Point in 2001 concluded the site I-4 required further evaluation. In 2000, the Navy, in consultation with EPA and State of Hawaii Department of Health (DOH), determined that soil from multiple transformer sites from multiple naval facilities across Oahu could be consolidated for treatment and this action could be considered an on-site action. Based on this decision, treatment alternatives were evaluated in a treatment EE/CA prepared in September 2000 for the combined sites. The EE/CA recommended consolidating soils from three facilities (former NAS Barbers Point, PHNC, and Naval Computer and Telecommunications Area Master Station Pacific [NCTAMSPAC]) and treating the soil with thermal desorption. Prior to implementation of the treatment process, soil that was already excavated was stockpiled either at former NAS Barbers Point or Naval Radio Transmitting Facility (NRTF) Lualualei. Once the treatment process began, these stockpiles were transported to the treatment unit at former NAS Barbers Point. An AM documented the Navy’s decision to undertake removal actions at these facilities. Various alternatives were evaluated against the nine criteria in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Excavation and on-island thermal desorption was the alternative selected to address soil containing PCB concentrations greater than the Toxic Substances Control Act (TSCA) cleanup level for high-occupancy areas (1 milligram per kilogram [mg/kg]) and the DOH Tier 1 soil action level (SAL) (1 mg/kg); it complied with applicable or relevant and appropriate requirements (ARARs) and to-be-considered (TBC) criteria; it was protective; and it was capable of meeting the established treatment objectives for PCB-contaminated media. In 2002, an AM addendum documented procedures for excavation, treatment, and final placement of PCB-contaminated soil and concrete from transformer sites that had not originally been considered in the 2000 AM or any of the previous AMs or EE/CAs prepared for former NAS Barbers Point, PHNC, and NCTAMSPAC. The AM addendum proposed site selection criteria for new sites that will be remediated using the removal action alternatives selected in the previous AMs because the conditions at these new sites are consistent with the conditions at the sites in the previous AMs. The following transformer sites were identified for PHNC: -Ford Island: TA-01, TC-04, TC-06D, TC-07D, TD-01, TD-02, TD-03, TD-05, TD-07, TF-01/TF-01D, TF-04, TF-05, TF-07, TF-09, TF-17, TF-18, TG-01, TG-03, TG-06, TI-03 and TI-04D -Iroquois Point: I-4 The AM addendum presented the aforementioned sites as well as general criteria for inclusion of additional transformer sites. Site-specific information was to be included as an attachment to the AM addendum and thereby "plugged in" to the document. This "plug-in" AM addendum allowed for the selection of a protective, presumptive cleanup action (excavation, treatment, and placement) at future PCB transformer

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

sites, provided that the sites met the selection criteria. In 2003, a "plug-in" to the AM addendum was prepared, recommending that additional sites undergo a NTCRA consisting of excavation of contaminated soil and concrete followed by on-island thermal desorption treatment, and transport and placement of treated media back at the excavation site. The following transformer sites were identified: -Halawa-Main Gate: Former Building 653, H-2, H-3, J-12, J-17, J-21, J-29, K-15, and K-20 - Naval Housing: M-3 - PWC Main Complex: M-5 - Pearl Harbor Naval Shipyard: A-4, A-8, C-8, C-13, E-11, E-25 and K - Waipio Peninsula: W-11 - West Loch: FS11 and Former Building 33 All 45 transformer sites in this ROD were identified by one of the AMs as meeting the site selection criteria for remediation by excavation and thermal desorption treatment. From 2003 to 2004, preliminary sampling was conducted to support the design efforts for the removal actions the transformer locations at PHNC. Pre-excavation samples were collected to define the lateral and vertical extent of PCB contamination in soils that exceeded the cleanup level (1 mg/kg) before soil was excavated and treated at former NAS Barbers Point. From January 2004 to July 2004, NTCRAs were conducted for the 43 remaining sites. SI sampling defined the lateral and vertical extent of PCB contamination in soils at concentrations that exceeded the cleanup levels before the removal action. A total of 10,391.5 cy of PCB-containing soil was excavated from these sites. The soil from the transformer sites was transported directly to the thermal desorption unit for treatment. During the thermal desorption treatment process, four confirmation samples of the treated material were collected for every 100 tons treated. Once confirmation was received, the excavated areas were then backfilled with treated soil from the treatment system and then were compacted and restored (such as landscaping, concrete and asphalt paving). All material that initially did not meet cleanup levels was retreated and resampled until cleanup levels were met. In 2006, a SI addendum was prepared to provide an update on removal action activities that had occurred at the various transformer locations at PHNC since 2001. The 2006 SI addendum concluded that cleanup levels for PCBs were met and no further action is necessary for the following transformer sites at PHNC: -Halawa-Main Gate: Former Building 653, H-2, H-3, J-12, J-16, J-17, J-21, J-29, K-15, K-20 - Naval Housing: M-3 - PWC Main Complex: M-5 -Pearl Harbor Naval Shipyard: A-4, A-8, C-8, C-13, E-11, E-25, K After the NTCRAs were completed, two remediation verification reports (RVRs) were prepared to document that the NTCRA were completed successfully and that the cleanup level (1 mg/kg) was achieved at the transformer sites, as established in the AMs and in accordance with the TSCA high-occupancy cleanup level (1 mg/kg) and the DOH Tier 1 SAL (1 mg/kg). Both RVRs were ultimately included in a consolidated RVR prepared to document removal and treatment at all sites included in the treatment system. Initial military development of Pearl Harbor and Ford Island occurred between 1912 and 1919. NAS Ford Island and Army Air Station Luke Field were established on Ford Island in 1917. Ford Island underwent considerable development and expansion in the 1930s and 1940s. Before and during World War II, Ford Island provided moorage and support to most of the Pacific Fleet and was home of the NAS Ford Island. Use of Ford Island as a military air station ceased with the advent of jet aircraft. Pearl Harbor Naval Station assumed ownership of the island when the NAS was deactivated in 1962, and the airfield was leased to the State of Hawaii, Department of Transportation, for limited use by civilian aircraft. The airfield has been inactive since mid-1999, when the state opened Kalaeola Airport (at former NAS Barbers Point). Currently, Ford Island provides housing and recreational facilities for Navy personnel. PHNC is located on the island of Oahu, Hawaii, about 4 miles west of the city of Honolulu. The Waipio and Pearl City peninsulas separate the harbor into three lochs: West Loch, Middle Loch, and Southeast Loch. Activities and land use at PHNC include Naval Shipyard and Intermediate Maintenance Facility (IMF), Naval Submarine Base,

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Naval Station, Fleet and Industrial Supply Center, Navy PWC, and Inactive Ship Maintenance Facility. The Navy initially subdivided PHNC into 18 GSAs to evaluate the PHNC property. These GSAs were designed and created to manage the large amount of environmental sites that are located in PHNC. By sorting and classifying the sites by geography, field activities from removal actions to confirmation sampling could be carried out in a much more efficient and cost-effective manner. The Navy, EPA, and Hawaii DOH initially concluded that six of the GSAs were adequately addressed under current Navy environmental programs. A site summary evaluation (SSE) was prepared for the remaining 12 GSAs. After the SSE, various response actions have been conducted at the PHNC GSAs. After those response actions, additional evaluation and action was required for transformer sites at eight GSAs that are the subject of this ROD: Ford Island, Halawa-Main Gate, Naval Housing, PWC Main Complex, Pearl Harbor Naval Shipyard, Iroquois Point, Waipio Peninsula and West Loch. An EE/CA was prepared in January 1998 to evaluate removal action alternatives to address PCBs in soil and concrete at several transformer sites. The 1998 EE/CA recommended removal actions consisting of excavation of PCB-contaminated soil and concrete and disposal in an off-island landfill; however, since the EE/CA was finalized and after discussions with EPA and DOH, the Navy determined that soil from multiple transformer sites, including at the eight PHNC GSAs could be consolidated for treatment. Based on this decision, treatment alternatives were evaluated in the treatment EE/CA prepared in September 2000. The 45 transformer sites at PHNC that are represented in this ROD were consolidated since they fulfilled the requirements for NTCRAs that were laid out in the AM and its subsequent addendums. As part of the 1998 EE/CA, conceptual site models (CSM) were developed for each of the transformer sites based on the following: - Location and type of transformers located at each site; - Known or suspected mechanism of PCB release into the environment; - Known or suspected media (soil and concrete) that may be affected; and - Potential migration pathways to human and ecological receptors. The CSMs developed for the transformers identified the following site characteristics: The physical setting of the original transformer sites identified in the 1998 EE/CA was based on descriptions provided by previous investigations, reviews of as-built or plan drawings, and site reconnaissance. None of the 45 transformer sites discussed in this ROD was part of this 1998 EE/CA. However, based on similar site characteristics, these transformers were consolidated as part of the PCB treatment EE/CA, and the 1998 CSM was considered applicable to all consolidated sites. Sources of PCB contamination at these transformer sites are a result of: (1) testing and previously disposing of PCB dielectric fluid from the transformers onto the surrounding soils; and (2) leaking PCB dielectric fluid from the transformers onto the surrounding soil or concrete pad. These sources are considered the principal mechanisms that released PCBs at these transformer sites. PCBs are generally insoluble and tend to sorb to soil particles, making PCB transport by leaching unlikely. The primary mechanism for the transport of PCBs was erosion by surface runoff. Transport of PCBs sorbed to soil particles was possible in areas eroded by surface runoff; however, surface erosion was minimal in the areas surrounding these transformers sites because of the gentle slopes and vegetative cover. The potentially affected media were surface and subsurface soil and concrete in the immediate vicinity of the transformer sites. Depth of contamination was measured during excavation and verification sampling. Contamination of surface water and groundwater was considered unlikely because of the low solubility of PCBs and the depth of groundwater. As a result, groundwater samples were not collected because there was no indication that PCBs had migrated to groundwater based on the depth of PCB contamination in soil and the depth to groundwater. Following removal actions at these 45 transformer sites, PCB concentrations do not exceed cleanup levels established for these sites; therefore, there are no affected surface or

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

subsurface soils or concrete at the 45 transformer sites. The primary route of exposure was direct contact with contaminated soil or concrete, either through the skin or by incidental ingestion. Contact with contaminated airborne dust or eroded soil particles in surface runoff was unlikely because of the vegetative or asphalt cover; however, dust generated by construction or removal was of concern. Controls were implemented to minimize airborne PCB transport if vegetation or asphalt was disturbed through construction or removal. Given the low volatility of PCBs, transport in the gaseous phase was not considered a significant mechanism. PCBs are nearly insoluble and have a strong tendency to sorb to soil particles, making it unlikely that PCBs have impacted the groundwater. Exposure to PCB-contaminated groundwater was therefore considered unlikely. Following removal actions at these 45 transformer sites, PCB concentrations do not exceed cleanup levels established for these sites; therefore, there are no known or potential routes of exposure at the 45 transformer sites. Access to PHNC is restricted to employees of the Navy, their dependents, and contractors. Employees and contractors who routinely enter the vicinity of the transformer sites were potentially exposed to contaminated soil through incidental ingestion, direct dermal contact, or dust inhalation. Human exposure to contaminated air was possible if work generates fugitive dust. Surrounding areas at PHNC support a limited ecological environment. Following removal actions at these 45 transformer sites, PCB concentrations do not exceed cleanup levels established for these sites; therefore, there are no exposure concerns to any known or potential human or environmental receptors at the 45 transformer sites. The nature and extent of contamination was determined by incorporating the physical setting and conceptual site model for the transformer sites with results of available previous sampling results to estimate the areas of potential contamination (AOPC) at each of the 45 transformer sites. In cases where the sampling data were insufficient or nonexistent, assumptions were made on the extent of contamination. Since the 1998 EE/CA was finalized and after discussions with EPA and DOH, the Navy concluded that soil from multiple transformer sites could be consolidated for treatment based on similar characteristics to the sites evaluated in the 1998 EE/CA. Therefore, the evaluations in the 1998 EE/CA would apply to the additional transformer sites identified for treatment. Removal actions were conducted at these 45 transformer sites. Based on post-excavation confirmation sampling results, PCB concentrations remaining at these sites do not exceed the cleanup levels established for these sites; therefore, the 45 transformer sites are suitable for unrestricted use. Surrounding areas at PHNC support a limited ecological environment. No sensitive plants and animals or protected bird species have been seen in the vicinity of the transformer sites. The pre-removal action land use for the 45 transformer sites at PHNC was low occupancy (restricted) use. PHNC operates as a Naval Shipyard and IMF, Naval Submarine Base, Naval Station, Fleet and Industrial Supply Center, Navy Public Works Center, and Inactive Ship Maintenance Facility. This Naval facility is currently active. All 45 transformer sites at PHNC were active prior to removal actions, although PCBs were no longer used. The post-removal action and future land use of the 45 transformer sites at PHNC is anticipated to remain unchanged from current conditions. The Navy will maintain the current use of PHNC, which is considered low-occupancy (restricted) use; however, the potential for high occupancy (unrestricted) use was also considered at these 45 transformer sites. Potential future onsite populations will be limited to Navy contractor personnel performing routine maintenance and periodic inspections of the transformers, and performing any necessary repairs. Currently, there are no plans to change the current land use status of the 45 transformer sites at PHNC. A RODaddressing Operable Unit (OU) 00 was completed in September 2007. OU1: Ford Island is a 450-acre island surrounded by water, located within Pearl Harbor. One transformer site is

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

located in this GSA: -TD-10: An inactive transformer located near the intersection of Yorktown Boulevard and Wasp Boulevard, at Building S181. The site encompasses the transformer's surrounding concrete slab. Halawa-Main Gate encompasses the region west of the shoreline of Pearl Harbor to Kamehameha Highway. One transformer site is located in this GSA: -K-14: An active transformer in Building S485, located south of Kuahua Avenue and adjacent to Building 445. This site includes a building and surrounding asphalt and gravel. Waipio Peninsula separates the Middle and West Lochs of Pearl Harbor. One transformer site is located in this GSA: -W-4/W-5: Located off of Waipio Point Access Road, active transformers W-4 and W-5 are collocated and considered a single site. The site includes an outdoor concrete pad (surrounded by a chain-link fence) and surrounding soil and gravel, with a concrete sidewalk on one side. Previous investigations identified a potential for the three transformer sites to impact the environment, resulting in unacceptable risk to human health and the environment. Polychlorinated biphenyl (PCB) contaminated soil and concrete were found at elevated levels and needed to be removed. The threat of exposure to PCBs warranted action. The Navy served as the lead agency for all of the aforementioned investigations conducted at the PHNC. Throughout these investigations, additional support was provided by the U.S. Environmental Protection Agency (EPA) and State of Hawaii Department of Health (DOH). Navy Environmental Restoration funds provided the monies used to conduct the cleanup and removal actions at the three PHNC transformer sites.
Available historical records at PHNC indicate PCBs were present in the dielectric fluid used in many of the former and existing transformers at the three GSAs. The PCB containing fluids may have been released to concrete surfaces or surface soil by leaking directly from the transformers or during regular testing and maintenance. Transformer maintenance included periodic sampling to test the dielectric properties of the transformer fluid. Once testing was completed, the fluid was reportedly poured onto the adjacent area, such as grass, concrete pads, or along building walls. All of the active transformers at PHNC have been replaced or retrofilled with non-PCB-containing dielectric fluid. After the non-time-critical removal actions (NTCRA) were completed, remediation verification reports (RVR) were prepared to document the NTCRAs activities and verification sampling results for transformer sites. Sixty-three transformer sites achieved the cleanup level of less than or equal to1 milligram per kilogram (mg/kg) for soil at these transformer sites, as established in the AM and in accordance with the TSCA high occupancy action level (less than or equal to 1 mg/kg for soil and less than or equal to 10 micrograms per 100 square centimeters for concrete) and the DOH Tier 1 soil action level (1 mg/kg) and are safe for future unrestricted land use. However, land use controls (LUC) are necessary for protection of human health and the environment for 12 transformer sites, where cleanup levels were not met after contaminated soil was excavated, and concrete was encapsulated. Of the 12 transformer sites, 3 are located at PHNC and are discussed in this ROD. These RVRs were ultimately included in a consolidated RVR prepared to document the removal and treatment activities at all sites included in the treatment system. The remaining 9 transformer sites presented in the consolidated RVR are addressed in other RODs. At PHNC, 6 transformer sites (transformer sites D-02, TF-06, TF-08, TF-10, TG-04, and M-14) previously identified as LUC sites now require further evaluation. In June 2006, a proposed plan was prepared to present the recommended final remedy for 70 individual transformer sites from two installations on Oahu. The proposed plan identified a response action, consisting of removal and treatment of contaminated soil and concrete, for 54 of the 70 sites. The Navy and EPA selected no further action in a 2007 ROD for 52 of the 54 of the transformer sites initially proposed for no further action in the proposed plan. Of the transformer sites previously identified in the proposed plan as no further

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

action sites, 2 now require further evaluation. The proposed plan identified a response action consisting of removal and treatment of soil and concrete along with the implementation of LUCs to address human health risks as the proposed final remedy for 8 transformer sites, including 3 transformer sites at PHNC (TD-10 located at Ford Island, K-14, located at Halawa-Main Gate and W-4/W-5, located at Waipio Peninsula) and 5 transformer sites at Naval Computer and Telecommunications Area Master Station Pacific (NCTAMS PAC). The 5 transformer sites located at NCTAMS PAC that require LUCs are addressed in a separate ROD for NCTAMS PAC. Lastly, 8 transformer sites (Transformers D-02, TF-06, TF-08, TF-10, TG-04, and M-14 located at PHNC; and Transformer Buildings 121 and 242 located at NCTAMS PAC) previously identified in the proposed plan as LUC sites now require further evaluation. No enforcement activities have been conducted at the three transformer sites at PHNC, Oahu, Hawaii. A ROD addressing Operable Unit 01, the contaminated soil and buildings and structures at transformer site TD-10, located at Ford Island; K-14, located at Halawa Main Gate; and W-4/5, located at Waipio Peninsula at the Pearl Harbor Naval Complex site was completed in September 2010. OU3: The Site, the subject of this Record of Decision (ROD), has been designated as an individual Site within the Public Works Center (PWC) Main Complex GSA. The lead agencies for this ROD are the U.S. Navy and the EPA. The Former Makalapa Pesticide Rinsate Pit is a U.S. Navy facility, located near the intersection of Nanumea Road and an unnamed access road in the PWC GSA on the island of Oahu in the state of Hawaii. The Site is located to the east of Naval Facilities Engineering Command (NAVFAC), Hawaii Building X-1. It occupies less than half an acre and consists of the former pesticide rinsate pit area, concrete pad, and drainage swales. The Site represents the roughly square area bounded by raised earthen berm to the west, the drainage swales to the south, and the asphalt roadway to the north and east. This roughly square area covers the rinsate pit locations and is approximately 150 feet long by 100 feet wide. The concrete pad is rectangular and approximately 100 feet long by 40 feet wide. This area occurs within the former rinsate pit area. The drainage swale is a long, rectangular area oriented roughly east to west running to the north side and parallel to Nanumea Road. The swales measure approximately 160 feet long by 12 feet wide and 90 feet long by 15 feet wide, respectively. The former rinsate pit was constructed in 1974 to dispose of waste solutions containing herbicides and pesticides, and for routine washing and rinsing of pesticide and herbicide application equipment. The unlined rinsate pit consisted of two cells located 3 to 4 feet below ground surface, occupying a space that measured 20 feet wide by 40 feet long. The pit was used from 1974 to 1978, when it was backfilled. When the pit was in use, equipment was washed two to three times daily, with each washing generating an estimated 25 to 50 gallons of wash water. These practices led to the contamination of nearby soil. The concrete pad east of the rinsate pit was formerly used as a wash area. Polychlorinated biphenyls (PCB) contamination in the soil is possibly a result of stored equipment in this area. A shallow and unlined drainage swale runs parallel to Nanumea Road along the southern margin of the Pit Site and slopes steadily towards the southwest. The portion of the unlined swale directly adjacent to the former pit area is separated from another portion of unlined swale farther from the pit area by the asphalt paved entrance to Building X-1. No subsurface pipe connecting the two swale areas was found during fieldwork. An Initial Assessment Study (IAS) conducted in 1983 (Naval Energy and Environmental Support Activity [NEESA] 1983) for PHNC identified the Site as having potential environmental impacts related to previous activities at the former pesticide rinsate pit. Based on the IAS conclusions, a Site Inspection (SI) was conducted at the Site. Five soil borings were advanced to depths ranging from 10.2 to 10.7 feet below ground surface (bgs) both within and near the approximate pit boundaries. Soil

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

and volcanic tuff samples were collected at 5 and 10 feet bgs in each boring and analyzed for chlorinated pesticides and herbicides, volatile organic compounds (VOCs) and metals. Chlordane, dieldrin, bromacil, dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), and arsenic were detected. The SI report concluded that the bottom of the pit was most likely 3 feet deep, based on the encountered depth of tuff. The report also concluded that the most commonly detected constituents were the chlorinated pesticide compounds DDE, DDT, chlordane, and dieldrin, and that the majority of detections and the highest detected concentrations were found within the pit. An extensive Remedial Investigation (RI) was subsequently conducted at the Site in October 1995. This RI is identified as the "Initial RI" for the Site to differentiate it from subsequent RI work performed at the Site in 2005. The RI consisted of 13 trenches dug into and around the former rinsate pits. The trenches were excavated to expose the underlying bedrock tuff residing at depths ranging from 3 to 7 feet bgs. Soil samples were collected from the trenches and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), organochlorine pesticides and herbicides, organophosphorous pesticides, triazine pesticides, carbamates, PCBs, and metals. Extensive sampling of the shallow subsurface within the boundaries of the former rinsate pit and the surrounding area was conducted. Concentrations of chlorinated, organophosphorus, and carbamate pesticides; PCBs as Aroclor 1260; chlorinated and triazine herbicides; VOCs; cyanide; and metals (mercury, copper, and arsenic) were detected in Initial RI soil samples. The following is a summary of the conclusions of the 1995 RI: -The majority of detected constituents were found in shallow subsurface soil samples collected from trenches dug in the immediate vicinity of the former rinsate pit at depths ranging from 2 to 6 feet bgs. -Based on the observed distribution, the Initial RI report concluded that minimal transport appeared to have occurred away from the original location of equipment rinsate activity within the pit. -Elevated concentrations of arsenic were detected within the pit area. Results for samples collected from outside the pit area demonstrate a much narrower range of detected concentrations for arsenic, at concentrations below natural arsenic background levels determined for Navy sites. -PCBs and pesticides were detected in several surface soil samples collected from the drainage swale adjacent to the Site. -All but one of the elevated pesticide detections were within the former rinsate pits. -The highest concentration of PCB at the Pit Site was detected in a near surface soil sample collected from a depth of less than a foot bgs adjoining the concrete pad. -The potential for significant drinking water impact was evaluated to be minimal based on a Pesticide Root Zone Model. Removal Site Evaluation and Remedial Investigation/Feasibility Study In 2004, the Navy initiated a Removal Site Evaluation (RSE) to complete the lateral and vertical delineation of Site contaminants of concern (COCs) and to evaluate the potential risk to human health and the environment. PCBs, chlorinated pesticides, and arsenic were identified as COCs for the Site. Plans that documented proper procedures for RSE sample collection, contaminant analysis, data quality control, and personnel health and safety procedures were prepared in accordance with CERCLA guidance. In particular, locations and distribution of surface and near surface soil samples were developed using EPA statistical sampling software to ensure adequate coverage of the Site. In June 2004, draft versions of the RSE planning documents were made available to stakeholders for review. The planning documents were finalized in December 2004. In an agreement with the EPA in March 2007, the RSE was converted to a Remedial Investigation/Feasibility Study (RI/FS). The field investigation for the RI/FS was conducted in May 2005. Surface soil samples were collected from 0 to 6 inches bgs at 54 locations to characterize the nature and lateral extent of the Site COCs in the surface area around the former pit area and in the adjoining drainage swale. Soil and rock

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

core samples were collected in the subsurface at two locations directly beneath and adjoining the former rinsate pit locations from approximately 4 to 32 feet bgs to characterize the vertical extent of the Site COCs in the subsurface soil. Soil samples were also collected from ten locations over the concrete pad to a maximum depth of approximately 3 inches. The soil analysis results were compared to both Residential and Industrial Soil PRGs and the TSCA High Occupancy Cleanup Level. The investigation results indicate the following: -Based on regional studies in the area, small pockets of higher-level groundwater perched above lenses of clay or other low permeability strata may be encountered above both caprock water and the basal aquifer. These occurrences of perched groundwater tend to be limited and do not represent potential drinking water sources. Perched groundwater was encountered at approximately 29 and 31 feet bgs in two of the boring locations. Groundwater samples from these boreholes were analyzed for chlorinated pesticide compounds, PCBs, and arsenic. No detectable concentrations of any chlorinated pesticide compounds, PCBs, or arsenic were identified in the groundwater samples. -Surface soil concentrations of PCBs show a decrease with distance around the pit and an overall decrease in concentration with distance downgradient (south and east) from the pit area. Although PCBs were detected in the surface soil samples, detections were limited to the surface area immediately surrounding the concrete pad and just north of the former pit area. -Analysis of the distribution of elevated pesticide concentrations, as represented by sample results from both the surface soil sampling and the initial trench sampling, confirm that elevated pesticide concentrations in the surface soil and shallow subsurface soil are limited to the immediate vicinity of the former rinsate pit and confirm that the pits are the source of pesticides for the Site. -Arsenic was uniformly detected in all areas of the Site and the concentrations are similar for all areas in the surface soil. Only four of samples exceeded the conservative background level of arsenic of 16 milligrams per kilogram (mg/kg), and all four exceedances were located in the middle of the former pesticide rinsate pit. -Analysis of the data from both the 2005 RI subsurface soil samples and the 1995 RI soil samples, indicates that elevated pesticide concentrations decrease distinctly and rapidly with depth beyond the bottom depth of the former rinsate pit (approximately 3 to 4 feet bgs). Concentrations of residual pesticides are not detected below 20 feet bgs, therefore, pesticides have not migrated below 20 feet bgs beneath the bottom of the former rinsate pit. -A Human Health Preliminary Risk Evaluation (PRE) was performed as part of the RI/FS based on the soil data from previous Site investigations and the 2005 RI. To determine what the potential risk to human health would be if no removal action were performed, the PRE was performed based on the assumption that no removal action would be implemented at the Site. The initial PRE results indicated that the carcinogenic properties of the COCs which contributed the greatest potential for adverse effects to human health and the highest estimated risk at the Site are concentrated in three main areas: -Surface soil near the former rinsate pit and concrete pad. Primary sources of risk are PCBs around the concrete pad, dieldrin (pesticide) immediately around the former pit, and background arsenic. -Shallow subsurface soil within the former rinsate pit. Risk is represented by elevated concentrations of various pesticides (which include dieldrin, alpha- and gamma- chlordane, and heptachlor), and arsenic. -Shallow subsurface soil. Potential risk is posed by one elevated concentration of DDE (pesticide) near the former rinsate pit and one elevated concentration of PCBs adjoining the concrete pad. CERCLA Enforcement Activities No enforcement actions have been directed at the Site. A ROD addressing Operable Unit 3 of the Pearl Harbor Naval Complex site was completed in September, 2010. Operable Unit 05 Ford Island encompasses approximately 450 acres, located in the Pearl Harbor Navy Complex (PHNC) at

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Joint Base Pearl Harbor-Hickam (JBPHH), Ford Island on the southern coast of Oahu, Hawaii. PHNC is identified on the National Priorities List (NPL) as EPA CERCLA Information System No. HI4170090076. Executive Order 12580 authorizes the Navy, as the lead agency, to conduct environmental response actions at Navy sites such as the Ford Island Landfill. EPA and the Hawaii Department of Health (DOH) have provided oversight during environmental investigations and remediation activities. Ford Island is approximately 1.25 miles long and 0.62 miles wide. Access to the island is provided by the Admiral Bernard Clarey (Ford Island) Bridge, which spans the channel between the island and the eastern shore of Pearl Harbor. Ford Island was previously used as a military air station and provided moorage and supported most of the Pacific Fleet. Ford Island is presently used for administration, storage, operational, training, and maintenance activities for various military tenants. The island also provides housing and recreational facilities for Navy personnel. The island is undergoing redevelopment for base housing, recreational sites, and other commercial and industrial facilities. The Ford Island Landfill Site is a vegetated, undeveloped parcel located along the western edge of Ford Island, along the Pearl Harbor shoreline. It is bordered to the north by the former Camel Refurbishing Area, which has been redeveloped into residential housing and a community recreation area, and the Building 284 Site located to the southeast on the other side of a seaplane ramp. The Camel Refurbishing Area and the Building 284 Site are two Installation Restoration Program sites previously investigated during Ford Island Remedial Investigation and where removal actions were conducted to address soil contamination. Military development around Pearl Harbor and Ford Island began around 1912, and the Naval Air Station (NAS) Ford Island and Army Air Station (AAS) Luke Field were established on the island by 1917. Hangar and support facilities on the southwest side of the island were developed for the AAS, while similar structures on the southeast side of the island were constructed for the NAS. In addition, a row of 22 housing structures, located along the northwest shore of the island, as well as several housing structures and a bachelor's quarters on the northeast tip of the island, were constructed to accommodate the expanding number of naval personnel on-island. An unpaved runway was also constructed for the Army and Navy shared use. Nine 225,000-gallon aboveground storage tanks, with secondary containment, were located in the east-central portion of the island from 1924 to 1954. Ford Island underwent further development and expansion in the 1930s and 1940s. Efforts to expand the island by filling shallow zones along the east and north shores with dredged material from the harbor channel, increased the size of Ford Island by nearly 20 percent. The central portion of the island was cleared and paved for installation of a 4,000-foot runway, and all but two of the original AAS hangars were demolished in favor of open aircraft parking areas, maintenance facilities, and larger hangars. An area near the western shoreline, which later developed into the Ford Island Landfill, was used as a disposal and burn area. During this time, an underground storage tank farm was installed in the east-central portion of the island with an extensive underground aviation gasoline pipeline system to distribute fuel. Bunkers for ordnance storage were built on the north and east sides of the island, the fill area near the north shore, the northeast shore, and the east end of the runway. Following World War II, the use of Ford Island as a military air station ceased with the advent of jet aircraft. Naval Station assumed ownership of the island when the NAS was deactivated in 1962, and the island was given status as a National Historic Landmark in 1964. The airfield was leased to the State of Hawaii Department of Transportation for limited use by civilian aircraft; however, since the state opened Kalaeloa Airport (formerly NAS Barbers Point) in mid-1999, the airfield has remained inactive. Access to the island was improved by construction of the Admiral Bernard Clarey (Ford Island) Bridge in 1998. Ford Island currently hosts

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

several major tenants or commands and provides housing and recreational facilities for Navy personnel. JBPHH controls the waters of Pearl Harbor and the adjacent land areas, including Ford Island. The Ford Island Landfill was used from the mid-1930s until the late 1960s for disposal activities that involved dumping and burning wastes generated by maintenance activities performed on Ford Island. After the aforementioned disposal activities were discontinued, bulk debris was disposed of and covered with soil until these activities were also discontinued in 1982. When the Navy discontinued landfill dumping, they covered approximately 80 percent of the landfill with a final layer of soil. No records of disposal practices or waste quantities are available for any of the periods of waste disposal activity. Historical evidence indicates that the landfill area extends into Pearl Harbor. Several investigations of the Ford Island Landfill have been conducted since the 1990s. The Navy conducted a site inspection (SI) in late 1991 and early 1992 as an initial assessment of environmental conditions at the landfill, which included installing four monitoring wells and collecting soil, groundwater, marine sediment, and soil gas samples. The SI identified nine metals, two semivolatile organic compounds (SVOCs), and a single form of polychlorinated biphenyl (PCB) (Aroclor-1260) as contaminants of concern (COCs) in the soil, groundwater, and marine. The SI recommended containment of landfill wastes (i.e., capping). The screening criteria selected for the site include the 95th percentile of the Oahu caprock soil background concentration range, which were agreed upon by EPA Region 9 and DOH and finalized in 2006. The Oahu caprock soil background concentrations are considered protective of both human and terrestrial ecological receptors on Ford Island. In 1994, a second investigation, a removal site evaluation (RSE), was conducted to obtain additional information on the conditions at the landfill. As part of this investigation, six additional monitoring wells were installed; exploratory trenches were excavated to observe the locations of different types of landfill wastes; groundwater samples were collected to establish a water quality baseline; and a tidal study was conducted. The RSE identified low concentrations of three metals (copper, lead, and zinc) and a single SVOC (phenanthrene) as potential COCs in groundwater samples, and found that groundwater beneath the landfill is influenced by tidal variations in Pearl Harbor. Geophysical and trenching activities indicated that the landfill contains metal fragments, concrete rubble, and miscellaneous debris. Ash, discovered below the water table near the current landfill shoreline, suggests that incinerated wastes were dumped into Pearl Harbor. In 1995, an engineering evaluation/cost analysis (EE/CA) was conducted that utilized the EPA presumptive remedy approach to identify and select a landfill containment system. The EE/CA provided a comparative analysis of five different landfill containment system alternatives (Permeable/Vegetative Cap, Resource Conservation and Recovery Act (RCRA) Subtitle D, Modified RCRA Subtitle D, RCRA Subtitle C, and Modified RCRA Subtitle C), and identified the landfill containment system that includes a permeable and vegetative soil cap alternative as the most cost effective containment method that would attain long-term reduction of the risks posed by the landfill. The five alternatives were evaluated against the nine EPA criteria required by 40 CFR Part 300.430(e)(9)(iii) of the NCP. The permeable and vegetative cap was the selected removal action alternative as a result of the alternatives analysis. In December 1996, construction of the landfill containment system was completed as part of a non-time-critical removal action. The permeable and vegetative cap over the landfill was completed to prevent contaminated surface soils from eroding and entering Pearl Harbor, and to minimize infiltration of precipitation into the landfill, reducing the possibility for contaminants to leach to groundwater and enter Pearl Harbor. The landfill cap consisted of three layers (from bottom to top): an engineered fill layer, a

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

vegetation/erosion layer, and a topsoil layer. The engineered fill layer has a varying thickness and comprises construction-grade earthen fill. The principal function of this layer is to cover exposed waste and fill low-lying areas of the landfill, and to provide a smooth transition between uncontained landfill wastes and the cap. It represents the foundation layer for the cap. The vegetation/erosion layer comprises earthen fill with a minimum thickness of 12 inches. The principal function of this layer is to serve as the primary barrier to direct contact with landfill wastes. It holds surface water infiltration to allow for increased evapotranspiration and provides secondary support of vegetative growth. Another principal function of this layer is to act as a buffer layer that can exhibit erosion problem areas needing repair without exposing the waste. The fill soil was compacted to a minimum relative density of 90 percent. The topsoil layer is a minimum of 6 to 12 inches thick and was designed to support vegetation. The topsoil was placed on the fill and not compacted. Surface vegetation, consisting of common Bermuda grass (Cynodon dactylon), is intended to stabilize the cap surface and prevent erosion. The cap surface is vegetated with common Bermuda grass (Cynodon dactylon) that is intended to stabilize the cap surface and prevent erosion. Rip-rap was installed along the shoreline to prevent erosion. An irrigation system was installed to maintain the integrity of the cap, and a concrete drainage trench was constructed to direct surface runoff away from the landfill. Monitoring well MW-07 was abandoned in place and replaced with well MW-07A to allow for the construction of the concrete drainage trench. After construction of the landfill containment system along the shoreline of the landfill, three additional monitoring wells were installed in April 1997. The groundwater monitoring well network at the landfill consisted of 13 monitoring wells distributed across the site. In April 1997, a five-year long-term monitoring (LTM) program was initiated. The objective of the monitoring program was to monitor conditions at the landfill to ensure the landfill containment system continues to function as designed, and to evaluate whether potentially harmful levels of metals from the Ford Island Landfill are leaching into the groundwater and surface water of Pearl Harbor. The initial LTM design utilized an intrawell approach, and included 10 landfill monitoring wells (MW-02, MW-03, MW-04, MW-05, MW-06, MW-07A, MW-10, MW-11, MW-12, and MW-13) and one surface water sampling location (SW-01). Aqueous samples were analyzed for two volatile organic compounds (acetone, 1,2-dichloroethane); 10 SVOCs (acenaphthene, benzo(a)pyrene, carbazole, dibenz(a,h)anthracene, dibenzofuran, dimethylphthalate, fluorene, naphthalene, phenanthrene, and 2-methylnapthalene); total petroleum hydrocarbons (TPH); the metals antimony, arsenic, beryllium, copper, lead, mercury, nickel, and zinc; PCBs; dioxins/furans; and general chemistry parameters. Following the six baseline monitoring events, four semiannual monitoring events, and two annual monitoring events were performed at the landfill. The scope of the original groundwater monitoring plan was completed after 5 years and with the 12th monitoring event in April 2002. No analytes exceeded the DOH Tier 1 action levels. Discontinuing the groundwater monitoring program was recommended. Because of regulatory concerns about metals and potential impacts to Pearl Harbor, a draft long-term monitoring plan was prepared in August 2003 that proposed continuing the groundwater monitoring program in detection monitoring for another 5 years. In September 2003, the 13th monitoring event was performed. It included the same locations sampled during the original groundwater monitoring program. Analytical results indicated that elevated metals concentrations are present in groundwater at the landfill (particularly at monitoring wells MW-11, MW-12, and MW-13). The groundwater monitoring plan and program were revised prior to the 14th monitoring event, conducted in April 2005, to include an interwell data comparison approach. The number of wells sampled was reduced to include eight landfill wells (MW-02 through MW-06 and MW-11 through MW-13) and two

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

background wells (AG-MW16 and AG-MW18). One additional surface water sampling point (SW-02), located approximately 50 feet offshore from SW-01, was also added. The list of COCs was reduced to include only metals including antimony, arsenic, beryllium, copper, lead mercury, nickel, and zinc. The State of Hawaii Surface Water Standards were established as conservative screening criteria for groundwater to assess potential impacts to Pearl Harbor. Seven additional surface water sampling locations (SW-03 through SW-09) were added for the 15th monitoring event. Groundwater and surface water samples were collected from the eight landfill wells, two background wells, and nine surface water sampling locations. These changes to the long-term monitoring program were documented in the Draft Revised Long-Term Monitoring Plan, and represent the current configuration of the monitoring program. Analytical results from the 15th monitoring event indicated that concentrations of dissolved metals were significantly lower than the concentrations detected in the 14th monitoring event. As of April 2011, a total of 30 monitoring events have been conducted. Data obtained since the 16th monitoring event (August 2006) and previous data indicate that copper is the primary contaminant that exceeds its screening criterion. In addition, copper concentrations vary significantly between different monitoring events and wells. During the 25th monitoring event landfill inspection conducted in June 2009, it was noted that one monitoring well (MW-08) had been filled with cement and is no longer useable. Performance of the 28th monitoring event in April 2010 represented the last of the baseline monitoring events which provided data to establish baseline (background) conditions for the interwell approach. Baseline monitoring was required for eight events before background conditions could be calculated. These eight quarterly baseline sampling events included sampling of only background monitoring well locations (AG-MW16 and AG-MW18, later replaced by MW-14) and background surface water sampling locations (SW-02, SW-04, SW-06, SW-08, and SW-09). In addition, every other sampling event included sampling of all eight landfill wells, nine surface water sampling locations, and background well locations included in the monitoring program. The 29th monitoring event conducted in October 2010 represented the first semiannual assessment monitoring event following conclusion of the baseline monitoring period. Beginning with the 29th monitoring event, EPA Region 9 and DOH concurred with the removal of several metals and general water chemistry parameters from the analytical suite of samples collected as part of the monitoring program. The present monitoring program includes analysis for select dissolved metals (arsenic, copper, lead, mercury, nickel, and zinc), and several general water chemistry parameters (chloride, total dissolved solids (TDS), pH, and specific conductance). In February 2008, a tidal study was conducted to explore the nature and extent of surface water to groundwater tidal interaction at the Ford Island Landfill, and evaluate the tidal effects on copper concentrations in both groundwater and surface water. The study concluded that tidal oscillations have little to no effect on varying copper concentrations. A FFS was conducted in 2010 for the Ford Island Landfill Site. The FFS was conducted to evaluate three potential response action alternatives for the site: (1) no action; (2) LUCs that consist of engineering and institutional (legal) controls to include groundwater monitoring; and (3) cleanup of site contamination to allow for unrestricted land use. The FFS was intended to be a streamlined and focused effort to evaluate these three response action alternatives and recommend an appropriate response action for the site. The FFS recommended LUCs and long-term monitoring and maintenance (LTMM) as the final remedy. In 2010, a proposed plan (PP) was prepared for the Ford Island Landfill Site to present the recommended final site remedy and to facilitate public involvement in the remedy selection process. The PP presented the various alternatives considered, identified LUCs and LTMM as the recommended alternative, explained the rationale for selecting the alternative, and requested public

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

comment. There have been no CERCLA enforcement activities at the Ford Island Landfill Site. A Record of Decision for Operable Unit 05 of the Pearl Harbor Naval Complex was completed in September 2011. The Shoreline Site is located northwest of Dry Dock #3 inside the CIA of the PHNSY & IMF, which is located within the PHNC on the island of Oahu, Hawaii. The initial site boundaries consisted of a flat and narrow piece of land approximately 800-feet-long and 8-feet-wide that is elevated approximately 7- to 10-feet above the open water in the adjacent harbor. The shoreline is made up of a thin layer of coarse sand mixed with shell fragments, which overlays weathered bedrock. The site is sparsely vegetated and bordered by a paved area with office trailers to the east and south, and large, heavy concrete keel blocks and Pearl Harbor to the north and west. The site has subsequently been expanded eastward to include the paved area with office trailers. The size of the site is approximately 0.18 acre. Previous investigations identified asbestos-containing cloth and asbestos fibers in soil that resulted in unacceptable risks to human health. These threats warranted a response action at the site. The Navy conducted a soil removal action at the Shoreline Site under the Navy's Environmental Restoration Program. Executive Order 12580 authorizes the Navy to conduct environmental cleanup at Navy sites, such as the remediation activities at the Shoreline Site, with the Navy as the lead agency. The EPA and DOH have provided oversight during environmental investigations and remediation activities at the site. Pearl Harbor was established as a naval base for the Navy by act of Congress in 1908 to provide the United States with a permanent presence in the Pacific region. Construction of the first dry dock began in 1909, and expansions of the harbor facilities continued through the 1940s. In mid-1941, the newly formed Pacific Fleet was permanently based at Pearl Harbor. Historical aerial photographs indicate that the Shoreline Site area of Pearl Harbor may have been used to dock Navy surface vessels during World War II. The open water adjacent to the shoreline was used formerly to test subsurface vessel detection systems. Historically, rubble (including keel blocks and asbestos-containing cloth attached to cement kiln bricks) was used as fill material to stabilize this area. Several environmental investigations and removal actions have been conducted at the Shoreline Site. Previous actions include: -Navy laboratory analysis of suspected ACM during late 1993 -Site Evaluation (Preliminary Assessment and Site Inspection) at the Shoreline Site from June 1994 through April 1995 (Ogden 1998) -Additional ACM sampling in August 1997 (Ogden 1997) -TCRA for ACM and verification sampling from August 1999 to July 2000 (Earth Tech 2001) The initial investigations concluded that potential human health risk at the site existed because of the presence of the asbestos. Site activities that generate dust could result in airborne asbestos fibers despite the placement of a tarpaulin cover in July 1994 over the area of concern, posing an inhalation risk to site workers. Construction activities involving excavation of subsurface soil could also result in a potential for worker exposure to ACM or asbestos-containing kiln bricks that may be present in subsurface rubble adjacent to the previous removal action portions of the Shoreline Site. As a result, the Navy decided to perform a TCRA of the ACM-containing soils. Due to the time-critical nature of the removal action, an engineering evaluation/cost analysis discussing removal action alternatives was not prepared for the site. Nevertheless, four removal action alternatives were developed and evaluated against the nine NCP criteria prior to recommending the removal action: (1) No Action; (2) Maintain the tarpaulin cover and implement additional engineering controls (e.g., fencing, warning signs) and institutional controls restricting future access; (3) Construct a permanent cover (e.g., concrete) over affected area and apply other engineering controls (e.g., fencing, warning signs) and institutional controls restricting future site access; and (4) Excavation and offsite disposal. An Action Memorandum dated 9 February 2001 documents the decision to

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

undertake the TCRA (DON 2001) and the selection of Alternative 4 (excavation and offsite disposal) as the preferred action. Subsequently, the Navy conducted the removal action in several stages between August 1999 and August 2000. The goal of the removal action was to excavate and dispose of all materials with greater than 1 percent asbestos fibers. ACM debris was identified and removed within the initial 8-foot by 2-foot site. Additional ACM debris was identified, and the excavation was expanded to a 3-foot-wide area extending approximately 50 feet along the shoreline. During the removal work, the Navy observed cement kiln bricks and weathered asbestos-containing cloth buried roughly 3 to 5 feet below ground surface. This buried ACM was removed by the Navy Public Works Center in July and August 2000. The extent of the excavation was initially determined based upon the presence of the ACM-containing refractory cloth, and was subsequently confirmed through the collection of soil samples for analysis of asbestos. The total volume of asbestos-contaminated cloth, attached cement kiln brick, and surrounding soil removed from the site was 30 cubic yards (DON 2000). All ACM waste was transported off island to a facility approved to receive CERCLA/Toxic Substances Control Act (TSCA) wastes. The excavation was then backfilled with clean imported fill material. As a result of the TCRA, Alternative 1 No Action was recommended as the final remedy in the 2006 Proposed Plan Time-Critical Removal Action at the Shoreline Site Northwest of Dry Dock #3, Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility, Oahu, Hawaii (DON 2006). A public comment period was held, and no comments that would impact the no further action (NFA) decision were received. Following the Proposed Plan and public comment period, EPA issued a letter (Attachment D) which raised concerns about the protectiveness of the 1 percent asbestos fibers cleanup goal. Subsequent discussions and meetings among the Navy, EPA, and DOH led to the conclusion that the proposed NFA remedy may not be protective of human health. There was also a question whether the rubble fill underlying the paved areas with office trailers located east and south of the excavation may also contain ACM. As a result of these concerns and as a conservative measure, site boundaries were expanded to include these areas, and the removal action alternatives were re-evaluated. A final re-evaluation of the removal action alternatives has resulted in the recommendation for Alternative 3 as the preferred remedy for the Shoreline Site. Alternative 3, which was previously evaluated and determined to meet the evaluation criteria for effectiveness, implementability and cost, is deemed more protective of human health and the environment than the previously proposed NFA remedy. A Record of Decision for Operable Unit 6 of the Pearl Harbor Naval Complex was completed in July 2010. OU 8: The Building 49 site is located within the Naval Magazine Pearl Harbor (NAVMAG PH), West Loch Branch (West Loch), which in turn is an operable unit within the Pearl Harbor Naval Complex (PHNC). NAVMAG PH West Loch encompasses 3,240 acres and serves as a military shipping-and-receiving facility. Building 49 is located on Arizona Road, approximately 1,300 feet north of the First Street entry gate to NAVMAG PH West Loch. The building is a 672-square-foot concrete block structure constructed in 1943. Arizona Road borders the building to the north, and a concrete sidewalk borders the building to the south. An exterior concrete apron, measuring 4 feet wide by 15 feet long, lies on the west side of the building. The nearest additional structure is an abandoned administration building to the southwest. No other facilities or structures exist in the immediate vicinity. The area soil is classified as being either rock or a thin (less than 20 inches) cover of borderline clay-silt overlying rock. Thick grass surrounds the structure. NAVMAG PH receives, renovates, maintains, stores, and issues ammunition, explosives, expendable ordnance items, weapons, and technical ordnance material, and also performs additional tasks as required. Nearly all ammunition used by the military services in Hawaii is stored or handled by NAVMAG PH. As part of

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

ordnance-handling tasks, West Loch provides marine terminal services for all loading and unloading of ocean-transported Department of Defense ordnance at its wharf facilities. Building 49 previously housed an emergency generator and transformer that provided auxiliary power for West Loch. An Underground Storage Tank (UST) was used to store hydrocarbon fuel for the generator. The underground storage tank (UST) WL-49 was removed in June 1992. The petroleum-contaminated soil associated with the UST was remediated in May 1995. In the past, in-service electrical transformers were filled with dielectric fluid known to contain polychlorinated biphenyls (PCBs). Historical maintenance practices included periodic sampling of the transformer oil, testing for dielectric properties, and disposing of these samples on the ground immediately adjacent to the transformer or the building housing the transformer. In 1998, the Navy investigated soil immediately adjacent to various sites with transformers known to contain PCB oils. Although there is no record of transformer leaks or transformer oil spills at Building 49, analytical results from the 1998 investigation reported elevated concentrations of PCBs within and surrounding Building 49. PCBs were detected in soil immediately adjacent to Building 49 at concentrations ranging from less than 1 milligrams per kilogram (mg/kg) to 11 mg/kg. The contamination is attributed to historical Navy transformer oil testing practices. There have been no enforcement activities at Building 49. Based on the reported concentrations of PCBs, a time-critical removal action was undertaken to remove and dispose of PCB-contaminated soil from areas immediately adjacent to the building and in the drain system associated with the building, and to remediate, as necessary, exterior concrete surfaces impacted by PCBs. The project-specific cleanup levels were established at 1 mg/kg for soil and 10 micrograms per 100 square centimeters (ug/100 cm2) for concrete and steel surfaces, in accordance with the Toxic Substance Control Act (TSCA) as specified in the approved Final Work Plan. Analytical results from samples collected at the concrete apron fronting the building indicated remediation of the concrete surface was not required. Excavation of exterior soil was conducted in August 1999. Activities were guided using field immunoassay screening to delineate the vertical and lateral extent of PCB contamination. The final depth of excavation ranged from 1 foot to 1-1/2 feet. When the lateral and vertical limits of excavation were reached, verification soil samples were collected and submitted to an approved offsite laboratory to confirm that in-place soil concentrations of PCBs did not exceed the project cleanup level of 1 mg/kg. Analytical results of samples representing post-excavation conditions are below the project cleanup levels, with the exception of a single soil sample result of 1.1 mg/kg. A risk evaluation was performed that shows the 95 per cent upper confidence limit of the mean exposure point concentration is well below the project cleanup level of 1.0 mg/kg. A total of 10 cubic yards of soil contaminated with PCBs were removed from the vicinity of Building 49 and disposed of at an off-island facility approved to accept TSCA and CERCLA wastes. A layer of well-graded crushed rock was placed on the floor of the excavation area to delineate the limit of the excavation. The excavation was then backfilled and restored to match surrounding areas. In 2000, an injection well and associated piping fed by a floor trench drain in the building were also investigated and subsequently removed. The floor trench drain discharged to a 4-inchdiameter steel pipe through the rear (east) wall of the building to an unregistered injection well located approximately 3 feet from the rear wall. Sediment was observed at the bottom of the well at a depth of 16.5 feet below ground surface (bgs). In addition, an 8-inch black steel pipe entered the well from the east, extending approximately 40 feet from the building. Wipe samples collected from the floor drains and 4-inch discharge pipe contained PCB concentrations below the remediation goal of 10 ug/100 cm2. Soil/sludge samples collected from the injection well contained PCB concentrations up to 3.5 mg/kg, which is in excess

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

of the remediation goal of 1 mg/kg. The drain box, the 4-inch steel pipe, and the 8-inch pipe were excavated and disposed of as construction debris. Soil samples collected from the resulting excavation trench for field screening contained concentrations of PCBs less than 1 mg/kg. An offsite laboratory confirmed these screening results. The State of Hawaii Department of Health (DOH), Safe Drinking Water Branch, underground injection control (UIC) Program was consulted in order to determine requirements for injection well abandonment. Closure of the well required that sediment be removed and the total depth of the well recorded prior to abandonment. A drill rig was used to remove sediment from the injection well. Removed sediment was placed directly into tri-wall boxes for transport and disposal. Groundwater was encountered at 20.5 feet bgs. Saturated sediment was contained in 55-gallon Department of Transportation (DOT)-approved steel drums pending disposal. The sediment had a strong petroleum odor. Sediment removal continued to a depth of 33 feet bgs, where native material was encountered. The Navy Public Works Center (PWC) Pearl Harbor conducted the investigation and remediation of the interior of the building between April 1997 and September 2002. The cleanup consisted of the transformer removal and the concrete and soil removal. Following removal of the transformer at Building 49, wipe samples were taken to detect the presence of PCB contamination. Only one of nine concrete floor wipe samples reported a PCB concentration (300 ug/100 cm2) above the cleanup goal of 10 ug/ 100 cm2. The sample was located at the southeast corner of the building below the former Electrical Cabinet location. As a result, the impacted section of the concrete slab was removed, and a sample was collected from the soil beneath the slab. PCBs were reported in the soil at a concentration of 1.9 mg/kg. After the removal of approximately 12 inches of soil, three confirmation soil samples indicated that all PCB concentrations greater than 1 mg/kg had been removed. Based on the analytical results, no further action is required within or beneath Building 49. The area of excavation was backfilled with inert material. The building is not in use, and it has been locked to restrict entry. PCB-contaminated soil and concrete were loaded into 55-gallon drums and disposed of at an off-island facility approved to accept TSCA and CERCLA wastes. West Loch is a naval magazine, which is considered industrial/commercial use. Building 49 is not currently in use. Equipment and machinery are still present within the building, and there are currently no plans to remove them. No residual staining was observed on concrete surfaces within the building. The interior concrete surfaces appeared to be in good condition, with no cracks or voids. There is no power supplied to the equipment in the building. The transformer and electrical cabinet have been removed and disposed of. West Loch will be maintained by the Navy for use as a naval magazine, which is considered an industrial/commercial use; however, the potential for unrestricted use was also considered. There is no current plan for building demolition. A Record of Decision (ROD) addressing Building 14 at West Loch (Operable Unit 8) was completed in September of 2006. OU10: The former Manana Storage Area (MSA) at the Pearl Harbor Naval Complex site is located in Pearl City, Oahu, Hawaii. The southern boundary of the site is approximately 1.2 miles northeast of the shoreline of the Middle Loch of Pearl Harbor. The site occupies a 109-acre parcel west of Waimano Home Road, approximately 0.4 miles northwest of the intersection with Kamehameha Highway. The former MSA is currently the site of 5 warehouses, 3 other buildings (including a Wal Mart retail facility), a community center and park, and a maintenance facility for The Bus transit system. Throughout the history of the site, 32 Navy buildings and warehouses have been demolished. The former MSA site is located on the south flank of the Koolau Range. Interbedded alluvial and marine deposits form layers that overlay the Koolau basalt beneath the former MSA. The ground surface at the site slopes southwest toward Pearl Harbor, with elevations ranging from 77 to 132 feet. After the City and

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

County of Honolulu (CCH) acquired the property in 1993, various CCH agencies began to use the site for general warehouse and maintenance operations. A maintenance facility for The Bus transit system is currently located in the central portion of the site. After the remedial action (RA) was completed and cleanup was verified in 1996, the northeast corner of the site was redeveloped for use as a community park. The majority of the former MSA is zoned for a combination of light commercial and industrial development. In 2006, Wal-Mart Stores, Inc. opened a retail facility adjacent to the former Bldg. 1 area. Current land use surrounding the former MSA is predominantly residential with a commercial area to the southwest of the site. Future land use will likely include continued development for industrial/commercial purposes. In addition, the current offsite residential areas could be expanded into the former MSA. Groundwater beneath the former MSA is encountered at depths below approximately 100 feet below ground surface (bgs) within the regional basal basalt aquifer, and is classified as a currently used, irreplaceable source of drinking-quality water, which is highly vulnerable to contamination. Because the basal aquifer underlying the former MSA is currently used as a drinking water source current offsite and future onsite residents could potentially be exposed to chemicals in groundwater derived from the former MSA. None of the chemical concentrations detected in the basal groundwater exceeded drinking water standards. After the Navy acquired the MSA property in 1944, the Navy Fleet and Industrial Supply Center (FISC) constructed warehouses on the site. FISC and other Navy tenants used Parcels A, B, and C for general storage until approximately 1973. In 1973, the Defense Reutilization and Marketing Office (DRMO) began operations at the site, including the collection, storage, and transfer of materials recovered from Pacific Rim military facilities. The DRMO used the warehouses on Parcels A and C primarily to store surplus records, supplies, and equipment. In 1980, the DRMO began to redistribute, transfer, sell, donate, and facilitate offsite disposal of both hazardous and non-hazardous materials located in Bldgs. 18 and 26 on Parcel B. Because both hazardous and non-hazardous materials were staged in warehouses and on open concrete foundations within Parcel B, various chemicals could have been released to the ground surface in this portion of the site. From 1982 until 1993, many of the warehouse buildings were demolished, and the concrete foundations were used as open storage areas. In the 1980s, the Navy began to implement preventive and mitigative procedures in conjunction with its base operations to prevent the releases of hazardous chemicals to the environment. However, chemical releases to the harbor, soil, and groundwater in some areas of the base resulted from previous military operations at PHNC. Concern over these historical releases led the Navy to identify 30 potential sources of hazardous waste in 1983. Based on the historical data, the PHNC was added to the National Priorities List on 14 October 1992 after completion of Hazard Ranking System screening, public solicitation of comments, and after all comments had been addressed. In March 1994, EPA, Department of Health (DOH), and the Navy signed a Federal Facility Agreement which identified procedures for addressing contamination at the PHNC. In 1983, the Naval Facilities Engineering Services Center (NFESC) performed an initial assessment study (IAS) of the Pearl Harbor Naval Base to locate and report hazardous materials stored or disposed of on base. The IAS report concluded that Parcels A and C at the former MSA were free of environmental contamination because no hazardous materials had been stored on these parcels. However, because DRMO activities conducted in buildings on Parcel B included storage and transfer of hazardous materials, Parcel B was identified as potentially contaminated. In August 1993, the Department of the Navy entered into a memorandum of understanding to sell the former MSA to the CCH. The Navy agreed to "deliver property free of all surface and subsurface hazardous materials". A non-time critical RA was conducted in March and April 1996. Arsenic- and lead-contaminated soil was

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

excavated and disposed from 13 isolated locations within the 6 exposure areas identified during the Remedial Investigation (RI). Soil was removed to achieve cleanup goals based on 1995 EPA Region 9 residential soil non-cancer preliminary remediation goal (PRG) values for arsenic (22 milligrams per kilogram [mg/kg]). A total of approximately 272 tons of soil was removed from the 13 excavations, which reached maximum dimensions of approximately 15-by-15 feet horizontally, and 4.5 feet bgs. The excavated soil was disposed of at an approved offsite facility. The excavated areas were backfilled with clean fill material after the EPA and DOH reviewed and approved the Navy's remediation verification report. A regional groundwater assessment (RGA) was conducted from 2001 to 2003 after the completion of the RA at the former MSA. The objective of the RGA was to confirm that chemicals released at the former MSA did not impact, and are not likely to impact, groundwater beneath or downgradient of the site. The RGA objectives included confirming the conclusions of previous investigations and the effectiveness of the RA. To address these objectives, groundwater chemical data and hydrogeologic information were collected and evaluated to identify potential site-related contamination and assess the groundwater systems underlying the former MSA. A human health screening preliminary risk evaluation (PRE) conducted during the RGA compared the former MSA groundwater data to EPA Region 9 tap water PRGs. All detected chemical of potential concern (COPC) concentrations were below the tap water PRGs, and the screening PRE results indicated minimal potential risks associated with the residential exposure pathway. Comparison to the current tap water PRGs confirms the conclusion that all COPC concentrations detected in groundwater beneath the former MSA are below the tap water PRGs. Because no COPCs were detected at concentrations above drinking water criteria in groundwater beneath the former MSA, the RGA report concluded that chemicals released at the former MSA did not impact, and will not impact, groundwater. Therefore, NFA is recommended to address groundwater at the site. The former MSA monitoring wells were abandoned in 2005 and sealed to prevent chemicals potentially released near the well heads in the future from reaching the underlying groundwater. A Record of Decision addressing OU 10 was completed in September 2006. OU12: The Bldg. 284 Site and Former Bldgs. 80 and 302 Site have been the subject of the following environmental investigations: Initial Assessment Study. In 1983, the Naval Energy and Environmental Support Activity conducted an initial assessment study (IAS) at PHNC. The IAS report identified potentially contaminated sites at PHNC and recommended further investigation to determine the nature and extent of contamination and develop recommendations for further action. Site Summary Report. A site evaluation of Ford Island was performed in 1998 to identify and classify sites with suspected environmental contamination. Results of the site evaluation were presented in the Site Summary Report (SSR), Ford Island Geographic Study Area . Investigators systematically evaluated the entire island to identify sites where historic activities may have resulted in the release of hazardous substances or petroleum products. Information was obtained through record searches, interviews with current and former employees, and visual site inspections. Based on analysis of the available data, eight hazardous substance sites, 55 transformer sites, and four inactive AVGAS pipeline sites were classified as areas that had not been evaluated or required additional evaluation because hazardous substances or petroleum were known to have been stored or used there and may have been released to soil, sediment, surface water, and groundwater. Remedial Investigation. From 1999 to 2003, a remedial investigation (RI) was conducted to characterize the nature and extent of contamination at the eight hazardous substance sites, 55 transformer sites, and four inactive AVGAS pipeline sites and recommend further action, as necessary, to protect human health and the environment. Soil, sediment, and groundwater samples were collected and analyzed for volatile organic compounds

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

(VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, herbicides, and metals. Removal actions for the four inactive AVGAS pipeline sites are documented in the Remediation Verification Report, Non-Time Critical Removal Action, Ford Island Inactive AVGAS Pipeline, Pearl Harbor Naval Complex, Hawaii. Of the 55 transformer sites, 23 required non-timecritical removal actions (NTCRAs) that were conducted between 2003 and 2004 and are documented in the Remediation Verification Report, Thermal Desorption Treatment of PCB Contaminated Soil, Various Navy Transformer Sites, Oahu, Hawaii. The other 32 transformer sites and five of the eight hazardous substance sites that are recommended for no further action are addressed in another Ford Island ROD. The other three hazardous substance sites are the subject of this Record of Decision (ROD) and include the Bldg. 284 Site and former Bldgs. 80 and 302, which have been combined due to their close proximity and are referred to as the Former Bldgs. 80 and 302 Site. Several metals of concern were identified in soil samples taken in the vicinity of the Bldg. 284 Site and a soil cleanup was recommended. Although metals concentrations above background levels were detected in subsurface soil, no further action was recommended for the Former Bldgs. 80 and 302 Site because the site was covered with asphaltpavement or a concrete foundation, which prevent direct exposure to the underlying soil. Engineering Evaluation/Cost Analysis. An engineering evaluation/cost analysis (EE/CA) was prepared as part of a NTCRA for hazardous substance sites on Ford Island to mitigate potential threats to human health and the environment. The EE/CA recommended removal actions for five of the hazardous substance sites, including a portion of the Bldg. 284 Site located adjacent to Bldg. 284. The removal actions included excavation of contaminated soil and off-island disposal at facilities approved to accept Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)- or Toxic Substances Control Act (TSCA)-regulated waste; jet-flushing of contaminated sediment from storm drain lines at two sites and off-island disposal of the sediment at a facility approved to accept CERCLA-regulated waste, and the cleaning and closure of two oil-water separators at Bldg. 284. Action Memorandum for Non-Time Critical Removal Action. The decision to conduct a NTCRA at the five hazardous substance sites evaluated in the EE/CA was documented in an Action Memorandum. The removal action included excavation of contaminated soil from the area adjacent to Bldg. 284 and off-island disposal at a CERCLA-approved disposal facility. Removal Action and Final Remediation Verification Report. Based on recommendations provided in the EE/CA, NTCRAs were conducted at five Ford Island Hazardous Substance Sites, including the Building 284 Site. The June 2003 to October 2003 Bldg. 284 Site NTCRA included soil removal and closure of two oil-water separators. Soil was removed from the area immediately adjacent to Bldg. 284 until contaminant concentrations in confirmation samples were below soil cleanup levels. However, confirmation sampling results indicated that metals contamination was present in soil in the sloped area northwest of Bldg. 284 and the contaminated soil extended beyond the excavation limits. Due to planned redevelopment, additional subsurface soil sampling was conducted at the Former Bldgs. 80 and 302 Site in conjunction with the removal action to further delineate the extent of metals detected during the RI at concentrations above background levels. The additional delineation was conducted to ensure areas with elevated metals concentrations in soil were identified and appropriately managed so that impacted soil would not remain exposed at the land surface as a result of construction activities. Additional sampling results indicated that metals were present to the south of the Former Bldgs. 80 and 302 locations and to the east across Independence Street at concentrations that exceed background levels and EPA Region 9 residential and industrial preliminary remediation goals (PRGs). Additional sampling conducted in conjunction with the removal actions continued until the extent of contamination was delineated to the south and the sampling results

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

were presented in the remediation verification report. Action Memorandums for TCRAs. TCRAs were conducted at the Bldg. 284 Site and the Former Bldgs. 80 and 302 Site. Prior to evaluating removal action alternatives for the Former Bldgs. 80 and 302 Site, additional sampling was conducted until the extent of contamination was delineated in the area east of Independence Street. The additional sampling results are documented in action memorandums for the Former Bldgs. 80 and 302 Site. The alternatives evaluated and remedies selected are documented in one action memorandum for the Bldg. 284 Site and two action memorandums and an action memorandum addendum for the Former Bldgs. 80 and 302 Site. The action memorandum for the Bldg. 284 Site documented the decision to construct a vegetative soil cap and shoreline protection including a riprap revetment. The action memorandums and action memorandum addendum for the Former Bldg. 80 and 302 Site documented the decision to conduct soil removal to facilitate planned construction activities, "hot spot" surface soil removal, and construction of a vegetative soil cap. Performance Design Packages. Performance design packages were prepared for the TCRA at the Bldg. 284 Site and Former Bldgs. 80 and 302. The performance design packages provided detailed designs for the vegetative soil cap and the rip-rap revetment shoreline protection at the Bldg. 284 Site and the vegetative cap at the Former Bldgs. 80 and 302 Site. Remediation Verification Reports for TCRAs. Based on recommendations provided in the action memorandums for the TCRAs and the specifications provided in the performance design packages, TCRAs were completed at the Bldg. 284 and the Former Bldgs. 80 and 302 Sites. Details regarding the activities conducted during the TCRAs are presented in the remediation verification reports. The TCRA at the Bldg. 284 Site was conducted from July 2006 to September 2006 and included consolidation of construction debris along the Pearl Harbor shoreline and construction of a vegetative cap and rip-rap shoreline protection. The TCRA conducted at the Former Bldgs. 80 and 302 Site was conducted in two phases. The first phase was conducted from December 2005 to March 2006 to accommodate construction of a planned Pacific Warfighting Center. The second phase was conducted from June 2006 to December 2006 and included hot spot surface soil removal and construction of a vegetative cap in the area east of Independence Street. Focused Feasibility Studies (FFSs). A FFS was conducted in July 2007 for the sloped area at the Bldg. 284 Site and in September 2007 for the Former Bldgs. 80 and 302 Site. The studies recommended LUCs and long term monitoring and maintenance (LTMM) as the final remedy for both sites. Proposed Plan. In 2008, a proposed plan (PP) was prepared for the Bldg. 284 Site and the Former Bldgs. 80 and 302 Site to present the recommended final site remedy and to facilitate public involvement in the remedy selection process. The PP presented the various alternatives considered, identified LUCs and LTMM as the recommended alternative, explained the rationale for selecting the alternative, and requested public comment. There have been no enforcement activities at the Bldg. 284 Site or the Former Bldgs. 80 and 302 Site. A ROD addressing OU 12 at the Pearl Harbor Naval Complex site was completed in September 2009. OU14: The United States (U.S.) Navy (Navy) has prepared this Record of Decision (ROD) for the Former Pearl City Junction (PCJ) Site, Pearl City, Oahu, Hawaii. The Former PCJ Site occupies 13.7 acres south of Kamehameha Highway and west of the intersection of Kamehameha Highway and Waimano Home Road on the island of Oahu, Hawaii. The southern boundary of the site is approximately 0.9 mile from the shoreline of the Middle Loch of Pearl Harbor. The Former PCJ Site is administered by Naval Facilities Engineering Command, Hawaii (NAVFAC Hawaii), and is part of the Pearl Harbor Naval Complex (PHNC). The PHNC was added to the National Priority List (NPL) on 14 October 1992. The NPL identifies priorities among sites of known or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States (U.S.) and its territories. The PHNC is identified as site number (no.) HI4170090076 in the

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

U.S. Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System. The Navy's Fleet and Industrial Supply Center (FISC) acquired the PCJ property in 1944, and constructed four warehouse buildings at the site. The FISC used the site to store nonhazardous war supplies until 1962, when the Defense and Reutilization Marketing Office (DRMO) began using the site to store and distribute excess materials. The DRMO used buildings (Bldgs.) 1, 2, and 3 primarily for storage of general cargo. Approximately one-third of Bldg. 4 was used to receive excess materials that were sold to the public; the remaining portion was used for offices and a public auction bidding area. Although products including lime, fuel, hydraulic fluid, photographic chemicals, and paints were stored in Bldg. 4, no spills were reported. In 1984, the DRMO vacated Bldg. 2, and the Navy Exchange began using it as a rental storage facility for military personnel. In 1988, the DRMO vacated Bldgs. 1 and 3 and the eastern and central portions of Bldg. 4. From 1988 through 1989, various tenants used the warehouse buildings for nonhazardous material storage. From 1962 through 1989, the DRMO used the open area south of Bldg. 4 for storage of tires and surplus vehicles that were later sold to the public. Transformers containing PCBs and other deteriorating and leaking containers were also stored in the open area. All the warehouse buildings have been demolished. In 1994, the Navy submitted an Environmental Baseline Survey for Transfer and a Finding of Suitability to Transfer the PCJ Site. The property then transferred from the Navy to the State of Hawaii on 29 July 1994 pursuant to a Quitclaim Deed recorded in the State of Hawaii, Bureau of Conveyances, as Document no. 94-127207. Immediately following recording of the Navy Quitclaim Deed, the property again transferred to the City and County of Honolulu (CCH) pursuant to a Quitclaim Deed recorded in the State of Hawaii, Bureau of Conveyances, as Document no. 94-127208. The Quitclaim Deed reserves right of access to the property for the Navy for the purpose of performing environmental remediation. In early 2000, the CCH sold the property to the commercial firm Home Depot, Inc. An Environmental Agreement and Modification of Reserved Access Right between the Navy and Home Depot documents covenants that restrict land use to commercial or industrial, and grants right of access to the property to the Navy for the purpose of performing environmental remediation. By Special Warranty Deed recorded in the State of Hawaii Bureau of Conveyances, as Document No. 2003-01959, Home Depot conveyed the eastern end of the property to Public Storage, LLC. The results of the environmental investigations and response actions performed to address hazardous substances and petroleum potentially released at the Former PCJ Site are summarized below. The Navy and U.S. Air Force have investigated the site to evaluate the nature and extent of contamination, assess potential risks to human health, and design the response actions required to ensure that the Former PCJ Site does not pose unacceptable risk to human health or the environment. -1988: Preliminary Assessment (PA) -1990 - 1991: Site Inspection (SI) -1993: Baseline Risk Assessment -2001 - 2002: Regional Groundwater Assessment (RGA) -2007 - present: Air Force Remedial Investigation (RI) In 1988, the Naval Facilities Engineering Command, Pacific (NAVFAC Pacific) conducted a Preliminary Assessment to identify potential threats to human health or the environment associated with chemicals potentially released at the site. Based on a records search, interviews, and the lack of evidence of hazardous substance release, the PA report recommended no further action for the site under the NAVFAC Pacific ER Program; however, the EPA Region 9 did not concur with this recommendation. The Navy Public Works Center initially sampled soil at the PCJ Site in November 1990. The analytical results indicated that elevated levels of PCBs occurred in soils within the open storage area in front of Bldg. 4. This sampling was followed by a Site Inspection to assess whether hazardous substances had been released at the site, identify the types of chemicals that were released, and evaluate potential risks to human health and

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

the environment. Soil samples collected from the eastern third of Bldg. 4 and the open storage area were submitted for analysis of total petroleum hydrocarbons (TPH), total fuel hydrocarbons (TFH), volatile organic compounds (VOCs), semivolatile organic compounds, PCBs, chlorinated pesticides, metals, and hydrogen ion concentration. Because results indicated elevated levels of PCBs, dieldrin, metals, and TPH/TFH in the soil, the Site Inspection report recommended further evaluation of the site and delineation and remediation of dieldrin, beryllium, copper and TPH/TFH (removal of PCBs was already scheduled). Because TPH/TFH was detected only at locations with elevated PCB or dieldrin concentrations, the TPH were considered to be associated with these chemicals. After reviewing the SI report, the DOH recommended soil remediation with site-specific cleanup goals for PCBs, dieldrin, TPH, and metals. In 1993 and 1994, soil with PCB concentrations exceeding the DOH-approved cleanup goal for total PCBs 10 milligrams per kilogram (mg/kg) was removed from the western section of the open storage area, and the excavated areas were backfilled with clean soil. The results of verification sampling conducted to confirm removal of the PCB-impacted soil are presented in a Verification Sampling Report. The 1993-1994 removal action also included excavation and disposal of soil with dieldrin concentrations exceeding the DOH-approved cleanup goal for dieldrin (1 mg/kg). The dieldrin-impacted soil was generally restricted to depths of 1 foot or less, and was removed from an area in the southeast corner of the open storage area. The excavation area was backfilled with clean soil, and the contaminated soil was disposed of at a CERCLA-approved facility on the U.S. mainland. Successful completion of the dieldrin removal is documented in a Closure Report. An Action Memorandum was prepared to request and document approval of the dieldrin removal action. In July 1997, Home Depot, Inc., as a prospective buyer, collected soil samples from the west-central area of the open storage area, and detected PCB concentrations above the DOH-approved cleanup goal for total PCBs (10 mg/kg). The Navy then performed an initial round of soil sampling to confirm the presence of soil with PCB concentrations above the cleanup goal, and conducted delineation sampling to define the extent of the PCB-impacted soil. The impacted soil was then excavated and disposed of at a CERCLA-approved facility on the U.S. mainland. Verification soil samples collected from the excavation indicated that soil with PCB concentrations above the cleanup goal remained; further delineation and excavation were therefore performed to remove the impacted soil. A second set of post-excavation verification soil samples was collected, and the analytical results showed that the cleanup goal had been achieved. The excavation area was backfilled with clean soil and the impacted soil was disposed of at a CERCLA-approved U.S. mainland facility. Successful completion of the removal action is documented in a Remediation Verification Report. U.S. Air Force documents identify a former Air Force fuel pipeline that ran generally east-west along the northern boundary of the Former PCJ Site. The Air Force indicated that this pipeline historically carried aviation fuels and automotive gasoline. Home Depot, Inc. removed this pipeline in June-July 2000. No apparent impact (odors or field equipment readings) was observed in soil during the removal. The abandoned pipeline also reportedly carried aviation fuels and automotive gasoline. This ROD documents for the Administrative Record the decision by the Navy and the U.S. Environmental Protection Agency (EPA), with concurrence from the Hawaii Department of Health (DOH), to implement land use controls (LUCs) as the final remedy for the Former PCJ Site. The final remedy for the Former PCJ Site has been selected in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (as amended by the Superfund Amendments and Reauthorization Act [SARA]), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations [CFR] 300.430(e)(a)(iii)), and Presidential Executive Order 12580. Information

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

supporting the decisions leading to the selected remedy is contained in the Administrative Record file for the site. The decision to implement the final remedy identified in this ROD is based on and relies on the entire Administrative Record for the Former PCJ Site. Information not specifically summarized in this ROD or its references but contained in the Administrative Record has thus been considered and is relevant to selection of the remedy. A ROD for Operable Unit 14 at the Pearl Harbor Naval Complex Site was completed in September 2010. Operable Unit 16: The Site, the subject of this ROD, has been designated as an individual site within the Richardson GSA. The Site is located along the shoreline area of the PHNC and is bounded by the northern and eastern shoreline of East Loch and Arizona Memorial Drive. The Site is located in the Richardson GSA on the island of Oahu in the state of Hawaii. It is currently a Pearl Harbor Morale, Welfare, and Recreation Department recreational area. The Site occupies a flat area with very little relief or slope. The southern and central portion of the Site comprise a large grassy lawn area surrounding a large open-air picnic pavilion. A canoe shed area occupies the northwestern third of the Site. Buildings 97 and 103, and an asphalt parking lot are located in the northeast portion of the Site. Building 97 is currently used as a store room/restroom. Building 103 is used by a commercial dive shop and as storeroom/classroom. Two small sheds to the west of Building 103 are used by the dive shop for equipment and supply storage. The Site features were built in the 1940s, and were used to train Navy firefighting students by simulating fire situations likely to be encountered on a ship. Site features included structures built on concrete pads and lined with firebrick in order to create a simulated boiler room, aircraft carrier flight deck, aircraft carrier hangar compartment, ship forecastle area, and airplane. Other former features (Ref. 07) include an incinerator, an electrical transformer, fuel lines, fuel tanks, drainpipes, sumps, and oil-water separators that were associated with these structures. Reportedly, gasoline, diesel fuel, waste oil, and paints were used or handled from the early 1940s to 1976. The Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) stated that water and ignited materials washed into drains during firefighting training operations. These practices, along with the storage of petroleum, led to contamination of the soil and groundwater at the Site. In 1976, Site operations were transferred to another location within the Pearl Harbor Shipyard, and the majority of surface structures were removed. The approximate limits of the Site are marked by a chain stanchion surrounding the current Site. An RFI was conducted in 1992 to identify potential sites at PHNC that may require further investigation. The RFI included an assessment of the presence or absence of fuel or fuel related contamination at the Site based on the historical use of the Site. Geophysical surveying results indicated that sub-surface structures still existed and could be a source of any fuel based contamination. Free-phase petroleum product was observed in the lawn area (former oil-water separator locations), and between Buildings 97 and 103. A soil gas survey revealed detectable concentrations of toluene, methane and total volatile hydrocarbons in three areas. Limited subsurface soil and groundwater samples were collected at nine locations chosen to investigate potential source features like oil-water separators, sumps, and fuel storage tanks. Groundwater samples were collected directly from each boring. Soil and groundwater samples were analyzed for polychlorinated biphenyls (PCB), semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), and total fuel hydrocarbons (TFHs). The VOC benzene was detected in one groundwater sample at 56 micrograms per liter (ug/L). This concentration exceeded the EPA Risk-Based Screening Levels for Soil to Groundwater migration of 5 ug/L. Subsurface soil samples collected from two locations were found to have concentrations of TFH that exceeded the investigation screening levels. The investigation concluded that releases originated from a series of residual

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

point sources irregularly distributed across the Site. Based on low permeability of the soil throughout the Site it was suggested that the rate of contaminant movement was low and that contaminants degrade slowly in place. Further Investigation was recommended to determine the extent of petroleum contamination. A Removal Site Evaluation (RSE) was initiated in 2005 to further investigate the findings of the 1992 RFI, and to evaluate if any contaminated media at the Site was a result of previous Site activities. The RSE was conducted as the first phase of the engineering evaluation / cost analysis (EE/CA). The RSE results were also used to evaluate the need for further action at the Site. Several Site features were identified by the RSE: -Potential subsurface features were identified by a geophysical survey of the Site. The features were located at suspected locations of historic fuel storage features where free-phase product was observed. -Levels above initial screening criteria were found for PCBs (one sample), dioxins (31 samples), total petroleum hydrocarbon as diesel range organics (TPH-DRO) (one sample), PAHs (18 samples) and lead (one sample) in near-surface and surface soil. The highest PAH concentrations were found closest to the picnic pavilion. --The concentrations for PAHs and lead exceeding EPAs Regional Screening Levels (RSL (formerly 2004 EPA Region 9 Preliminary Remediation Goals) for soil were found in isolated locations at the Site. --Concentrations above the Toxic Substances Control Act (TSCA) level for PCBs (1 milligram per kilogram [mg/kg]) in soil were found at one location at the Site. --Concentrations of dioxins over the Office of Solid Waste and Emergency Response (OSWER) toxicity equivalent quotient (TEQ) level (1 microgram per kilogram [ug/kg]) for Residential Soils was detected in one soil sample location. -Levels above initial screening criteria were found for dioxins (six samples), total petroleum hydrocarbon as gasoline range organics (TPH-GRO) (two samples), TPH-DRO (19 samples), total petroleum hydrocarbon as lubricating oil range organics (TPH-LRO) (20 samples), PAHs (25 samples), cadmium (one sample), and lead (12 samples) in groundwater. Elevated concentrations for PAHs, dioxins, cadmium, and lead were likely due to adherence to suspended particulate matter. -Free-phase petroleum product was observed in two general areas: the Canoe Shed/Building 97/103 area and the lawn area in the southern area of the Site in an inferred location of a previous oil/water separator. These were two of the three locations identified for the later removal of petroleum-impacted soil. A Human Health and a Screening Ecological Risk Assessment were conducted as part of the RSE. Based on the risk assessment, a soil Removal Action (RA) was recommended based on the results of high lead and dioxin concentrations at the Site. An EE/CA of the findings presented in the RSE was completed in 2007. The EE/CA evaluated three future response alternatives. The preferred alternative was to remove four hazardous substance management areas, and three petroleum-impacted areas. It was recommended that the Site undergo a RA, in order to address the contaminants of concern (COCs), risks and subsurface features discovered during the RSE. Based on the findings of the EE/CA, a Non-Time Critical RA was performed at the Site. The purpose of the RA was to characterize, remove, transport, and dispose of soil from four hazardous substance management areas (Areas 1, 2, 6 and 7), and three petroleum-impacted areas (Areas, 3, 4 and 5). Samples collected/analyzed during the RA completed delineation of the impacted areas. Areas 1 and 2 were selected based on the risk posed by dioxin and lead concentrations. Areas 6 and 7 were selected as a measure of caution to remove PCBs (exceeding Applicable or Relevant and Appropriate Requirements [ARAR]) and PAHs (at the request of EPA Region 9). The RA activities have been documented in the Remediation Verification Report (RVR). The four COCs that drove the RA of the four hazardous substances management sites, described in the RVR, were: dioxins, lead, PAHs, and PCBs. Cleanup goals, recommended in the EE/CA, were determined for: dioxins in soil, from the EPA OSWER toxicity equivalent

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

quotient for Residential Levels, and dioxin TEQs in groundwater from the dioxin congener (2,3,7,8-TCDD) State of Hawaii Department of Health (DOH) EAL cleanup goal for groundwater; lead, and PCBs, from the EPA Residential RSLs (formerly 2004 EPA Region 9 Preliminary Remediation Goals). The project cleanup goals for PAHs were raised from the Residential Soil RSLs recommended in the EE/CA; however, still result in acceptable risk that is within the EPA target risk range for PAHs. Some PAHs can be related to combustion from barbecue activity. The raised cleanup goals were permissible because the areas sampled for PAHs were surrounding the Site barbeque pit, and are likely attributed to the current Site use (recreational barbeque activities), not to the former fire training activities. Among the four sites excavated, two separate locations were specifically excavated to eliminate exposure pathways to elevated near-surface and shallow subsurface concentrations of dioxin and lead, and two additional locations were excavated as a measure of caution. One of these was excavated to remove PCBs exceeding ARAR cleanup goals. The other was excavated to remove two locations of PAHs, based on an EPA Region 9 request, even though PAH concentrations did not exceed ARARs, or represent any significant risk. Subsurface soil samples were collected from each hazardous substance management and petroleum-impacted areas to delineate subsurface contamination. The four hazardous substances management sites were excavated to 0.5 feet below the deepest sample depth at each location. Only one sample, nearest MW-04, contained PAH concentrations above the site-specific cleanup goals. Following the excavation, an outward, sidewall, MI soil sample was collected from the respective location between ground surface (0.0 feet) and 2.0 feet below ground surface, and analyzed for the Site PAHs. According to the laboratory results, the PAH concentrations were below the site-specific cleanup goals; therefore, the excavation extents had been delineated. None of the other COCs exceeded the site-specific cleanup goals. Thirty-five, loose cubic yards of soil were removed from the four hazardous substance management areas. The excavated soil was characterized for proper disposal and shipped to a U.S. Mainland CERCLA and RCRA approved landfill for disposal. Six hundred twelve, loose cubic yards of petroleum contaminated soil were removed from the three petroleum impacted areas. The petroleum-related soil was, after characterization, disposed off-site at an on-island RCRA Subtitle D landfill. Free phase petroleum product was observed floating on the groundwater indicating a petroleum contamination source is still present at the Site. The distribution of free phase petroleum should be evaluated to determine the potential for the residual petroleum and/or related dissolved-phased constituents in groundwater to migrate toward Pearl Harbor. The results of the Site delineation were presented to representatives from the Navy, DOH, and EPA Region 9, and the excavation limits for hazardous substance management and petroleum-related areas were agreed upon. A ROD addressing Operable Unit 16, the contaminated soil and groundwater at the Former Firefighting Training Facility located in the Richardson Geographic Study Area at the Pearl Harbor Naval Complex site was completed in September 2010. Operable Unit 17 - Building 6: Bldg. 6 is a 52,000-ft2 building located within the Controlled Industrial Area (CIA) of Joint Base Pearl Harbor-Hickam (JBPHH), Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility (PHNSY & IMF), which is part of the Pearl Harbor Naval Complex (PHNC). The PHNC is a 2,100-acre Navy installation located approximately 7.5 miles west of Honolulu on the island of Oahu, Hawaii. JBPHH, PHNSY & IMF is one of the six major components of the PHNC and comprises approximately 350 acres within the PHNC. Bldg. 6 has five parallel rows of columns supporting the structure. The majority of the building floor area is a patchwork of concrete paved areas with intermittent unpaved areas scattered throughout. These unpaved areas were typically located near furnaces. Historically, molten metals were transferred from the furnaces to molds held in place in the unpaved areas by a sand/clay mixture. During the

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

transfer of the molten metal to the molds, metals may have been released to the sand/clay mixture and to the soil in the unpaved areas. Presently, plastic sheeting and plywood cover the exposed sand/clay mixture and soil. The largest unpaved area encompasses approximately 2,100 ft2 and is located in the central portion of the building. This large unpaved area is roped off with signs warning of elevated concentrations of lead. Within this unpaved area is a subsurface concrete vault approximately 160 ft2 in area and 8 feet in depth, which was used as a drip pit for molten metal-pouring activities. This unpaved area, including the concrete vault, has been backfilled with soil and sand. The north side of the building is lined with unoccupied offices, a restroom, a locker room, storage rooms, and workshops. Two active electrical substations are located inside Bldg. 6, one in the southwest corner of the building and one in the northeast corner of the building. A third active electrical substation is located outside of the north side of the building. Some equipment used in past foundry operations has been removed, but many furnaces and other equipment remain in place. Three mullers are located on the north side of the building. Mullers were typically used in foundry operations to "knead" or mix sand before being packed into wooden molds. Two large ovens and small drying ovens are located southeast of the largest unpaved area. A high temperature oven is located on the north side of the building. Six induction furnaces surround a generator room toward the south side of Bldg. 6. A large mechanical device (shaker) is located in the central portion of the building and was historically used to mix sand with other material to line the casting molds to ensure smooth surfaces for casting. Extending north of the large shaker is a long catwalk with a series of drop chutes that extend down to approximately 5 feet above the ground. Access to the facility is strictly controlled. In addition, access to JBPHH, PHNSY & IMF facilities is restricted to authorized personnel only, and security personnel at facility entrances and exits prohibit unauthorized trespassing by civilians to the Bldg. 6 area. Buildings 11, 12, and 315 are adjacent to Bldg. 6 to the north and west, and Seventh Street lies to the immediate east. To the immediate south, adjacent to the south wall of Bldg. 6, is the hydroblast area, consisting of an unroofed area with a grated floor, a hydroblast equipment room, and a walled sand recovery pit. The Bldg. 6 Foundry Shop, constructed in 1915 to cast new or replacement parts for naval vessels, is located within the CIA of JBPHH, PHNSY & IMF along 7th Street, approximately 1,000 feet south of Pearl Harbor. Foundry operations began during World War I and reached a peak during and shortly after World War II. More recently, foundry operations were limited to casting small replacement metal parts. Casting operations were conducted at multiple locations throughout Bldg. 6. Most of the foundry equipment is still in place; however, foundry operations ceased altogether in 1997. Since that time, the only industrial activities that have taken place inside Bldg. 6 are the following: -Periodic operation and maintenance of three electrical substations -Temporary storage of equipment -Temporary storage of CERCLA remediation wastes consisting of asbestos-containing material in 29 tri-wall boxes, which were removed after the expanded site inspection (SI) field investigation in 2002 No employees work within the building on a regular basis. Occasionally, Navy personnel go inside the building for maintenance and operation of the electrical substations and for access to the storage areas. The following environmental investigations related to the Bldg. 6 site have been conducted since 1993: -1987 Facility Assessment -1993: Investigation by Navy personnel -1995: SI -1998: Navy Maintenance and Cleanup -2001 and 2002: Expanded SI -2009 and 2010: remedial investigation/feasibility study (RI/FS) In 1987, a Facility Assessment was performed at the PHNC that recommended investigation of several solid waste management units and areas of concern within Bldg. 6. Navy personnel conducted an investigation in 1993 after soil suspected to be contaminated was

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

discovered during construction work within Bldg. 6. In February 1993, discolored soil was observed during excavation of the largest unpaved area in the eastern portion of the building, as part of construction work to install new equipment at the Foundry Shop. Initial sampling indicated that toxicity characteristic leaching procedure (TCLP) lead levels exceeded the 5.0 milligrams per liter (mg/L) regulatory limit in 4 of the 8 soil samples collected. An additional 36 soil samples were collected for total lead analysis. Of the additional 36 samples, 2 were collected from the former unpaved grassy area (which has since been paved), just outside of the southeast side of Bldg. 6 between columns 15 and 17; the rest were collected in and around the unpaved areas inside the building. The detected concentrations of total lead ranged from 24 milligrams per kilogram (mg/kg) to 9,550 mg/kg inside the building and from 99 to 1,305 mg/kg in the former unpaved grassy area just outside the building. In 1995, the Navy conducted a SI of three sites at the JBPHH, PHNSY & IMF. One of these investigations focused on the Bldg. 6 Foundry Shop, specifically the largest unpaved area inside the building and the former unpaved grassy area adjacent to the southwest side of the building. Surface soil from 13 areas was collected from the open areas inside and outside Bldg. 6. Of the surface soil samples collected, two were from the grassy unpaved area on the south side of Bldg. 6, and the remaining samples were collected in the large open area inside Bldg. 6 and at the former furnace and drip pan locations. All samples were analyzed for metals, and five of the samples were also analyzed for polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). Metals were detected in all of the surface soil samples. The highest concentration of metals detected in the surface soil appeared to be in specific hot-spot locations, including the grassy area outside Bldg. 6 and within the large unpaved interior sampling area. PAHs were detected in all five samples analyzed for organic chemicals of potential concern (COPCs). The 16 PAH analytes had combined total concentrations ranging from 2 micrograms per kilogram (ug/kg) to 563 ug/kg. The highest concentrations of PAHs were detected on the south side of the large unpaved sampling area inside Bldg. 6. PCBs were detected in all five samples at concentrations ranging from 26 to 3,200 ug/kg. The maximum PCB concentrations were detected in the surface soil samples from the north side of the large unpaved sampling area inside Bldg. 6. TPH-gasoline range organics and TPH-lube oil range organics (LRO) were detected in the surface soil samples from the northern portion of the large unpaved sampling area, but the TPH concentrations were below the screening criteria, with a maximum of 330 mg/kg. A total of 12 subsurface soil samples were collected from six soil borings drilled inside Bldg. 6 at depths ranging from 2 to 8 feet below ground surface (bgs). The subsurface soil samples were analyzed for metals; PAHs; PCBs; benzene, toluene, ethylbenzene, and xylenes; and TPH. Two soil borings were also drilled approximately 40 feet north of Bldg. 6 and two borings were drilled approximately 20 feet south of Bldg. 6 to evaluate background concentrations. All 23 metals analyzed for were detected in 1 or more of the subsurface soil samples obtained from borings inside Bldg. 6. Lead, copper, and zinc were present in subsurface soils at concentrations generally an order of magnitude greater than those observed in the background borings. These metals were attributed to past metal-casting operations in Bldg. 6. The highest concentrations of metals in soil within the building were located in the subsurface vault area in the north-central portion of the large unpaved sampling area. Metals contamination was observed to depths of at least 8 feet bgs. PAH concentrations in soil were significantly higher in subsurface soils than in surface soils in the large unpaved sampling area of Bldg. 6. Total PAH levels in subsurface soils ranged from 1.6 to 161,559 ug/kg, with the highest levels occurring in the center of the unpaved area. PAHs also increased with depth in this area, with the highest concentrations occurring in

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

samples at 8 feet bgs. PCB concentrations in subsurface soil samples were similar to those found in surface soils from the unpaved area of Bldg. 6, with the highest concentrations located in the northern portion of the large unpaved sampling area. However, PCB concentrations did decrease with depth to non-detectable levels at the bottom of the borings. Detected concentrations of PCBs ranged from 73 to 1,000 ug/kg. TPH concentrations were higher in subsurface soil than in surface soils in the large unpaved sampling area of Bldg. 6. At the time of the sampling, there were no screening criteria identified for TPH; however, the maximum concentration of 1,400 mg/kg is below the 2007 DOH Environmental Action Level (EAL) established subsequently. The highest concentrations of TPH were present in the center portion of the unpaved area, with three locations exhibiting TPH levels increasing with depth. Based on the analytical results of the soil sampling, the SI recommended further action because of elevated concentrations of lead. After foundry operations ceased, Navy personnel conducted a housekeeping effort in 1998, which was limited to removing dust from floors and surfaces, and covering the interior unpaved areas with plastic sheeting. Surface soil and floor-dust sweep samples were collected and analyzed for TCLP lead. Analytical results indicated leachable lead concentrations above the 5.0 mg/L hazardous waste regulatory limit in many areas of the building. In addition, under a time-critical removal action (TCRA) completed in 1998 to address environmental concerns in the catch basins at Bldg. 6, the Navy also removed and disposed of approximately 0.5 cubic yard of contaminated sediment from two catch basins associated with storm drains on the southeast side of Bldg. 6. Furthermore, the unpaved grassy area just outside of Bldg. 6 was paved over with concrete to prevent soil from entering the storm drains. A third feature, previously identified on facility drawings as a storm drain, was found to be a utility vault that did not receive discharges from the foundry operations. The removal action activities are documented in an action memorandum. In 2001, the Navy collected surface soil and subsurface soil samples during an expanded SI. Soil sampling was performed from 1 to 4 October 2001 throughout the Bldg. 6 site in accordance with the approved Work Plan and Sampling and Analysis Plan. A total of 92 soil samples were collected from 45 locations. Of these 45 locations, 39 were randomly selected based on a statistical sampling plan. A total of 80 soil samples were collected from these 39 locations and analyzed for PAHs, PCBs, and metals. Of the 45 locations, 5 locations were selected to target the areas where organic contaminants of potential concern (COPCs) were likely to occur, near the furnace and electrical substations; 10 soil samples collected from these 5 locations were analyzed for PAHs and PCBs. Based on field observations, TPH-diesel range organics (DRO) and TPH-LRO analyses were also conducted on 13 soil samples at 8 of the soil sampling locations. The final sample location was added adjacent to the boring for a monitoring well due to observed petroleum staining. Two soil samples were collected from this location and analyzed for PAHs, PCBs, metals, and TPH-DRO/LRO. Five PAHs were detected in surface soil at concentrations exceeding both industrial and residential soil screening criteria: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Benzo(a)anthracene concentrations ranged from 71 to 4,600 ug/kg, benzo(a)pyrene concentrations ranged from 2 to 6,800 ug/kg, and benzo(b)fluoranthene concentrations ranged from 55 to 8,100 ug/kg, with the maximum concentration detected in the large unpaved area in the eastern end of Bldg. 6. Dibenz(a,h)anthracene concentrations ranged from 2 to 1,700 ug/kg and indeno(1,2,3-cd)pyrene concentrations ranged from 45 to 3,700 ug/kg with the maximum concentration detected in the large unpaved area south of the electrical substation in the eastern end of Bldg. 6. For the subsurface soil data set, the same five PAHs as those found in surface soil samples were detected at concentrations exceeding screening criteria: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene,

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Maximum concentrations of several PAHs were located in the large unpaved area in the eastern end of Bldg. 6, including benzo(a)anthracene (1,000 ug/kg), benzo(a)pyrene (1,500 ug/kg), benzo(b)fluoranthene (2,100 ug/kg), dibenz(a,h)anthracene (360 ug/kg), and indeno(1,2,3-cd)pyrene (810 ug/kg). Two PCBs were detected in soil samples during the 2001 sampling effort: Aroclor-1254 and Aroclor-1260. At the southwestern end of Bldg. 6 in the open hydroblast area, Aroclor-1254 was detected at concentrations of 23 and 29 ug/kg (both at depths from 1.0 to 1.5 feet bgs). At the eastern end of Bldg. 6 adjacent to the unpaved area and the electrical substation, Aroclor-1260 was detected at a concentration of 190 ug/kg. These concentrations, however, did not exceed their respective risk based screening criteria. The only PCB detection (Aroclor-1248) in the 2001 subsurface soil data set occurred in a paved area at the eastern corner of Bldg. 6, near two large ovens and another set of drying ovens. The concentration of Aroclor-1248 (1.6 ug/kg) did not exceed any screening criterion. Metal concentrations in surface soil were higher than those detected in subsurface soil. For the 2001 dataset, metals exceeding industrial preliminary remediation goals (PRGs) occurred near equipment or the large unpaved area in the eastern end of Bldg. 6. A sample containing lead at 11,000 mg/kg, was located within the large unpaved area in the eastern end of Bldg. Unlike the metals and PAHs, the TPH-DRO and TPH-LRO concentrations were found to be higher in subsurface soil than in the surface soil. TPH- DRO concentration ranged from 11 to 13 mg/kg. TPH-LRO concentrations ranged from 35 to 250 mg/kg. These soil samples were isolated to the eastern end of Bldg. 6 located near oil furnaces and an unpaved area. In 2002 the Navy collected additional surface soil and subsurface soil samples as part of the expanded SI. Soil sampling was performed on 5 November 2002 throughout the Bldg. 6 site in accordance with the approved Work Plan and Sampling and Analysis Plan. Seven soil samples were collected from four locations. All soil samples were surface and shallow subsurface soil samples, because refusal was encountered at depths of 1.5 to 2.0 feet bgs. Six of the seven soil samples were analyzed for PAHs, PCBs, metals, and TPH-DRO/LRO. The remaining soil sample was analyzed for PAHs, PCBs, and TPH-DRO/LRO only, because it was collected in an unpaved area adjacent to an electrical substation where COPCs did not include metals. Benzo(a)pyrene in surface soil exceeded both industrial and residential screening criteria. Benzo(a)pyrene concentrations ranged from 62 to 290 ug/kg, of which the maximum concentration was detected in the furnace area in the western portion of Bldg. 6. The only other PAH exceedance in the 2002 data set was for dibenz(a,h)anthracene, also in the furnace area in the western portion of Bldg. 6. Aroclor-1260, ranging from 64 to 5,100 ug/kg, was the only PCB detected in any of the soil samples collected during the 2002 fieldwork. It was detected in five of six surface soil samples, but the detections were all in unpaved areas adjacent to electrical substations. The maximum concentration of 5,100 ug/kg occurred in the unpaved area in the western end of Bldg. 6. Sampling points surrounding this maximum detection (from the 2001 fieldwork) did not have PCB detections, indicating a limited lateral extent of contamination. PCB soil sampling results under a separate investigation from the area just outside the third electrical substation (designated as E-13) showed Aroclor-1260 concentrations ranging between 1,200 and 2,600 ug/kg. These detections were found in soil samples collected on the north end of E-13. Though soil sampling results under this separate investigation revealed PCB detections above screening criteria, soil sampling points located just south of E-13 did not have PCB detections. Therefore, the PCB detections for E-13 were isolated to soil areas outside of Bldg. 6. In the 2002 shallow subsurface soil samples, Aroclor-1260 was detected in one sample from the unpaved area located north of an electrical substation (located in the southwestern corner of Bldg. 6) at a concentration of 320 ug/kg, which exceeded

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

the residential screening criteria. The majority of the elevated metal concentrations detected in 2002 (maximum lead concentration of 247,000 mg/kg) occurred in samples collected from the paved area at the western end of Bldg. 6, adjacent to one set of induction furnaces, the likely source of the metal contamination. When the metal concentrations in soil were compared to estimated background concentrations, several metals were found at Bldg. 6 within respective estimated background concentration ranges and were concluded not to reflect impacts from previous foundry operations. However, 13 metals (antimony, arsenic, barium, cadmium, cobalt, copper, lead, mercury, nickel, silver, thallium, vanadium, and zinc) did exceed the estimated background ranges. Unlike the metals and PAHs, the TPH-DRO and TPH-LRO concentrations were found to be higher in subsurface soil than in the surface soil. TPH-DRO concentrations range from 41 to 52 mg/kg. Groundwater samples were collected from four previously installed wells and two new wells during the 2001 and 2002 Expanded SI. Groundwater samples were also collected from two existing underground storage tank (UST) wells located southeast of Bldg. 6, and one grab sample each of sediment and water was collected from both the sub-floor vault and pour pit. Groundwater samples were analyzed for total and dissolved metals, PAHs, PCBs, TPH-DRO, TPH-LRO, and general water chemistry. PAH and dissolved aluminum were detected in groundwater at concentrations that exceeded 2002 EPA Region 9 PRGs. The dissolved aluminum exceedances (ranging from 399 ug/L to 1,020 ug/L), however, occurred only in one monitoring well (MW-01) located downgradient of Bldg. 6. The PAH exceedances included dibenz(a,h)anthracene (4 micrograms per liter [ug/L]), benzo(g,h,i)perylene (6 ug/L), fluorine (ranging from 0.243 to 1.5 ug/L), and acenaphthene (ranging from 0.31 to 2.3 ug/L) and only occurred in wells that also contained TPH DRO and TPH-LRO for which the source appears to be upgradient of Bldg. 6 (i.e., leaks from the former UST or other upgradient petroleum sources). PCBs were not detected in any of the groundwater samples collected. A RI/FS was conducted in 2009/2010 to determine whether further action is required for the Bldg. 6 site. The RI/FS was initiated in response to unresolved federal and state regulator comments on the Expanded SI report. The scope of the RI included collecting confirmation groundwater samples, reevaluating risks to human health and ecological receptors, and addressing unresolved federal and state regulatory comments and concerns. Because human health risks were determined to be unacceptable, the FS was conducted to develop and evaluate remedial alternatives, and recommend a remedial alternative that, if implemented, will reduce, control, or mitigate unacceptable risks. Two rounds of confirmation groundwater samples were collected to establish the current concentration of dissolved vanadium at the site and evaluate how the current data compared with previously collected data during the 2001 and 2002 collection events. The previous investigations identified elevated concentrations of PAHs and metals in the groundwater (attributed to upgradient sources). However, during the RI, the groundwater concentrations were compared to more recent DOH EALs. As a result of this comparison, the EPA and DOH agreed that the only remaining concern for groundwater was vanadium, and determined that more information was necessary to accurately characterize dissolved vanadium in the groundwater at the Bldg. 6 site. One groundwater sampling round was conducted during the 2009 "dry season" and one round during the 2010 "wet or rainy season" to determine whether seasonal variability affected the concentration of dissolved vanadium present beneath the Bldg. 6 site. Groundwater samples were collected at eight wells (MW-01 through MW-06 and UST MW-08 and MW-09) in and around Bldg. 6. Dissolved vanadium was detected in all eight wells sampled with a maximum concentration of 140 microgram per liter (ug/L) detected at MW-01. No DOH water quality standard for saltwater acute toxicity exists for vanadium but the DOH EAL of 19 ug/L was exceeded at six wells (MW-01, MW-02, MW-03, MW-04, MW-06, and UST MW-08). Dissolved vanadium concentrations detected during the 2009 sampling

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

event were similar to concentrations detected in 2001 and 2002. The reported concentrations of vanadium over several monitoring events indicate that vanadium in the groundwater is stable and there are no apparent migration pathways to Pearl Harbor. In addition, the regulators have concurred that concentrations of vanadium observed in the groundwater are likely attributable to background concentrations reflected by the vanadium concentrations naturally occurring in volcanic soils such as those found under Bldg. 6. Therefore, the RI recommended no further action for groundwater. Risks to human health and ecological receptors were re-evaluated by initially screening historical data with the 2007 DOH Tier 1 EALs and Oahu-wide background concentration ranges for metals. Chemicals that exceeded both background (metals only) and risk-based screening levels were further evaluated in a revised human health screening risk assessment (SRA). The results of the SRA concluded that metals (primarily antimony, arsenic, and lead), PAHs, and PCBs in surface and subsurface soil could pose risk to potential future residents or industrial workers. TPH-DRO and LRO were also detected at concentrations exceeding the DOH EAL. Because contaminants exceeding industrial scenario cleanup goals are present in surface soils, the RI recommended that a response action be conducted to ensure that unacceptable worker and hypothetic future resident exposure does not occur and to allow future industrial or commercial reuse of the building. Proper closure of the vaults and pit were also recommended for worker safety, to prevent potential future exposure to contaminants in residual water (if present) or sediment, and to eliminate a potential source of soil or groundwater contamination should cracks develop in the vault or pit in the future. The site is used for industrial purposes. Most areas are paved with no critical ecological habitat in or adjacent to the building. The ecological risk assessment concluded that chemicals detected pose no threat to wildlife or ecology because the contaminated soil is contained within a closed building, which is surrounded by a paved area, and dispersion and natural attenuation would occur along the potential offsite transport pathways (e.g., groundwater flow, storm water runoff, and wind transport). A SI was conducted by the Navy Comprehensive Long-Term Environmental Action Navy (CLEAN) II contractor under contract task order (CTO) 087 to investigate several Navy transformer sites on Oahu, Hawaii (Earth Tech 2003). Concrete and soil samples were collected at Transformer E-13 (an electrical substation located in the northeast corner of Bldg. 6). The concrete samples were all non-detect; however, soil samples collected immediately below the asphalt adjacent to Transformer E-13 were found to contain PCB concentrations above the Toxic Substances Control Act (TSCA) screening criterion of 1 mg/kg. The SI recommended further evaluation of this transformer site, which is being conducted under the Navy CLEAN III contract, contract task order (CTO) HC42 for the base-wide PCB program. The Navy will coordinate the projects to ensure that the remedies for Bldg. 6 and the base-wide PCB program will not conflict with each other, and that all remedies implemented will be protective of human health and the environment. A ROD addressing OU17 at the Pearl Harbor Naval Complex Site was completed in July 2012.

CERCLIS Assessment History:

Action Code:	001
Action:	DISCOVERY
Date Started:	/ /
Date Completed:	10/01/80
Priority Level:	Not reported
Operable Unit:	SITEWIDE
Primary Responsibility:	EPA Fund-Financed
Planning Status:	Not reported
Urgency Indicator:	Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 04/01/86
Priority Level: Low priority for further assessment
Operable Unit: SITEWIDE
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: SITE INSPECTION
Date Started: / /
Date Completed: 08/21/89
Priority Level: Higher priority for further assessment
Operable Unit: SITEWIDE
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: HAZARD RANKING SYSTEM PACKAGE
Date Started: / /
Date Completed: 07/25/91
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: PROPOSAL TO NATIONAL PRIORITIES LIST
Date Started: / /
Date Completed: 07/29/91
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Action Code: 001
Action: FINAL LISTING ON NATIONAL PRIORITIES LIST
Date Started: / /
Date Completed: 10/14/92
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: INTERAGENCY AGREEMENT NEGOTIATIONS
Date Started: 03/11/93
Date Completed: 09/30/93
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FEDERAL INTERAGENCY AGREEMENT
Date Started: 09/30/93
Date Completed: 09/30/93
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 004
Action: FEDERAL FACILITY REMOVAL
Date Started: 04/01/93
Date Completed: 04/01/94
Priority Level: Stabilized
Operable Unit: AIEA
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Non-Time Critical
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FEDERAL FACILITY REMOVAL
Date Started: 07/17/95

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Date Completed: 08/23/96
Priority Level: Partially Cleaned up
Operable Unit: NSY DRY DOCK #3
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Non-Time Critical
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: FEDERAL FACILITY REMOVAL
Date Started: 03/13/95
Date Completed: 10/30/96
Priority Level: Partially Cleaned up
Operable Unit: AIEA
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Non-Time Critical
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003
Action: FEDERAL FACILITY REMOVAL
Date Started: 02/23/95
Date Completed: 04/01/97
Priority Level: Partially Cleaned up
Operable Unit: FORD IS HAZ SITES (SANS LF)
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Non-Time Critical
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: UNILATERAL ADMIN ORDER
Date Started: / /
Date Completed: 03/28/05
Priority Level: Not reported
Operable Unit: OAHU SUGAR, WAIPIO PENN
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 007
Action: FEDERAL FACILITY REMOVAL
Date Started: 12/14/05
Date Completed: 07/19/06
Priority Level: Not reported
Operable Unit: FORD IS HAZ SITES (SANS LF)
Primary Responsibility: Federal Facilities

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 008
Action: FEDERAL FACILITY REMOVAL
Date Started: 06/02/06
Date Completed: 08/22/06
Priority Level: Not reported
Operable Unit: FORD IS HAZ SITES (SANS LF)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 010
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: 09/28/06
Priority Level: Not reported
Operable Unit: WESTLOCH BLDG 49
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 08/23/94
Date Completed: 09/28/06
Priority Level: Not reported
Operable Unit: MANANA STORAGE
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/28/06
Priority Level: Not reported
Operable Unit: WESTLOCH BLDG 49
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Action Code: 003
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/28/06
Priority Level: Not reported
Operable Unit: MANANA STORAGE
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 009
Action: FEDERAL FACILITY REMOVAL
Date Started: 08/24/07
Date Completed: 09/27/07
Priority Level: Not reported
Operable Unit: RICHARDSON- FFTF
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 012
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/28/07
Priority Level: Not reported
Operable Unit: PCB THERMAL DESORPTION SITES
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 012
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 06/10/99
Date Completed: 09/29/09
Priority Level: Not reported
Operable Unit: FORD IS HAZ SITES (SANS LF)
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 017
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/29/09

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Priority Level: Not reported
Operable Unit: FORD IS HAZ SITES (SANS LF)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 005
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/29/09
Priority Level: Not reported
Operable Unit: FORD IS HAZ SITES (SANS LF)
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: UNILATERAL ADMIN ORDER
Date Started: / /
Date Completed: 09/30/09
Priority Level: Not reported
Operable Unit: KAANAPALI OAHU SUGAR WAIPIO
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: Notice of Intent by All Parties
Date Started: / /
Date Completed: 10/30/09
Priority Level: Not reported
Operable Unit: KAANAPALI OAHU SUGAR WAIPIO
Primary Responsibility: Not reported
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: ENGINEERING EVALUATION/COST ANALYSIS
Date Started: / /
Date Completed: 03/18/10
Priority Level: Not reported
Operable Unit: MOANALUA CHURCH SITE
Primary Responsibility: Federal Facilities

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 008
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: 07/02/10
Priority Level: Not reported
Operable Unit: NSY DRY DOCK #3
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 004
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 07/02/10
Priority Level: Not reported
Operable Unit: NSY DRY DOCK #3
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 005
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: 09/14/10
Priority Level: Not reported
Operable Unit: PCB THERMAL DESORPTION SITES
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 005
Action: FEDERAL FACILITY REMOVAL
Date Started: 01/03/00
Date Completed: 09/14/10
Priority Level: Not reported
Operable Unit: PCB THERMAL DESORPTION SITES
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

For detailed financial records, contact EDR for a Site Report.:

Action Code: 013
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/14/10
Priority Level: Not reported
Operable Unit: PCB THERMAL DESORPTION SITES
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 017
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: 09/27/10
Priority Level: Not reported
Operable Unit: RICHARDSON- FFTF
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 004
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: 09/27/10
Priority Level: Not reported
Operable Unit: PWC- MAKALAPA RINSATE PIT
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 014
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 05/15/99
Date Completed: 09/27/10
Priority Level: Not reported
Operable Unit: PEARL CITY JUNCTION
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 010
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/27/10

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Priority Level: Not reported
Operable Unit: PWC- MAKALAPA RINSATE PIT
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 018
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/27/10
Priority Level: Not reported
Operable Unit: PEARL CITY JUNCTION
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 014
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/27/10
Priority Level: Not reported
Operable Unit: RICHARDSON- FFTF
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FEDERAL FACILITY REMEDIAL DESIGN
Date Started: 09/27/10
Date Completed: 10/25/10
Priority Level: Not reported
Operable Unit: PWC- MAKALAPA RINSATE PIT
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: FEDERAL FACILITY REMEDIAL ACTION
Date Started: 09/29/09
Date Completed: 01/20/11
Priority Level: Not reported
Operable Unit: FORD IS HAZ SITES (SANS LF)
Primary Responsibility: Federal Facilities

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Planning Status: Not reported
Urgency Indicator: Limited Action
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 010
Action: FEDERAL FACILITY REMOVAL
Date Started: 05/07/10
Date Completed: 05/27/11
Priority Level: Not reported
Operable Unit: MOANALUA CHURCH SITE
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 007
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: 09/23/11
Priority Level: Not reported
Operable Unit: FORD ISLAND LANDFILL
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 015
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/23/11
Priority Level: Not reported
Operable Unit: FORD ISLAND LANDFILL
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 004
Action: FEDERAL FACILITY REMEDIAL ACTION
Date Started: 06/09/11
Date Completed: 07/11/12
Priority Level: Not reported
Operable Unit: PCB THERMAL DESORPTION SITES
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Limited Action
Action Anomaly: Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

For detailed financial records, contact EDR for a Site Report.:

Action Code: 016
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: 07/12/12
Priority Level: Not reported
Operable Unit: NSY BLDG 6, FORMER FOUNDRY
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 021
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 07/12/12
Priority Level: Not reported
Operable Unit: NSY BLDG 6, FORMER FOUNDRY
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003
Action: FEDERAL FACILITY REMEDIAL ACTION
Date Started: 08/10/11
Date Completed: 08/27/12
Priority Level: Not reported
Operable Unit: NSY DRY DOCK #3
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 025
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 03/29/13
Priority Level: Not reported
Operable Unit: RAA 11 AND 13
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 021

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 03/13/09
Date Completed: 09/23/13
Priority Level: Not reported
Operable Unit: PWC BUILDING 35 - PAINT SHOP
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 026
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/23/13
Priority Level: Not reported
Operable Unit: PWC BUILDING 35 - PAINT SHOP
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 006
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: / /
Priority Level: Not reported
Operable Unit: NAVAL HOUSING
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Other Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 015
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: / /
Priority Level: Not reported
Operable Unit: PEARL CITY LF/BURN AREA
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 009
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: / /
Priority Level: Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Operable Unit: PEARL CITY FUEL ANNEX
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: / /
Priority Level: Not reported
Operable Unit: HALAWA B-60 SLUDGE DISP PIT
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/30/93
Date Completed: / /
Priority Level: Not reported
Operable Unit: WAIPIO PENINSULA
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: Restoration Advisory Board
Date Started: 04/01/95
Date Completed: / /
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 011
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 08/01/95
Date Completed: / /
Priority Level: Not reported
Operable Unit: AIEA
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

For detailed financial records, contact EDR for a Site Report.:

Action Code: 013
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/19/95
Date Completed: / /
Priority Level: Not reported
Operable Unit: PH SEDIMENT
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: POTENTIALLY RESPONSIBLE PARTY REMOVAL
Date Started: 04/07/05
Date Completed: / /
Priority Level: Not reported
Operable Unit: OAHU SUGAR, WAIPIO PENN
Primary Responsibility: Responsible Party
Planning Status: Project Suspended
Urgency Indicator: Time Critical
Action Anomaly: Other Start and Completion Anomaly

For detailed financial records, contact EDR for a Site Report.:

Action Code: 018
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 06/26/06
Date Completed: / /
Priority Level: Not reported
Operable Unit: PWC INDUSTRIAL WWTP
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 019
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 04/28/08
Date Completed: / /
Priority Level: Not reported
Operable Unit: NSY BLDG 394, FORM BATTACIDPIT
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 020
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 03/03/09

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Date Completed: / /
Priority Level: Not reported
Operable Unit: WEST LOCH 4TH ST. CORAL PIT LF
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 022
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 05/29/09
Date Completed: / /
Priority Level: Not reported
Operable Unit: WAIPIO PENINSULA
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: ENGINEERING EVALUATION/COST ANALYSIS
Date Started: 09/28/09
Date Completed: / /
Priority Level: Not reported
Operable Unit: KAANAPALI OAHU SUGAR WAIPIO
Primary Responsibility: Responsible Party
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FEDERAL FACILITY REMEDIAL ACTION
Date Started: 11/22/10
Date Completed: / /
Priority Level: Not reported
Operable Unit: PWC- MAKALAPA RINSATE PIT
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 023
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 03/29/11
Date Completed: / /
Priority Level: Not reported
Operable Unit: ADDITIONAL TRANSFORMERS
Primary Responsibility: Federal Facilities

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 024
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 07/21/11
Date Completed: / /
Priority Level: Not reported
Operable Unit: WEST LOCH OTTO FUEL WASTE STOR
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 025
Action: FEDERAL FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 08/17/11
Date Completed: / /
Priority Level: Not reported
Operable Unit: BUILDING 992 OPEN AREA
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: FEDERAL FACILITY REMEDIAL DESIGN
Date Started: 07/12/12
Date Completed: / /
Priority Level: Not reported
Operable Unit: NSY BLDG 6, FORMER FOUNDRY
Primary Responsibility: Federal Facilities
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Federal Register Details:
Fed Register Date: 10/14/92
Fed Register Volume: 57
Page Number: 47181

Fed Register Date: 07/29/91
Fed Register Volume: 56
Page Number: 35840

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Click this hyperlink while viewing on your computer to access
512 additional US CERCLIS Financial: record(s) in the EDR Site Report.

US ENG CONTROLS:

EPA ID:	HI4170090076
Site ID:	0904481
Name:	PEARL HARBOR NAVAL COMPLEX
Address:	US NAVAL COMMAND
	PEARL HARBOR, HI 96860
EPA Region:	09
County:	HONOLULU
Event Code:	Not reported
Actual Date:	06/30/2013
Contact Name:	Not reported
Contact Phone and Ext:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Action ID:	002
Action Name:	RECORD OF DECISION
Action Completion date:	09/28/2006
Operable Unit:	08
Contaminated Media :	Groundwater
Engineering Control:	No Further Action
Contact Name:	Not reported
Contact Phone and Ext:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Action ID:	002
Action Name:	RECORD OF DECISION
Action Completion date:	09/28/2006
Operable Unit:	08
Contaminated Media :	Soil
Engineering Control:	No Further Action
Contact Name:	Not reported
Contact Phone and Ext:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Action ID:	003
Action Name:	RECORD OF DECISION
Action Completion date:	09/28/2006
Operable Unit:	10
Contaminated Media :	Groundwater
Engineering Control:	No Further Action
Contact Name:	Not reported
Contact Phone and Ext:	Not reported
Latitude:	Not reported
Longitude:	Not reported

Action ID:	003
Action Name:	RECORD OF DECISION
Action Completion date:	09/28/2006
Operable Unit:	10
Contaminated Media :	Soil

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 07/02/2010
Operable Unit: 06
Contaminated Media : Soil
Engineering Control: Cap
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 07/02/2010
Operable Unit: 06
Contaminated Media : Soil
Engineering Control: Impermeable Barrier
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 07/02/2010
Operable Unit: 06
Contaminated Media : Soil
Engineering Control: Operations & Maintenance (O&M)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 005
Action Name: RECORD OF DECISION
Action Completion date: 09/29/2009
Operable Unit: 12
Contaminated Media : Groundwater
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 005
Action Name: RECORD OF DECISION
Action Completion date: 09/29/2009
Operable Unit: 12
Contaminated Media : Soil
Engineering Control: Impermeable Barrier
Contact Name: Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 005
Action Name: RECORD OF DECISION
Action Completion date: 09/29/2009
Operable Unit: 12
Contaminated Media : Soil
Engineering Control: Operations & Maintenance (O&M)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 010
Action Name: RECORD OF DECISION
Action Completion date: 09/27/2010
Operable Unit: 03
Contaminated Media : Soil
Engineering Control: Disposal
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 010
Action Name: RECORD OF DECISION
Action Completion date: 09/27/2010
Operable Unit: 03
Contaminated Media : Soil
Engineering Control: Excavation
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 012
Action Name: RECORD OF DECISION
Action Completion date: 09/28/2007
Operable Unit: 01
Contaminated Media : Debris
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 012
Action Name: RECORD OF DECISION
Action Completion date: 09/28/2007
Operable Unit: 01
Contaminated Media : Soil
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Longitude: Not reported

Action ID: 014
Action Name: RECORD OF DECISION
Action Completion date: 09/27/2010
Operable Unit: 16
Contaminated Media : Groundwater
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 014
Action Name: RECORD OF DECISION
Action Completion date: 09/27/2010
Operable Unit: 16
Contaminated Media : Soil
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 015
Action Name: RECORD OF DECISION
Action Completion date: 09/23/2011
Operable Unit: 05
Contaminated Media : Groundwater
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 015
Action Name: RECORD OF DECISION
Action Completion date: 09/23/2011
Operable Unit: 05
Contaminated Media : Soil
Engineering Control: Impermeable Barrier
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 015
Action Name: RECORD OF DECISION
Action Completion date: 09/23/2011
Operable Unit: 05
Contaminated Media : Soil
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Action ID: 015
Action Name: RECORD OF DECISION
Action Completion date: 09/23/2011
Operable Unit: 05
Contaminated Media : Soil
Engineering Control: Operations & Maintenance (O&M)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 015
Action Name: RECORD OF DECISION
Action Completion date: 09/23/2011
Operable Unit: 05
Contaminated Media : Soil Gas
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 015
Action Name: RECORD OF DECISION
Action Completion date: 09/23/2011
Operable Unit: 05
Contaminated Media : Surface Water
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 017
Action Name: RECORD OF DECISION
Action Completion date: 09/29/2009
Operable Unit: 12
Contaminated Media : Groundwater
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 017
Action Name: RECORD OF DECISION
Action Completion date: 09/29/2009
Operable Unit: 12
Contaminated Media : Liquid Waste
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 017
Action Name: RECORD OF DECISION

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Action Completion date: 09/29/2009
Operable Unit: 12
Contaminated Media : Soil
Engineering Control: No Further Action
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

Action ID: 021
Action Name: RECORD OF DECISION
Action Completion date: 07/12/2012
Operable Unit: 17
Contaminated Media : Soil
Engineering Control: Cap
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported

US INST CONTROL:
EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Land Use Restriction
Actual Date: 09/30/2010
Complet. Date: 07/02/2010
Operable Unit: 06
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext :Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Groundwater use/well drilling regulation
Actual Date: 09/30/2009
Complet. Date: 09/29/2009
Operable Unit: 12
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext :Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Access Restriction
Actual Date: 09/30/2009
Complet. Date: 09/29/2009
Operable Unit: 12
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Building, demolition, or excavation regulation
Actual Date: 09/30/2009
Complet. Date: 09/29/2009
Operable Unit: 12
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Deed Restriction
Actual Date: 09/30/2009
Complet. Date: 09/29/2009
Operable Unit: 12
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Deed Restriction
Actual Date: 09/30/2010
Complet. Date: 09/14/2010
Operable Unit: 01
Contaminated Media : Buildings/Structures
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Land Use Restriction
Actual Date: 09/30/2010
Complet. Date: 09/14/2010
Operable Unit: 01
Contaminated Media : Buildings/Structures
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Deed Restriction
Actual Date: 09/30/2010
Complet. Date: 09/14/2010
Operable Unit: 01
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Land Use Restriction
Actual Date: 09/30/2010
Complet. Date: 09/14/2010
Operable Unit: 01
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Covenant
Actual Date: 09/30/2011
Complet. Date: 09/23/2011
Operable Unit: 05
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Institutional Controls, (N.O.S.)
Actual Date: 09/30/2011
Complet. Date: 09/23/2011
Operable Unit: 05
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Land Use Restriction
Actual Date: 09/30/2011
Complet. Date: 09/23/2011
Operable Unit: 05
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Access Restriction, Fencing
Actual Date: 09/30/2010
Complet. Date: 09/27/2010
Operable Unit: 14
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Access Restriction, Guards
Actual Date: 09/30/2010
Complet. Date: 09/27/2010
Operable Unit: 14
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Covenant
Actual Date: 09/30/2010
Complet. Date: 09/27/2010
Operable Unit: 14
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Deed Notices
Actual Date: 09/30/2010
Complet. Date: 09/27/2010
Operable Unit: 14
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Deed Restriction
Actual Date: 09/30/2010
Complet. Date: 09/27/2010
Operable Unit: 14
Contaminated Media : Groundwater
Contact Name : Not reported
Contact Phone and Ext : Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Access Restriction, Fencing
Actual Date: 09/30/2010
Complet. Date: 09/27/2010
Operable Unit: 14
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Access Restriction, Guards
Actual Date: 09/30/2010
Complet. Date: 09/27/2010
Operable Unit: 14
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Covenant
Actual Date: 09/30/2010
Complet. Date: 09/27/2010
Operable Unit: 14
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Deed Notices
Actual Date: 09/30/2010
Complet. Date: 09/27/2010
Operable Unit: 14
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Deed Restriction
Actual Date: 09/30/2010
Complet. Date: 09/27/2010
Operable Unit: 14
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported

EPA ID: HI4170090076
Site ID: 0904481
Name: PEARL HARBOR NAVAL COMPLEX
Action Name: RECORD OF DECISION
Address: US NAVAL COMMAND
PEARL HARBOR, HI 96860
EPA Region: 09
County: HONOLULU
Event Code: Not reported
Inst. Control: Land Use Restriction
Actual Date: 06/30/2013
Complet. Date: 07/12/2012
Operable Unit: 17
Contaminated Media : Soil
Contact Name : Not reported
Contact Phone and Ext : Not reported

PEARL HARBOR NAVAL COMPLEX (Continued) **1000707626**

Latitude : Not reported
Longitude : Not reported

ROD:
Full-text of USEPA Record of Decision(s) is available from EDR.

PRP:
PRP name: OAHU SUGAR COMPANY, LLC
OAHU SUGAR COMPANY, LLC

---

8 **JMH, INC DBA EWA MART** **HI LUST** **U001236288**
WSW **91-831 FT WEAVER RD** **HI UST** **N/A**
1/8-1/4 **EWA BEACH, HI 96706** **HI Financial Assurance**
0.240 mi.
1265 ft.

Relative:
Higher

Actual:
10 ft.

LUST:
Facility ID: 9-201183
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 12/11/2001
Release ID: 950107
Project Officer: Shaobin Li

Facility ID: 9-201183
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 03/24/1994
Release ID: 930070
Project Officer: Shaobin Li

UST:
Facility ID: 9-201183
Owner: JMH INC DBA EWA MART
Owner Address: 91-831 FT. WEAVER ROAD
Owner City,St,Zip: Ewa Beach, 96706 96706
Latitude: 21.315170
Longitude: -158.012350
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: Map

Tank ID: 87
Date Installed: 07/10/1995
Tank Status: **Currently in Use**
Date Closed: Not reported
Tank Capacity: 10000
Substance: Gasoline

Tank ID: 92
Date Installed: 07/10/1995
Tank Status: **Currently in Use**
Date Closed: Not reported
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-1

JMH, INC DBA EWA MART (Continued) **U001236288**

Date Installed: 04/04/1980
Tank Status: **Permanently Out of Use**
Date Closed: 07/10/1995
Tank Capacity: 8000
Substance: Gasoline

Tank ID: R-2
Date Installed: 04/04/1964
Tank Status: **Permanently Out of Use**
Date Closed: 07/10/1995
Tank Capacity: 8000
Substance: Gasoline

Tank ID: R-3
Date Installed: 04/04/1964
Tank Status: **Permanently Out of Use**
Date Closed: 07/10/1995
Tank Capacity: 5000
Substance: Gasoline

Tank ID: R-7
Date Installed: Not reported
Tank Status: **Permanently Out of Use**
Date Closed: 02/25/1993
Tank Capacity: 550
Substance: Used Oil

HI Financial Assurance:
Alt Facility ID: 9-201183
Tank Id: R-3
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201183
Tank Id: R-2
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201183
Tank Id: 87
Tank Status: Currently in Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201183
Tank Id: 92
Tank Status: Currently in Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201183
Tank Id: R-7

JMH, INC DBA EWA MART (Continued) **U001236288**

Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201183
Tank Id: R-1
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201183
Tank Id: R-3
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: 02/27/2015

Alt Facility ID: 9-201183
Tank Id: R-1
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: 02/27/2015

Alt Facility ID: 9-201183
Tank Id: 92
Tank Status: Currently in Use
FRTYPE: Insurance
Expiration Date: 02/27/2015

Alt Facility ID: 9-201183
Tank Id: 87
Tank Status: Currently in Use
FRTYPE: Insurance
Expiration Date: 02/27/2015

Alt Facility ID: 9-201183
Tank Id: R-7
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: 02/27/2015

Alt Facility ID: 9-201183
Tank Id: R-2
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: 02/27/2015

B9 **EWA BEACH CHEVRON SS** **HI LUST** **U004228176**
West **91-909 FT WEAVER RD** **HI UST** **N/A**
1/4-1/2 **EWA BEACH, HI 96706** **HI Financial Assurance**
0.311 mi.
1641 ft. **Site 1 of 4 in cluster B**

Relative:
Higher

Actual:
10 ft.

LUST:
Facility ID: 9-201224
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 12/22/2004
Release ID: 040005
Project Officer: Randall Heu

EWA BEACH CHEVRON SS (Continued) **U004228176**

UST:

Facility ID:	9-201224
Owner:	CHEVRON PRODUCTS COMPANY
Owner Address:	Attn Permit Desk PO Box 6004
Owner City,St,Zip:	Ewa Beach, 96706 96706
Latitude:	21.316664
Longitude:	-158.013261
Horizontal Reference Datum Name:	NAD83
Horizontal Collection Method Name:	GPS
Tank ID:	87
Date Installed:	12/01/1980
Tank Status:	**Currently in Use**
Date Closed:	Not reported
Tank Capacity:	10000
Substance:	Gasoline
Tank ID:	87b
Date Installed:	09/01/1978
Tank Status:	**Currently in Use**
Date Closed:	Not reported
Tank Capacity:	10000
Substance:	Gasoline
Tank ID:	92
Date Installed:	09/01/1978
Tank Status:	**Currently in Use**
Date Closed:	Not reported
Tank Capacity:	10000
Substance:	Gasoline
Tank ID:	R-004
Date Installed:	06/30/1959
Tank Status:	**Permanently Out of Use**
Date Closed:	04/16/1988
Tank Capacity:	5000
Substance:	Diesel
Tank ID:	R-5
Date Installed:	09/01/1978
Tank Status:	**Permanently Out of Use**
Date Closed:	10/28/2003
Tank Capacity:	1000
Substance:	Used Oil

HI Financial Assurance:

Alt Facility ID:	9-201224
Tank Id:	87b
Tank Status:	Currently in Use
FRTYPE:	Other
Expiration Date:	Not reported

EWA BEACH CHEVRON SS (Continued) **U004228176**

Alt Facility ID: 9-201224
Tank Id: 92
Tank Status: Currently in Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201224
Tank Id: 87
Tank Status: Currently in Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201224
Tank Id: R-5
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201224
Tank Id: R-004
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201224
Tank Id: R-004
Tank Status: Permanently Out of Use
FRTYPE: Self Insured
Expiration Date: 05/25/2007

Alt Facility ID: 9-201224
Tank Id: 92
Tank Status: Currently in Use
FRTYPE: Self Insured
Expiration Date: 05/25/2007

Alt Facility ID: 9-201224
Tank Id: 87b
Tank Status: Currently in Use
FRTYPE: Self Insured
Expiration Date: 05/25/2007

Alt Facility ID: 9-201224
Tank Id: R-5
Tank Status: Permanently Out of Use
FRTYPE: Self Insured
Expiration Date: 05/25/2007

Alt Facility ID: 9-201224
Tank Id: 87
Tank Status: Currently in Use
FRTYPE: Self Insured
Expiration Date: 05/25/2007

Alt Facility ID: 9-201224
Tank Id: 92
Tank Status: Currently in Use

EWA BEACH CHEVRON SS (Continued) **U004228176**

FRTYPE: Guarantee
Expiration Date: 04/27/2013

Alt Facility ID: 9-201224
Tank Id: R-004
Tank Status: Permanently Out of Use
FRTYPE: Guarantee
Expiration Date: 04/27/2013

Alt Facility ID: 9-201224
Tank Id: R-5
Tank Status: Permanently Out of Use
FRTYPE: Guarantee
Expiration Date: 04/27/2013

Alt Facility ID: 9-201224
Tank Id: 87
Tank Status: Currently in Use
FRTYPE: Guarantee
Expiration Date: 04/27/2013

Alt Facility ID: 9-201224
Tank Id: 87b
Tank Status: Currently in Use
FRTYPE: Guarantee
Expiration Date: 04/27/2013

B10 **EWA BEACH CHEVRON** **HI SHWS S106816998**
West **91-909 FORT WEAVER RD** **HI SPILLS N/A**
1/4-1/2 **EWA BEACH, HI 96706**
0.311 mi.
1641 ft. **Site 2 of 4 in cluster B**

Relative:
Higher

Actual:
10 ft.

SHWS:
Organization: Not reported
Supplemental Location: Not reported
Island: Oahu
Environmental Interest: Service Bay Hydraulic lift and Grease Trap
HID Number: Not reported
Facility Registry Identifier: 110013781390
Lead Agency: HEER
Program: State
Project Manager: Mark Sutterfield
Hazard Priority: NFA
Potential Hazards And Controls: No Hazard
Island: Oahu
SDAR Environmental Interest Name: Service Bay Hydraulic lift and Grease Trap
HID Number: Not reported
Facility Registry Identifier: 110013781390
Lead Agency: HEER
Potential Hazard And Controls: No Hazard
Priority: NFA
Assessment: Response Not Necessary
Response: Response Complete
Nature of Contamination: Found: Hydraulic Fluid
Nature of Residual Contamination: Confirmation soil sampling in the two hydraulic lift pits, and the sand and grease trap revealed that all analytes were below HDOH Tier I Action levels.

EWA BEACH CHEVRON (Continued) **S106816998**

Use Restrictions:	No Hazard Present For Unrestricted Residential Use
Engineering Control:	Not reported
Description of Restrictions:	Not reported
Institutional Control:	Not reported
Within Designated Areawide Contamination:	Not reported
Site Closure Type:	No Further Action Letter - Unrestricted Residential Use
Document Date:	10/05/2004
Document Number:	2004-408-MS
Document Subject:	NFA for Ewa Beach Chevron
Project Manager:	Mark Sutterfield
Contact Information:	(808) 586-4249 919 Ala Moana Blvd, Honolulu, HI 96814

HI SPILLS:

Island:	Oahu
Supplemental Loc. Text:	Not reported
Case Number:	20031103-1101
HID Number:	Not reported
Facility Registry Id:	110013781390
Lead and Program:	HEER EP&R
ER:	Not reported
Units:	Service Bay Hydraulic lift and Grease Trap
Substances:	Petroleum Hydrocarbon
Less Or Greater Than:	Not reported
Numerical Quantity:	Not reported
Units:	Not reported
Activity Type:	Response
Activity Lead:	Liz Galvez
Assignment End Date:	Not reported
Result:	Refer to ISST
File Under:	Chevron Products Company
Latitude:	21.336314
Longitude:	-158.022425

B11 **7-11 EWA BEACH** **HI LUST U001236289**
West **91-924 MAKULE ST** **HI UST N/A**
1/4-1/2 **EWA BEACH, HI 96706** **HI Financial Assurance**
0.316 mi.
1671 ft. **Site 3 of 4 in cluster B**

Relative:
Higher

Actual:
10 ft.

LUST:

Facility ID:	9-201184
Facility Status:	Site Cleanup Completed (NFA)
Facility Status Date:	04/29/2002
Release ID:	980103
Project Officer:	Shunsheng Fu

UST:

Facility ID:	9-201184
Owner:	Mid Pac Petroleum LLC
Owner Address:	1100 Alakea Street, 8th floor
Owner City,St,Zip:	Ewa Beach, 96706 96706
Latitude:	21.316170
Longitude:	-158.012970
Horizontal Reference Datum Name:	NAD83
Horizontal Collection Method Name:	GPS
Tank ID:	87

7-11 EWA BEACH (Continued) **U001236289**

Date Installed: 04/01/1998
Tank Status: **Currently In Use**
Date Closed: Not reported
Tank Capacity: 10000
Substance: Gasoline

Tank ID: 92
Date Installed: 04/01/1998
Tank Status: **Currently In Use**
Date Closed: Not reported
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-1
Date Installed: 04/04/1982
Tank Status: **Permanently Out of Use**
Date Closed: 05/02/1998
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-2
Date Installed: 04/04/1982
Tank Status: **Permanently Out of Use**
Date Closed: 05/02/1998
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-3
Date Installed: 04/04/1982
Tank Status: **Permanently Out of Use**
Date Closed: 05/02/1998
Tank Capacity: 10000
Substance: Gasoline

HI Financial Assurance:
Alt Facility ID: 9-201184
Tank Id: R-1
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201184
Tank Id: R-3
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201184
Tank Id: R-2
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

7-11 EWA BEACH (Continued) **U001236289**

Alt Facility ID: 9-201184
Tank Id: 92
Tank Status: Currently In Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201184
Tank Id: 87
Tank Status: Currently In Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-201184
Tank Id: R-1
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: 03/31/2014

Alt Facility ID: 9-201184
Tank Id: 92
Tank Status: Currently In Use
FRTYPE: Insurance
Expiration Date: 03/31/2014

Alt Facility ID: 9-201184
Tank Id: 87
Tank Status: Currently In Use
FRTYPE: Insurance
Expiration Date: 03/31/2014

Alt Facility ID: 9-201184
Tank Id: R-3
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: 03/31/2014

Alt Facility ID: 9-201184
Tank Id: R-2
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: 03/31/2014

B12 **TEXACO STATION 611000030** **RCRA-CESQG 1000601531**
WNW **91 914 FORT WEAVER RD** **HI LUST HID984467670**
1/4-1/2 **EWA BEACH, HI 96706** **HI UST**
0.320 mi. **HI Financial Assurance**
1691 ft. **Site 4 of 4 in cluster B**

Relative:
Higher

Actual:
10 ft.

RCRA-CESQG:
Date form received by agency: 12/30/1991
Facility name: TEXACO STATION 611000030
Facility address: 91 914 FORT WEAVER RD
EWA BEACH, HI 96706
EPA ID: HID984467670
Contact: DALE ANDERT
Contact address: 1800 SW 1ST AVE STE 180
PORTLAND, OR 97201
Contact country: US

TEXACO STATION 611000030 (Continued) **1000601531**

Contact telephone: (503) 226-3575
Contact email: Not reported
EPA Region: 09
Land type: Private
Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:
Owner/operator name: ESTATE OF JAMES CAMPBELL
Owner/operator address: 828 FORT ST MALL STE 500
HONOLULU, HI 96813
Owner/operator country: Not reported
Owner/operator telephone: (808) 536-1961
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 01/08/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

TEXACO STATION 611000030 (Continued) **1000601531**

LUST:
Facility ID: 9-200324
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 02/15/2002
Release ID: 020002
Project Officer: Jose Ruiz

Facility ID: 9-200324
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 03/23/1999
Release ID: 980141
Project Officer: Jose Ruiz

UST:
Facility ID: 9-200324
Owner: U.S. RESTAURANT PROPERTIES, INC
Owner Address: 12240 INWOOD RD #200
Owner City,St,Zip: Ewa Beach, 96706 96706
Latitude: 21.317439
Longitude: -158.013100
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: GPS

Tank ID: R-87
Date Installed: 02/07/1984
Tank Status: **Permanently Out of Use**
Date Closed: 10/01/2001
Tank Capacity: 12000
Substance: Gasoline

Tank ID: R-89
Date Installed: 02/07/1984
Tank Status: **Permanently Out of Use**
Date Closed: 10/01/2001
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-92
Date Installed: 02/07/1984
Tank Status: **Permanently Out of Use**
Date Closed: 10/01/2001
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-D
Date Installed: 02/07/1984
Tank Status: **Permanently Out of Use**
Date Closed: 10/01/2001
Tank Capacity: 8000
Substance: Diesel

Tank ID: R-I-5

TEXACO STATION 611000030 (Continued) **1000601531**

Date Installed: 02/07/1984
Tank Status: **Permanently Out of Use**
Date Closed: 10/01/2001
Tank Capacity: 550
Substance: Used Oil

HI Financial Assurance:
Alt Facility ID: 9-200324
Tank Id: R-I-5
Tank Status: Permanently Out of Use
FRTYPE: Surety Bond
Expiration Date: Not reported

Alt Facility ID: 9-200324
Tank Id: R-87
Tank Status: Permanently Out of Use
FRTYPE: Surety Bond
Expiration Date: Not reported

Alt Facility ID: 9-200324
Tank Id: R-89
Tank Status: Permanently Out of Use
FRTYPE: Surety Bond
Expiration Date: Not reported

Alt Facility ID: 9-200324
Tank Id: R-92
Tank Status: Permanently Out of Use
FRTYPE: Surety Bond
Expiration Date: Not reported

Alt Facility ID: 9-200324
Tank Id: R-D
Tank Status: Permanently Out of Use
FRTYPE: Surety Bond
Expiration Date: Not reported

13
WSW
1/4-1/2
0.329 mi.
1736 ft.

USAF PALEHUA SOLAR OBSERVATORY **SEMS-ARCHIVE** **1003879944**
SO TIP OF WAIANAE MT RANGE **FINDS** **HI0000352948**
EWA BEACH, HI 96706

Relative:
Higher

Actual:
10 ft.

SEMS-ARCHIVE:
Site ID: 905027
EPA ID: HI0000352948
Federal Facility: Y
NPL: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

Following information was gathered from the prior CERCLIS update completed in 10/2013:
Site ID: 0905027
Federal Facility: Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

USAF PALEHUA SOLAR OBSERVATORY (Continued) **1003879944**

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13037404.00000
Person ID: 9000059.00000

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: PALEHUA SOLAR OBSERVATORY
Alias Address: DET 5, 50 WS/CC, AF STATION, 10 HICKMAN
HICKMAN AFB, HI 96860

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: / /
Date Completed: 06/07/94
Priority Level: Not reported

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 09/29/94
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 09/29/94
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

FINDS:

Registry ID: 110064002724

Environmental Interest/Information System
FEDERAL FACILITY HAZARDOUS WASTE DOCKET

14
SSW
1/4-1/2
0.351 mi.
1855 ft.

C&CH EWA BEACH FIRE STATION **HI LUST U004109509**
91-832 POHAKUPUNA RD **HI UST N/A**
EWA BEACH, HI 96706

Relative:
Lower

Actual:
3 ft.

LUST:
Facility ID: 9-200071
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 12/26/2001
Release ID: 940178
Project Officer: Shunsheng Fu

UST:
Facility ID: 9-200071
Owner: C&C HNL Fire Dept
Owner Address: 636 South Street
Owner City,St,Zip: Ewa Beach, 96706 96706
Latitude: 21.311290
Longitude: -158.009566
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: Address Matching

C&CH EWA BEACH FIRE STATION (Continued) **U004109509**

Tank ID: R-1
Date Installed: 06/01/1977
Tank Status: **Permanently Out of Use**
Date Closed: 09/22/1993
Tank Capacity: 1000
Substance: Diesel

15
SE
1/4-1/2
0.352 mi.
1857 ft.

GENTRY HOMES LTD AREA 27 **HI LUST** **U003222131**
91-500 FT WEAVER RD **HI UST** **N/A**
EWA BEACH, HI 96706

Relative:
Lower

Actual:
3 ft.

LUST:
Facility ID: 9-202975
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 12/08/1994
Release ID: 940169
Project Officer: Lene Ichinotsubo

UST:
Facility ID: 9-202975
Owner: GENTRY HOMES, LTD.
Owner Address: 560 N NIMITZ HWY, SUITE 213
Owner City,St,Zip: Ewa Beach, 96706 96706
Latitude: 21.312013
Longitude: -158.005347
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: Address Matching

Tank ID: R-1
Date Installed: Not reported
Tank Status: **Permanently Out of Use**
Date Closed: 07/22/1994
Tank Capacity: 500
Substance: Diesel

16
SW
1/4-1/2
0.487 mi.
2570 ft.

EWA BEACH WASTEWATER PUMP STATION **HI LUST** **U003221953**
91-690 POHAKUPUNA RD **HI UST** **N/A**
EWA BEACH, HI 96706 **HI Financial Assurance**

Relative:
Lower

Actual:
3 ft.

LUST:
Facility ID: 9-200136
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 10/21/2013
Release ID: 050042
Project Officer: Shaobin Li

UST:
Facility ID: 9-200136
Owner: C & C of Honolul - Dept. of Environmental Services
Owner Address: 1000 Uluohia Street, Suite 308
Owner City,St,Zip: Ewa Beach, 96706 96706

EWA BEACH WASTEWATER PUMP STATION (Continued) **U003221953**

Latitude: 21.310710
Longitude: -158.012940
Horizontal Reference Datum Name: NAD83
Horizontal Collection Method Name: GPS

Tank ID: R-M-1
Date Installed: 05/07/1981
Tank Status: **Permanently Out of Use**
Date Closed: 08/05/2005
Tank Capacity: 2000
Substance: Diesel

Tank ID: m-2
Date Installed: 03/09/2005
Tank Status: **Currently In Use**
Date Closed: Not reported
Tank Capacity: 6000
Substance: Diesel

HI Financial Assurance:
Alt Facility ID: 9-200136
Tank Id: m-2
Tank Status: Currently In Use
FRTYPE: Other
Expiration Date: 06/30/2015

Alt Facility ID: 9-200136
Tank Id: R-M-1
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: 06/30/2015

17
NE
1/2-1
0.604 mi.
3189 ft.

Relative:
Higher

Actual:
14 ft.

HONOLULU WOOD TREATING CO LTD **SEMS-ARCHIVE** **1000334042**
91 921 HANUA ST **CORRACTS** **HID009198797**
KAPOLEI, HI 96707 **RCRA-TSDF**
RCRA-CESQG
2020 COR ACTION
RAATS
CA HAZNET

SEMS-ARCHIVE:
Site ID: 902837
EPA ID: HID009198797
Federal Facility: N
NPL: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

Following information was gathered from the prior CERCLIS update completed in 10/2013:
Site ID: 0902837
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13037487.00000
Person ID: 9000059.00000

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

CERCLIS-NFRAP Assessment History:

Action:	DISCOVERY
Date Started:	/ /
Date Completed:	02/01/80
Priority Level:	Not reported

Action:	ARCHIVE SITE
Date Started:	/ /
Date Completed:	02/01/85
Priority Level:	Not reported

Action:	PRELIMINARY ASSESSMENT
Date Started:	/ /
Date Completed:	02/01/85
Priority Level:	NFRAP-Site does not qualify for the NPL based on existing information

Action:	SITE INSPECTION
Date Started:	/ /
Date Completed:	11/01/80
Priority Level:	NFRAP-Site does not qualify for the NPL based on existing information

CORRACTS:

EPA ID:	HID009198797
EPA Region:	09
Area Name:	ENTIRE FACILITY
Actual Date:	19940318
Action:	CA075LO - CA Prioritization, Facility or area was assigned a low corrective action priority
NAICS Code(s):	Not reported
Original schedule date:	Not reported
Schedule end date:	Not reported

EPA ID:	HID009198797
EPA Region:	09
Area Name:	ENTIRE FACILITY
Actual Date:	20131023
Action:	CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s):	Not reported
Original schedule date:	20131023
Schedule end date:	Not reported

EPA ID:	HID009198797
EPA Region:	09
Area Name:	ENTIRE FACILITY
Actual Date:	20110930
Action:	CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s):	Not reported
Original schedule date:	20110930
Schedule end date:	Not reported

EPA ID:	HID009198797
EPA Region:	09
Area Name:	ENTIRE FACILITY

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

Actual Date: 20110930
Action: CA550RC
NAICS Code(s): Not reported
Original schedule date: 20110930
Schedule end date: Not reported

RCRA-TSDF:
Date form received by agency: 09/13/2001
Facility name: HONOLULU WOOD TREATING CO LTD
Facility address: 91 921 HANUA ST
KAPOLEI, HI 96707
EPA ID: HID009198797
Contact: ROBERT OLIVEIRA
Contact address: 91 921 HANUA ST
KAPOLEI, HI 96707
Contact country: US
Contact telephone: (808) 682-5704
Contact email: Not reported
EPA Region: 09
Land type: Private
Classification: TSDF
Description: Handler is engaged in the treatment, storage or disposal of hazardous waste
Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:
Owner/operator name: KOPPERS COMPANY INC
Owner/operator address: KOPPERS BUILDING
CITY NOT REPORTED, PA 99999
Owner/operator country: Not reported
Owner/operator telephone: (412) 227-2000
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: HONOLULU WOOD TREATING CO LTD
Owner/operator address: 91 921 HANUA ST
KAPOLEI, HI 96707
Owner/operator country: Not reported
Owner/operator telephone: (808) 682-5704
Legal status: Private

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: F035
. Waste name: WASTEWATERS, PROCESS RESIDUALS, PRESERVATIVE DRIPPAGE, AND SPENT FORMULATIONS FROM WOOD PRESERVING PROCESSES GENERATED AT PLANTS THAT USE INORGANIC PRESERVATIVES CONTAINING ARSENIC OR CHROMIUM. THIS LISTING DOES NOT INCLUDE K001 BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATER FROM WOOD PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.

Historical Generators:
Date form received by agency: 10/14/1998
Site name: HONOLULU WOOD TREATING CO LTD
Classification: Large Quantity Generator

Date form received by agency: 01/22/1996
Site name: HONOLULU WOOD TREATING CO LTD
Classification: Small Quantity Generator

Date form received by agency: 10/15/1992
Site name: HONOLULU WOOD TREATING CO LTD
Classification: Large Quantity Generator

Date form received by agency: 01/16/1992
Site name: HONOLULU WOOD TREATING CO., LTD.
Classification: Large Quantity Generator

Date form received by agency: 03/06/1990
Site name: HONOLULU WOOD TREATING CO., LTD.
Classification: Large Quantity Generator

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

Corrective Action Summary:

Event date:	11/01/1980
Event:	CA049SI
Event date:	02/01/1985
Event:	CA049PA
Event date:	03/18/1994
Event:	CA Prioritization, Facility or area was assigned a low corrective action priority.
Event date:	03/18/1994
Event:	Stabilization Measures Evaluation,This facility is not amenable to stabilization activity at the present time for reasons other than 1- it appears to be technically infeasible or inappropriate (NF) or 2- there is a lack of technical information (IN). Reasons for this conclusion may be the status of closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other administrative considerations.
Event date:	09/30/2011
Event:	CA550RC
Event date:	09/30/2011
Event:	Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.
Event date:	10/23/2013
Event:	Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Facility Has Received Notices of Violations:

Regulation violated:	Not reported
Area of violation:	Generators - General
Date violation determined:	05/24/2004
Date achieved compliance:	11/01/2004
Violation lead agency:	EPA
Enforcement action:	Not reported
Enforcement action date:	09/17/2004
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	EPA
Proposed penalty amount:	Not reported

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 05/24/2004
Date achieved compliance: 11/01/2004
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/17/2004
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 03/01/1993
Date achieved compliance: 01/01/1995
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 05/05/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: 114860
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 03/01/1993
Date achieved compliance: 01/01/1995
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 06/21/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: 71865
Paid penalty amount: Not reported

Regulation violated: F - 268.7
Area of violation: LDR - General
Date violation determined: 03/01/1993
Date achieved compliance: 01/01/1995
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 05/05/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: 114860
Final penalty amount: Not reported

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

Paid penalty amount: Not reported

Regulation violated: F - 268.7
Area of violation: LDR - General
Date violation determined: 03/01/1993
Date achieved compliance: 01/01/1995
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 06/21/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: 71865
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 12/12/1990
Date achieved compliance: 02/19/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/01/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.140-150.H
Area of violation: TSD - Financial Requirements
Date violation determined: 12/12/1990
Date achieved compliance: 02/19/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/01/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 12/12/1990
Date achieved compliance: 02/19/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/01/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/12/1990
Date achieved compliance: 02/19/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/01/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 04/20/1989
Date achieved compliance: 01/25/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/24/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 270
Area of violation: TSD - General
Date violation determined: 12/07/1987
Date achieved compliance: 01/25/1990
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 08/02/1985
Date achieved compliance: 02/10/1986
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/27/1986
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

Evaluation Action Summary:

Evaluation date:	10/06/2005
Evaluation:	FOCUSED COMPLIANCE INSPECTION
Area of violation:	Not reported
Date achieved compliance:	Not reported
Evaluation lead agency:	State
Evaluation date:	05/24/2004
Evaluation:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation:	Generators - General
Date achieved compliance:	11/01/2004
Evaluation lead agency:	EPA
Evaluation date:	06/21/1996
Evaluation:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation:	Generators - General
Date achieved compliance:	01/01/1995
Evaluation lead agency:	State
Evaluation date:	06/21/1996
Evaluation:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation:	LDR - General
Date achieved compliance:	01/01/1995
Evaluation lead agency:	State
Evaluation date:	01/01/1995
Evaluation:	NOT A SIGNIFICANT NON-COMPLIER
Area of violation:	Not reported
Date achieved compliance:	Not reported
Evaluation lead agency:	State
Evaluation date:	03/01/1993
Evaluation:	SIGNIFICANT NON-COMPLIER
Area of violation:	Not reported
Date achieved compliance:	Not reported
Evaluation lead agency:	State
Evaluation date:	12/09/1992
Evaluation:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation:	Not reported
Date achieved compliance:	Not reported
Evaluation lead agency:	State
Evaluation date:	12/27/1991
Evaluation:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation:	Not reported
Date achieved compliance:	Not reported
Evaluation lead agency:	State
Evaluation date:	12/12/1990
Evaluation:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation:	TSD - General
Date achieved compliance:	02/19/1991
Evaluation lead agency:	State
Evaluation date:	12/12/1990
Evaluation:	COMPLIANCE EVALUATION INSPECTION ON-SITE

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

Area of violation: LDR - General
Date achieved compliance: 02/19/1991
Evaluation lead agency: State

Evaluation date: 12/12/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Financial Requirements
Date achieved compliance: 02/19/1991
Evaluation lead agency: State

Evaluation date: 04/20/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 01/25/1990
Evaluation lead agency: State

Evaluation date: 12/07/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 01/25/1990
Evaluation lead agency: State

Evaluation date: 08/14/1986
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/31/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 08/02/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 02/10/1986
Evaluation lead agency: State

2020 COR ACTION:
EPA ID: HID009198797
Region: 9
Action: Not reported

HAZNET:
envid: 1000334042
Year: 2003
GEPAID: HID009198797
Contact: --
Telephone: --
Mailing Name: Not reported
Mailing Address: --
Mailing City,St,Zip: EWA BEACH, HI 967060000
Gen County: Not reported
TSD EPA ID: CAD059494310
TSD County: Not reported

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

Waste Category: Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Disposal Method: Disposal, Other
Tons: 1.35
Cat Decode: Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Method Decode: Disposal, Other
Facility County: 99

envid: 1000334042
Year: 2003
GEPAID: HID009198797
Contact: --
Telephone: --
Mailing Name: Not reported
Mailing Address: --
Mailing City,St,Zip: EWA BEACH, HI 967060000
Gen County: Not reported
TSD EPA ID: CAD059494310
TSD County: Not reported
Waste Category: Liquids with chromium (VI) >= 500 Mg./L
Disposal Method: Transfer Station
Tons: 0.4
Cat Decode: Liquids with chromium (VI) >= 500 Mg./L
Method Decode: Transfer Station
Facility County: 99

envid: 1000334042
Year: 2003
GEPAID: HID009198797
Contact: --
Telephone: --
Mailing Name: Not reported
Mailing Address: --
Mailing City,St,Zip: EWA BEACH, HI 967060000
Gen County: Not reported
TSD EPA ID: CAD059494310
TSD County: Not reported
Waste Category: Not reported
Disposal Method: Disposal, Other
Tons: 1.35
Cat Decode: Not reported
Method Decode: Disposal, Other
Facility County: 99

envid: 1000334042
Year: 2003
GEPAID: HID009198797
Contact: --
Telephone: --
Mailing Name: Not reported
Mailing Address: --
Mailing City,St,Zip: EWA BEACH, HI 967060000
Gen County: Not reported
TSD EPA ID: CAD059494310
TSD County: Not reported
Waste Category: Not reported
Disposal Method: Disposal, Other
Tons: 1.35

HONOLULU WOOD TREATING CO LTD (Continued) **1000334042**

Cat Decode: Not reported
Method Decode: Disposal, Other
Facility County: 99

envid: 1000334042
Year: 2003
GEPAID: HID009198797
Contact: --
Telephone: --
Mailing Name: Not reported
Mailing Address: --
Mailing City,St,Zip: EWA BEACH, HI 967060000
Gen County: Not reported
TSD EPA ID: CAD059494310
TSD County: Not reported
Waste Category: Other inorganic solid waste
Disposal Method: Disposal, Other
Tons: 2.5
Cat Decode: Other inorganic solid waste
Method Decode: Disposal, Other
Facility County: 99

Click this hyperlink while viewing on your computer to access
11 additional CA_HAZNET: record(s) in the EDR Site Report.

---

18 NNE 1/2-1 0.805 mi. 4250 ft.

Relative: Higher

Actual: 16 ft.

PUULOA-EX NAS BAR POINT **FUDS** **1009484676**
N/A

OTHER, HI

FUDS:
Federal Facility ID: HI9799F4106
FUDS #: H09HI0398
INST ID: 54173
Facility Name: PUULOA-EX NAS BAR POINT
City: OTHER
State: HI
EPA Region: 09
County: HONOLULU
Congressional District: 01
US Army District: Honolulu District (POH)
Fiscal Year: 2013
Telephone: 808-835-4004
NPL Status: Not Listed
RAB: Not reported
CTC: 25.39999
Current Owner: Private Sector
Current Prog: Not reported
Future Prog: Not reported
Acreage: Not reported
Description: The site consists of a 20.52-acre dump and was transferredfrom the Navy to Campbell Esate in 2/27/51. The dunp iste consist of a borrow pit and used for aircraft disposal. Twenty-one buildings were constructed. Site visit on 13 July 1995 revealed the dump site was mixed wastes. Other information from former studies indicate that household waste, batteries, and other debris were found.
History: The project iste was part of the Barbers Point Naval Air Station and

PUULOA-EX NAS BAR POINT (Continued) **1009484676**

was part of the Plane Division Aircraft Storage Area. The borrow pit was used as an aircraft disposal area; hwoever, it is noted that other debris from the landowner was also included and therefore a potential PRP is proposed.

Latitude: -158.001007079
Longitude: 21.326499939000

Count: 1 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
EWA BEACH	S118422815	JACKSON CONSTRUCTION LANDFILL	91-891 HAHANUI ST	96706	HI SHWS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: EPA
Telephone: N/A
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: EPA
Telephone: N/A
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: EPA
Telephone: N/A
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/08/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/11/2016
Date Data Arrived at EDR: 01/22/2016
Date Made Active in Reports: 03/18/2016
Number of Days to Update: 56

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/11/2016
Date Data Arrived at EDR: 01/22/2016
Date Made Active in Reports: 03/18/2016
Number of Days to Update: 56

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/16/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/22/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Sites List

Facilities, sites or areas in which the Office of Hazard Evaluation and Emergency Response has an interest, has investigated or may investigate under HRS 128D (includes CERCLIS sites).

Date of Government Version: 01/22/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/02/2016
Number of Days to Update: 36

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 02/26/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Permitted Landfills in the State of Hawaii

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/17/2012
Date Data Arrived at EDR: 04/03/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 37

Source: Department of Health
Telephone: 808-586-4245
Last EDR Contact: 04/01/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/13/2016
Date Data Arrived at EDR: 01/15/2016
Date Made Active in Reports: 03/02/2016
Number of Days to Update: 47

Source: Department of Health
Telephone: 808-586-4228
Last EDR Contact: 03/04/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Semi-Annually

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/28/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 55
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 08/20/2015
Date Data Arrived at EDR: 10/30/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 111
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 11/04/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/27/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/11/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Varies

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/13/2016
Date Data Arrived at EDR: 01/15/2016
Date Made Active in Reports: 03/02/2016
Number of Days to Update: 47

Source: Department of Health
Telephone: 808-586-4228
Last EDR Contact: 03/04/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 08/20/2015
Date Data Arrived at EDR: 10/30/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 111

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/27/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Control Sites

A listing of sites with engineering controls in place.

Date of Government Version: 01/22/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/02/2016
Number of Days to Update: 36

Source: Department of Health
Telephone: 404-586-4249
Last EDR Contact: 02/26/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

INST CONTROL: Sites with Institutional Controls

Voluntary Remediation Program and Brownfields sites with institutional controls in place.

Date of Government Version: 01/22/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/02/2016
Number of Days to Update: 36

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 02/26/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 04/01/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

VCP: Voluntary Response Program Sites
Sites participating in the Voluntary Response Program. The purpose of the VRP is to streamline the cleanup process in a way that will encourage prospective developers, lenders, and purchasers to voluntarily cleanup properties.

Date of Government Version: 01/22/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/02/2016
Number of Days to Update: 36
Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 02/26/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Sites
With certain legal exclusions and additions, the term 'brownfield site' means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Date of Government Version: 01/22/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/02/2016
Number of Days to Update: 36
Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 02/26/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/22/2015
Date Data Arrived at EDR: 12/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 57
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/22/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/17/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 76
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/01/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Lab Listing
A listing of clandestine drug lab site locations.

Date of Government Version: 08/04/2010
Date Data Arrived at EDR: 09/10/2010
Date Made Active in Reports: 10/22/2010
Number of Days to Update: 42
Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/17/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 76
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/01/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Annually

SPILLS: Release Notifications

Releases of hazardous substances to the environment reported to the Office of Hazard Evaluation and Emergency Response since 1988.

Date of Government Version: 01/14/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 04/06/2016
Number of Days to Update: 42

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 03/10/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/11/2013
Number of Days to Update: 39

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/01/2015
Date Data Arrived at EDR: 09/03/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 02/16/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/09/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/12/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133
Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77
Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74
Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2015
Date Data Arrived at EDR: 08/26/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 02/12/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/12/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/08/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/26/2015
Date Data Arrived at EDR: 07/10/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 95
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 01/13/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/29/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2015
Date Data Arrived at EDR: 07/09/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/08/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/26/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 86

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 03/28/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/07/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Annually

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/18/2015
Date Data Arrived at EDR: 09/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 125

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/02/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/04/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing
Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/04/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015
Date Data Arrived at EDR: 09/09/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 55

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AIRS: List of Permitted Facilities
A listing of permitted facilities in the state.

Date of Government Version: 12/29/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 03/02/2016
Number of Days to Update: 57

Source: Department of Health
Telephone: 808-586-4200
Last EDR Contact: 04/04/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Varies

DRYCLEANERS: Permitted Drycleaner Facility Listing
A listing of permitted drycleaner facilities in the state.

Date of Government Version: 10/05/2015
Date Data Arrived at EDR: 10/08/2015
Date Made Active in Reports: 11/16/2015
Number of Days to Update: 39

Source: Department of Health
Telephone: 808-586-4200
Last EDR Contact: 04/04/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Varies

Financial Assurance: Financial Assurance Information Listing
A listing of financial assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 12/23/2015
Date Data Arrived at EDR: 12/29/2015
Date Made Active in Reports: 03/02/2016
Number of Days to Update: 64

Source: Department of Health
Telephone: 808-586-4226
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Varies

UIC: Underground Injection Wells Listing
A listing of underground injection well locations.

Date of Government Version: 02/07/2013
Date Data Arrived at EDR: 02/12/2013
Date Made Active in Reports: 04/09/2013
Number of Days to Update: 56

Source: Department of Health
Telephone: 808-586-4258
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/20/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/23/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 86

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health in Hawaii.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/08/2014
Number of Days to Update: 191

Source: Department of Health
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health in Hawaii.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/17/2014
Number of Days to Update: 200

Source: Department of Health
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health in Hawaii.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Health
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Office of Planning
Telephone: 808-587-2895

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAMPBELL HIGH SCHOOL
91-980 NORTH ROAD
EWA BEACH, HI 96706

TARGET PROPERTY COORDINATES

Latitude (North):	21.31626 - 21° 18' 58.54''
Longitude (West):	158.008412 - 158° 0' 30.28''
Universal Tranverse Mercator:	Zone 4
UTM X (Meters):	602841.4
UTM Y (Meters):	2357334.2
Elevation:	10 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5941087 PEARL HARBOR, HI
Version Date:	2013
West Map:	5941343 EWA, HI
Version Date:	2013

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

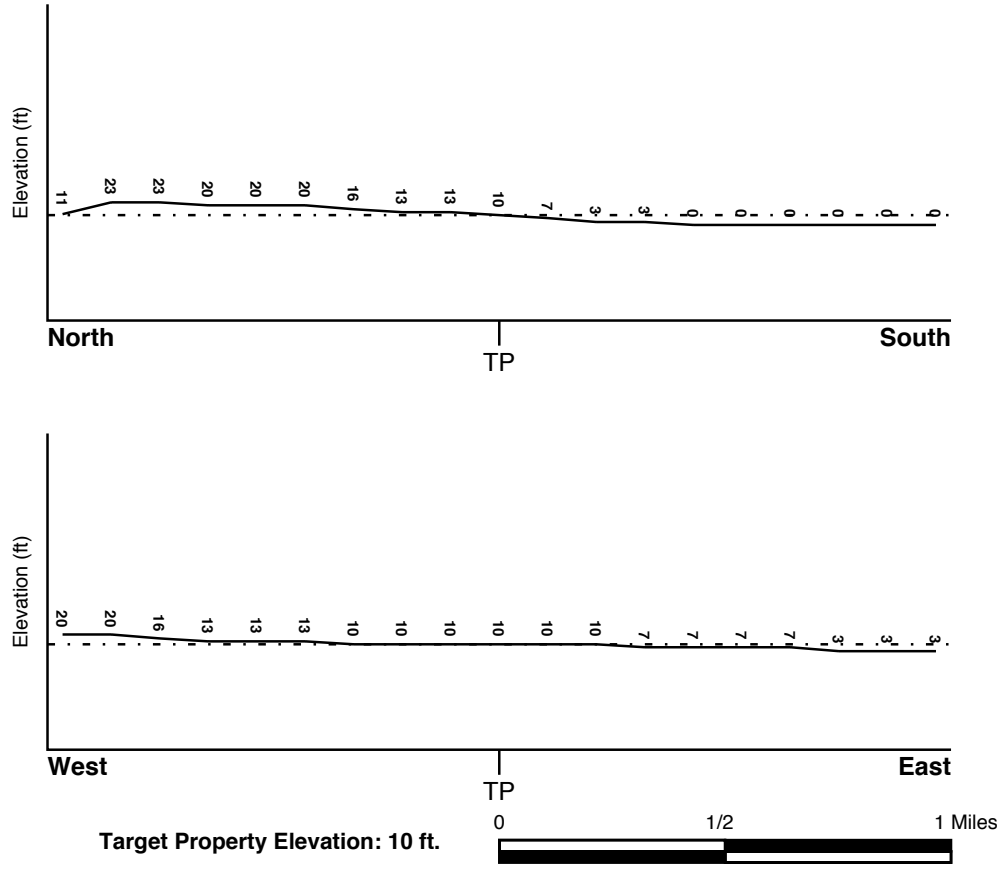
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
HONOLULU, HI	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 15003C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

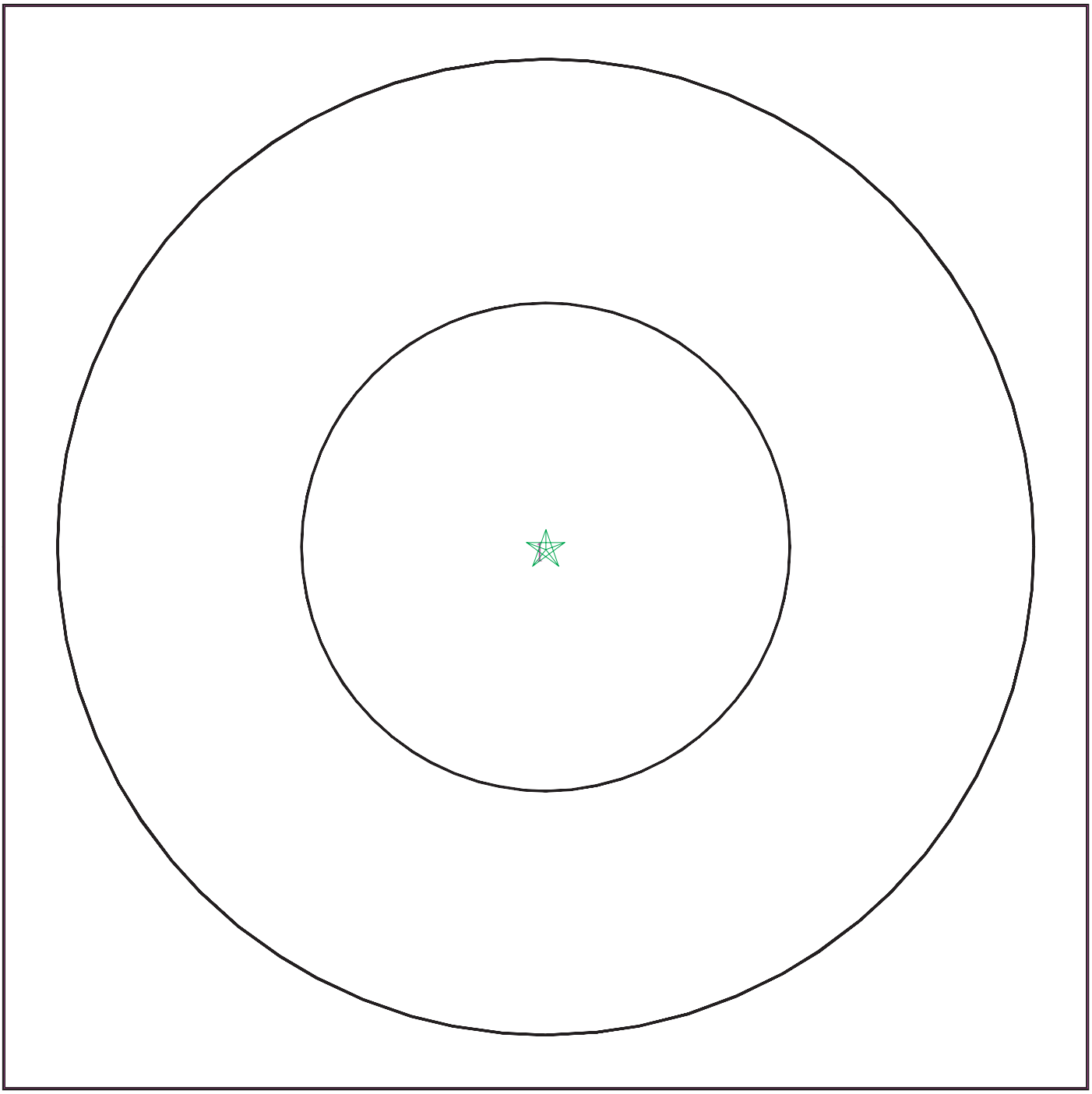
Era:	-
System:	-
Series:	-
Code:	N/A *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: -

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4589248.2s



SITE NAME:	Campbell High School	CLIENT:	Enviroquest
ADDRESS:	91-980 North Road	CONTACT:	Miles Nirei
	Ewa Beach HI 96706	INQUIRY #:	4589248.2s
LAT/LONG:	21.31626 / 158.008412	DATE:	April 12, 2016 12:44 pm

Copyright © 2016 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Coral outcrop

Soil Surface Texture: bedrock

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	59 inches	bedrock	Not reported	Not reported	Max: 42 Min: 1.41	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	USGS40000269775	0 - 1/8 Mile ESE
A2	USGS40000269774	1/8 - 1/4 Mile ESE
B3	USGS40000269797	1/8 - 1/4 Mile NE
C5	USGS40000269736	1/4 - 1/2 Mile South
C6	USGS40000269735	1/4 - 1/2 Mile South
C7	USGS40000269734	1/4 - 1/2 Mile South
C8	USGS40000269737	1/4 - 1/2 Mile South
C9	USGS40000269740	1/4 - 1/2 Mile South
C10	USGS40000269739	1/4 - 1/2 Mile South
C11	USGS40000269738	1/4 - 1/2 Mile South
D12	USGS40000269745	1/4 - 1/2 Mile SE
D13	USGS40000269746	1/4 - 1/2 Mile SE
D14	USGS40000269747	1/4 - 1/2 Mile SE
E15	USGS40000269803	1/4 - 1/2 Mile ENE
D16	USGS40000269741	1/4 - 1/2 Mile SE
D18	USGS40000269743	1/4 - 1/2 Mile SE
D19	USGS40000269732	1/4 - 1/2 Mile SE
H23	USGS40000269766	1/2 - 1 Mile East
25	USGS40000269744	1/2 - 1 Mile ESE
F26	USGS40000269832	1/2 - 1 Mile NNW
G29	USGS40000269835	1/2 - 1 Mile North
I30	USGS40000269828	1/2 - 1 Mile NNW
J31	USGS40000269809	1/2 - 1 Mile NE
35	USGS40000269826	1/2 - 1 Mile NW
K36	USGS40000269824	1/2 - 1 Mile NE
K39	USGS40000269825	1/2 - 1 Mile NE
L43	USGS40000269848	1/2 - 1 Mile NNE
M44	USGS40000269861	1/2 - 1 Mile North
N46	USGS40000269765	1/2 - 1 Mile East
O48	USGS40000269837	1/2 - 1 Mile NE
P52	USGS40000269846	1/2 - 1 Mile NW
N53	USGS40000269769	1/2 - 1 Mile East
Q55	USGS40000269882	1/2 - 1 Mile NNW
N56	USGS40000269770	1/2 - 1 Mile East
59	USGS40000269886	1/2 - 1 Mile NNE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B4	HI9000000000833	1/8 - 1/4 Mile NE
E17	HI9000000000836	1/4 - 1/2 Mile ENE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
20	HI9000000000633	1/4 - 1/2 Mile ESE
F21	HI9000000000839	1/2 - 1 Mile NNW
G22	HI9000000000840	1/2 - 1 Mile North
H24	HI9000000000834	1/2 - 1 Mile East
I27	HI9000000000849	1/2 - 1 Mile NNW
H28	HI9000000000845	1/2 - 1 Mile East
J32	HI9000000000837	1/2 - 1 Mile NE
33	HI9000000000843	1/2 - 1 Mile NNE
34	HI9000000000841	1/2 - 1 Mile NNE
K37	HI9000000000831	1/2 - 1 Mile NE
J38	HI9000000000838	1/2 - 1 Mile NE
K40	HI9000000000829	1/2 - 1 Mile NE
L41	HI9000000000842	1/2 - 1 Mile NNE
M42	HI9000000000824	1/2 - 1 Mile North
45	HI9000000000844	1/2 - 1 Mile NE
N47	HI9000000000974	1/2 - 1 Mile East
O49	HI9000000000830	1/2 - 1 Mile NE
O50	HI9000000000976	1/2 - 1 Mile NE
N51	HI9000000000973	1/2 - 1 Mile East
P54	HI9000000000847	1/2 - 1 Mile NW
N57	HI9000000000975	1/2 - 1 Mile East
Q58	HI9000000000823	1/2 - 1 Mile NNW

PHYSICAL SETTING SOURCE MAP - 4589248.2s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location

N

No contour lines were detected within this map area.

SITE NAME: Campbell High School	CLIENT: Enviroquest
ADDRESS: 91-980 North Road	CONTACT: Miles Nirei
Ewa Beach HI 96706	INQUIRY #: 4589248.2s
LAT/LONG: 21.31626 / 158.008412	DATE: April 12, 2016 12:43 pm

Copyright © 2016 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
ESE
0 - 1/8 Mile
Higher

FED USGS **USGS40000269775**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211908158003402		
Monloc name:	3-1900.01B		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3157269
Longitude:	-158.0066997	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	8.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19740101	Welldepth:	50
Welldepth units:	ft	Wellholedepth:	50
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

A2
ESE
1/8 - 1/4 Mile
Higher

FED USGS **USGS40000269774**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211908158003301		
Monloc name:	3-1900.01A		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3157269
Longitude:	-158.0064219	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	8.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19740101	Welldepth:	83
Welldepth units:	ft	Wellholedepth:	83
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

B3
NE
1/8 - 1/4 Mile
Higher

FED USGS **USGS40000269797**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211916158003201		
Monloc name:	3-1900-11 W272-24 EW		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3179491
Longitude:	-158.006144	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	12.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19410711	Welldepth:	50
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

B4
NE
1/8 - 1/4 Mile
Higher

HI WELLS **HI9000000000833**

Wid:	3-1900-011	Island:	Oahu
Well name:	Barbers Point	Old name:	Not Reported
Yr drilled:	1941		
Driller:	W. Mullin		
Quad map:	10		
Long83dd:	-158.006111		
Lat83dd:	21.318056		
Gps:	0	Utm:	-1
Owner user:	Naval Facilities Engineering Command Hawaii, Environmental, NAVFAC Hawaii		
Land owner:	Department of the Navy, Navy Region Hawaii		
Pump insta:	Not Reported		
Old number:	272-24	Well type:	Not Reported
Casing dia:	6	Ground el:	Not Reported
Well depth:	50		
Solid case:	22	Perf case:	Not Reported
Use:	UNU - Unused		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	1070		
Test date:	Not Reported	Test gpm:	Not Reported

Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	Not Reported
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-41
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000833

C5
South **FED USGS** **USGS40000269736**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211855158003703		
Monloc name:	3-1800.02C		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3121159
Longitude:	-158.007533	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19730731	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

C6
South **FED USGS** **USGS40000269735**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211855158003702		
Monloc name:	3-1800.02B		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3121159
Longitude:	-158.007533	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19730731	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

C7
South **FED USGS** **USGS40000269734**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211855158003701		
Monloc name:	3-1800.02A		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3121159
Longitude:	-158.007533	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19710101	Welldepth:	60
Welldepth units:	ft	Wellholedepth:	60
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1971-01-01	6.00	

C8
South **FED USGS** **USGS40000269737**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211855158003704		
Monloc name:	3-1800.02D		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3121159
Longitude:	-158.007533	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19730731	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

C9
South **FED USGS** **USGS40000269740**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211855158003707		
Monloc name:	3-1800.02G		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3121159
Longitude:	-158.007533	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19730731	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

C10
South
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000269739**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211855158003706		
Monloc name:	3-1800.02F		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3121159
Longitude:	-158.007533	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19730731	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

C11
South
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000269738**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211855158003705		
Monloc name:	3-1800.02E		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3121159
Longitude:	-158.007533	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19730731	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

D12
SE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000269745**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211858158002801		
Monloc name:	3-1800.01A		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3129491
Longitude:	-158.005033	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	6.00
Vert measure units:	feet	Vertacc measure val:	2
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19710101	Welldepth:	50
Welldepth units:	ft	Wellholedepth:	50
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

D13
SE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000269746**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211858158002802		
Monloc name:	3-1800.01B		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3129491
Longitude:	-158.005033	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	6.00
Vert measure units:	feet	Vertacc measure val:	2
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19710101	Welldepth:	50
Welldepth units:	ft	Wellholedepth:	50
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

D14
SE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000269747**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211858158002803		
Monloc name:	3-1800.01C		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3129491
Longitude:	-158.005033	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	6.00
Vert measure units:	feet	Vertacc measure val:	2
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19710101	Welldepth:	50
Welldepth units:	ft	Wellholedepth:	50
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

E15
ENE
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000269803**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211917158002401		
Monloc name:	3-1900-14 EWA		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3182268
Longitude:	-158.0039219	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	12.00
Vert measure units:	feet	Vertacc measure val:	2
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19720121	Welldepth:	106
Welldepth units:	ft	Wellholedepth:	106
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

D16
SE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000269741**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211856158003201		
Monloc name:	3-1800.04A		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3123936
Longitude:	-158.0055885	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19720805	Welldepth:	43
Welldepth units:	ft	Wellholedepth:	75
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1972-08-01	5.75	

E17
ENE
1/4 - 1/2 Mile
Higher

HI WELLS **HI9000000000836**

Wid:	3-1900-014	Island:	Oahu
Well name:	Ewa Beach C	Old name:	Not Reported
Yr drilled:	1972		
Driller:	Continental Drilling Hawaii, Inc		
Quad map:	10		
Long83dd:	-158.003889		
Lat83dd:	21.318333		
Gps:	0	Utm:	-1
Owner user:	National Weather Service		
Land owner:	Not Reported		

Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	Not Reported
Casing dia:	4	Ground el:	Not Reported
Well depth:	106		
Solid case:	Not Reported	Perf case:	Not Reported
Use:	OBS - Observation		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:001
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	21-JAN-72
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000836

D18
SE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000269743**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211857158002702		
Monloc name:	3-1800.04B		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3126713
Longitude:	-158.0047552	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19720805	Welldepth:	65
Welldepth units:	ft	Wellholedepth:	65
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1972-08-01	5.75		1972-08-01	5.75	

D19
SE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000269732**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211854158002801		
Monloc name:	3-1800.03A-H		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.311838
Longitude:	-158.005033	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	6.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19720101	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1972-01-01	6.00	

20
ESE
1/4 - 1/2 Mile
Lower

HI WELLS **HI9000000000633**

Wid:	3-1800-001	Island:	Oahu
Well name:	Ewa Beach B	Old name:	Not Reported
Yr drilled:	1972		
Driller:	Continental Drilling Hawaii, Inc		
Quad map:	10		
Long83dd:	-158.002778		
Lat83dd:	21.313056		
Gps:	0	Utm:	-1
Owner user:	National Weather Service		
Land owner:	Not Reported		

Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	Not Reported
Casing dia:	4	Ground el:	Not Reported
Well depth:	106		
Solid case:	Not Reported	Perf case:	Not Reported
Use:	OBS - Observation		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:001
Aqui code:	30203		
Latest hd:	Not Reported	Wcr:	19-JAN-72
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000633

F21
NNW
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000839**

Wid:	3-1900-017	Island:	Oahu
Well name:	Haw Prince Irr 2	Old name:	Not Reported
Yr drilled:	1990		
Driller:	Roscoe Moss Hawaii Inc		
Quad map:	10		
Long83dd:	-158.010278		
Lat83dd:	21.324389		
Gps:	0	Utm:	-1
Owner user:	Hawaii Prince Golf Club		
Land owner:	Hawaii Prince Hotel Waikiki LLC		
Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	PER
Casing dia:	15	Ground el:	20
Well depth:	26		
Solid case:	18	Perf case:	26
Use:	IRR - Golf Course		
Use year:	Not Reported		
Init head:	0.3	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	12/7/1989	Test gpm:	210

Test ddown:	0.3	Test chlor:	720
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	300		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	1997		
Draft yr:	Not Reported	Bot hole:	-6
Bot solid:	2	Bot perf:	-6
Spec capac:	700		
Pump mgd:	.432		
Draft mgd:	Not Reported	Pump elev:	-5
Pump depth:	25	Tmk:	(1) 9-1-010:006
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-90
Pir:	1/20/1992		
Surveyor:	G. Yoshimura		
T:	Not Reported	Site id:	HI9000000000839

G22
North
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000840**

Wid:	3-1900-018	Island:	Oahu
Well name:	Haw Prince Irr 3	Old name:	Not Reported
Yr drilled:	1990		
Driller:	Roscoe Moss Hawaii Inc		
Quad map:	10		
Long83dd:	-158.007		
Lat83dd:	21.324556		
Gps:	0	Utm:	-1
Owner user:	Hawaii Prince Golf Club		
Land owner:	Hawaii Prince Hotel Waikiki LLC		
Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	PER
Casing dia:	15	Ground el:	20
Well depth:	25		
Solid case:	17	Perf case:	25
Use:	IRR - Golf Course		
Use year:	Not Reported		
Init head:	0.5	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	1/12/1990	Test gpm:	210
Test ddown:	0.8	Test chlor:	700
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	210		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	1992		
Draft yr:	Not Reported	Bot hole:	-5
Bot solid:	3	Bot perf:	-5
Spec capac:	263		

Pump mgd:	.302		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-010:006
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-90
Pir:	1/22/1992		
Surveyor:	G. Yoshimura		
T:	Not Reported	Site id:	HI9000000000840

H23
East
1/2 - 1 Mile
Lower

FED USGS **USGS40000269766**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211906158000801		
Monloc name:	3-1900-12 W272-28 EW		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3151711
Longitude:	-157.9994774	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	2
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19620316	Welldepth:	25
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

H24
East
1/2 - 1 Mile
Lower

HI WELLS **HI9000000000834**

Wid:	3-1900-012	Island:	Oahu
Well name:	Ewa Beach	Old name:	Not Reported
Yr drilled:	1962		
Driller:	Layne International		
Quad map:	10		
Long83dd:	-157.999444		
Lat83dd:	21.315278		
Gps:	0	Utm:	-1
Owner user:	Pacific Islands Water Science Center, USGS, U.S. Geological Survey		
Land owner:	Not Reported		

Pump insta:	Not Reported		
Old number:	272-28	Well type:	Not Reported
Casing dia:	20	Ground el:	5
Well depth:	25		
Solid case:	6	Perf case:	Not Reported
Use:	OBS - Observation		
Use year:	Not Reported		
Init head:	0.3	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	1120		
Test date:	Not Reported	Test gpm:	100
Test ddown:	2.7	Test chlor:	1150
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-20
Bot solid:	-1	Bot perf:	Not Reported
Spec capac:	37		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:001
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-62
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000834

25
ESE
1/2 - 1 Mile
Lower

FED USGS **USGS40000269744**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211858158001001		
Monloc name:	3-1800-01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3129489
Longitude:	-158.000033	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	6.00
Vert measure units:	feet	Vertacc measure val:	2
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19720119	Welldepth:	106
Welldepth units:	ft	Wellholedepth:	106
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

F26
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000269832**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211940158004701		
Monloc name:	3-1900-18 HAWAII PRINCE W-3		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3246159
Longitude:	-158.0103107	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	20
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19900111	Welldepth:	25
Welldepth units:	ft	Wellholedepth:	25
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1990-01-12	19.5	

I27
NNW
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000849**

Wid:	3-1901-003	Island:	Oahu
Well name:	Haw Prince Irr 1	Old name:	Not Reported
Yr drilled:	1990		
Driller:	Roscoe Moss Hawaii Inc		
Quad map:	10		
Long83dd:	-158.013056		
Lat83dd:	21.32375		
Gps:	0	Utm:	-1
Owner user:	Hawaii Prince Golf Club		
Land owner:	Hawaii Prince Hotel Waikiki LLC		

Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	PER
Casing dia:	15	Ground el:	21
Well depth:	26		
Solid case:	18	Perf case:	26
Use:	IRR - Golf Course		
Use year:	Not Reported		
Init head:	0.1	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	1/19/1990	Test gpm:	210
Test ddown:	0.3	Test chlor:	600
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	290		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	QLS		
Pump yr:	1996		
Draft yr:	Not Reported	Bot hole:	-5
Bot solid:	3	Bot perf:	-5
Spec capac:	700		
Pump mgd:	.417		
Draft mgd:	Not Reported	Pump elev:	-2
Pump depth:	23	Tmk:	(1) 9-1-010:006
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-90
Pir:	1/20/1992		
Surveyor:	G. Yoshimura		
T:	Not Reported	Site id:	HI9000000000849

H28
East
1/2 - 1 Mile
Lower

HI WELLS **HI9000000000845**

Wid:	3-1900-023	Island:	Oahu
Well name:	Pac Tsunami Cntr	Old name:	Not Reported
Yr drilled:	1999		
Driller:	Curtis Wong (Naval Facilities Engineering Command Hawaii, Asset Management, NAVFAC Hawaii)		
Quad map:	10		
Long83dd:	-157.999167		
Lat83dd:	21.315278		
Gps:	0	Utm:	-1
Owner user:	National Weather Service		
Land owner:	Department of the Navy, Navy Region Hawaii		
Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	ROT
Casing dia:	8	Ground el:	Not Reported
Well depth:	9		
Solid case:	9	Perf case:	Not Reported
Use:	IRR - Landscape/Water Features		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported

Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:001
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	30-DEC-99
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000845

G29
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000269835**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211941158003501		
Monloc name:	3-1900-19 HAWAII PRINCE W-4		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3248936
Longitude:	-158.0069774	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	20
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19900113	Welldepth:	25
Welldepth units:	ft	Wellholedepth:	25
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1990-01-15	18.6	

I30
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000269828**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211938158005601		
Monloc name:	3-1900-17 HAWAII PRINCE W-2		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3240604
Longitude:	-158.0128107	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	20
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19891206	Welldepth:	26
Welldepth units:	ft	Wellholedepth:	26
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1989-12-07	19.3	

J31
NE
1/2 - 1 Mile
Higher

FED USGS **USGS40000269809**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211929158001201		
Monloc name:	3-1900-15 EWA		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.32156
Longitude:	-158.0005885	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	14.00
Vert measure units:	feet	Vertacc measure val:	2
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19720127	Welldepth:	126
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

J32
NE
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000837**

Wid:	3-1900-015	Island:	Oahu
Well name:	Ewa Beach D	Old name:	Not Reported
Yr drilled:	1972		
Driller:	Continental Drilling Hawaii, Inc		
Quad map:	10		
Long83dd:	-158.000556		
Lat83dd:	21.321667		
Gps:	0	Utm:	-1
Owner user:	National Weather Service		
Land owner:	Not Reported		
Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	Not Reported
Casing dia:	4	Ground el:	Not Reported
Well depth:	126		
Solid case:	Not Reported	Perf case:	Not Reported
Use:	OBS - Observation		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:001
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	27-JAN-72
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000837

33
NNE
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000843**

Wid:	3-1900-021	Island:	Oahu
Well name:	New Ewa Intl G C	Old name:	Not Reported
Yr drilled:	1991		
Driller:	Roscoe Moss Hawaii Inc		
Quad map:	10		
Long83dd:	-158.003		
Lat83dd:	21.324194		
Gps:	0	Utm:	-1
Owner user:	Ewa Beach Golf Club		
Land owner:	YHB Ewa LLC		
Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	PER
Casing dia:	12	Ground el:	18
Well depth:	30		
Solid case:	15	Perf case:	30
Use:	IRR - Golf Course		
Use year:	Not Reported		
Init head:	1	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	4/3/1991	Test gpm:	250
Test ddown:	4.1	Test chlor:	420
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	180		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-12
Bot solid:	3	Bot perf:	-12
Spec capac:	61		
Pump mgd:	.259		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:030
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-APR-91
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000843

34
NNE
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000841**

Wid:	3-1900-019	Island:	Oahu
Well name:	Haw Prince Irr 4	Old name:	Not Reported
Yr drilled:	1990		
Driller:	Roscoe Moss Hawaii Inc		
Quad map:	10		
Long83dd:	-158.004778		
Lat83dd:	21.325306		
Gps:	0	Utm:	-1
Owner user:	Hawaii Prince Golf Club		
Land owner:	Hawaii Prince Hotel Waikiki LLC		

Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	PER
Casing dia:	15	Ground el:	20
Well depth:	25		
Solid case:	17	Perf case:	25
Use:	IRR - Golf Course		
Use year:	Not Reported		
Init head:	1.3	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	1/15/1990	Test gpm:	210
Test ddown:	1.7	Test chlor:	560
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	210		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	1992		
Draft yr:	Not Reported	Bot hole:	-5
Bot solid:	3	Bot perf:	-5
Spec capac:	124		
Pump mgd:	.302		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-010:006
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-90
Pir:	1/22/1992		
Surveyor:	G. Yoshimura		
T:	Not Reported	Site id:	HI9000000000841

35
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000269826**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211937158010401		
Monloc name:	3-1901-03 HAWAII PRINCE W-1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3237827
Longitude:	-158.015033	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	21
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19900319	Welldepth:	26
Welldepth units:	ft	Wellholedepth:	26
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1990-03-19	21.0	

K36
NE
1/2 - 1 Mile
Higher

FED USGS **USGS40000269824**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211936158001401		
Monloc name:	3-1900-09 W272-19 EW		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3235045
Longitude:	-158.001144	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	15.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19410610	Welldepth:	31
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

K37
NE
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000831**

Wid:	3-1900-009	Island:	Oahu
Well name:	Barbers Point	Old name:	Not Reported
Yr drilled:	1941		
Driller:	Layne International		
Quad map:	10		
Long83dd:	-158.001111		
Lat83dd:	21.323611		
Gps:	0	Utm:	-1
Owner user:	Naval Facilities Engineering Command Hawaii, Environmental, NAVFAC Hawaii		
Land owner:	YHB Ewa LLC		

Pump insta:	Not Reported		
Old number:	272-19	Well type:	Not Reported
Casing dia:	6	Ground el:	Not Reported
Well depth:	31		
Solid case:	26	Perf case:	Not Reported
Use:	UNU - Unused		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	1050		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(9) 1-0-001:030
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-41
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000831

J38
NE
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000838**

Wid:	3-1900-016	Island:	Oahu
Well name:	New Ewa Intl G C	Old name:	Not Reported
Yr drilled:	1988		
Driller:	Roscoe Moss Hawaii Inc		
Quad map:	10		
Long83dd:	-157.999444		
Lat83dd:	21.322222		
Gps:	0	Utm:	-1
Owner user:	Sogo Hawaii, Inc.		
Land owner:	Not Reported		
Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	PER
Casing dia:	8	Ground el:	14
Well depth:	33		
Solid case:	13	Perf case:	33
Use:	IRR - Golf Course		
Use year:	Not Reported		
Init head:	2.12	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	3/18/1988	Test gpm:	350

Test ddown:	3.7	Test chlor:	540
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-19
Bot solid:	-1	Bot perf:	-19
Spec capac:	95		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:027
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-MAR-88
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000838

K39
NE
1/2 - 1 Mile
Higher

FED USGS **USGS40000269825**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211937158001301		
Monloc name:	3-1900-07 W272-17 EW		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3237823
Longitude:	-158.0008663	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	15.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19410603	Welldepth:	31
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

K40
NE
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000829**

Wid:	3-1900-007	Island:	Oahu
Well name:	Barbers Point	Old name:	Not Reported
Yr drilled:	1941		
Driller:	Layne International		
Quad map:	10		
Long83dd:	-158.000833		
Lat83dd:	21.323889		
Gps:	0	Utm:	-1
Owner user:	Naval Facilities Engineering Command Hawaii, Environmental, NAVFAC Hawaii		
Land owner:	YHB Ewa LLC		
Pump insta:	Not Reported		
Old number:	272-17	Well type:	Not Reported
Casing dia:	6	Ground el:	Not Reported
Well depth:	31		
Solid case:	29	Perf case:	Not Reported
Use:	UNU - Unused		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	30	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 1-9-001:030
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-41
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000829

L41
NNE
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000842**

Wid:	3-1900-020	Island:	Oahu
Well name:	Haw Prince Irr 5	Old name:	Not Reported
Yr drilled:	1990		
Driller:	Roscoe Moss Hawaii Inc		
Quad map:	10		
Long83dd:	-158.003806		
Lat83dd:	21.326444		
Gps:	0	Utm:	-1
Owner user:	Hawaii Prince Golf Club		
Land owner:	Hawaii Prince Hotel Waikiki LLC		

Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	PER
Casing dia:	15	Ground el:	20
Well depth:	25		
Solid case:	17	Perf case:	25
Use:	IRR - Golf Course		
Use year:	Not Reported		
Init head:	0.8	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	1/17/1990	Test gpm:	210
Test ddown:	0.5	Test chlor:	600
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	210		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	1992		
Draft yr:	Not Reported	Bot hole:	-5
Bot solid:	3	Bot perf:	-5
Spec capac:	420		
Pump mgd:	.302		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-010:006
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-90
Pir:	1/27/1992		
Surveyor:	G. Yoshimura		
T:	Not Reported	Site id:	HI9000000000842

M42
North
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000824**

Wid:	3-1900-002	Island:	Oahu
Well name:	EP 22	Old name:	Not Reported
Yr drilled:	1930		
Driller:	Not Reported		
Quad map:	10		
Long83dd:	-158.00825		
Lat83dd:	21.3275		
Gps:	0	Utm:	-1
Owner user:	Hawaii Prince Golf Club		
Land owner:	Hawaii Prince Hotel Waikiki LLC		
Pump insta:	Not Reported		
Old number:	DW22-	Well type:	DUG
Casing dia:	12	Ground el:	23
Well depth:	29		
Solid case:	Not Reported	Perf case:	Not Reported
Use:	IRR - Golf Course		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported

Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	1760		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-6
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	2.534		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-010:121
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-30
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000824

L43
NNE **FED USGS** **USGS40000269848**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211948158002501		
Monloc name:	3-1900-20 HAWAII PRINCE W-5		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3268379
Longitude:	-158.0041996	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	20
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19900116	Welldepth:	25
Welldepth units:	ft	Wellholedepth:	25
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1990-01-17	19.3		1990-01-17	19.3	

M44
North **FED USGS** **USGS40000269861**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211952158004001		
Monloc name:	3-1900-02 D22 EWA B		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3279491
Longitude:	-158.0083662	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	23.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19300501	Welldepth:	29
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

45
NE
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000844**

Wid:	3-1900-022	Island:	Oahu
Well name:	Dug C	Old name:	Not Reported
Yr drilled:	1988		
Driller:	Not Reported		
Quad map:	10		
Long83dd:	-157.99775		
Lat83dd:	21.323667		
Gps:	0	Utm:	-1
Owner user:	Ewa Beach Golf Club		
Land owner:	YHB Ewa LLC		
Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	DUG
Casing dia:	Not Reported	Ground el:	Not Reported
Well depth:	12		
Solid case:	Not Reported	Perf case:	Not Reported
Use:	IRR - Golf Course		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		

Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:030
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-88
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000844

N46
East
1/2 - 1 Mile
Lower

FED USGS **USGS40000269765**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211906157524801		
Monloc name:	3-1959-06 T133-1 EWA		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.315171
Longitude:	-157.9939219	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	6.00
Vert measure units:	feet	Vertacc measure val:	2
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19660625	Welldepth:	290
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

N47
East
1/2 - 1 Mile
Lower

HI WELLS **HI9000000000974**

Wid:	3-1959-006	Island:	Oahu
Well name:	Ft Weaver Rd	Old name:	Not Reported
Yr drilled:	1966		
Driller:	Layne International		
Quad map:	10		
Long83dd:	-157.993889		
Lat83dd:	21.315278		
Gps:	0	Utm:	-1
Owner user:	Not Reported		
Land owner:	Not Reported		

Pump insta:	Not Reported		
Old number:	T133-1	Well type:	Not Reported
Casing dia:	3	Ground el:	6
Well depth:	290		
Solid case:	290	Perf case:	Not Reported
Use:	OBS - Observation		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-284
Bot solid:	-284	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:001
Aqui code:	30203		
Latest hd:	Not Reported	Wcr:	01-JAN-66
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000974

O48
NE
1/2 - 1 Mile
Higher

FED USGS **USGS40000269837**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211942158000001		
Monloc name:	3-1900-08 W272-18 EW		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3251711
Longitude:	-157.9972552	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	11.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19410606	Welldepth:	31
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

O49
NE
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000830**

Wid:	3-1900-008	Island:	Oahu
Well name:	Barbers Point	Old name:	Not Reported
Yr drilled:	1941		
Driller:	Layne International		
Quad map:	10		
Long83dd:	-157.997222		
Lat83dd:	21.325278		
Gps:	0	Utm:	-1
Owner user:	Naval Facilities Engineering Command Hawaii, Environmental, NAVFAC Hawaii		
Land owner:	YHB Ewa LLC		
Pump insta:	Not Reported		
Old number:	272-18	Well type:	Not Reported
Casing dia:	6	Ground el:	Not Reported
Well depth:	28		
Solid case:	26	Perf case:	Not Reported
Use:	UNU - Unused		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	1080		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	Not Reported
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-41
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000830

O50
NE
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000976**

Wid:	3-1959-008	Island:	Oahu
Well name:	Dug D	Old name:	Not Reported
Yr drilled:	1988		
Driller:	Not Reported		
Quad map:	10		
Long83dd:	-157.996667		
Lat83dd:	21.324722		
Gps:	0	Utm:	-1
Owner user:	Ewa Beach Golf Club		
Land owner:	YHB Ewa LLC		
Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	DUG
Casing dia:	Not Reported	Ground el:	Not Reported
Well depth:	12		
Solid case:	Not Reported	Perf case:	Not Reported
Use:	IRR - Golf Course		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:030
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-88
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000976

N51
East
1/2 - 1 Mile
Lower

HI WELLS **HI9000000000973**

Wid:	3-1959-005	Island:	Oahu
Well name:	Ft Weaver Rd	Old name:	Not Reported
Yr drilled:	1966		
Driller:	Layne International		
Quad map:	10		
Long83dd:	-157.993611		
Lat83dd:	21.315556		
Gps:	0	Utm:	-1
Owner user:	Not Reported		
Land owner:	Not Reported		

Pump insta:	Not Reported		
Old number:	T133-	Well type:	Not Reported
Casing dia:	10	Ground el:	6
Well depth:	1111		
Solid case:	290	Perf case:	Not Reported
Use:	OBS - Observation		
Use year:	Not Reported		
Init head:	5.3	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	17600		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	TKB		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-1105
Bot solid:	-284	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:001
Aqui code:	30203		
Latest hd:	Not Reported	Wcr:	01-JAN-66
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000973

P52
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000269846**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211947158011701		
Monloc name:	3-1901-01 D 24 EWA		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3265605
Longitude:	-158.018644	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	24.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19320101	Welldepth:	29
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

N53
East
1/2 - 1 Mile
Lower

FED USGS **USGS40000269769**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211907157594601		
Monloc name:	3-1959-07 EWA		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3154488
Longitude:	-157.9933663	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	6.00
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19720113	Welldepth:	106
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

P54
NW
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000847**

Wid:	3-1901-001	Island:	Oahu
Well name:	EP 24	Old name:	Not Reported
Yr drilled:	1932		
Driller:	Not Reported		
Quad map:	10		
Long83dd:	-158.018611		
Lat83dd:	21.326667		
Gps:	0	Utm:	-1
Owner user:	Makena Resort Corp.		
Land owner:	Not Reported		
Pump insta:	Not Reported		
Old number:	DW24-	Well type:	DUG
Casing dia:	12	Ground el:	24
Well depth:	29		
Solid case:	Not Reported	Perf case:	Not Reported
Use:	UNU - Unused		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported

Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	1400		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	QLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-5
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	2.016		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-010:007
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-32
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000847

Q55
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000269882**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211958158005801		
Monloc name:	3-1900-01 D 20 EWA B		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3296158
Longitude:	-158.0133662	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	25.00
Vert measure units:	feet	Vertacc measure val:	.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Other aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19300701	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1930-01-01	24.34	

N56
East
1/2 - 1 Mile
Lower

FED USGS **USGS40000269770**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211907157594701		
Monloc name:	3-1959-05 Fort Weaver Road, Oahu, HI		
Monloc type:	Well		
Monloc desc:	former local no. T133		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.315171
Longitude:	-157.9933663	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Hawaii volcanic-rock aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19660725	Welldepth:	1110
Welldepth units:	ft	Wellholedepth:	1110
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 25

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2002-09-23		1.60	2002-08-13		1.69
2002-05-29		1.89	2002-05-29		1.84
2002-03-15		1.69	2002-01-14		1.41
2001-11-01		1.09			
2001-09-19		0.91			
Note: Water level was affected by tide stage.					
2001-08-09		0.94			
Note: Water level was affected by tide stage.					
2001-06-22		1.14			
Note: Water level was affected by tide stage.					
2001-04-18		1.42			
Note: Water level was affected by tide stage.					
2000-12-20		1.55			
Note: Water level was affected by tide stage.					
2000-10-30		1.42			
Note: Water level was affected by tide stage.					
2000-09-01		1.53	2000-08-01		1.45
2000-05-30		1.91	2000-03-15		1.97
2000-01-14		2.17	1999-11-10		1.99
1999-09-01		1.80	1999-08-03		2.04
1999-06-04		1.87	1999-02-05		1.90
1998-12-02		1.70	1998-10-19		1.29

N57
East
1/2 - 1 Mile
Lower

HI WELLS **HI9000000000975**

Wid:	3-1959-007	Island:	Oahu
Well name:	Ewa Beach A	Old name:	Not Reported
Yr drilled:	1972		
Driller:	Continental Drilling Hawaii, Inc		
Quad map:	10		
Long83dd:	-157.993333		
Lat83dd:	21.315556		
Gps:	0	Utm:	-1
Owner user:	National Weather Service		
Land owner:	Not Reported		
Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	Not Reported
Casing dia:	4	Ground el:	6
Well depth:	106		
Solid case:	Not Reported	Perf case:	Not Reported
Use:	OBS - Observation		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-100
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-001:001
Aqui code:	30203		
Latest hd:	Not Reported	Wcr:	13-JAN-72
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000975

Q58
NNW
1/2 - 1 Mile
Higher

HI WELLS **HI9000000000823**

Wid:	3-1900-001	Island:	Oahu
Well name:	EP 20	Old name:	Not Reported
Yr drilled:	1930		
Driller:	Ewa Plantation		
Quad map:	10		
Long83dd:	-158.013333		
Lat83dd:	21.329722		
Gps:	0	Utm:	-1
Owner user:	Makena Resort Corp.		
Land owner:	Not Reported		

Pump insta:	Not Reported		
Old number:	DW20-	Well type:	DUG
Casing dia:	12	Ground el:	25
Well depth:	30		
Solid case:	Not Reported	Perf case:	Not Reported
Use:	UNU - Unused		
Use year:	Not Reported		
Init head:	Not Reported	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	1400		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	PLS		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-5
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported		
Pump mgd:	2.016		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(1) 9-1-010:006
Aqui code:	30209		
Latest hd:	Not Reported	Wcr:	01-JAN-30
Pir:	1/1/1992		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000000823

59
NNE
1/2 - 1 Mile
Higher

FED USGS **USGS40000269886**

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-211959158002201		
Monloc name:	3-1900-13 D 41 EWA		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20060000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	21.3298935
Longitude:	-158.0033663	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	2
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported		
Construction date:	19640101	Welldepth:	8
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for HONOLULU County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 96706

Number of sites tested: 6

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	-0.150 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	-0.200 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Office of Planning
Telephone: 808-587-2895

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Well Index Database
Source: Commission on Water Resource Management
Telephone: 808-587-0214
CWRM maintains a Well Index Database to track specific information pertaining to the construction and installation of production wells in Hawaii

OTHER STATE DATABASE INFORMATION

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

APPENDIX 1a

EDR Historical Topographic Map Report

Campbell High School
91-980 North Road
Ewa Beach, HI 96706

Inquiry Number: 4589248.4
April 12, 2016

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

04/12/16

Site Name:

Campbell High School
91-980 North Road
Ewa Beach, HI 96706
EDR Inquiry # 4589248.4

Client Name:

Enviroquest
98-029 Hekaha Street
Aiea, HI 96701
Contact: Miles Nirei

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Enviroquest were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA
Project: EQI 10045

Coordinates:

Latitude:	21.31626 21° 18' 59" North
Longitude:	-158.008412 -158° 0' 30" West
UTM Zone:	Zone 4 North
UTM X Meters:	602839.72
UTM Y Meters:	2357473.17
Elevation:	0.00' above sea level

Maps Provided:

2013
1998, 1999
1983
1968
1959, 1962
1953

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2013 Source Sheets



Pearl Harbor

7.5-minute, 24000



Ewa

7.5-minute, 24000

1998, 1999 Source Sheets



Ewa

7.5-minute, 24000
Aerial Photo Revised 1998



Pearl Harbor

7.5-minute, 24000
Aerial Photo Revised 1999

1983 Source Sheets



Ewa

7.5-minute, 24000
Aerial Photo Revised 1977
Edited 1983



Pearl Harbor

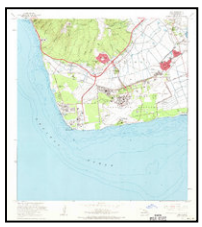
7.5-minute, 24000
Aerial Photo Revised 1978
Edited 1983

1968 Source Sheets



Puuloa

7.5-minute, 24000
Aerial Photo Revised 1968



Ewa

7.5-minute, 24000
Aerial Photo Revised 1968

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1959, 1962 Source Sheets



Puuloa

7.5-minute, 24000
Aerial Photo Revised 1959



Ewa

7.5-minute, 24000
Aerial Photo Revised 1952
Edited 1962

1953 Source Sheets



Puuloa

7.5-minute, 24000
Aerial Photo Revised 1952



Ewa

7.5-minute, 24000
Aerial Photo Revised 1952

Historical Topo Map

2013



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

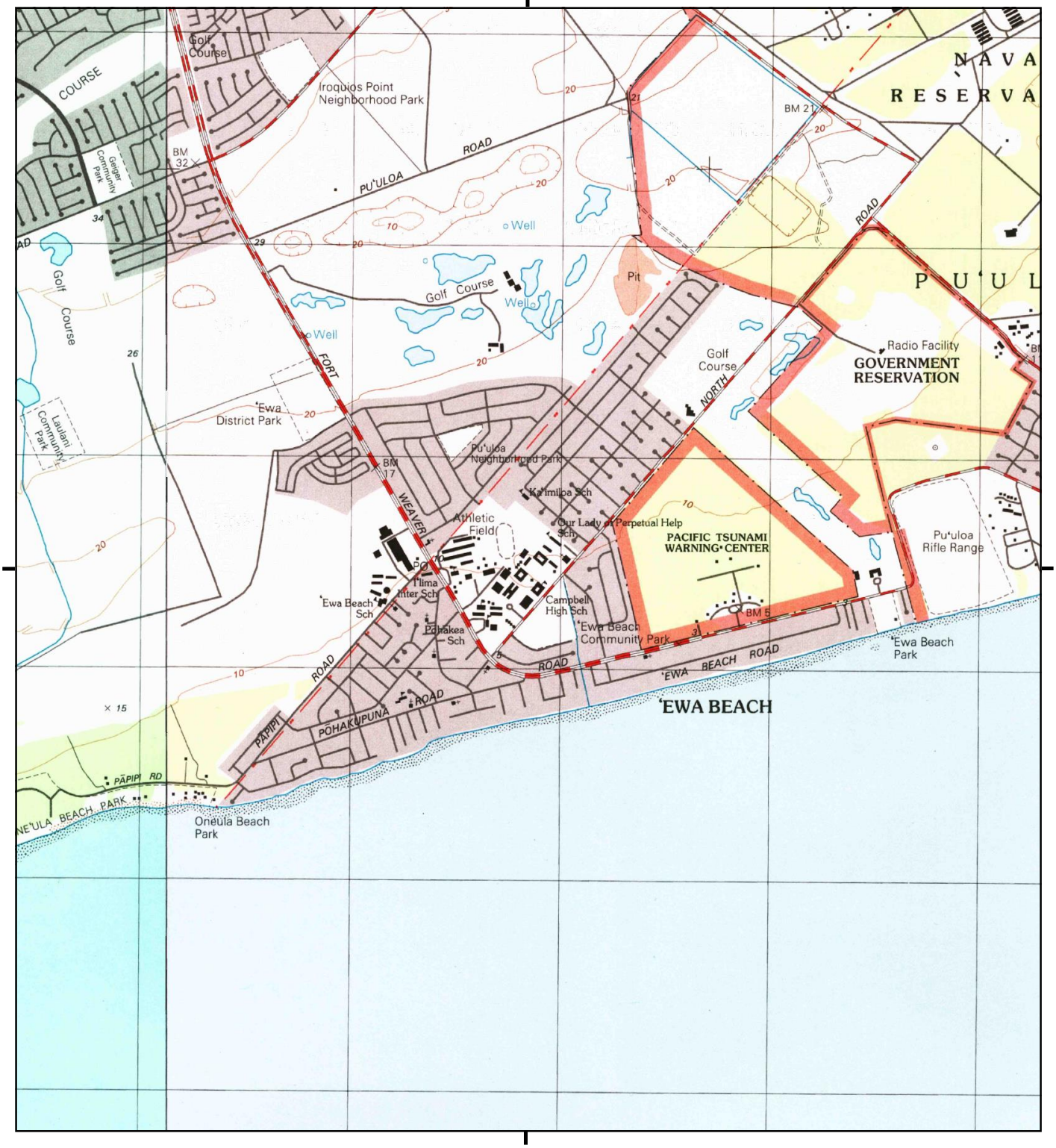
TP, Pearl Harbor, 2013, 7.5-minute
W, Ewa, 2013, 7.5-minute

SITE NAME: Campbell High School
ADDRESS: 91-980 North Road
Ewa Beach, HI 96706
CLIENT: Enviroquest

N

Historical Topo Map

1998, 1999



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

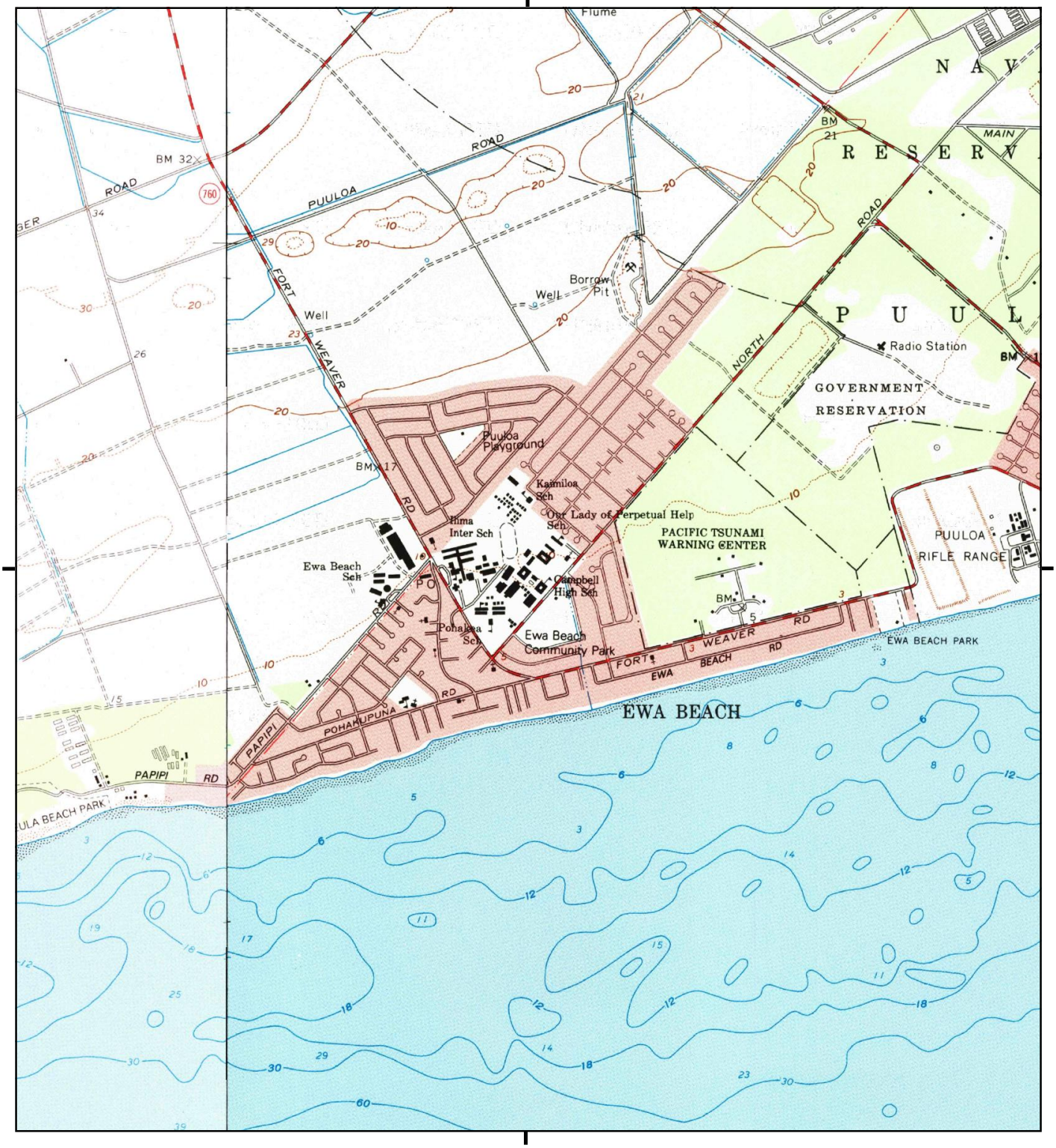
TP, Pearl Harbor, 1999, 7.5-minute
W, Ewa, 1998, 7.5-minute

SITE NAME: Campbell High School
ADDRESS: 91-980 North Road
Ewa Beach, HI 96706
CLIENT: Enviroquest

N

Historical Topo Map

1983



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

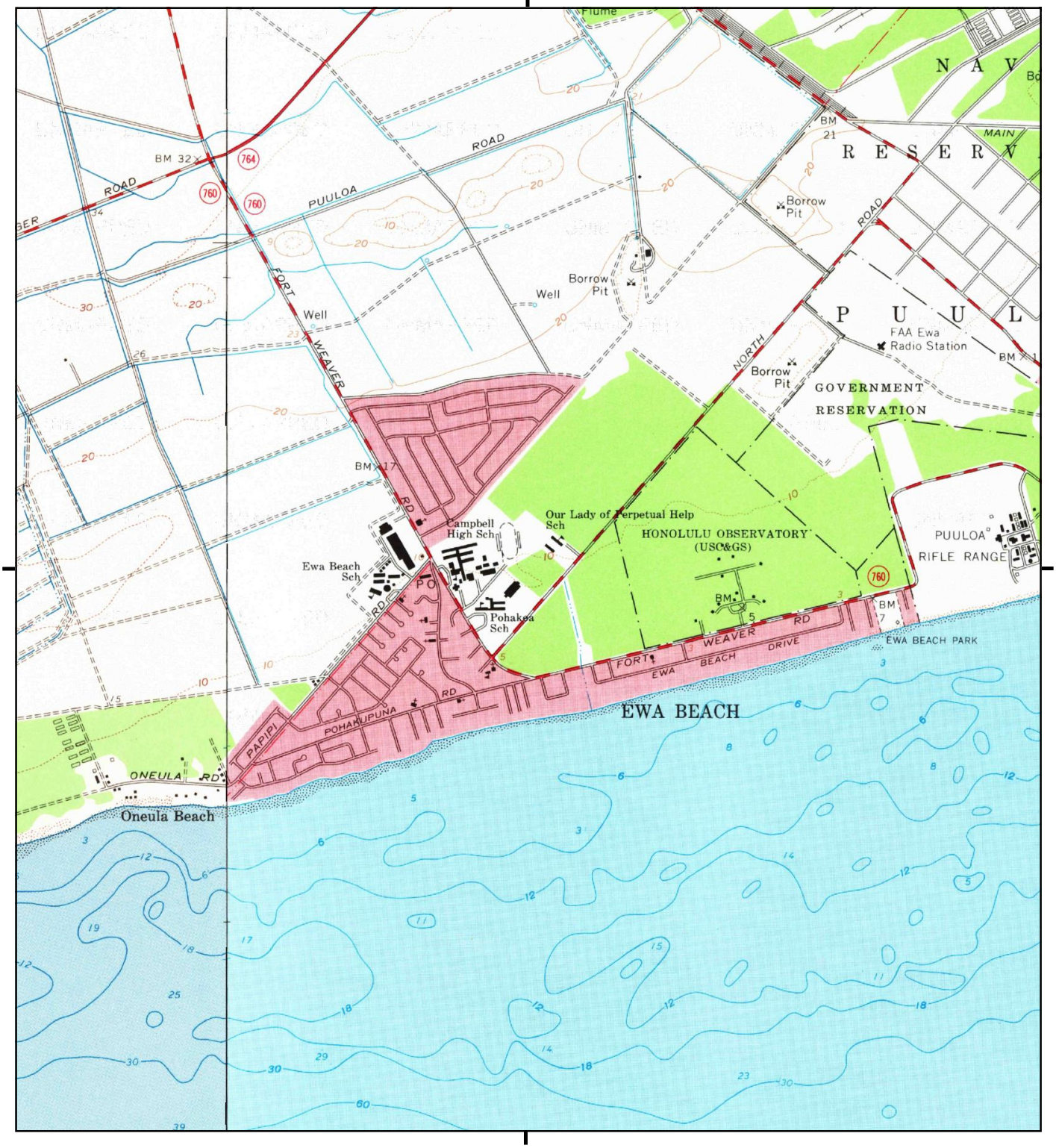
TP, Pearl Harbor, 1983, 7.5-minute
W, Ewa, 1983, 7.5-minute

SITE NAME: Campbell High School
ADDRESS: 91-980 North Road
Ewa Beach, HI 96706
CLIENT: Enviroquest

N

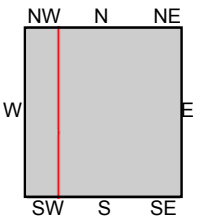
Historical Topo Map

1968



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5



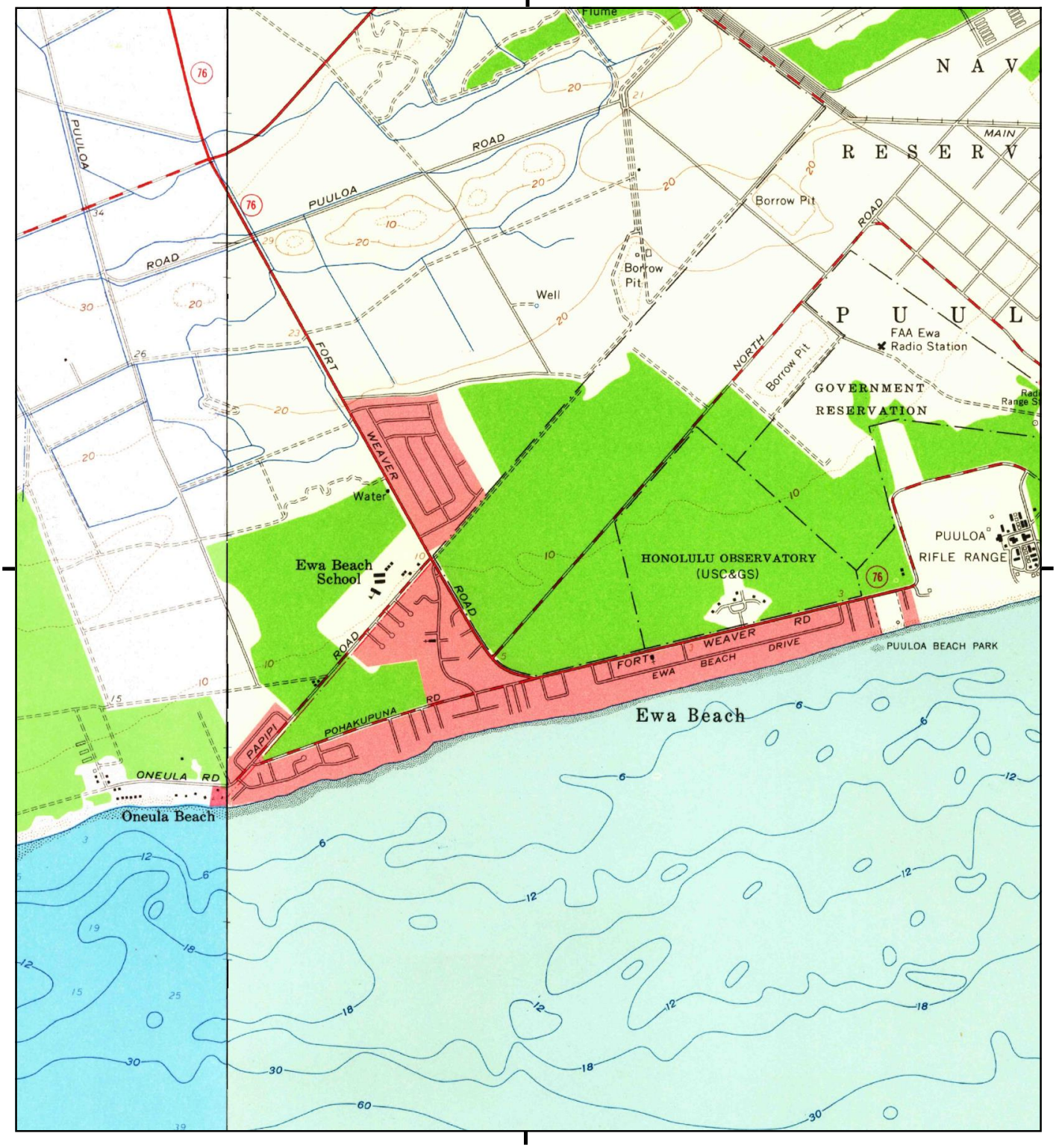
TP, Puuloa, 1968, 7.5-minute
W, Ewa, 1968, 7.5-minute

SITE NAME: Campbell High School
ADDRESS: 91-980 North Road
Ewa Beach, HI 96706
CLIENT: Enviroquest

N

Historical Topo Map

1959, 1962



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

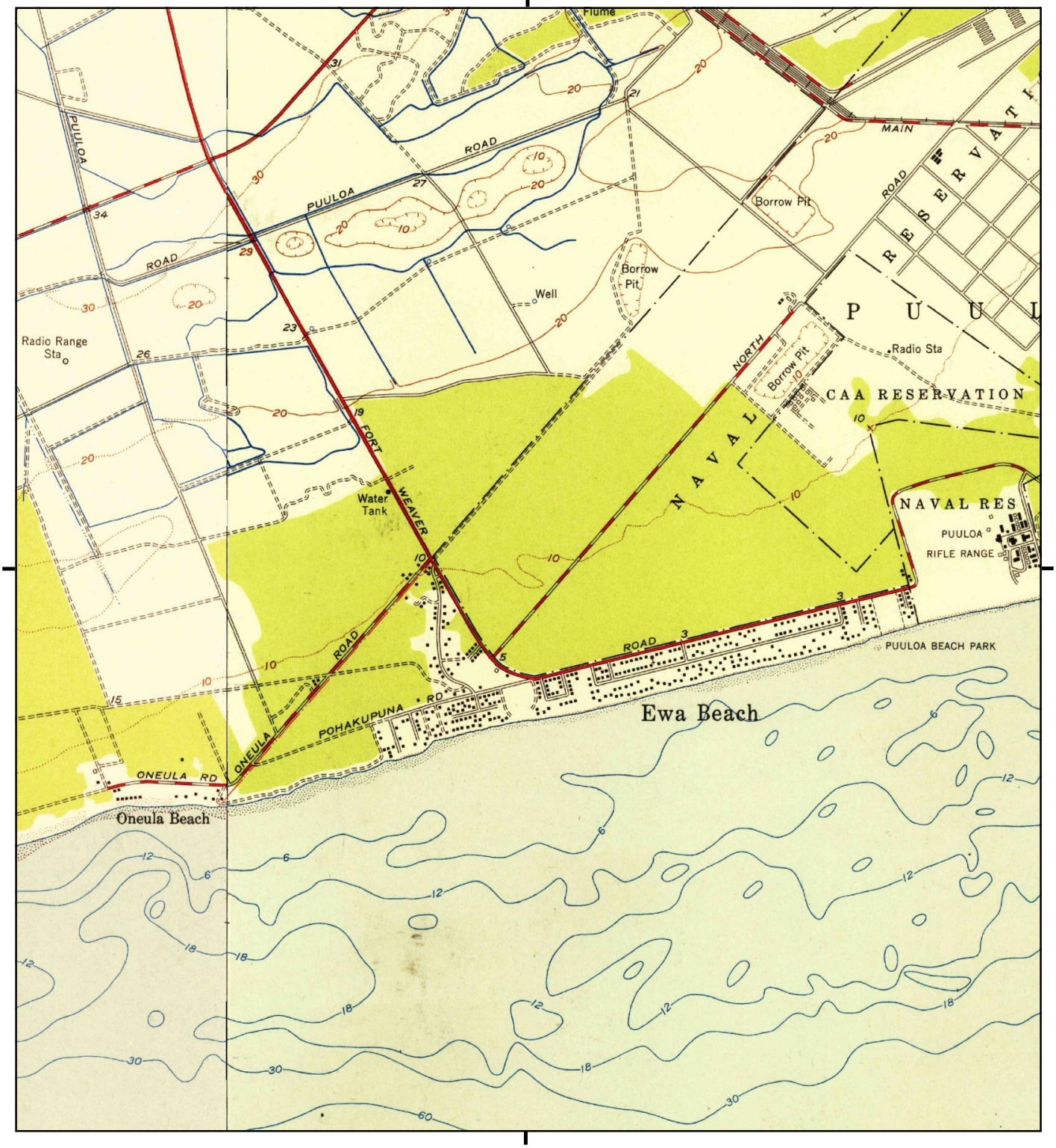
TP, Puuloa, 1959, 7.5-minute
W, Ewa, 1962, 7.5-minute

SITE NAME: Campbell High School
ADDRESS: 91-980 North Road
Ewa Beach, HI 96706
CLIENT: Enviroquest

N

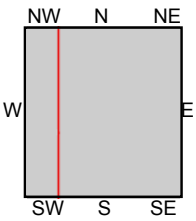
Historical Topo Map

1953



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5



TP, Puuloa, 1953, 7.5-minute
W, Ewa, 1953, 7.5-minute

SITE NAME: Campbell High School
ADDRESS: 91-980 North Road
Ewa Beach, HI 96706
CLIENT: Enviroquest

N

APPENDIX 1b

EDR Certified Sanborn Map Report

Campbell High School
91-980 North Road
Ewa Beach, HI 96706

Inquiry Number: 4589248.3
April 12, 2016

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

04/12/16

Site Name:

Campbell High School
91-980 North Road
Ewa Beach, HI 96706
EDR Inquiry # 4589248.3

Client Name:

Enviroquest
98-029 Hekaha Street
Aiea, HI 96701
Contact: Miles Nirei

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Enviroquest were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 1AEF-477A-8F1C

PO # NA

Project EQI 10045

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 1AEF-477A-8F1C

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Enviroquest (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

APPENDIX 1c

EDR Aerial Photo Decade Package

Campbell High School
91-980 North Road
Ewa Beach, HI 96706

Inquiry Number: 4589248.12
April 12, 2016

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

04/12/16

Site Name:

Campbell High School
91-980 North Road
Ewa Beach, HI 96706
EDR Inquiry # 4589248.12

Client Name:

Enviroquest
98-029 Hekaha Street
Aiea, HI 96701
Contact: Miles Nirei

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2004	1"=500'	Flight Date: August, 18 2004	USGS
2000	1"=500'	Acquisition Date: January, 30 2000	USGS/DOQQ
1992	1"=500'	Flight Date: September, 25 1992	USGS
1985	1"=500'	Flight Date: May, 02 1985	USGS
1976	1"=500'	Flight Date: December, 18 1976	USGS
1974	1"=1000'	Flight Date: October, 19 1974	USGS

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.



INQUIRY #: 4589248.12

YEAR: 2004

= 500'

N

EDR



INQUIRY #: 4589248.12

YEAR: 2000

= 500'

N

EDR



INQUIRY #: 4589248.12

YEAR: 1992

= 500'

N

EDR



INQUIRY #: 4589248.12

YEAR: 1985

= 500'

N

EDR



INQUIRY #: 4589248.12

YEAR: 1976

= 500'

N

EDR



INQUIRY #: 4589248.12

YEAR: 1974

= 1000'

N

EDR

APPENDIX 1d

EDR City Directory Image Report

Campbell High School
91-980 North Road
Ewa Beach, HI 96706

Inquiry Number: 4589248.5
April 13, 2016

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2013	☑	☐	Cole Information Services
2008	☑	☐	Cole Information Services
2003	☑	☐	Cole Information Services
1999	☑	☐	Cole Information Services
1995	☑	☐	Cole Information Services
1992	☑	☐	Cole Information Services

RECORD SOURCES

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.

FINDINGS

TARGET PROPERTY STREET

91-980 North Road
Ewa Beach, HI 96706

Year	*CD Image*	*Source*
NORTH RD		
2013	pg A1	Cole Information Services
2008	pg A2	Cole Information Services
2003	pg A3	Cole Information Services
1999	pg A4	Cole Information Services
1995	pg A6	Cole Information Services
1992	pg A7	Cole Information Services

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	Cole Information Services

NORTH RD 2013

91907	WINIFRED HARRIS
91913	JESSICA MISA
	M TAVARES
	MICHAEL STEPHENS
	ROMEO CORPUZ
91915	ANTOINETTE KUNUKAU
	CLAYTON JIMINEZ
91917	NOLAN SANTA
91919	BARBARA DITTRICH
	LEILANI PADUA
	STACEY CONSTANTINO
91921	CHARLES CALHOON
	DANALI NISHIDA
	DANIELLE RIVERA
	JULIAN CORPUZ
	NOE UNDAN
	ROBIN ANGUAY
91923	ELPIDIO BAUTISTA
	EWA APARTMENTS
	LOUISE PERREIRA
	MATT JUGRAN
	MIRIAN MAOS
91925	MERLINA LAZO
	NENITA DUBEY
	PAULINA GALIMA
	RAYMUND CUIZON
91950	EWA BEACH PUBLIC & SCHOOL LIBRARY
	STATE OF HAWAII GOVERNMENT
91980	CAMPBELL JAMES HIGH SCHOOL
	CAMPBELL JAMES HIGH SCHOOL YEARBOOK
911001	JAIME BAGUIO
911004	CATHOLIC DIOCESE
	OUR LADY OF PERPETUAL HELP CHURCH
911005	REGINA LOPEZ
911009	MARK JAVIER
911010	OUR LADY OF PERPETUAL HELP SCHOOL
911011	CONFESOR DUMLAO
911015	PEDRO BORROMEO
911017	EUGENE TEXEIRA
911019	THOMAS TOMPKINS
911020	MARVIN BERMUDEZ
911021	OCCUPANT UNKNOWN
911025	CASIMIRO LADINES
911029	JONALYN LAENO
911031	ALFRED FELICIANO
911033	LEONORA OASAY
911035	JESSE ROSALES
911051	DUSTIN AVILLA
911154	THE CHURCH OF JESUS CHRIST OF LATTER

Target Street	Cross Street	Source
✓	-	Cole Information Services

NORTH RD 2008

91907 MELCHOR ANTONIO
91913 ANNETTE SUGA
M TAVARES
RODEL OASAY
91915 JOYCELYNN MATSUOKA
SAGE DOANE
91917 DANTE CUIZON
91919 ALLAN CHASALOW
NERY BALLAO
OFELIA CONSTANTINO
91921 ASHLEY MCNEELY
DYANN BUSTAMANTE
JULIAN CORPUZ
NOE UNDAN
91923 ELPIDIO BAUTISTA
EWA APARTMENTS
JULIET USON
NORMAN HANGMAN
91925 E TAGAMA
PAULINA GALIMA
PETER VILORIA
RAYMUND CUIZON
91950 EWA BEACH PUBLIC & SCHOOL LIBRARY
91980 JAMES CAMPBELL HIGH SCHOOL
LEEWARD OAHU SCHOOL DISTRICT
SCHOOL TO WORK TRANSITION CENTER PRO
911001 JAIME BAGUIO
911004 OUR LADY OF PERPETUAL HELP CHURCH
ROMAN CATHOLIC CHURCH STATE
911005 OCCUPANT UNKNOWN
911009 KURT ANTOLIN
911010 OUR LADY OF PERPETUAL HELP SCHOOL
ROMAN CATHOLIC CHURCH STATE
911011 CONFESOR DUMLAO
911017 EUGENE TEXEIRA
911019 OCCUPANT UNKNOWN
911020 MAGDALENA BERMUDEZ
911021 JENNIFER WRIGHT
911024 LEIGHTON GANDALL
911025 JOSE RAPANOT
911029 RODEL LACUESTA
911031 ALFRED FELICIANO
911033 MARY KANAMU
911035 JESSE ROSALES
911148 ANTONIO ALCARAZ

Target Street	Cross Street	Source
✓	-	Cole Information Services

NORTH RD 2003

91907	FELICIDAD SALDEBAR
	PHILIP DITTES
	WINIFRED HARRIS
91913	WAYNE HIRATA
91915	FRANKLIN PASCUA
	JOSEPHINE AKANA
91917	FRANCIS KAHOLI
	H NAMOC
	NOLAN SANTAANA
91919	CESAREO CONSTANTINO
	ROBERTA CORTEZ
91921	JULIAN CORPUZ
	NOE UNDAN
	REDENTO SALES
91923	ELPIDIO BAUTISTA
	EWA APARTMENTS
	NORMAN HANGMAN
91925	PETER VILORIA
	RAYMUND CUIZON
91950	HAWAII STATE GOVERNMENT EDCTN
	OCCUPANT UNKNOWN
91980	CAMPBELL CMNTY SCHL FOR ADLT
	CAMPBELL JAMES HIGH SCHL CFTR
	CAMPBELL JAMES HIGH SCHL FTBL
	CAMPBELL JAMES HIGH SCHL MUSIC
	CAMPBELL JAMES HIGH SCHL OTRCH
	CAMPBELL JAMES HIGH SCHL YRBK
	CMPBL JAMES HIGH SCHL ALTRNT
	CMPBL JAMES HIGH SCHL ATHLTC
	CMPBL JAMES HIGH SCHL EWA NPK
	CMPBL JAMES HIGH SCHL HLTH RM
	CMPBL SCHL CMPLX ORTHPDC UNIT
911001	JAIME BAGUIO
911004	KONELIO FALETOI
911009	KURT ANTOLIN
911011	KATHRYN POOLER
911017	WILLIAM TEXEIRA
911020	MAGDALENA BERMUDEZ
911021	CHRISTINE FONOTI
911024	OCCUPANT UNKNOWN
911025	OCCUPANT UNKNOWN
911031	ALFRED FELICIANO
911033	MARY KANAMU
911035	VINCENTE COMIA
911148	OCCUPANT UNKNOWN
911154	CHURCH OF JESUS CHRIST OF LTR

Target Street	Cross Street	Source
✓	-	Cole Information Services

NORTH RD 1999

91907	W HARRIS
91913	B SUGIHARA
91915	ART BELMODIS
	F PASCUA
91917	H NAMOC
91919	CESAREO CONSTANTINO
	D MCMOORE
	JAY DEBLOIS
91921	EARL TILLMAN
	JULIAN CORPUZ
	ROXAN TAYLOR
91923	ELPIDIO BAUTISTA
	EWA APARTMENTS
	NORMAN HANGMAN
91925	PETER VILORIA
91950	EWA BEACH PUBLIC & SCHOOL LIBRARY
91955	HONOLULU CITY & COUNTY PARKS & RECREATION
91980	CAMPBELL COMMUNITY SCHOOL FOR ADULTS
	CAMPBELL JAMES HIGH SCHOOL ADMINISTRATION
	CAMPBELL JAMES HIGH SCHOOL ALTERNATE LEARN CENTER
	CAMPBELL JAMES HIGH SCHOOL ATHLETIC DEPARTMENT
	CAMPBELL JAMES HIGH SCHOOL CAFETERIA
	CAMPBELL JAMES HIGH SCHOOL COOPERATIVE ED DECA
	CAMPBELL JAMES HIGH SCHOOL COOPERATIVE EE DECA
	CAMPBELL JAMES HIGH SCHOOL COUNSELORS OFFICE GR 10
	CAMPBELL JAMES HIGH SCHOOL COUNSELORS OFFICE GR 11
	CAMPBELL JAMES HIGH SCHOOL COUNSELORS OFFICE GR 12
	CAMPBELL JAMES HIGH SCHOOL COUNSELORS OFFICE GR 9
	CAMPBELL JAMES HIGH SCHOOL EWA NAUPAKA
	CAMPBELL JAMES HIGH SCHOOL FOOTBALL LOCKER ROOM
	CAMPBELL JAMES HIGH SCHOOL HEALTH RM
	CAMPBELL JAMES HIGH SCHOOL IND ART DEPARTMENT
	CAMPBELL JAMES HIGH SCHOOL MUSIC DEPARTMENT
	CAMPBELL JAMES HIGH SCHOOL OUTREACH COUNSELOR
	CAMPBELL JAMES HIGH SCHOOL PHYSCL EDUC DEPARTMENT
	CAMPBELL JAMES HIGH SCHOOL PRIN SECY
	CAMPBELL JAMES HIGH SCHOOL REGISTRAR
	CAMPBELL JAMES HIGH SCHOOL SPEC EDUC DEPARTMENT HEAD
	CAMPBELL JAMES HIGH SCHOOL YEARBOOK POHAKU MAKAMAE
	CAMPBELL SCHOOL COMPLEX ORTHOPEDIC UNIT
	HAWAII STATE GOVERNMENT EDUCATION DEPARTMENT OF
911001	JAIME BAGUIO
911004	CATHOLIC DIOCESE PARISHES OUTSIDE HONOLULU
911010	OUR LADY OF PERPETUAL HELP SCHOOL
911017	WILLIAM TEXEIRA
911019	RONALD TOMPKINS
911020	F BERMUDEZ
911021	FIAPOTO FONOTI
911024	L GETTER
911025	JOSE RAPANOT

Target Street	Cross Street	Source
✓	-	Cole Information Services

NORTH RD 1999 (Cont'd)

911031 ALFRED FELICIANO
911033 M KANAMU
911035 OCCUPANT UNKNOWN
911051 C GASPAR
KRISTEN GALEON
911148 JAME FRENCH
911154 CHURCH OF JESUS CHRIST OF LTTR DAY SAINTS THE EWA

Target Street	Cross Street	Source
✓	-	Cole Information Services

NORTH RD 1995

91907	ORTIZ, C
	TAGAMA, D
91913	SUGIHARA, B
91915	BELMODIS, S H
	DOMINGO, JUAN
91917	AHLO, M L
	NAMOC, H C
91919	CONSTANTINO, CESAREO
91921	ADONA, F
	CORPUZ, JULIAN A
	SALES, R T
	TILLMAN, EARL
91923	EWA APARTMENTS
	HANGMAN, NORMAN
	MALALUAN, ROBERT J
91925	VILORIA, PETER
	VOLKWEIN, DAVID
91950	EWA BEACH PUBLIC & SCHOOL LBRY
91955	EWA BEACH COMMUNITY PARK
91980	CAMPBELL COMMUNITY SCHOOL
	CAMPBELL HIGH SCHOOL
	TRANSITION CTR PROGRAM
911005	SIMS, WILBERT
911010	OUR LADY OF PERPETUAL HELP
911015	STREIF, C
911017	TEXEIRA, WILLIAM R
911020	BERMUDEZ, F T
911031	FELICIANO, ALFRED P
911033	KANAMU, M Y
911160	TONIS

Target Street	Cross Street	Source
✓	-	Cole Information Services

NORTH RD 1992

91	BERMUDEZ, F T
	FELICIANO, ALFRED P
	GASPAR, LINDY
	KANAMU, M Y
	SOJOT, RANDALL
	STREIF, C
	TEXEIRA, WILLIAM R
91907	ORTIZ, C
	TAGAMA, D
91915	BELMODIS, S H
	DOMINGO, JUAN
91917	AHLO, M L
	NAMOC, H C
91919	CONSTANTINO, CESAREO
91921	ADONA, F
	CORPUZ, JULIAN A
	SALES, R T
	TILLMAN, EARL
91923	CRISTOBAL, PEDRO C JR
	HANGMAN, NORMAN
	KALALUHI, RENNING L
91925	VILORIA, PETER

APPENDIX 1e

EDR Property Tax Map Report

Campbell High School
91-980 North Road
Ewa Beach, HI 96706

Inquiry Number: 4589248.6
April 12, 2016

The EDR Property Tax Map Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

NO COVERAGE

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

APPENDIX 1f

EDR Environmental Lien and AUL Search

Campbell High School
91-980 North Road
Ewa Beach, Hawaii 96706

Inquiry Number: 4589248.7
April 15, 2016

The EDR Environmental LienSearch™



6 Armstrong Road,
Fourth Floor
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Environmental LienSearch™ Report

The EDR Environmental LienSearch Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This report was prepared for the use of Environmental Data Resources, Inc., and The Fox Group,LLC., exclusively. This report is neither a guarantee of title, a commitment to insure, or a policy of title insurance. **NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WTH THIS REPORT**. Environmental Data Resources, Inc. (EDR) and The Fox Group, LLC. specifically disclaim the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Copyright 2014 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR Environmental LienSearch™ Report

TARGET PROPERTY INFORMATION

ADDRESS

CAMPBELL HIGH SCHOOL
91-980 NORTH ROAD
EWA BEACH, HAWAII 96706

RESEARCH SOURCE

Source 1: Honolulu Assessor
Honolulu County, Hawaii

Source 2: Honolulu Recorder
Honolulu County, Hawaii

PROPERTY INFORMATION

Deed 1:

Title is vested in:	City and County of Honolulu
Legal Description:	**57.0718 Acres**
Legal Current Owner:	**City and County of Honolulu**
Property Identifiers:	**9-1-001-002-0000**
Comments:	Public records of Honolulu County, Hawaii were searched from January 1, 1990 to April 12, 2016, and no deeds vesting title in the subject property were found of record during the period searched.
Comments:	**Exhibit A.**

EDR Environmental LienSearch™ Report

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AUL's: Found ☐ Not Found ☒

EDR Environmental LienSearch™ Report

DEED EXHIBIT A

Owner and Parcel Information Print Owner Info

Parcel Number	910010020000	**Data current as of**	April 13, 2016
Owner Name	CITY AND COUNTY OF HONOLULU Fee Owner	**Project Name**	
Location Address	91-750 FORT WEAVER CAMPBELL RD	**Plat Map**	Plat Map PDF
Property Class	RESIDENTIAL	**Parcel Map**	GIS Parcel Map
Land Area (approximate sq ft)	2,486,048	**Legal Information**	
Land Area (acres)	57.0718		

Assessment Information Show Historical Assessments Print Assessment Info

Assessment Year	Property Class	Assessed Land Value	Dedicated Use Value	Land Exemption	Net Taxable Land Value	Assessed Building Value	Building Exemption	Net Taxable Building Value	Total Property Assessed Value	Total Property Exemption	Total Net Taxable Value
2016	RESIDENTIAL	$ 41,267,300	$ 0	$ 41,267,300	$ 0	$ 18,896,200	$ 18,896,200	$ 0	$ 60,163,500	$ 60,163,500	$ 0

Appeal Information Print Appeal Info

No appeal information on parcel.

Land Information Print Land

Property Class	Square Footage	Acreage	Agricultural Use Indicator
RESIDENTIAL	2,486,048	57.0718	

Improvement Information

No improvement information available for this parcel.

Other Building and Yard Improvements

Description	Quantity	Year Built	Area
GROSS BUILDING VALUE	1	2001	173,600
GROSS BUILDING VALUE	1	2001	1,096,100
GROSS BUILDING VALUE	1	2001	822,400
GROSS BUILDING VALUE	1	2001	205,200
GROSS BUILDING VALUE	1	2001	159,000
GROSS BUILDING VALUE	1	2001	1,093,500
GROSS BUILDING VALUE	1	2001	17,200
GROSS BUILDING VALUE	1	2001	17,200
GROSS BUILDING VALUE	1	2001	17,200
GROSS BUILDING VALUE	1	2001	17,200
GROSS BUILDING VALUE	1	2001	17,200
GROSS BUILDING VALUE	1	2001	17,200
GROSS BUILDING VALUE	1	2001	16,000
GROSS BUILDING VALUE	1	2001	16,000
GROSS BUILDING VALUE	1	2001	48,800
GROSS BUILDING VALUE	1	2001	564,100

GROSS BUILDING VALUE	1	2001	959,000
GROSS BUILDING VALUE	1	2001	952,500
GROSS BUILDING VALUE	1	2001	529,200
GROSS BUILDING VALUE	1	2001	316,000
GROSS BUILDING VALUE	1	2001	1,615,500
GROSS BUILDING VALUE	1	2001	675,600
GROSS BUILDING VALUE	1	2001	122,100
GROSS BUILDING VALUE	1	2001	906,000
GROSS BUILDING VALUE	1	2001	706,200
GROSS BUILDING VALUE	1	2001	951,600
GROSS BUILDING VALUE	1	2001	141,000

Permit Information Department of Planning and Permitting (DPP)			
Date	**Permit Number**	**Reason**	**Permit Amount**
09/23/2015	774042	ALTERATION	$ 200,000
09/14/2015	773352	ALTERATION	$ 200,000
09/14/2015	773345	ALTERATION	$ 120,000
08/11/2015	771335	OTHER WORK	$ 65,000
09/12/2014	753876	ELECTRICAL	$ 11,000
07/23/2014	751283	ELECTRICAL	$ 54,000
10/01/2013	733941	ELECTRICAL	$ 965,000
08/23/2013	730679	NEW BUILDING	$ 110,885
08/23/2013	730678	NEW BUILDING	$ 110,885
08/06/2013	729241	ELECTRICAL	$ 25,000
06/24/2013	726123	ALTERATION	$ 337,320
11/30/2012	710461	ELECTRICAL	$ 14,003
10/23/2012	706460	PLUMBING	$ 229,260
07/19/2012	697435	PLUMBING	$ 500,000
07/19/2012	697434	NEW BUILDING	$ 5,511,129
05/31/2012	693245	ALTERATION	$ 333,000
05/21/2012	692612	ALTERATION	$ 259,570
05/10/2012	691866	ELECTRICAL	$ 1,436,809
02/16/2012	686557	ELECTRICAL	$ 375,000
08/12/2011	676103	PLUMBING	$ 365,000
08/05/2011	675731	ALTERATION	$ 135,000
05/25/2011	672002	ELECTRICAL	$ 49,835
05/25/2011	672001	OTHER WORK	$ 125,000
05/25/2011	671997	NEW BUILDING	$ 253,661
10/05/2010	662048	ALTERATION	$ 344,000
10/05/2010	662046	ALTERATION	$ 4,000,000
12/18/2009	650772	ELECTRICAL	$ 45,000
10/24/2007	619013	OTHER WORK	$ 154,015
08/03/2007	615713	ELECTRICAL	$ 240,000
08/03/2007	615712	ELECTRICAL	$ 150,000
07/27/2007	615455	ALTERATION	$ 195,200
07/03/2007	614466	REPAIR	$ 242,678
05/29/2007	0019358	FIRE DAMAGE	$ 500
02/09/2007	0004959	FIRE DAMAGE	$ 100
09/21/2006	602336	ALTERATION	$ 110,000
08/25/2006	601111	ELECTRICAL	$ 841,830

07/13/2006	599160	ELECTRICAL	$ 120,000
05/31/2006	597214	ELECTRICAL	$ 110,000
05/15/2006	596489	REPAIR	$ 44,328
03/16/2006	593778	ALTERATION	$ 68,000
03/16/2006	593777	ALTERATION	$ 68,000
03/16/2006	593776	ALTERATION	$ 68,000
01/27/2006	0003172	FIRE DAMAGE	$ 100
12/20/2005	590051	ALTERATION	$ 150,000
12/20/2005	590050	REPAIR	$ 5,400
12/20/2005	590049	ELECTRICAL	$ 67,000
12/20/2005	590048	ALTERATION	$ 50,000
07/18/2005	582981	ALTERATION	$ 100,000
01/28/2005	575706	ELECTRICAL	$ 98,500
10/21/2004	572355	OTHER WORK	$ 285,944
08/05/2004	569231	PLUMBING	$ 73,300
06/09/2004	566738	ELECTRICAL	$ 467,303
05/14/2004	565242	PLUMBING	$ 93,000
10/06/2003	555557	NEW BUILDING	$ 170,000
09/11/2003	554502	OTHER WORK	$ 51,650
09/08/2003	554349	PLUMBING	$ 1,100
08/28/2003	553958	NEW BUILDING	$ 339,500
08/06/2003	552949	ALTERATION	$ 235,471
06/25/2003	550977	ALTERATION	$ 21,532
06/06/2003	549911	OTHER WORK	$ 115,000
11/21/2002	542322	REPAIR	$ 277,331
06/19/2002	535950	ALTERATION	$ 67,630
06/18/2002	535898	PLUMBING	$ 327,730
05/31/2002	535389	PLUMBING	$ 36,000
04/24/2002	533905	ALTERATION	$ 32,906
03/19/2002	532571	ALTERATION	$ 7,900
08/01/2001	524493	ELECTRICAL	$ 73,000
07/06/2001	523422	ALTERATION	$ 109,009
06/08/2001	522467	OTHER WORK	$ 110,500
05/01/2001	520971	ELECTRICAL	$ 4,000
04/23/2001	520674	REPAIR	$ 40,000
02/27/2001	518713	ALTERATION	$ 22,650
02/27/2001	518712	ALTERATION	$ 22,650
12/15/2000	516375	NEW BUILDING	$ 50,000
12/15/2000	516374	NEW BUILDING	$ 50,000
12/15/2000	516373	NEW BUILDING	$ 100,000
12/15/2000	516372	NEW BUILDING	$ 2,180,000
12/01/2000	515822	NEW BUILDING	$ 1,400,000
11/01/2000	514710	ELECTRICAL	$ 267,000
07/14/2000	510803		$ 70,000
01/26/2000	504412		$ 2,000
08/24/1999	435462		$ 63,118
08/17/1999	435203		$ 53,400
06/01/1999	431768		$ 34,557
11/10/1998	424259		$ 64,064
09/29/1998	422610		$ 8,000

07/17/1998	419906		$ 139,368
03/24/1998	415351		$ 215,015
06/26/1997	404587		$ 7,033
06/26/1997	404586		$ 6,000
06/23/1997	404405		$ 26,628
06/16/1997	404053		$ 20,000
06/16/1997	404052		$ 30,000
06/16/1997	404051		$ 196,777

Sales Information Print Sales Info

Sale Date	Sale Amount	Instrument #	Instrument Type	Instrument Description	Date of Recording	Land Court Document Number	Cert #	Book/Page
11/12/2008			LEASE	Route Slip				
05/15/1987					06/01/1987			

Current Tax Bill Information 2016 Tax Payments Show Historical Taxes Treasury Division Current Bill

Tax Period	Description	Original Due Date	Taxes Assessment	Tax Credits	Net Tax	Penalty	Interest	Other	Amount Due
									$ 0.00

No Tax Information available on this parcel.

The Honolulu Tax Assessor's Office makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use or interpretation. Website Updated: April 13, 2016

© 2014 by City and County of Honolulu Real Property Tax Office | Website design by qPublic.net

APPENDIX 1g

EDR Building Permit Report

Campbell High School
91-980 North Road
Ewa Beach, HI 96706

Inquiry Number: 4589248.8
April 12, 2016

EDR Building Permit Report

Target Property and Adjoining Properties

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Building Permit Report: Search Documentation

4/12/16

Site Name:
Campbell High
91-980 North Road
Ewa Beach, HI 96706

EDR Inquiry # 4589248.8

Client Name:
Enviroquest
98-029 Hekaha Street
Aiea, HI 96701

Contact: Miles Nirei

Search Documentation

DATA GAP

The complete collection of Building Permit data available to EDR has been searched, and as of 4/12/16, EDR does not have access to building permits in the city where your target property is located (Ewa Beach, HI).

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED ORIMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THEMAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALLRISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OFERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL,INCIDENTAL CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLYLIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risklevels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providingany facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by anenvironmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to beconstrued as legal advice.

Copyright 2011 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILDFAX® PROPERTY HISTORY

APPENDIX 2

Photographs

Photo Log

EQI 10045

91-980 N Rd, Ewa Beach, HI

April 2016

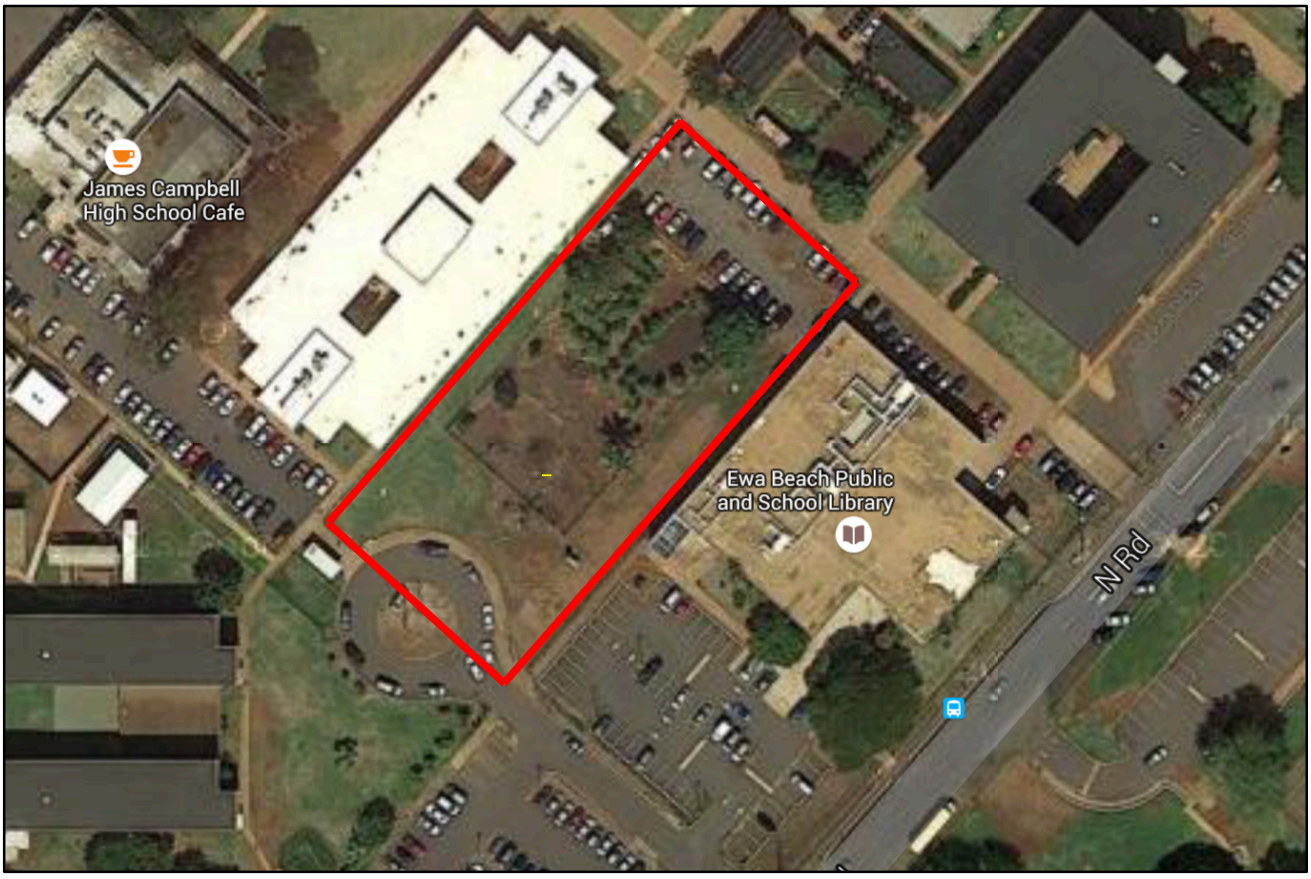


Photo no. 1: Subject Area with in Campbell High School property.

Photo Number 2





East and South side of Project property 91-980 N Rd

Photo Number 3





North and West side of Project property 91-980 N Rd

Photo Number 4





Inside fence line, school farm area of Project property 91-980 N Rd

Photo Number 5





South side of Project property 91-980 N Rd

Photo Number 6



Two wooden portables on the East side of Project property 91-980 N Rd

Photo Number 7



Area behind the two wooden portables on the East side of Project property 91-980 N Rd

Photo Number 8



West side of Project property 91-980 N Rd

Photo Number 9





Pad mounted electrical transformer located on the southwest side of Project property 91-980 N Rd

Appendix C

PRELIMINARY ENGINEERING REPORT

Preliminary Engineering Report

James Campbell High School Classroom Building Complex
TMK (1) 9-1-001:002

August 10, 2016

Prepared for:
Department of Education
Facilities Development Branch
Office of School Facilities and Support Services
P.O. Box 2360
Honolulu, HI 96804

GROUP 70
INTERNATIONAL

Prepared by:
Group 70 International, Inc.
925 Bethel Street, 5th Floor
Honolulu, Hawai'i 96813

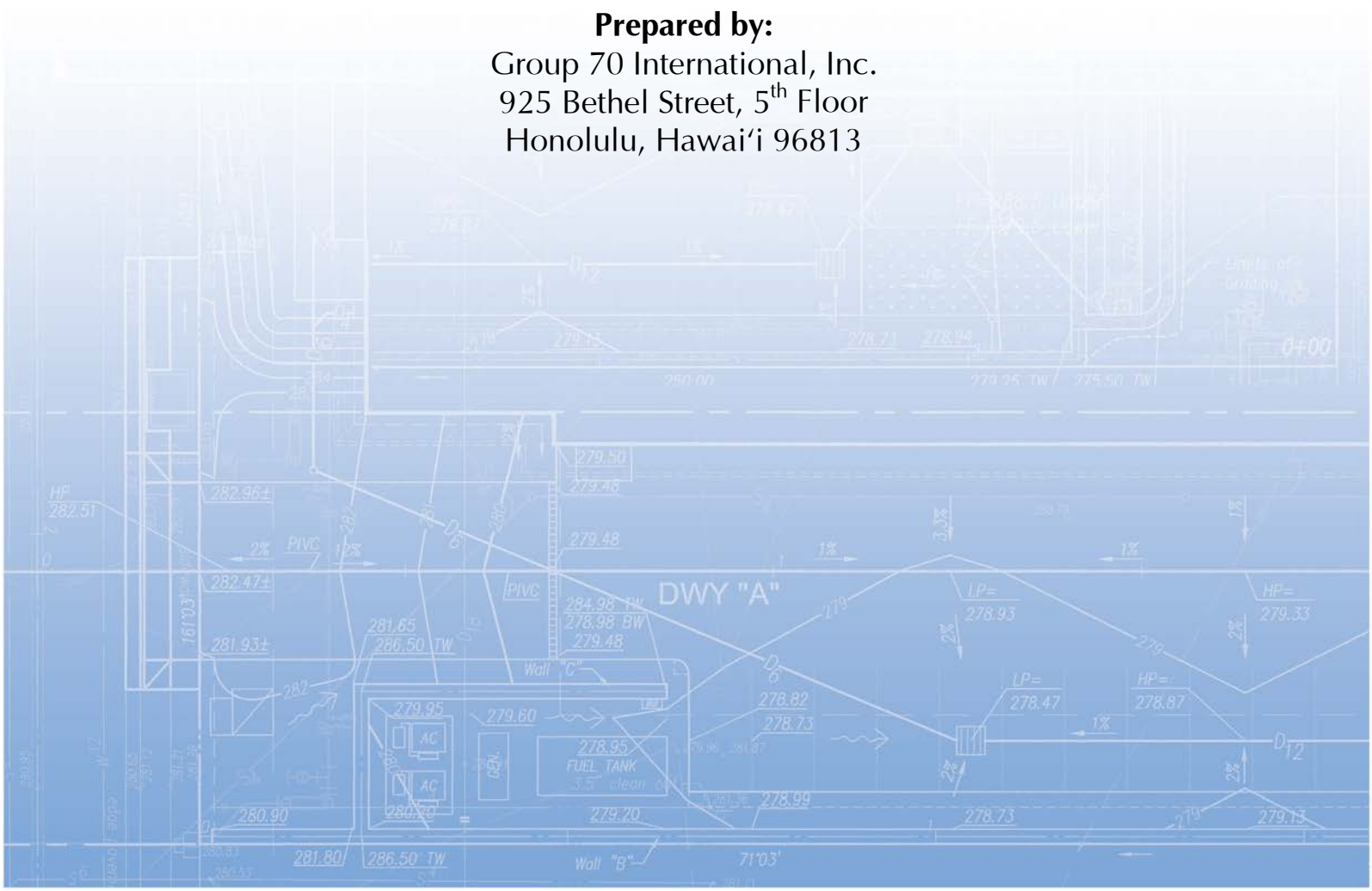


Table of Contents

1 Introduction 1
1.1 Project Background and Description 1
1.2 Purpose 1
1.3 Site Location 1
2 Roads and Access 1
2.1 Existing Conditions 1
2.1.1 Existing Off-site Roads 1
2.1.2 Existing On-site Roads 2
2.2 Proposed Conditions 2
2.2.1 Off-Site Roads and Access 2
2.2.2 On-Site Roads and Access 2
2.2.3 On-site Parking 2
3 Water Infrastructure 3
3.1 Existing Conditions 3
3.1.1 Existing Water System 3
3.1.2 Existing Fire Protection System 3
3.2 Proposed Conditions 3
3.2.1 Projected Water Demand 3
3.2.2 Proposed Water System 4
3.2.3 Proposed Fire Protection 4
4 Wastewater Infrastructure 4
4.1 Existing Conditions 4
4.1.1 Existing Wastewater System 4
4.2 Proposed Conditions 5
4.2.1 Projected Wastewater Demand 5
4.2.2 Proposed Wastewater System 5
5 Drainage Infrastructure 5
5.1 Existing Conditions 5

5.1.1 Existing Soil Condition 5
5.1.2 Existing Topography and Drainage Patterns 5
5.1.3 Existing Flood Hazard 5
5.1.4 Existing Hydrology 6
5.1.5 Existing Drainage System 6
5.2 Potential Drainage Requirements 6
6 Summary 6
7 References 7
7.1 As-Builts and Record Drawings 7
7.2 Utility Research 7
7.3 City and County of Honolulu 7
LIST OF TABLES iii
LIST OF FIGURES iii

LIST OF TABLES

Table 1- Fire Flow and Pressure Data

LIST OF FIGURES

Figure 1- Vicinity Map
Figure 2- Existing Conditions
Figure 3- Site and Utility Exhibit
Figure 4- Water Distribution Map
Figure 5- Existing Utilities Map
Figure 6- Soil Map
Figure 7- Topographic Survey Map
Figure 8- Flood Zone Map
Figure 9- Grading and Drainage Exhibit

1 Introduction

1.1 Project Background and Description

James Campbell High School is located in Ewa Beach on the island of O'ahu. The campus is a public coeducational school with a current enrollment of approximately 3,000 students. The campus serves grade levels nine to twelve and is part of the Leeward Sub-district for the Hawaii State Department of Education. The campus consists of 11 buildings and athletic facilities, within a 57 acre campus.

The project site is a 1.5 acre portion within Campbell High School. The proposed development consists of an additional classroom building complex that will be located between the existing Library and Building J. The project is planned to accommodate 640 students through the addition of 20 classrooms, 5 science labs, a culinary arts lab, a Hawaiian Studies classroom, two faculty centers and support spaces in approximately 52,000 square feet (sf). The proposed development will also provide on-site parking, a bus drop off area, off-site utility improvements along Fort Weaver Road and relocation of the classroom Portables 26 and 27. See Figure 1-Vicinity Map

1.2 Purpose

The purpose of this report is to assess existing roadways and access, water, fire protection, wastewater and drainage systems to determine the extent of proposed infrastructure improvements that are necessary to support development of the site.

1.3 Site Location

The Campbell High School property consisting of 57 acres is located at 91-980 North Road, Ewa Beach, 96706 (TMK (1) 9-1-001:002). The campus is bounded by North Road, Fort Weaver Road on the west border, Ma Ke Kula Street on the east border and Papipi Road on the north border. The project site is a 1.5 acre portion within the campus bounded Pohokea Elementary School on the west side and Ilima Intermediate School on the north side. See Figure 1- Vicinity Map

2 Roads and Access

2.1 Existing Conditions

2.1.1 Existing Off-site Roads

Primary access to the campus is through driveways along North Road, two-way, two-lane roadway with a posted speed limit of 25 miles per hour (mph). North Road is owned and maintained by the City and County of Honolulu.

2.1.2 Existing On-site Roads

Private driveways throughout the Campbell High School property provide access through the site to various parking lots and buildings at the campus. See Figure 2- Existing Conditions

2.2 Proposed Conditions

2.2.1 Off-Site Roads and Access

Primary access to the project site will continue to be from North Road through the private driveway on campus. A traffic analysis is currently being conducted to determine the effects of traffic the proposed development will impose. As of the date of this report, the traffic analysis have not been completed.

2.2.2 On-Site Roads and Access

Access to the project site will be through the existing private driveways. The existing roundabout at the driveway will be converted to an additional parking and a bus drop off area. The sidewalks along the proposed parking area will be designed in accordance to the ADA standards. See Figure 2- Existing Conditions and Figure 3- Site and Utility Exhibit

The new bus drop off area will replace the existing drop off area that is currently located on North Road and should accommodate the same number of buses at the existing bus drop off area. The existing bus drop off area can accommodate three buses. However, preliminary plans of the project site show that the proposed on-site bus area will not be able to accommodate three buses. Because of the limited space on the project site, the bus area can accommodate only two buses. Future discussion with the Department of Education is necessary to investigate other options, if necessary.

2.2.3 On-site Parking

The existing roundabout will be converted to a new parking lot and bus drop off area. Preliminary plans show that a total of 10 parking stalls can be provided. This does not meet the 356 parking stall requirement. Discussions with DOE indicate a long-range plan is necessary for future parking.

The parking lot and bus drop off area geometric design will be designed in compliance with Honolulu Fire Department access requirements and the Revised Ordinances of Honolulu (ROH) Chapter 21 Land Use Ordinance (LUO).

3 Water Infrastructure

3.1 Existing Conditions

3.1.1 Existing Water System

Domestic water service at Campbell High School is provided by the Board of Water Supply (BWS). According to the water distribution map from BWS, the off-site water system consists of a 12-inch PVC water main along North Road and an 8-inch PVC water main along Fort Weaver Road.

There is a 2-inch meter at the corner of Fort Weaver Road and North Road servicing the campus. Based on information provided by the BWS, a 6-inch meter was downsized to a 2-inch meter by BWS's in their ongoing effort to reduce excessive water use.

A private, 6-inch domestic water line on-site from the 2-inch meter distributes water from the meter to all campus buildings. See Figure 4- Distribution Map

3.1.2 Existing Fire Protection System

Based on the distribution map from the BWS, the 12-inch water main along North Road provides fire protection for the campus. Off-site fire protection consists of multiple fire hydrants located along North Road and Fort Weaver Road. The closest BWS fire hydrant to the project site is fire hydrant number L-03357. Fire flow and pressure data is based on fire hydrant L-03357 located offsite along North Road. Refer to Table 1 for fire flow and pressure data and Figure 4- Distribution Map

There are two 8-inch Detector Check (DC) meters on North Road servicing the campus. The two meters serve one 8-inch fire protection water line that supplies multiple on-site fire hydrants along the fire access route.

FH #	Location	Static Pressure (psi)	Residual Pressure (psi)	Flow (gpm)
L-03357	North Road	95	65	2000

Table 1: Fire flow and pressure data

3.2 Proposed Conditions

3.2.1 Projected Water Demand

Estimated water demands for the project site are as follows:

- Peak demand of approximately 125 gallons per minute (GPM) for domestic use based on proposed fixture units
- Fire flow requirement of 2,000 GPM for 2 hours

3.2.2 Proposed Water System

The proposed improvements will accommodate an increase of approximately 640 students at a peak usage of125 gpm. Based on the American Water Works Association (AWWA) meter sizes, the typical capacity of a 2-inch meter is 160 gpm and 300 gpm for a 3-inch meter. Based on flow increases, the existing 2-inch meter will need to be upsized to a 3-inch meter to accommodate the proposed and existing peak usage of approximately152 gpm water demands.

The existing campus distribution system can be tapped for new water service. The existing 4-inch water line on-site located near Building O will provide connection to domestic water service to the entire complex. See Figure 3- Site and Utility Plan

Domestic water distribution system will be designed in accordance to the *Water System Standards* (State of Hawaii; 2002) and the Uniform Plumbing Code.

3.2.3 Proposed Fire Protection

The existing campus distribution system can be tapped for new fire protection service. The existing 8-inch fire water line located along the existing roundabout will provide connection to fire protection service to the entire complex.

Portion of the existing 8-inch fire water line running through the project site will need to be rerouted around the proposed buildings to provide fire protection service. Additionally, the two existing fire hydrants on-site will require relocation. See Figure 3- Site and Utility Plan

Fire protection distribution system will be designed in accordance to the *Water System Standards* (State of Hawaii; 2002) and State Fire Code.

4 Wastewater Infrastructure

4.1 Existing Conditions

4.1.1 Existing Wastewater System

The off-site sewer system consists of an existing 8-inch public sewer line and sewer structures along North Road. Wastewater service is provided to an outside private wastewater collection system.

There is an existing 15-inch sewer line on-site within a sewer easement located on Ma Ke Kula Street. An existing 8-inch sewer line running parallel to North Road connects to an existing manhole located on Ma Ke Kula Street. See Figure 5- Existing Utilities Map

4.2 Proposed Conditions

4.2.1 Projected Wastewater Demand

A sewer connection application for an additional 300 students was first denied by the City and County of Honolulu Department of Planning and Permitting (DPP) Wastewater Branch (WWB) on October 8, 2015. The denial letter indicated that the downstream portion of the 15-inch sewer main on Ma Ke Kula Street is inadequate to sustain the increased sewer flows due to a flat slope. Since then, the number of additional students increased to a total of 640 requiring resubmitting a new sewer connection application. The new application was approved on August 8, 2016.

4.2.2 Proposed Wastewater System

Existing on-site sewer system can be tapped to provide wastewater service to the entire complex. The proposed sewer line will connect to an existing manhole located between the Library and Building O.

Design of the sewer system will be in accordance with the design standards of the Department of Wastewater Management, Volume I (July 1993) and the Uniform Plumbing Code.

5 Drainage Infrastructure

5.1 Existing Conditions

5.1.1 Existing Soil Condition

Based on the United States Department of Agriculture (USDA) Naturals Resources Conservation Service (NRCS) Web Soil Survey, the entire project site consists of coral outcrop. See Figure 6- Soil Map

5.1.2 Existing Topography and Drainage Patterns

Based on the survey conducted by Control Point Surveying, Inc., dated December 2015, elevations at the project site range from 17 feet above mean sea level (MSL) to 12 feet above MSL. The site generally slopes from the northeast to the southwest towards, North Road and Pohakea Elementary School. Existing slopes are generally flat and range from approximately 0.5% to 1%. See Figure 7- Topographic Survey Map

5.1.3 Existing Flood Hazard

Based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM), the project site is within zone D, defined as outside of the 100 year flood zone. See Figure 8- Flood Zone Map

5.1.4 Existing Hydrology

The Rules Relating to Storm Drainage Standards, dated January 2000, were used to determine existing and proposed hydrological conditions. The existing site consists of vegetation and impervious surface from the driveway.

5.1.5 Existing Drainage System

Storm water at Campbell High School is conveyed through a private drainage system that discharges to a City and County of Honolulu 48-inch reinforced concrete (RCP) pipe at North Road. The City drainage system ultimately discharges into the Pacific Ocean, approximately 2,000 feet to the southeast. See Figure 5- Existing Utilities

The on-site drainage system consists of an existing 36-inch drain line that runs parallel to North Road with grated inlets and manholes. An existing 18-inch drain line runs to the project site and capped, most likely, for future expansion. See Figure 5- Existing Utilities

5.2 Potential Drainage Requirements

The project is larger than 1 acre therefore requiring a National Pollutant Discharge Elimination System (NPDES) permit for installation of best management practices (BMPs).

The project site is also categorized as an A2 project for City storm water quality requirements requiring Low Impact Development (LID) features. Based on the City and County of Honolulu *Rules Relating to Storm Drainage Standards*, dated January 2000, an A2 project is a project that disturbs at least 1 acre but less than 5 acres of land. Rain gardens will be incorporated as LID BMPs to manage storm water quality. The rain gardens are expected to collect and filter storm water runoff through the soil matrix before entering the drainage system. See Figure 9- Grading Plan

Since the project site is less than 100 acres, the Rational Method shall be used for determining storm water runoff quantity peak rates. Peak rates will be designed for a 10 year, 1 hour storm. The project will discharge into the City system and the improvements will comply with City drainage standards.

6 Summary

The proposed improvements consist of the addition of a classroom building complex, on-site parking, on-site and off-site utility improvements. The improvements will be designed in accordance with the applicable standards of the City and County of Honolulu. New infrastructure is necessary to provide adequate access, domestic water, fire protection, sewer, and drainage services.

7 References

7.1 As-Builts and Record Drawings

- Campbell High School Math-Science Building, June 1971
- Campbell High School Administration Building, November 1977

7.2 Utility Research

- Board of Water Supply
- City and County of Honolulu, Department of Planning and Permitting:
    - Wastewater Branch

7.3 City and County of Honolulu

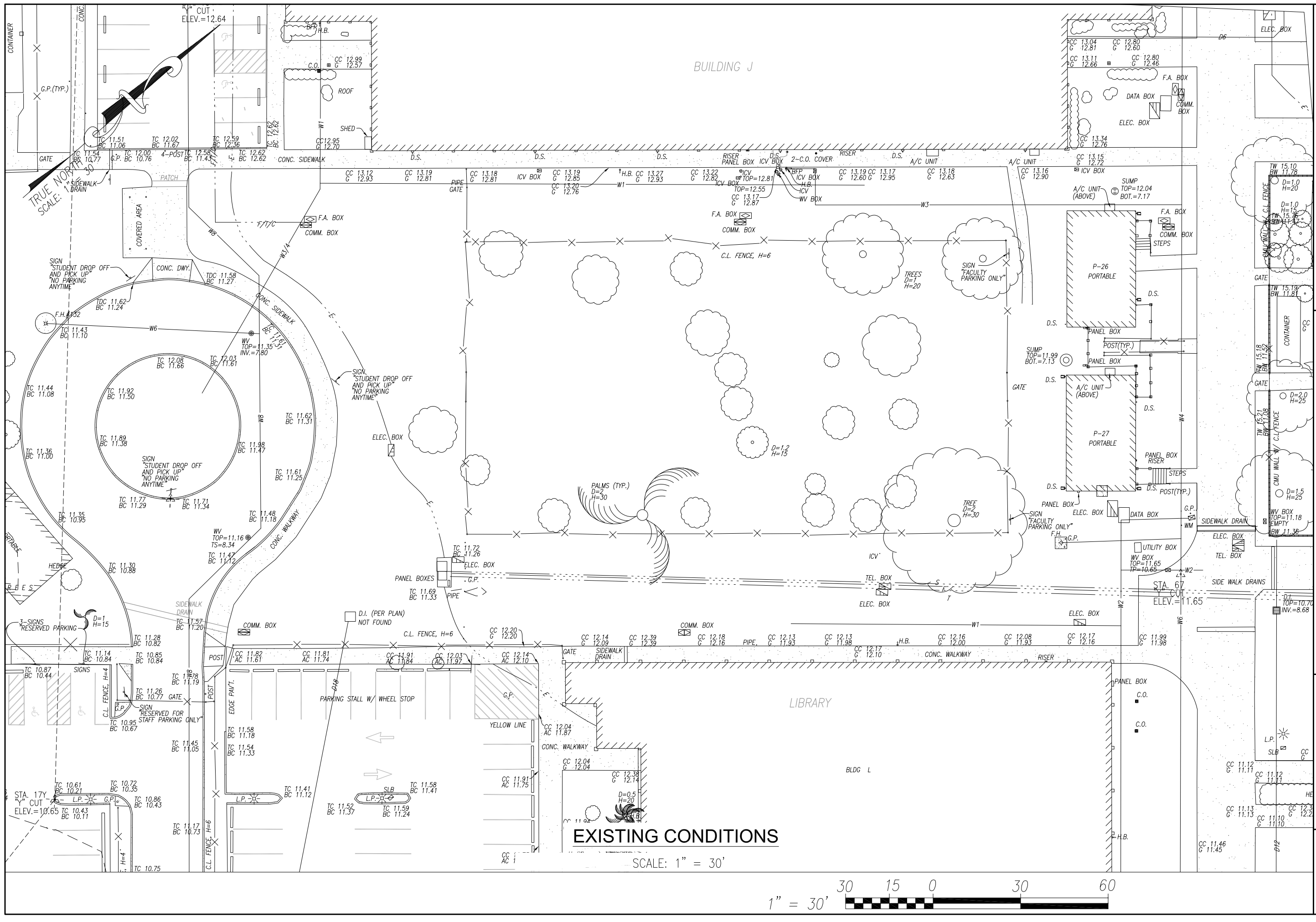
- Honolulu Land Information System (HoLis)



DOE Campbell HS Classroom Building Complex
Vicinity Map

Figure 1

GROUP 70 INTERNATIONAL



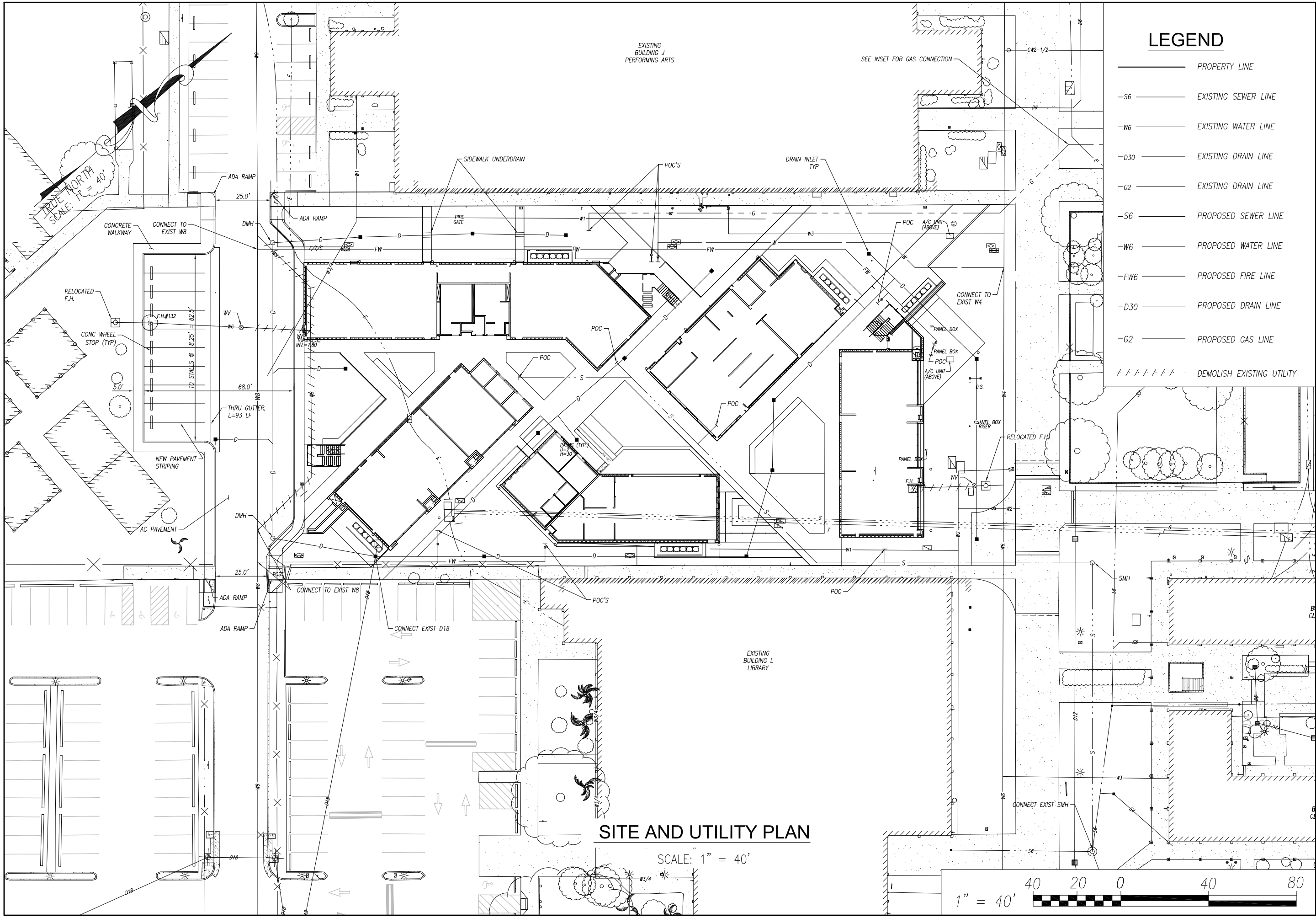
GROUP 70 INTERNATIONAL
925 bethel street, fifth floor
honolulu, hi 96813-4398
808.523.5866
www.group70int.com

CAMPBELL HIGH SCHOOL
CLASSROOM BUILDING COMPLEX

EXISTING CONDITIONS

CAD DRAWING: 11 X 17 ExistingConditionsMap
SCALE: 1" = 30'
DATE: 8/8/2016
PROJECT #: 215056-01

FIGURE
2



SITE AND UTILITY PLAN

SCALE: 1" = 40'

LEGEND

	PROPERTY LINE
—S6	EXISTING SEWER LINE
—W6	EXISTING WATER LINE
—D30	EXISTING DRAIN LINE
—G2	EXISTING DRAIN LINE
—S6	PROPOSED SEWER LINE
—W6	PROPOSED WATER LINE
—FW6	PROPOSED FIRE LINE
—D30	PROPOSED DRAIN LINE
—G2	PROPOSED GAS LINE
/ / / / / / /	DEMOLISH EXISTING UTILITY

GROUP 70 INTERNATIONAL
925 bethel street, fifth floor
honolulu, hi 96813-4398
808.523.5866
www.group70int.com

CAMPBELL HIGH SCHOOL SITE & UTILITY EXHIBIT

CAD DRAWING: 11 X 17 SITE PLAN

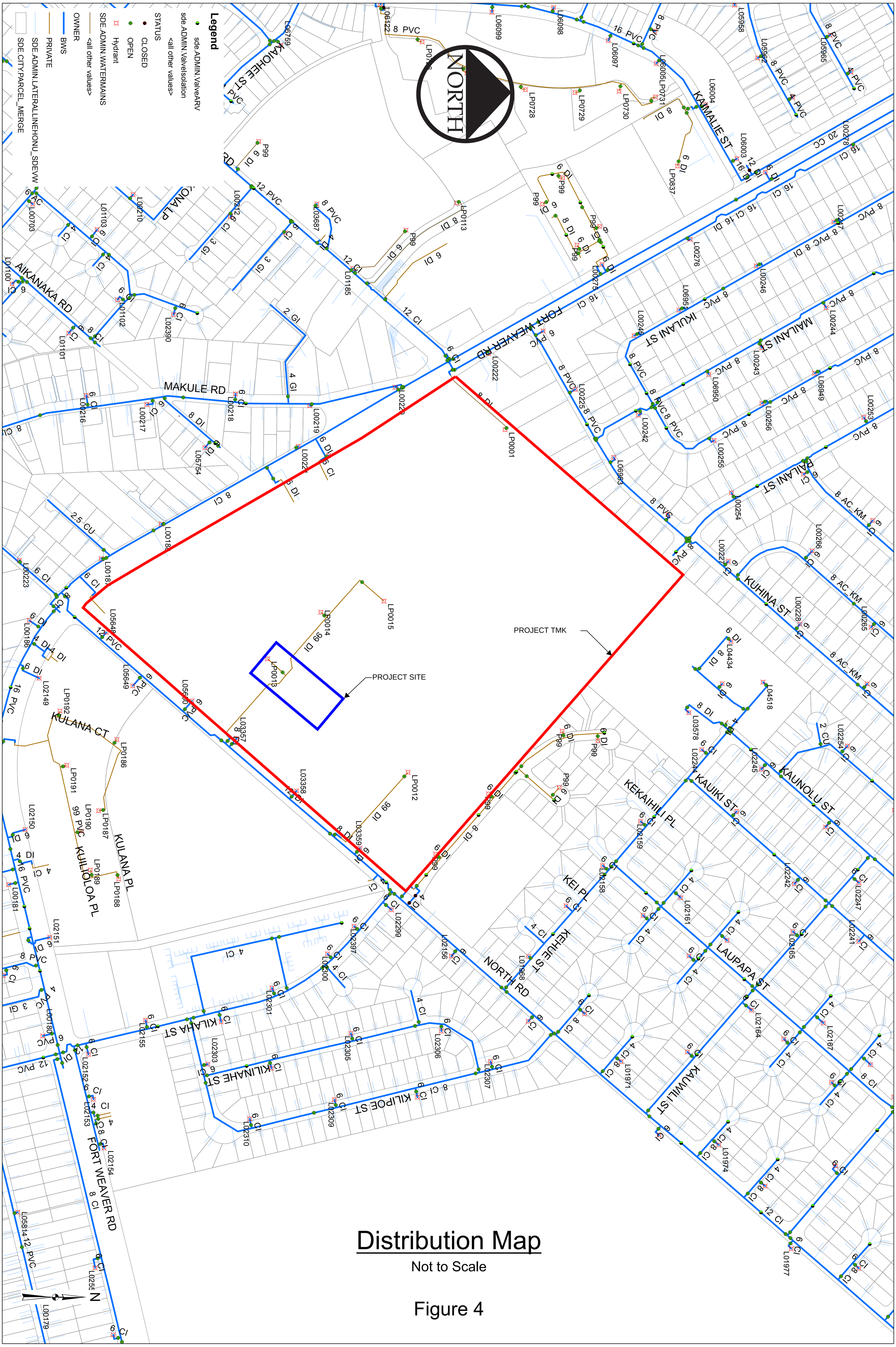
SCALE: 1" = 30'

DATE: 8/08/2016

PROJECT #: 215056-01

FIGURE

3



Distribution Map

Not to Scale

Figure 4



DOE Campbell HS Classroom Building Complex
Existing Utilities Map

Figure 5

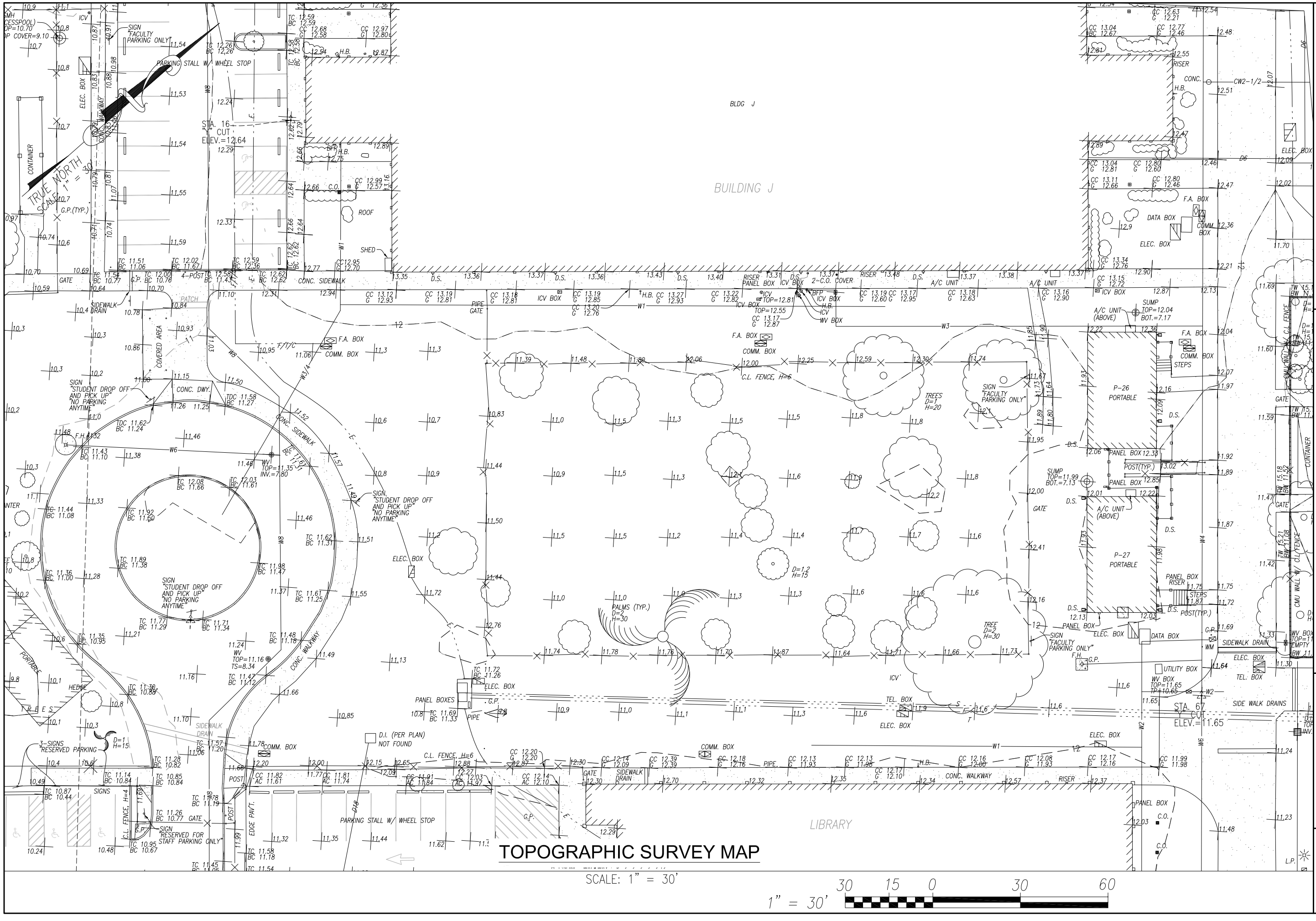
GROUP 70 INTERNATIONAL



DOE Campbell HS Classroom Building Complex
Soil Map

Figure 6

GROUP 70 INTERNATIONAL



TOPOGRAPHIC SURVEY MAP

SCALE: 1" = 30'

1" = 30'

30 15 0 30 60

GROUP 70
INTERNATIONAL
925 bethel street, fifth floor
honolulu, hi 96813-4398
808.523.5866
www.group70int.com

CAMPBELL HIGH SCHOOL
CLASSROOM BUILDING COMPLEX
TOPOGRAPHIC SURVEY MAP

CAD DRAWING: 11 X 17 TopoMap
SCALE: 1" = 30'
DATE: 8/8/2016
PROJECT #: 215056-01

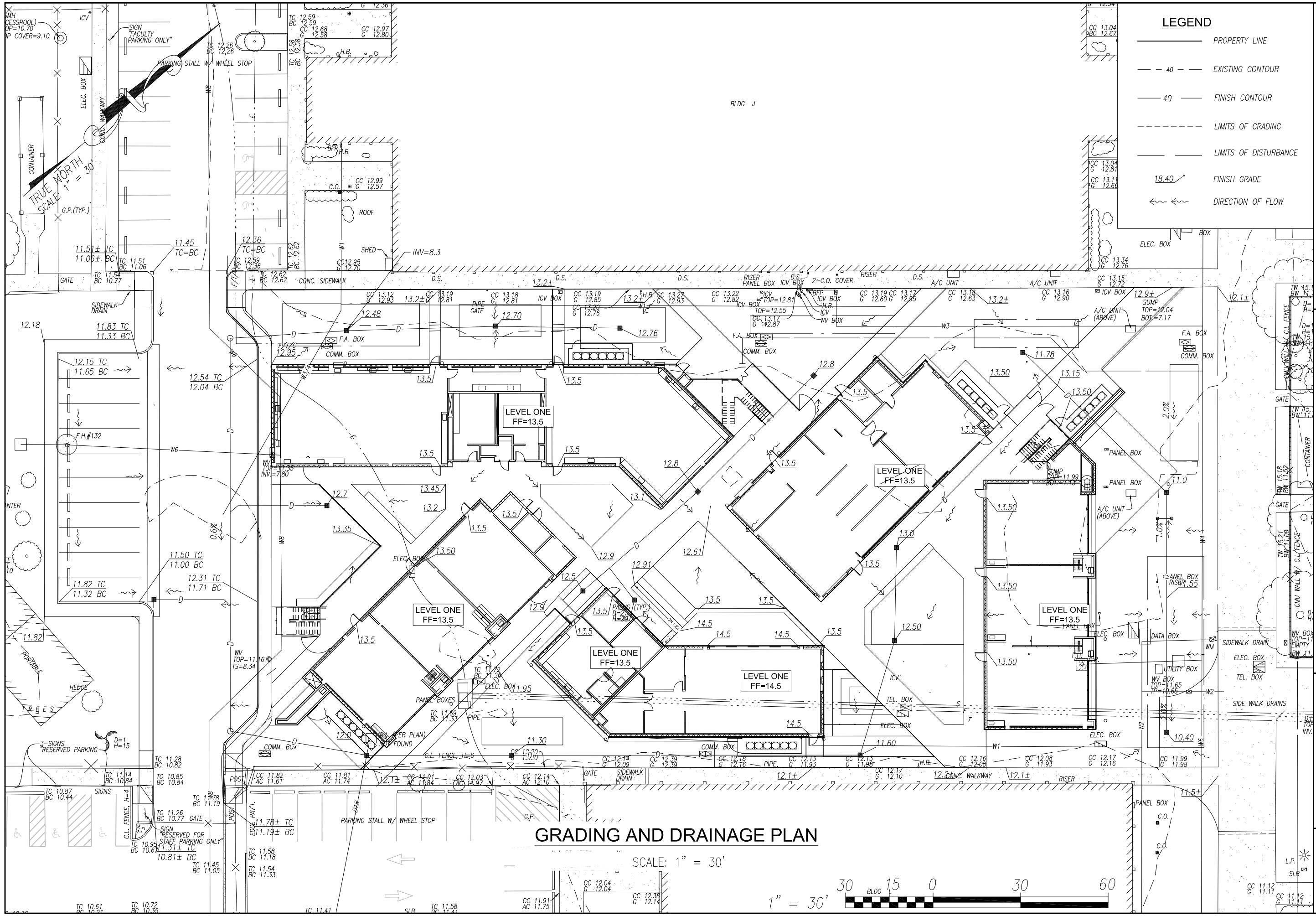
FIGURE
7



DOE Campbell HS Classroom Building Complex
Flood Zone Map

Figure 8

GROUP 70 INTERNATIONAL



GROUP 70 INTERNATIONAL
925 bethel street, fifth floor
honolulu, hi 96813-4398
808.523.5866
www.group70int.com

CAMPBELL HIGH SCHOOL
CLASSROOM BUILDING COMPLEX
GRADING & DRAINAGE EXHIBIT

CAD DRAWING: 11 X 17 GRADING
SCALE: 1" = 30'
DATE: 8/08/2016
PROJECT #: 215056-01

FIGURE
9

Appendix D

TRAFFIC IMPACT ANALYSIS REPORT

Classroom Addition at
James Campbell High School
Ewa Beach, Oahu, Hawaii

Traffic Impact Analysis Report
October 13, 2016 DRAFT

Prepared by:

Julian Ng Incorporated
P. O. Box 816
Kaneohe, Hawaii 96744

Table of Contents

		Page
1	Introduction	1
	Figure 1 – Project Location and Study Intersections	1
2	Existing Conditions	3
	Table 1 – 2014 Count Data, Fort Weaver Road	3
	Figure 2 – Existing Peak Hour Traffic Volumes	4
	Table 2 – Existing Conditions, Fort Weaver Road & Aikanaka Street	5
	Table 3 – Existing Conditions, Fort Weaver Road & North Road	5
	Table 4 – Existing Conditions, Kilaha Street at North Road	5
3	Future Conditions	6
	Figure 3 – Future Peak Hour Traffic Volumes	6
	Table 5 – Future Conditions, Fort Weaver Road & Aikanaka Street	7
	Table 6 – Future Conditions, Fort Weaver Road & North Road	7
	Table 7 – Future Conditions, Kilaha Street at North Road	7
4	Mitigation Measures	8
	Figure 4 – Preliminary Site Plan	8
	Table 8 – Existing Driveway Use	9
5	Conclusions and Recommendations	10
	Appendix A – Traffic Count Summaries	
	Appendix B – Intersection Analyses Worksheets, Existing Conditions	
	Appendix C – Intersection Analyses Worksheets, Future Conditions	

Classroom Addition at James Campbell High School
Traffic Impact Analysis Report

1 Introduction

1.1 This traffic study has been prepared to address potential traffic impacts of the proposed project to construct five new classroom buildings on the existing campus of James Campbell High School, along with associated site improvements.

The project is located in Ewa Beach, Oahu. Traffic counts were taken in the field at three intersections near the project site, as shown in Figure 1.

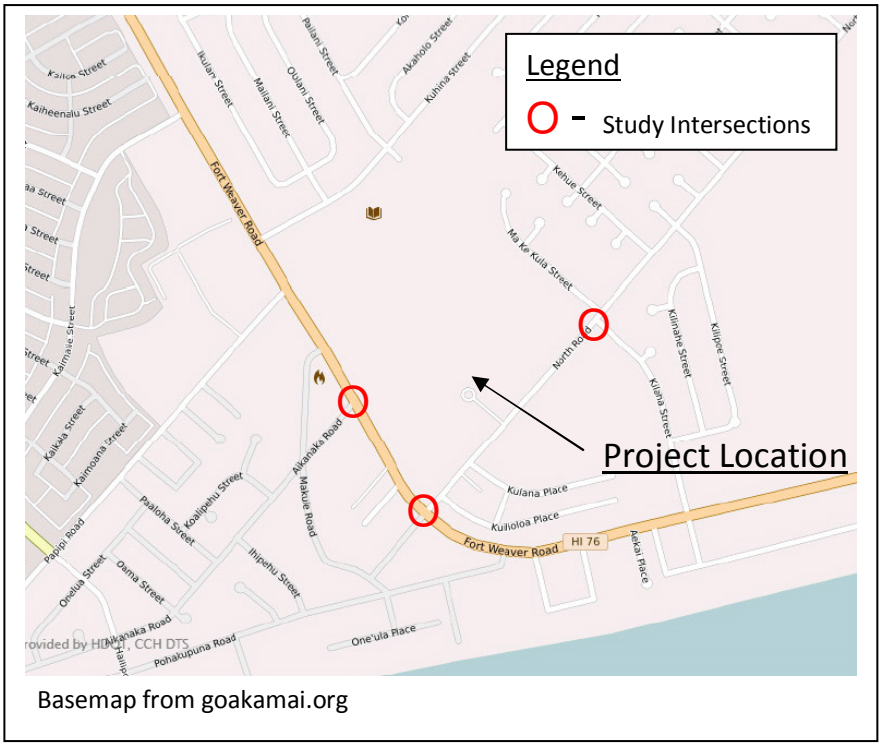


Figure 1 – Project Location and Study Intersections

1.2 Section 2 discusses the existing traffic conditions near the school based on field observations and manual counts taken in the morning and afternoon peak periods during the first quarter of the 2016-2017 school year.

1.3 Section 3 presents the findings of analyses of future conditions if peak hour traffic volumes in the area increase in proportion to the increase in school enrollments (not only for James Campbell High School, but also for Ilima Intermediate School and Pohakea Elementary School).

1.4 Section 4 discusses observations of existing traffic congestion due to traffic at the high school and alternatives that may alleviate this congestion.

1.5 Traffic analyses were done to quantify existing and future conditions. The intersection analysis procedures from the 2000 *Highway Capacity Manual*[1] were used to identify peak hour conditions.

For signalized intersections, the results of the analyses include utilization (volume/capacity ratio), average delay, and Level of Service for each lane group, as well an overall condition for the intersection. The Levels of Service are based on the average delay per vehicle described below; Level of Service D or better is usually considered adequate for peak hour conditions (however, individual lane groups, especially those for minor movements, often will have poor levels of service due to the long signal cycles that may be needed to either provide overall capacity or to accommodate pedestrian crossings).

Average Delay (seconds per vehicle)	General Description of Delay	LOS
≤ 10	Little or no delay	A
> 10 and ≤ 25	Short traffic delays	B
> 25 and ≤ 35	Average traffic delays	C
> 35 and ≤ 55	Long traffic delays	D
> 55 and ≤ 80	Very long traffic delays	E
> 80	Very long traffic delays	F

For unsignalized intersections, the analysis estimates average delays to stopped or yielding traffic based on opportunities to enter the intersection, considering volumes of traffic with higher priority, intersection layout, and traffic characteristics. The delays are described by "Levels of Service" for the controlled movements at the intersection; the *HCM* defines the Level of Service (LOS) for unsignalized intersections as follows (while Level of Service D or better is considered acceptable, findings of poorer levels of service are not uncommon for movements from stop signs):

Average Delay (seconds per vehicle)	General Description of Delay	LOS
≤ 10	Little or no delay	A
> 10 and ≤ 15	Short traffic delays	B
> 15 and ≤ 25	Average traffic delays	C
> 25 and ≤ 35	Long traffic delays	D
> 35 and ≤ 50	Very long traffic delays	E
>50	Very long traffic delays	F

[1] Transportation Research Board, National Research Council, *Highway Capacity Manual,* Washington, D.C., 2000.

2 Existing Traffic Conditions

2.1 The James Campbell High School campus is located in the Ewa Beach community, along North Road, northeast of its intersection with Fort Weaver Road. North Road is a two-lane local collector street, serving not only the high school, but also churches, private schools, and residential areas, including the Iroquois Point housing area, farther east; several other roadways provide alternative connections to Fort Weaver Road.

Fort Weaver Road is a major six-lane arterial roadway that connects the Ewa Beach area with other major highways on Oahu, including Farrington Highway and the H-1 Freeway to the north. In the vicinity of the high school, curbside parking is permitted, effectively reducing Fort Weaver Road to two through lanes in each direction; a two-way left turn lane is provided. At intersections, separate turn lanes are provided.

2.2 In 2014, traffic counts were taken along Fort Weaver Road. The reported data from the two nearest stations are shown in Table 1 (note: the directional split for the count North of Keaunui Drive appears to be mislabeled).

Table 1 – 2014 Count Data, Fort Weaver Road

	Tuesday		Wednesday	
North of Keaunui Drive	Southbound	Northbound	Southbound	Northbound
24-hour total	18,560	17,741	18,744	21,111
6:15 AM – 7:15 AM	1,580	1,015	1,581	1,032
3:45 PM – 4:45 PM	1,014	1,445	992	1,680
East of Parish Drive	Eastbound	Westbound	Eastbound	Westbound
24-hour total	3,233	3,054	3,157	2,982
6:00 AM – 7:00 AM	227	316	223	302
4:00 PM – 5:00 PM	255	206	257	197

Source: State of Hawaii, Department of Transportation, Highways Division, Highways Planning Survey Section: Count data for Stations B72007600258 (October 14-15, 2014) and B72007600099 (September 30-October 1, 2014).

2.3 For the 2016-2017 school year, the first day for public school students was August 1, and the end of the first semester will be December 21. A one-week fall break occurs the week of October 10-14, effectively dividing the semester into two quarters. Traffic counting and site observations for this study was done in the middle of the first quarter.

2.4 Vehicular access to James Campbell High School is primarily from North Road through numerous driveways located between its intersections with Fort Weaver Road to the southwest and with Kilaha Street to the northeast. The opening bell at James Campbell High School is at 7:55 AM each weekday; the dismissal bell is at 1:15 PM on Wednesdays and 2:15 PM on the other days of the week.

The Pohakea Elementary School campus is located southwest of and adjoins the James Campbell High School campus. Two driveways to Fort Weaver Road provide the

primary vehicular access to the elementary school campus. The opening bell at Pohakea Elementary School is at 7:43 AM each weekday; the dismissal bell is at 12:50 PM on Wednesdays and 2:00 PM on the other days of the week.

Access to Ilima Intermediate School, located northwest of the James Campbell High School campus, is through a school access corridor that connects to Fort Weaver Road at a signalized intersection, across from Aikanaka Street, a local residential street. In addition, a one-way loop roadway to and from Fort Weaver Road provides a drop-off and pick-up area for the intermediate school. The opening bell at Ilima Intermediate School is at 7:55 AM each weekday; the dismissal bell is at 1:40 PM on Wednesdays and Thursdays, and at 2:05 PM on the other days of the week.

In addition to serving as the access to about 100 parking spaces at Ilima Intermediate School, the school access roadway opposite Aikanaka Street also provides access to the cafeteria loading areas of James Campbell High School and Pohakea Elementary School, high school industrial arts and athletic facilities, and about 80 parking spaces for James Campbell High School staff.

2.4 Based on the information discussed above, manual turning movement counts were conducted during morning and afternoon peak periods during the first quarter of the 2016-2017 school year. Summaries of the data are appended to this report. Figure 2 shows the peak hour turning volumes from the field counts.

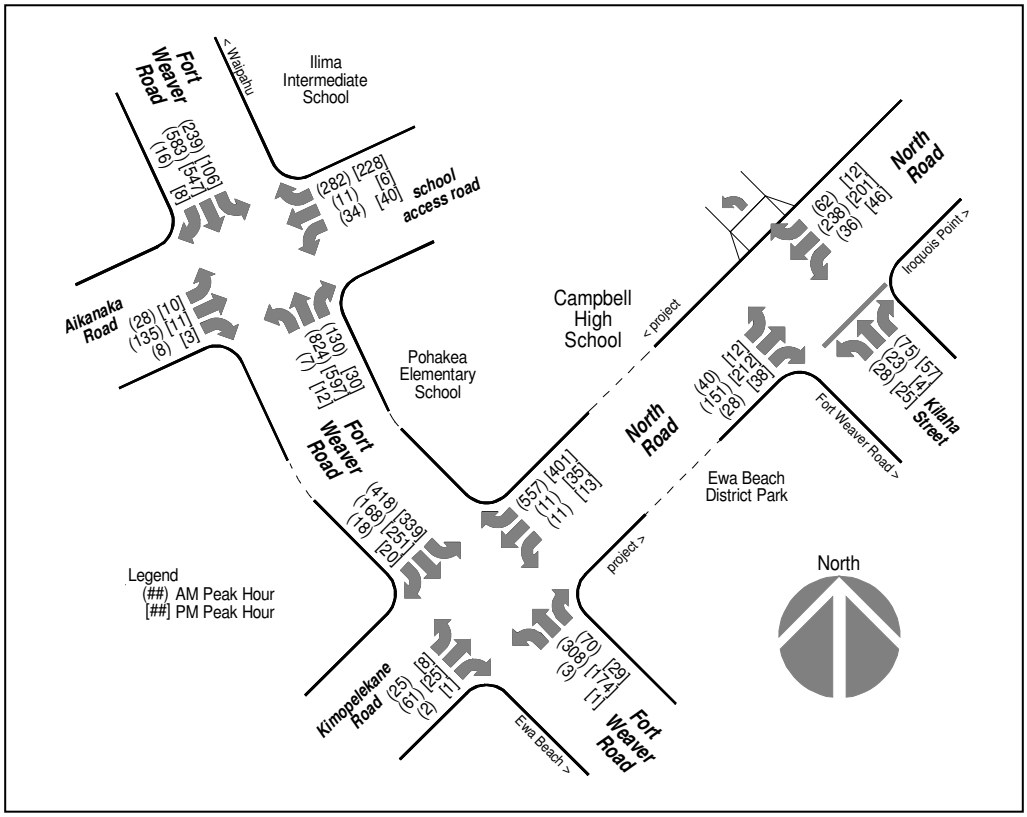


Figure 2 – Existing Peak Hour Traffic Volumes

2.7 Field observations indicated varying cycle lengths in the signal operations; for the analyses, a reasonable cycle length of 120 seconds was used. The results of the intersection analyses of existing peak hour volumes are shown in Tables 2, 3, and 4.

Table 2 – Existing Conditions, Signalized Intersections

Fort Weaver Road (FWR) and Aikanaka Street	AM Peak Hour			PM Peak Hour		
	X	Delay	LOS	X	Delay	LOS
FWR southbound approach	0.41	26.3	C	0.49	25.6	C
FWR southbound left turn lane	0.79	43.1	D	0.35	18.6	B
FWR northbound approach	0.38	37.8	D	0.6	37.4	D
FWR northbound left turn lane	0.03	20.7	C	0.04	20.8	C
Aikanaka Street (eastbound)	0.54	36.9	D	0.08	24.5	C
School driveway (westbound)	0.87	57.1	E	0.77	43.5	D
Overall Intersection	**0.86**	**36.6**	**D**	**0.68**	**33.4**	**C**

X = utilization (volume/capacity ratio)
Delay = Average delay per vehicle, expressed in seconds
LOS = Level of Service

Table 3 – Existing Conditions, Signalized Intersections

Fort Weaver Road (FWR) and North Road	AM Peak Hour			PM Peak Hour		
	X	Delay	LOS	X	Delay	LOS
FWR southbound approach	0.11	31.7	C	0.21	29.8	C
FWR southbound left turn lane	0.83	38.6	D	0.75	35.6	D
FWR northbound approach	0.32	27.0	C	0.21	28.9	C
FWR northbound left turn lane	0.01	20.5	C	0.00	23.5	C
North Road (westbound)	0.87	34.0	C	0.91	50.0	D
Kimopelekane St. (eastbound)	0.26	30.4	C	0.08	21.4	C
Overall Intersection	**0.79**	**31.3**	**C**	**0.80**	**37.0**	**D**

X = utilization (volume/capacity ratio)
Delay = Average delay per vehicle, expressed in seconds
LOS = Level of Service

Table 4 – Existing Conditions, Unsignalized Intersections

Kilaha Street at North Road	AM Peak Hour			PM Peak Hour		
	X	Delay	LOS	X	Delay	LOS
Kilaha St. northbound approach	0.47	26.5	D	0.47	30.3	D
North Road eastbound left turns	0.04	8.1	A	0.01	7.9	A
North Road westbound left turns	0.04	8.6	A	0.07	9.2	A

X = utilization (volume/capacity ratio)
Delay = Average delay per vehicle, expressed in seconds
LOS = Level of Service

3 Future Traffic Conditions

3.1 The Department of Education reports that enrollment at James Campbell High School has been steadily increasing, from 2,370 students in 2006 to about 3,100 in 2016. Enrollment is expected to increase to about 3,550 students in the next five years, with or without the proposed project. Enrollment is expected to stabilize near 3,000 students after a new high school in the East Kapolei area is opened.

At Pohakea Elementary School, enrollment ranged from 494 to 605 students during the past ten years, with enrollment expected to increase to 625 students in the next five years. At Ilima Intermediate School, enrollment ranged from 1,200 to 1,367 students in the four years before the opening of Ewa Makai Middle School in 2010, and between 737 and 887 students during the past six years. Enrollment at Ilima Intermediate School is expected to increase to as high as 933 students in the next five years.

3.2 Enrollment at James Campbell High School would be 15% higher during the near-term (within five years), with enrollment at the nearby schools increasing about 5% over existing enrollment. For the analyses of future traffic conditions, all of the existing peak hour volumes at the study intersections were increase by 15%. The traffic assignments, shown in Figure 3, would apply for future conditions without or with the proposed project.

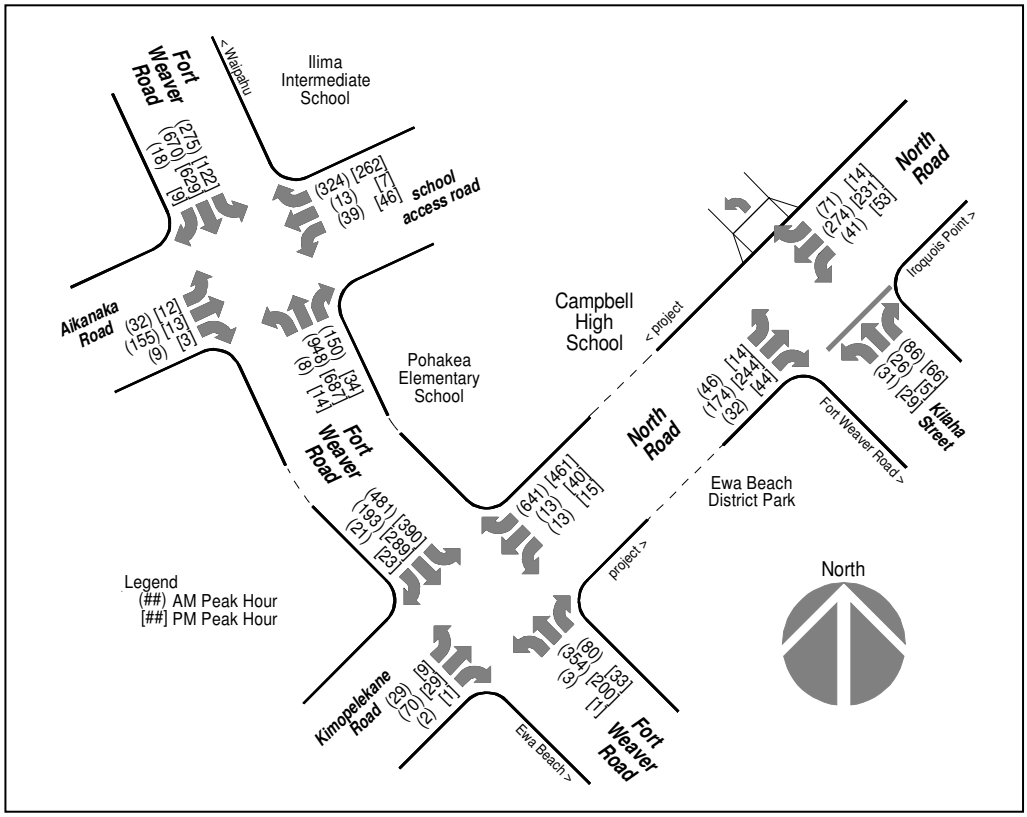


Figure 3 – Future Peak Hour Traffic Volumes

3.3 The potential impact of increased enrollment at James Campbell High School is not expected to have significant traffic impacts on Fort Weaver Road north of Ewa Beach. Most of any increase in traffic would be due to students arriving in the morning or departing in the afternoon; traffic generated by students would be home-based in close proximity to the school. Some of the increase would be due to additional staff required to support the higher enrollment; this traffic would be composed of longer trips from various parts of the island, but would be moving in the direction opposite that of the existing peak flow. As indicted above, this would occur without or with the proposed project to add classrooms on the existing campus.

3.4 For the more localized traffic impacts, the intersection analyses were repeated for the projected future traffic volumes shown in Figure 3, with the results shown in Tables 5, 6, and 7.

Table 5 – Future Conditions, Signalized Intersections

Fort Weaver Road (FWR) and Aikanaka Street	AM Peak Hour			PM Peak Hour		
	X	Delay	LOS	X	Delay	LOS
FWR southbound approach	0.48	36.2	D	0.57	27.3	C
FWR southbound left turn lane	0.94	73.8	E	0.43	21.3	C
FWR northbound approach	0.96	53.4	D	0.76	39.8	D
FWR northbound left turn lane	0.03	21.9	C	0.05	20.9	C
Aikanaka Street (eastbound)	0.63	39.5	D	0.10	24.7	C
School driveway (westbound)	0.99	79.1	E	0.89	54.9	D
Overall Intersection	**0.98**	**50.0**	**D**	**0.78**	**37.6**	**D**

X = utilization (volume/capacity ratio)
Delay = Average delay per vehicle, expressed in seconds
LOS = Level of Service

Table 6 – Future Conditions, Signalized Intersections

Fort Weaver Road (FWR) and North Road	AM Peak Hour			PM Peak Hour		
	X	Delay	LOS	X	Delay	LOS
FWR southbound approach	0.13	32.8	C	0.27	52.6	D
FWR southbound left turn lane	0.92	40.2	D	0.98	73.6	E
FWR northbound approach	0.47	36.2	D	0.28	33.2	C
FWR northbound left turn lane	0.01	26.8	C	0.00	26.7	C
North Road (westbound)	0.47	36.2	D	0.95	52.3	D
Kimopelekane St. (eastbound)	0.30	27.4	C	0.08	18.5	B
Overall Intersection	**0.83**	**31.6**	**C**	**0.96**	**48.2**	**D**

X = utilization (volume/capacity ratio)
Delay = Average delay per vehicle, expressed in seconds
LOS = Level of Service

Table 7 – Future Conditions, Unsignalized Intersections

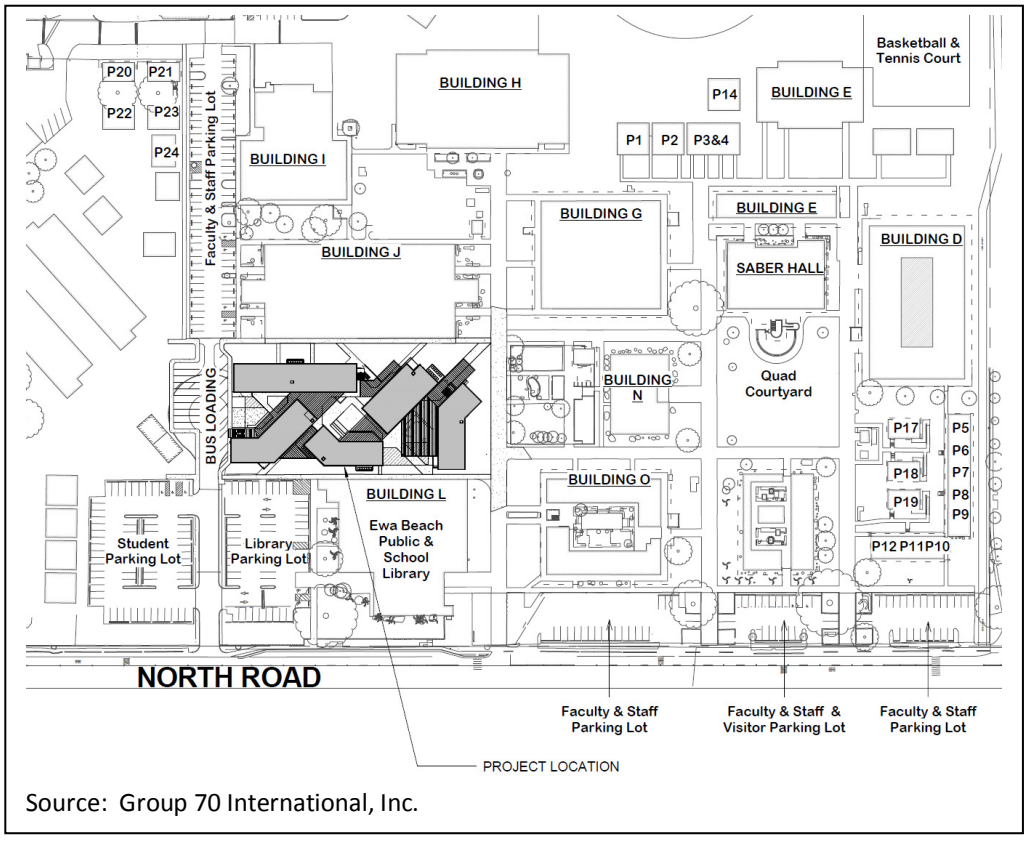
Kilaha Street at North Road	AM Peak Hour			PM Peak Hour		
	X	Delay	LOS	X	Delay	LOS
Kilaha St. northbound approach	0.59	34.8	D	0.63	44.1	E
North Road eastbound left turns	0.04	8.3	A	0.02	8.1	A
North Road westbound left turns	0.05	8.7	A	0.09	9.5	A

X = utilization (volume/capacity ratio)
Delay = Average delay per vehicle, expressed in seconds
LOS = Level of Service

A comparison of the results of the analyses shows that future conditions would generally remain at acceptable levels.

4 Mitigation Measures

4.1. The proposed project will include the removal of a turn-around drive at the end of the access road between the student parking lot and the library parking lot. A new bus unloading and loading area would be provided here, and the existing parking lot near the school cafeteria (Building I) would be connected to this access road. A preliminary site plan is shown in Figure 4.



Source: Group 70 International, Inc.

Figure 4 – Preliminary Site Plan

4.2 Eight driveways provide vehicular access into the campus from North Road. A single driveway serving two-way traffic is located between the 70-stall student parking lot and the 47-stall library parking lot, terminating in a circular roadway where drop-offs and pick-ups can occur.

A driveway leading to the fire lane northeast of the library provides access to parking for about 30 vehicles; gates across that driveway were open during the peak periods before and after school. This corridor, however, served primarily as a pedestrian access route (aligns with a midblock crosswalk to the park across the street).

The three faculty and staff parking lots along North Road are each served by two driveways, with flow through the parking lots in a counterclockwise direction. The first lot, fronting Building O, has 17 stalls for passenger cars, a bus loading zone, and an area that appears to be for motorcycle parking. The bus loading area, if and when converted, could be restriped to accommodate another 15 parking stalls.

Fence gates across the fire lane between Building O and the Administration Building were closed to vehicular traffic. The parking lot fronting the Administration Building has 21 stalls. The parking lot in front of the portable classroom buildings has 24 marked stalls and space for another 5 parked cars.

Table 8 shows counts of peak period traffic entering and exiting through the existing driveways that were open for use during the counts.

Table 8 – Traffic Using Driveways between North Road & High School

Driveways serving --- (from Fort Weaver Road toward Kilaha Street)	AM Peak Hour		PM Peak Hour	
	entering	exiting	entering	exiting
Student & Library parking lots	141	103	23	42
Fire lane east of library	7	2	4	4
Fronting Building O	-	223	-	81
	224	-	70	-
Fronting Administration Building	-	63	-	62
	73	-	62	-
Fronting portable classrooms	-	122	-	28
	125	-	30	-
Data from manual counts taken August 25 and 30, 2016 and September 8, 2016				

Field observations along North Road during the peak hours indicate that traffic congestion occurs between the library and Kilaha Street; while pedestrian traffic (crossing North Road at midblock crosswalks and other locations) is a contributing factor, the primary cause is congestion within the parking lots, which results in delays to vehicles wishing to enter the lots from the street. Consolidating two (or all three) of the lots into a single, long lot and reducing the number of driveways would improve conditions on the street; management of the drop-off and pick-up activities will help to keep traffic moving within the parking lot(s).

5 Conclusions and Recommendations

5.1 Existing traffic conditions in the vicinity of James Campbell High School are within acceptable levels of service. While there is some congestion and very long delays, the duration of these peak conditions is less than one hour.

5.2 Higher peak hour traffic volumes could be expected with the increased enrollment of not only James Campbell High School, but other schools in the area. These increases in traffic volumes would occur without or with the proposed project.

5.3 Accounting for an increase in peak hour traffic volumes in proportion to the increase in enrollment at James Campbell High School would result in longer delays at the three intersections most affected by traffic to and from the high school campus. However, the analyses of the future traffic volumes show that acceptable conditions would still prevail with some minor adjustments to signal timing.

5.4 The proposed project will rearrange portions of the parking lots currently on the campus, and allow for better management of traffic. Several mitigation measures have been identified.

Appendix A
Traffic Count Summaries

(4 sheets follow)

Fort Weaver Road and Aikanaka Street
Fort Weaver Road and North Road
Kilaha Street at North Road
Other North Road driveways

Appendix A: Manual Counts for Campbell High School project - Turning Movements at Study Intersections

page 1
printed
9/16/2016 9:33

	North Road & Fort Weaver Road, September 1, 2016 (Thursday)												
	Kimopelekane Road			North Road			Fort Weaver Road			Fort Weaver Road			total
	Northbound			Southbound			maukabound			makaibound			TOTAL
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:00 AM - 6:15 AM	0	0	2	0	0	38	0	48	2	26	18	1	135
6:15 AM - 6:30 AM	2	1	0	0	0	49	0	51	1	35	11	1	151
6:30 AM - 6:45 AM	1	1	1	0	0	50	0	45	2	51	14	3	168
6:45 AM - 7:00 AM	3	4	0	0	1	71	1	55	4	63	22	3	227
7:00 AM - 7:15 AM	4	2	1	3	1	107	0	80	8	99	26	4	335
7:15 AM - 7:30 AM	5	13	0	0	4	134	0	76	13	118	26	7	396
7:30 AM - 7:45 AM	11	22	0	3	2	152	2	92	24	108	47	6	469
7:45 AM - 8:00 AM	5	24	1	5	4	164	1	60	25	93	69	1	452
Count Total	31	67	5	11	12	765	4	507	79	593	233	26	2,333
Peak Hour													
7:00 AM - 8:00 AM	**25**	**61**	**2**	**11**	**11**	**557**	**3**	**308**	**70**	**418**	**168**	**18**	**1,652**
approach		88			579			381			604		1,652
approach PHF		0.67			0.84			0.81			0.93		
departure		32			549			181			890		1,652
2:00 PM - 2:15 PM	6	5	0	3	3	62	0	51	10	94	66	4	304
2:15 PM - 2:30 PM	2	11	0	6	12	132	0	55	10	89	75	5	397
2:30 PM - 2:45 PM	0	8	1	3	13	120	1	40	4	73	51	6	320
2:45 PM - 3:00 PM	0	1	0	1	7	87	0	28	5	83	59	5	276
3:00 PM - 3:15 PM	0	4	0	2	8	78	0	37	4	79	66	1	279
3:15 PM - 3:30 PM	1	4	0	2	6	68	0	35	4	71	48	3	242
3:30 PM - 3:45 PM	3	0	0	1	4	56	0	47	2	71	63	4	251
3:45 PM - 4:00 PM	3	1	0	1	2	74	0	48	4	65	57	7	262
4:00 PM - 4:15 PM	3	0	0	2	6	69	0	47	5	77	75	7	291
4:15 PM - 4:30 PM	6	1	0	1	0	67	0	47	6	86	75	5	294
4:30 PM - 4:45 PM	4	2	0	1	1	71	0	40	4	75	65	4	267
4:45 PM - 5:00 PM	3	4	0	3	6	50	0	43	3	65	62	3	242
5:00 PM - 5:15 PM	2	2	0	0	4	64	0	52	2	74	73	10	283
5:15 PM - 5:30 PM	1	3	1	4	1	52	0	50	4	61	77	6	260
5:30 PM - 5:45 PM	2	3	0	4	6	64	0	47	3	69	55	2	255
5:45 PM - 6:00 PM	1	1	1	3	0	48	0	42	2	61	59	5	223
Count Total	37	50	3	37	79	1,162	1	709	72	1,193	1,026	77	4,446
Peak Hour													
2:00 PM - 3:00 PM	**8**	**25**	**1**	**13**	**35**	**401**	**1**	**174**	**29**	**339**	**251**	**20**	**1,297**
approach		34			449			204			610		1,297
approach PHF		0.65			0.75			0.78			0.90		
departure		56			393			265			583		1,297

Appendix A: Manual Counts for Campbell High School project - Turning Movements at Study Intersections

page 2
printed
9/16/2016 9:33

	Aikanaka Street at Fort Weaver Road, August 16, 2016 (Tuesday)												
	Aikanaka Street			school access road			Fort Weaver Road			Fort Weaver Road			total
	eastbound			westbound			maukabound			makaibound			TOTAL
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:00 AM - 6:15 AM	0	0	1	1	0	8	0	114	1	8	38	0	171
6:15 AM - 6:30 AM	0	0	0	0	0	5	0	108	0	6	68	0	187
6:30 AM - 6:45 AM	0	1	0	3	0	23	0	95	5	40	63	1	231
6:45 AM - 7:00 AM	2	3	1	3	1	41	0	105	11	51	89	4	311
7:00 AM - 7:15 AM	3	7	2	7	1	46	0	184	23	74	110	0	457
7:15 AM - 7:30 AM	10	35	1	7	4	72	2	178	35	69	151	0	564
7:30 AM - 7:45 AM	7	40	4	12	2	76	5	211	59	49	176	7	648
7:45 AM - 8:00 AM	8	53	1	8	4	88	0	251	13	47	146	9	628
Count Total	30	139	10	41	12	359	7	1,246	147	344	841	21	3,197
Peak Hour													
7:00 AM - 8:00 AM	**28**	**135**	**8**	**34**	**11**	**282**	**7**	**824**	**130**	**239**	**583**	**16**	**1,840**
approach		171			327			961			838		2,297
approach PHF		0.69			0.82			0.87			0.90		
departure		34			504			625			1,134		2,297
2:00 PM - 2:15 PM	0	2	1	17	0	23	6	144	10	22	132	0	357
2:15 PM - 2:30 PM	3	5	0	10	1	85	0	176	9	35	156	5	485
2:30 PM - 2:45 PM	6	3	1	10	5	85	6	165	7	30	128	2	448
2:45 PM - 3:00 PM	1	1	1	3	0	35	0	112	4	19	131	1	308
3:00 PM - 3:15 PM	0	0	0	8	0	25	2	134	1	15	113	1	299
3:15 PM - 3:30 PM	0	0	2	6	0	30	0	105	7	20	106	1	277
3:30 PM - 3:45 PM	3	0	0	6	0	26	1	110	2	18	130	4	300
3:45 PM - 4:00 PM	2	0	2	3	0	22	0	114	5	17	125	0	290
4:00 PM - 4:15 PM	1	0	0	8	0	21	0	116	8	19	134	1	308
4:15 PM - 4:30 PM	1	0	0	5	1	23	0	117	8	18	121	0	294
4:30 PM - 4:45 PM	2	0	2	1	1	35	2	97	8	17	126	3	294
4:45 PM - 5:00 PM	1	0	3	5	1	33	0	101	5	25	121	2	297
5:00 PM - 5:15 PM	1	0	1	3	0	37	1	103	3	26	147	1	323
5:15 PM - 5:30 PM	2	0	1	6	0	25	0	104	4	13	104	3	262
5:30 PM - 5:45 PM	1	0	0	2	0	14	1	88	4	10	129	5	254
5:45 PM - 6:00 PM	0	1	1	1	0	11	0	87	3	9	119	2	234
Count Total	24	12	15	94	9	530	19	1,873	88	313	2,022	31	5,030
Peak Hour													
2:00 PM - 3:00 PM	**10**	**11**	**3**	**40**	**6**	**228**	**12**	**597**	**30**	**106**	**547**	**8**	**1,598**
approach		24			274			639			661		1,598
approach PHF		0.60			0.69			0.86			0.84		
departure		26			147			590			835		1,598

Appendix A: Manual Counts for Campbell High School project - Turning Movements at Study Intersections

page 3
printed
9/16/2016 9:33

Kilaha Street at North Road, September 1, 2016 (Thursday)													
	school driveway			Kilaha Street			North Road			North Road			total
	Southbound			Northbound			Westbound			Eastbound			TOTAL
	enter	(24 stalls)	exit	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:00 AM - 6:15 AM	1		2	2	0	2	0	9	1	1	20	0	38
6:15 AM - 6:30 AM	4		1	2	0	11	0	22	0	6	32	0	78
6:30 AM - 6:45 AM	4		2	4	0	8	0	33	1	4	40	0	96
6:45 AM - 7:00 AM	12		2	4	0	11	0	31	2	4	39	0	105
7:00 AM - 7:15 AM	19		11	5	0	11	0	44	4	4	61	0	159
7:15 AM - 7:30 AM	30		27	11	0	21	0	59	5	8	86	0	247
7:30 AM - 7:45 AM	40		42	15	0	25	0	44	5	12	83	0	266
7:45 AM - 8:00 AM	36		42	20	0	18	0	44	14	12	70	0	256
Count Total	146	0	129	63	0	107	0	286	32	51	431	0	1,245
Peak Hour													
7:00 AM - 8:00 AM	**125**	**0**	**122**	**51**	**0**	**75**	**0**	**191**	**28**	**36**	**300**	**0**	**928**
approach	247			126			219			336			928
approach PHF	0.75			0.79			0.86			0.88			
departure	247			64			351			266			928
2:00 PM - 2:15 PM	3		1	4	0	11	0	32	13	8	50	0	122
2:15 PM - 2:30 PM	15		11	12	0	26	0	68	19	19	71	0	241
2:30 PM - 2:45 PM	6		7	7	0	11	0	64	12	15	60	0	182
2:45 PM - 3:00 PM	4		5	5	0	12	0	37	6	5	40	0	114
3:00 PM - 3:15 PM	3		7	5	0	8	0	55	1	7	42	0	128
3:15 PM - 3:30 PM	3		10	1	0	4	0	44	4	4	40	0	110
3:30 PM - 3:45 PM	2		7	5	0	5	0	52	12	6	46	0	135
3:45 PM - 4:00 PM	4		8	6	0	6	0	50	5	6	39	0	124
4:00 PM - 4:15 PM	2		2	2	0	9	0	49	5	7	52	0	128
4:15 PM - 4:30 PM	0		0	8	0	3	0	53	9	2	55	0	130
4:30 PM - 4:45 PM	1		1	6	0	11	0	42	10	6	46	0	123
4:45 PM - 5:00 PM	0		4	2	0	5	0	53	1	10	39	0	114
5:00 PM - 5:15 PM	0		0	5	0	10	0	39	6	7	27	0	94
5:15 PM - 5:30 PM	1		1	4	0	7	0	45	9	9	45	0	121
5:30 PM - 5:45 PM	1		1	5	0	4	0	53	5	4	44	0	117
5:45 PM - 6:00 PM	0		1	5	0	11	0	48	10	7	50	0	132
Count Total	45	0	66	82	0	143	0	784	127	122	746	0	2,115
Peak Hour													
2:15 PM - 3:15 PM	**28**	**0**	**30**	**29**	**0**	**57**	**0**	**224**	**38**	**46**	**213**	**0**	**665**
approach	58			86			262			259			665
approach PHF	0.56			0.57			0.75			0.72			
departure	58			84			242			281			665

Appendix A: Manual Counts for Campbell High School project - Entries & Exits at School Driveways

page 4
printed
9/16/2016 9:33

	Driveways to/from North Road (see Note for dates of counts)												
	<< Fort Weaver Road									Kilaha Street >>	total driveway		
	Driveway 1		Driveway 2		DW3	DW4	DW5	DW6	Driveway 7		movements		
	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Total	Exit	Enter
6:00 AM - 6:15 AM	0	0	0	0	0	0	2	4	2	1	9	4	5
6:15 AM - 6:30 AM	1	2	0	2	1	4	3	5	1	4	23	6	17
6:30 AM - 6:45 AM	1	4	0	1	4	4	6	7	2	4	33	13	20
6:45 AM - 7:00 AM	4	8	0	1	11	16	8	15	2	12	77	25	52
7:00 AM - 7:15 AM	12	15	0	2	31	35	6	8	11	19	139	60	79
7:15 AM - 7:30 AM	19	27	0	4	57	60	14	16	27	30	254	117	137
7:30 AM - 7:45 AM	28	39	1	0	65	65	18	23	42	40	321	154	167
7:45 AM - 8:00 AM	44	60	1	1	70	64	25	26	42	36	369	182	187
Count Total	109	155	2	11	239	248	82	104	129	146	1,225	561	664
Peak Hour													
7:00 AM - 8:00 AM	**103**	**141**	**2**	**7**	**223**	**224**	**63**	**73**	**122**	**125**	**1,083**	**513**	**491**
2:00 PM - 2:15 PM	9	9	1	0	0	5	3	3	1	3	34	14	20
2:15 PM - 2:30 PM	6	7	0	0	26	23	17	15	11	15	120	60	60
2:30 PM - 2:45 PM	7	4	1	2	26	25	21	21	7	6	120	62	58
2:45 PM - 3:00 PM	20	11	0	2	14	9	14	14	5	4	93	53	40
3:00 PM - 3:15 PM	9	1	3	0	15	13	13	12	7	3	76	47	29
3:15 PM - 3:30 PM	3	2	0	0	10	11	11	10	10	3	60	34	26
3:30 PM - 3:45 PM	3	4	1	0	11	6	8	8	7	2	50	30	20
3:45 PM - 4:00 PM	2	4	1	0	6	5	8	7	8	4	45	25	20
Count Total	59	42	7	4	108	97	95	90	56	40	598	325	273
Peak Hour													
2:15 PM - 3:15 PM	**42**	**23**	**4**	**4**	**81**	**70**	**65**	**62**	**30**	**28**	**409**	**222**	**187**

Notes: Dates when driveway counts were taken:

Driveways 1-6 AM Peak Period:	Thursday, August 25, 2016
Driveways 1-6 AM Peak Period:	Thursday, September 08, 2016
Driveway 7, AM & PM peak periods:	Tuesday, August 30, 2016

Appendix B
Intersection Analyses Worksheets, Existing Conditions

(6 sheets follow)

Fort Weaver Road and Aikanaka Street	AM Peak Hour
Fort Weaver Road and Aikanaka Street	PM Peak Hour
Fort Weaver Road and North Road	AM Peak Hour
Fort Weaver Road and North Road	PM Peak Hour
Kilaha Street at North Road	AM Peak Hour
Kilaha Street at North Road	PM Peak Hour

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*FWR Aikanaka*
Agency or Co.	*Julian Ng Inc*	Area Type	*CBD or Similar*
Date Performed	*9/21/2016*	Jurisdiction	*HDOT*
Time Period	*AM Peak Hour*	Analysis Year	*2016*
		Project ID	*Campbell High School classroom addition*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*0*	*1*	*2*	*1*	*1*	*2*	*1*
Lane group		*LTR*			*LTR*		*L*	*T*	*R*	*L*	*T*	*R*
Volume, V (vph)	*28*	*135*	*8*	*34*	*11*	*282*	*7*	*824*	*130*	*239*	*583*	*16*
% Heavy vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.82*	*0.82*	*0.82*	*0.87*	*0.87*	*0.87*	*0.90*	*0.90*	*0.90*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1		*2.0*			*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of effective green, e		*2.0*			*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type, AT		*3*			*3*		*3*	*3*	*3*	*3*	*3*	*3*
Unit extension, UE		*3.0*			*3.0*		*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Filtering/metering, I		*1.000*			*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Initial unmet demand, Q_b		*0.0*			*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ped / Bike / RTOR volumes	*150*	*0*	*0*	*150*		*0*	*200*	*0*	*0*	*0*	*0*	*0*
Lane width		*12.0*			*12.0*		*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*		*0*	*0*	*0*	*0*	*0*	*0*
Min. time for pedestrians, G_p	*4.6*			*4.6*			*5.0*			*3.2*		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	NS Perm	08
Timing	G = *40.0*	G =	G =	G =	G = *5.0*	G = *10.0*	G = *45.0*	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y = *5*	Y = *5*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*249*			*398*		*8*	*947*	*149*	*266*	*648*	*18*
Lane group capacity, c		*463*			*458*		*319*	*1185*	*388*	*335*	*1581*	*706*
v/c ratio, X		*0.54*			*0.87*		*0.03*	*0.80*	*0.38*	*0.79*	*0.41*	*0.03*
Total green ratio, g/C		*0.33*			*0.33*		*0.42*	*0.38*	*0.38*	*0.58*	*0.50*	*0.50*
Uniform delay, d_1		*32.5*			*37.5*		*20.5*	*33.5*	*27.4*	*25.7*	*18.9*	*15.2*
Progression factor, PF		*1.000*			*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Delay calibration, k		*0.50*			*0.50*		*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Incremental delay, d_2		*4.4*			*19.6*		*0.1*	*5.7*	*2.9*	*17.4*	*0.8*	*0.1*
Initial queue delay, d_3												
Control delay		*36.9*			*57.1*		*20.7*	*39.2*	*30.2*	*43.1*	*19.7*	*15.3*
Lane group LOS		*D*			*E*		*C*	*D*	*C*	*D*	*B*	*B*
Approach delay	*36.9*			*57.1*			*37.8*			*26.3*		
Approach LOS	*D*			*E*			*D*			*C*		
Intersection delay	*36.6*			X_C = *0.86*			Intersection LOS			*D*		

Copyright © 2000 University of Florida, All Rights Reserved

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*FWR Aikanaka*
Agency or Co.	*Julian Ng Inc*	Area Type	*CBD or Similar*
Date Performed	*9/21/2016*	Jurisdiction	*HDOT*
Time Period	*PM Peak Hour*	Analysis Year	*2016*
		Project ID	*Campbell High School classroom addition*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*0*	*1*	*2*	*1*	*1*	*2*	*1*
Lane group		*LTR*			*LTR*		*L*	*T*	*R*	*L*	*T*	*R*
Volume, V (vph)	*10*	*11*	*3*	*40*	*6*	*228*	*12*	*597*	*30*	*106*	*547*	*8*
% Heavy vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.69*	*0.69*	*0.69*	*0.86*	*0.86*	*0.86*	*0.84*	*0.84*	*0.84*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1		*2.0*			*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of effective green, e		*2.0*			*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type, AT		*3*			*3*		*3*	*3*	*3*	*3*	*3*	*3*
Unit extension, UE		*3.0*			*3.0*		*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Filtering/metering, I		*1.000*			*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Initial unmet demand, Q_b		*0.0*			*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ped / Bike / RTOR volumes	*150*	*0*	*0*	*150*		*0*	*200*	*0*	*0*	*0*	*0*	*0*
Lane width		*12.0*			*12.0*		*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*		*0*	*0*	*0*	*0*	*0*	*0*
Min. time for pedestrians, G_p	*4.6*			*4.6*			*5.0*			*3.2*		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	NS Perm	08
Timing	G = *45.0*	G =	G =	G =	G = *10.0*	G = *5.0*	G = *40.0*	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y = *5*	Y = *5*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*40*			*397*		*14*	*694*	*35*	*126*	*651*	*10*
Lane group capacity, c		*497*			*516*		*355*	*1054*	*329*	*362*	*1317*	*588*
v/c ratio, X		*0.08*			*0.77*		*0.04*	*0.66*	*0.11*	*0.35*	*0.49*	*0.02*
Total green ratio, g/C		*0.38*			*0.38*		*0.42*	*0.33*	*0.33*	*0.54*	*0.42*	*0.42*
Uniform delay, d_1		*24.2*			*32.9*		*20.6*	*34.2*	*27.6*	*16.0*	*25.7*	*20.6*
Progression factor, PF		*1.000*			*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Delay calibration, k		*0.50*			*0.50*		*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Incremental delay, d_2		*0.3*			*10.6*		*0.2*	*3.2*	*0.7*	*2.6*	*1.3*	*0.1*
Initial queue delay, d_3												
Control delay		*24.5*			*43.5*		*20.8*	*37.4*	*28.3*	*18.6*	*27.0*	*20.6*
Lane group LOS		*C*			*D*		*C*	*D*	*C*	*B*	*C*	*C*
Approach delay	*24.5*			*43.5*			*36.6*			*25.6*		
Approach LOS	*C*			*D*			*D*			*C*		
Intersection delay	*33.4*			X_C = *0.68*			Intersection LOS			*C*		

Copyright © 2000 University of Florida, All Rights Reserved

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*FWR North*
Agency or Co.	*Julian Ng Inc*	Area Type	*CBD or Similar*
Date Performed	*9/21/2016*	Jurisdiction	*HDOT*
Time Period	*AM Peak Hour*	Analysis Year	*2016*
		Project ID	*Campbell High School classroom addition*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*1*	*1*	*2*	*1*	*1*	*2*	*1*
Lane group		*LTR*			*LT*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
Volume, V (vph)	*25*	*61*	*2*	*11*	*11*	*557*	*3*	*308*	*70*	*418*	*168*	*18*
% Heavy vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Peak-hour factor, PHF	*0.67*	*0.67*	*0.67*	*0.84*	*0.84*	*0.84*	*0.81*	*0.81*	*0.81*	*0.93*	*0.93*	*0.93*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of effective green, e		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type, AT		*3*			*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Unit extension, UE		*3.0*			*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Filtering/metering, I		*1.000*			*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Initial unmet demand, Q_b		*0.0*			*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ped / Bike / RTOR volumes	*50*	*0*	*0*	*150*		*0*	*50*	*0*	*0*	*50*	*0*	*0*
Lane width		*12.0*			*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Min. time for pedestrians, G_p	*3.7*			*4.6*			*3.7*			*3.7*		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	NS Perm	08
Timing	G = *40.0*	G =	G =	G =	G = *5.0*	G = *10.0*	G = *45.0*	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y = *5*	Y = *5*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*131*			*26*	*663*	*4*	*380*	*86*	*449*	*181*	*19*
Lane group capacity, c		*507*			*480*	*764*	*439*	*1185*	*494*	*540*	*1581*	*671*
v/c ratio, X		*0.26*			*0.05*	*0.87*	*0.01*	*0.32*	*0.17*	*0.83*	*0.11*	*0.03*
Total green ratio, g/C		*0.33*			*0.33*	*0.54*	*0.42*	*0.38*	*0.38*	*0.58*	*0.50*	*0.50*
Uniform delay, d_1		*29.2*			*27.2*	*23.8*	*20.5*	*26.6*	*25.1*	*24.7*	*15.9*	*15.2*
Progression factor, PF		*1.000*			*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Delay calibration, k		*0.50*			*0.50*	*0.40*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Incremental delay, d_2		*1.2*			*0.2*	*10.4*	*0.0*	*0.7*	*0.8*	*13.9*	*0.1*	*0.1*
Initial queue delay, d_3												
Control delay		*30.4*			*27.4*	*34.2*	*20.5*	*27.4*	*25.8*	*38.6*	*16.1*	*15.3*
Lane group LOS		*C*			*C*	*C*	*C*	*C*	*C*	*D*	*B*	*B*
Approach delay	*30.4*			*34.0*			*27.0*			*31.7*		
Approach LOS	*C*			*C*			*C*			*C*		
Intersection delay	*31.3*			X_C = *0.79*			Intersection LOS			*C*		

Copyright © 2000 University of Florida, All Rights Reserved

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*FWR North*
Agency or Co.	*Julian Ng Inc*	Area Type	*CBD or Similar*
Date Performed	*9/21/2016*	Jurisdiction	*HDOT*
Time Period	*PM Peak Hour*	Analysis Year	*2016*
		Project ID	*Campbell High School classroom addition*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*1*	*1*	*2*	*1*	*1*	*2*	*1*
Lane group		*LTR*			*LT*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
Volume, V (vph)	*8*	*25*	*1*	*13*	*35*	*401*	*1*	*174*	*29*	*339*	*251*	*20*
% Heavy vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Peak-hour factor, PHF	*0.65*	*0.65*	*0.65*	*0.75*	*0.75*	*0.75*	*0.78*	*0.78*	*0.78*	*0.90*	*0.90*	*0.90*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of effective green, e		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type, AT		*3*			*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Unit extension, UE		*3.0*			*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Filtering/metering, I		*1.000*			*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Initial unmet demand, Q_b		*0.0*			*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ped / Bike / RTOR volumes	*50*	*0*	*0*	*150*		*0*	*50*	*0*	*0*	*50*	*0*	*0*
Lane width		*12.0*			*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Min. time for pedestrians, G_p	*3.7*			*4.6*			*3.7*			*3.7*		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	NS Perm	08
Timing	G = *50.0*	G =	G =	G =	G = *5.0*	G = *5.0*	G = *40.0*	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y = *5*	Y = *5*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*52*			*64*	*535*	*1*	*223*	*37*	*377*	*279*	*22*
Lane group capacity, c		*656*			*645*	*588*	*367*	*1054*	*435*	*504*	*1317*	*552*
v/c ratio, X		*0.08*			*0.10*	*0.91*	*0.00*	*0.21*	*0.09*	*0.75*	*0.21*	*0.04*
Total green ratio, g/C		*0.42*			*0.42*	*0.42*	*0.38*	*0.33*	*0.33*	*0.50*	*0.42*	*0.42*
Uniform delay, d_1		*21.1*			*21.3*	*32.9*	*23.5*	*28.7*	*27.4*	*25.8*	*22.4*	*20.8*
Progression factor, PF		*1.000*			*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Delay calibration, k		*0.50*			*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Incremental delay, d_2		*0.2*			*0.3*	*20.5*	*0.0*	*0.5*	*0.4*	*9.8*	*0.4*	*0.1*
Initial queue delay, d_3												
Control delay		*21.4*			*21.6*	*53.4*	*23.5*	*29.1*	*27.8*	*35.6*	*22.8*	*20.9*
Lane group LOS		*C*			*C*	*D*	*C*	*C*	*C*	*D*	*C*	*C*
Approach delay	*21.4*			*50.0*			*28.9*			*29.8*		
Approach LOS	*C*			*D*			*C*			*C*		
Intersection delay	*37.0*			X_C = *0.80*			Intersection LOS			*D*		

Copyright © 2000 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JN*
Agency/Co.	*Julian Ng Inc*
Date Performed	*9/21/2016*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Kilaha @ North*
Jurisdiction	*DTS*
Analysis Year	*2016*

Project Description *Campbell High School classroom addition*

East/West Street: *North Road* | North/South Street: *Kilaha Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*40*	*151*	*28*	*36*	*238*	*62*
Peak-hour factor, PHF	*0.87*	*0.87*	*0.87*	*0.87*	*0.87*	*0.87*
Hourly Flow Rate (veh/h)	*45*	*173*	*32*	*41*	*273*	*71*
Proportion of heavy vehicles, P_{HV}	*3*	--	--	*3*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*28*	*23*	*75*	*0*	*0*	*0*
Peak-hour factor, PHF	*0.87*	*0.87*	*0.87*	*0.87*	*0.87*	*0.87*
Hourly Flow Rate (veh/h)	*32*	*26*	*86*	*0*	*0*	*0*
Proportion of heavy vehicles, P_{HV}	*3*	*3*	*3*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*				
Volume, v (vph)	*45*	*41*		*144*				
Capacity, c_m (vph)	*1209*	*1048*		*308*				
v/c ratio	*0.04*	*0.04*		*0.47*				
Queue length (95%)	*0.12*	*0.12*		*2.36*				
Control Delay (s/veh)	*8.1*	*8.6*		*26.5*				
LOS	*A*	*A*		*D*				
Approach delay (s/veh)	--	--	*26.5*					
Approach LOS	--	--	*D*					

HCS2000™ Copyright © 2003 University of Florida, All Rights Reserved Version 4.1d

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JN*
Agency/Co.	*Julian Ng Inc*
Date Performed	*9/21/2016*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Kilaha @ North*
Jurisdiction	*DTS*
Analysis Year	*2016*

Project Description *Campbell High School classroom addition*

East/West Street: *North Road* | North/South Street: *Kilaha Street*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*12*	*212*	*38*	*46*	*201*	*12*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*17*	*307*	*55*	*66*	*291*	*17*
Proportion of heavy vehicles, P_{HV}	*3*	--	--	*3*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*25*	*4*	*57*	*0*	*0*	*0*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*36*	*5*	*82*	*0*	*0*	*0*
Proportion of heavy vehicles, P_{HV}	*3*	*3*	*3*	*0*	*0*	*0*
Percent grade (%)	*0*			*0*		
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*				
Volume, v (vph)	*17*	*66*		*123*				
Capacity, c_m (vph)	*1247*	*917*		*262*				
v/c ratio	*0.01*	*0.07*		*0.47*				
Queue length (95%)	*0.04*	*0.23*		*2.34*				
Control Delay (s/veh)	*7.9*	*9.2*		*30.3*				
LOS	*A*	*A*		*D*				
Approach delay (s/veh)	--	--	*30.3*					
Approach LOS	--	--	*D*					

Copyright © 2003 University of Florida, All Rights Reserved

Appendix C
Intersection Analyses Worksheets, Future Conditions

(6 sheets follow)

Fort Weaver Road and Aikanaka Street	AM Peak Hour
Fort Weaver Road and Aikanaka Street	PM Peak Hour
Fort Weaver Road and North Road	AM Peak Hour
Fort Weaver Road and North Road	PM Peak Hour
Kilaha Street at North Road	AM Peak Hour
Kilaha Street at North Road	PM Peak Hour

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*FWR Aikanaka*
Agency or Co.	*Julian Ng Inc*	Area Type	*CBD or Similar*
Date Performed	*9/21/2016*	Jurisdiction	*HDOT*
Time Period	*AM Peak Hour*	Analysis Year	*2016+15%*
		Project ID	*Campbell High School classroom addition*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*0*	*1*	*2*	*1*	*1*	*2*	*1*
Lane group		*LTR*			*LTR*		*L*	*T*	*R*	*L*	*T*	*R*
Volume, V (vph)	*32*	*155*	*9*	*39*	*13*	*324*	*8*	*948*	*150*	*275*	*670*	*18*
% Heavy vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.82*	*0.82*	*0.82*	*0.87*	*0.87*	*0.87*	*0.90*	*0.90*	*0.90*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1		*2.0*			*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of effective green, e		*2.0*			*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type, AT		*3*			*3*		*3*	*3*	*3*	*3*	*3*	*3*
Unit extension, UE		*3.0*			*3.0*		*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Filtering/metering, I		*1.000*			*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Initial unmet demand, Q_b		*0.0*			*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ped / Bike / RTOR volumes	*150*	*0*	*0*	*150*		*0*	*200*	*0*	*0*	*0*	*0*	*0*
Lane width		*12.0*			*12.0*		*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*		*0*	*0*	*0*	*0*	*0*	*0*
Min. time for pedestrians, G_p	*4.6*			*4.6*			*5.0*			*3.2*		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	NS Perm	08
Timing	G = *41.0*	G =	G =	G =	G = *5.0*	G = *11.0*	G = *43.0*	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y = *5*	Y = *5*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*284*			*459*		*9*	*1090*	*172*	*306*	*744*	*20*
Lane group capacity, c		*453*			*463*		*286*	*1133*	*364*	*326*	*1554*	*694*
v/c ratio, X		*0.63*			*0.99*		*0.03*	*0.96*	*0.47*	*0.94*	*0.48*	*0.03*
Total green ratio, g/C		*0.34*			*0.34*		*0.40*	*0.36*	*0.36*	*0.57*	*0.49*	*0.49*
Uniform delay, d_1		*33.1*			*39.3*		*21.7*	*37.7*	*29.7*	*37.3*	*20.3*	*15.7*
Progression factor, PF		*1.000*			*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Delay calibration, k		*0.50*			*0.50*		*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Incremental delay, d_2		*6.4*			*39.7*		*0.2*	*19.0*	*4.4*	*36.4*	*1.1*	*0.1*
Initial queue delay, d_3												
Control delay		*39.5*			*79.1*		*21.9*	*56.7*	*34.1*	*73.8*	*21.3*	*15.8*
Lane group LOS		*D*			*E*		*C*	*E*	*C*	*E*	*C*	*B*
Approach delay	*39.5*			*79.1*			*53.4*			*36.2*		
Approach LOS	*D*			*E*			*D*			*D*		
Intersection delay	*50.0*			X_C = *0.98*			Intersection LOS			*D*		

Copyright © 2000 University of Florida, All Rights Reserved

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*FWR Aikanaka*
Agency or Co.	*Julian Ng Inc*	Area Type	*CBD or Similar*
Date Performed	*9/21/2016*	Jurisdiction	*HDOT*
Time Period	*PM Peak Hour*	Analysis Year	*2016+15%*
		Project ID	*Campbell High School classroom addition*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*0*	*1*	*2*	*1*	*1*	*2*	*1*
Lane group		*LTR*			*LTR*		*L*	*T*	*R*	*L*	*T*	*R*
Volume, V (vph)	*12*	*13*	*3*	*46*	*7*	*262*	*14*	*687*	*34*	*122*	*629*	*9*
% Heavy vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.69*	*0.69*	*0.69*	*0.86*	*0.86*	*0.86*	*0.84*	*0.84*	*0.84*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1		*2.0*			*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of effective green, e		*2.0*			*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type, AT		*3*			*3*		*3*	*3*	*3*	*3*	*3*	*3*
Unit extension, UE		*3.0*			*3.0*		*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Filtering/metering, I		*1.000*			*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Initial unmet demand, Q_b		*0.0*			*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ped / Bike / RTOR volumes	*150*	*0*	*0*	*150*		*0*	*200*	*0*	*0*	*0*	*0*	*0*
Lane width		*12.0*			*12.0*		*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*		*0*	*0*	*0*	*0*	*0*	*0*
Min. time for pedestrians, G_p	*4.6*			*4.6*			*5.0*			*3.2*		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	NS Perm	08
Timing	G = *45.0*	G =	G =	G =	G = *10.0*	G = *5.0*	G = *40.0*	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y = *5*	Y = *5*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*47*			*457*		*16*	*799*	*40*	*145*	*749*	*11*
Lane group capacity, c		*487*			*515*		*335*	*1054*	*329*	*338*	*1317*	*588*
v/c ratio, X		*0.10*			*0.89*		*0.05*	*0.76*	*0.12*	*0.43*	*0.57*	*0.02*
Total green ratio, g/C		*0.38*			*0.38*		*0.42*	*0.33*	*0.33*	*0.54*	*0.42*	*0.42*
Uniform delay, d_1		*24.3*			*35.1*		*20.6*	*35.7*	*27.8*	*17.3*	*26.8*	*20.6*
Progression factor, PF		*1.000*			*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Delay calibration, k		*0.50*			*0.50*		*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Incremental delay, d_2		*0.4*			*19.8*		*0.3*	*5.1*	*0.8*	*3.9*	*1.8*	*0.1*
Initial queue delay, d_3												
Control delay		*24.7*			*54.9*		*20.9*	*40.8*	*28.5*	*21.3*	*28.5*	*20.6*
Lane group LOS		*C*			*D*		*C*	*D*	*C*	*C*	*C*	*C*
Approach delay	*24.7*			*54.9*			*39.8*			*27.3*		
Approach LOS	*C*			*D*			*D*			*C*		
Intersection delay	*37.6*			X_C = *0.78*			Intersection LOS			*D*		

Copyright © 2000 University of Florida, All Rights Reserved

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*FWR North*
Agency or Co.	*Julian Ng Inc*	Area Type	*CBD or Similar*
Date Performed	*9/21/2016*	Jurisdiction	*HDOT*
Time Period	*AM Peak Hour*	Analysis Year	*2016+15%*
		Project ID	*Campbell High School classroom addition*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*1*	*1*	*2*	*1*	*1*	*2*	*1*
Lane group		*LTR*			*LT*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
Volume, V (vph)	*29*	*70*	*2*	*13*	*13*	*641*	*3*	*354*	*80*	*481*	*193*	*21*
% Heavy vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Peak-hour factor, PHF	*0.67*	*0.67*	*0.67*	*0.84*	*0.84*	*0.84*	*0.81*	*0.81*	*0.81*	*0.93*	*0.93*	*0.93*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of effective green, e		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type, AT		*3*			*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Unit extension, UE		*3.0*			*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Filtering/metering, I		*1.000*			*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Initial unmet demand, Q_b		*0.0*			*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ped / Bike / RTOR volumes	*50*	*0*	*0*	*150*		*0*	*50*	*0*	*0*	*50*	*0*	*0*
Lane width		*12.0*			*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Min. time for pedestrians, G_p	*3.7*			*4.6*			*3.7*			*3.7*		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	NS Perm	08
Timing	G = *40.0*	G =	G =	G =	G = *5.0*	G = *20.0*	G = *35.0*	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y = *5*	Y = *5*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*150*			*30*	*763*	*4*	*437*	*99*	*517*	*208*	*23*
Lane group capacity, c		*504*			*474*	*882*	*344*	*922*	*377*	*562*	*1581*	*671*
v/c ratio, X		*0.30*			*0.06*	*0.87*	*0.01*	*0.47*	*0.26*	*0.92*	*0.13*	*0.03*
Total green ratio, g/C		*0.33*			*0.33*	*0.63*	*0.33*	*0.29*	*0.29*	*0.58*	*0.50*	*0.50*
Uniform delay, d_1		*29.6*			*27.2*	*18.4*	*26.7*	*34.9*	*32.6*	*17.6*	*16.1*	*15.3*
Progression factor, PF		*1.000*			*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Delay calibration, k		*0.50*			*0.50*	*0.39*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Incremental delay, d_2		*1.5*			*0.3*	*9.0*	*0.1*	*1.7*	*1.7*	*22.6*	*0.2*	*0.1*
Initial queue delay, d_3												
Control delay		*31.1*			*27.5*	*27.4*	*26.8*	*36.7*	*34.3*	*40.2*	*16.2*	*15.4*
Lane group LOS		*C*			*C*	*C*	*C*	*D*	*C*	*D*	*B*	*B*
Approach delay	*31.1*			*27.4*			*36.2*			*32.8*		
Approach LOS	*C*			*C*			*D*			*C*		
Intersection delay	*31.6*			X_C = *0.83*			Intersection LOS			*C*		

Copyright © 2000 University of Florida, All Rights Reserved

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*FWR North*
Agency or Co.	*Julian Ng Inc*	Area Type	*CBD or Similar*
Date Performed	*9/21/2016*	Jurisdiction	*HDOT*
Time Period	*PM Peak Hour*	Analysis Year	*2016+15%*
		Project ID	*Campbell High School classroom addition*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*1*	*1*	*2*	*1*	*1*	*2*	*1*
Lane group		*LTR*			*LT*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
Volume, V (vph)	*9*	*29*	*1*	*15*	*40*	*461*	*1*	*200*	*33*	*390*	*289*	*23*
% Heavy vehicles, %HV	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Peak-hour factor, PHF	*0.65*	*0.65*	*0.65*	*0.75*	*0.75*	*0.75*	*0.78*	*0.78*	*0.78*	*0.90*	*0.90*	*0.90*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of effective green, e		*2.0*			*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type, AT		*3*			*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
Unit extension, UE		*3.0*			*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Filtering/metering, I		*1.000*			*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Initial unmet demand, Q_b		*0.0*			*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ped / Bike / RTOR volumes	*50*	*0*	*0*	*150*		*0*	*50*	*0*	*0*	*50*	*0*	*0*
Lane width		*12.0*			*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Min. time for pedestrians, G_p	*3.7*			*4.6*			*3.7*			*3.7*		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	NS Perm	08
Timing	G = *55.0*	G =	G =	G =	G = *5.0*	G = *5.0*	G = *35.0*	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y = *5*	Y = *5*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*61*			*73*	*615*	*1*	*256*	*42*	*433*	*321*	*26*
Lane group capacity, c		*720*			*705*	*647*	*317*	*922*	*377*	*444*	*1185*	*494*
v/c ratio, X		*0.08*			*0.10*	*0.95*	*0.00*	*0.28*	*0.11*	*0.98*	*0.27*	*0.05*
Total green ratio, g/C		*0.46*			*0.46*	*0.46*	*0.33*	*0.29*	*0.29*	*0.46*	*0.38*	*0.38*
Uniform delay, d_1		*18.3*			*18.5*	*31.2*	*26.7*	*32.8*	*31.1*	*36.6*	*26.1*	*23.9*
Progression factor, PF		*1.000*			*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Delay calibration, k		*0.50*			*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Incremental delay, d_2		*0.2*			*0.3*	*25.1*	*0.0*	*0.7*	*0.6*	*37.0*	*0.6*	*0.2*
Initial queue delay, d_3												
Control delay		*18.5*			*18.8*	*56.3*	*26.7*	*33.5*	*31.7*	*73.6*	*26.7*	*24.1*
Lane group LOS		*B*			*B*	*E*	*C*	*C*	*C*	*E*	*C*	*C*
Approach delay	*18.5*			*52.3*			*33.2*			*52.6*		
Approach LOS	*B*			*D*			*C*			*D*		
Intersection delay	*48.2*			X_C = *0.96*			Intersection LOS			*D*		

Copyright © 2000 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JN*
Agency/Co.	*Julian Ng Inc*
Date Performed	*9/21/2016*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Kilaha @ North*
Jurisdiction	*DTS*
Analysis Year	*2016+15%*

Project Description *Campbell High School classroom addition*

East/West Street: *North Road*

North/South Street: *Kilaha Street*

Intersection Orientation: *East-West*

Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*46*	*174*	*32*	*41*	*274*	*71*
Peak-hour factor, PHF	*0.87*	*0.87*	*0.87*	*0.87*	*0.87*	*0.87*
Hourly Flow Rate (veh/h)	*52*	*199*	*36*	*47*	*314*	*81*
Proportion of heavy vehicles, P_{HV}	*3*	--	--	*3*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*32*	*26*	*86*	*0*	*0*	*0*
Peak-hour factor, PHF	*0.87*	*0.87*	*0.87*	*0.87*	*0.87*	*0.87*
Hourly Flow Rate (veh/h)	*36*	*29*	*98*	*0*	*0*	*0*
Proportion of heavy vehicles, P_{HV}	*3*	*3*	*3*	*0*	*0*	*0*
Percent grade (%)	*0*			*0*		
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*				
Volume, v (vph)	*52*	*47*		*163*				
Capacity, c_m (vph)	*1158*	*1022*		*278*				
v/c ratio	*0.04*	*0.05*		*0.59*				
Queue length (95%)	*0.14*	*0.14*		*3.43*				
Control Delay (s/veh)	*8.3*	*8.7*		*34.8*				
LOS	*A*	*A*		*D*				
Approach delay (s/veh)	--	--	*34.8*					
Approach LOS	--	--	*D*					

Copyright © 2003 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JN*
Agency/Co.	*Julian Ng Inc*
Date Performed	*9/21/2016*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Kilaha @ North*
Jurisdiction	*DTS*
Analysis Year	*2016+15%*

Project Description *Campbell High School classroom addition*

East/West Street: *North Road*	North/South Street: *Kilaha Street*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*14*	*244*	*44*	*53*	*231*	*14*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*20*	*353*	*63*	*76*	*334*	*20*
Proportion of heavy vehicles, P_{HV}	*3*	--	--	*3*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*29*	*5*	*66*	*0*	*0*	*0*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*42*	*7*	*95*	*0*	*0*	*0*
Proportion of heavy vehicles, P_{HV}	*3*	*3*	*3*	*0*	*0*	*0*
Percent grade (%)	*0*			*0*		
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*				
Volume, v (vph)	*20*	*76*		*144*				
Capacity, c_m (vph)	*1199*	*876*		*229*				
v/c ratio	*0.02*	*0.09*		*0.63*				
Queue length (95%)	*0.05*	*0.28*		*3.76*				
Control Delay (s/veh)	*8.1*	*9.5*		*44.1*				
LOS	*A*	*A*		*E*				
Approach delay (s/veh)	--	--	*44.1*					
Approach LOS	--	--	*E*					

Copyright © 2003 University of Florida, All Rights Reserved

Appendix E

ARCHAEOLOGICAL ASSESSMENT

DRAFT—Archaeological Assessment for Improvements to Campbell High School, Honouliuli Ahupua‘a, ‘Ewa District, Island of O‘ahu

TMK: (1) 9-1-001:002 (por.)



Prepared For:

Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

Keala Pono Archaeological Consulting, LLC ● PO Box 1645, Kaneohe, HI 96744 ● Phone 808.381.2361

DRAFT—Archaeological Assessment for Improvements to Campbell High School, Honouliuli Ahupua‘a, ‘Ewa District, Island of O‘ahu

TMK: (1) 9-1-001:002 (por.)

Prepared For:

Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813



Prepared By:

Windy McElroy, PhD
and
Dietrix Duhaylonsod, BA

June 2016



Keala Pono Archaeological Consulting, LLC ● PO Box 1645, Kaneohe, HI 96744 ● Phone 808.381.2361

MANAGEMENT SUMMARY

An archaeological inventory survey was conducted at TMK: (1) 9-1-001:002 (por.) in Honouliuli Ahupua‘a, ‘Ewa District, on the island of O‘ahu, in anticipation of improvements to Campbell High School. The archaeological work included a pedestrian survey that covered 100% of the project area, as well as test excavations consisting of six trenches. The properties have been extensively disturbed by modern use, and no archaeological remains were found on the surface. Likewise, no subsurface cultural features or deposits were encountered during trenching. Fill deposits were generally shallow, above a basal coral shelf. Archaeological monitoring is not recommended.

CONTENTS

MANAGEMENT SUMMARY i

FIGURES iv

TABLES iv

INTRODUCTION 1
- Project Location and Environment 1
- The Project 6

BACKGROUND 7
- Place Names 7
  - Hanalei 9
  - Hani-o 9
  - Kalaeloa 9
  - Kaloi 9
  - Keahumoa 9
  - Pohakea 9
  - Pukaua Plain 9
  - Puu-Kuua 10
  - Pu‘uloa 10
  - Pu‘u o Kapolei 10
  - Waimanalo 11
- ‘Ewa and Honouliuli in the Pre-Contact Era 11
  - ‘Ōlelo No‘eau 11
  - Mo‘olelo 12
  - Land Use and Coastal Resources 15
- ‘Ewa and Honouliuli in the Historic Period 16
  - Early Descriptions of the ‘Ewa Plain 16
  - Power and Warfare in Honouliuli 17
  - Māhele Land Tenure and Ownership of Honouliuli and Kalaeloa 21
  - The Military and More Recent Development 22
- Previous Archaeology 23
- Settlement Pattern 28
- Summary, Anticipated Finds, and Research Questions 28

METHODS 30

RESULTS 31
- Community Consultation 31
- Pedestrian Survey 31
- Subsurface Testing 31
- Summary of Findings 39

CONCLUSION AND RECOMMENDATIONS 40

GLOSSARY 41

REFERENCES 44

FIGURES

Figure 1. Project area on a 1999 USGS Pearl Harbor quadrangle map. 2
Figure 2. Project area on TMK: (1) 9-1-001 plat. 3
Figure 3. James Campbell High School campus map, annotated to show the project area. 4
Figure 4. Soils in the vicinity of the project area (data from Foote et al. 1972). 5
Figure 5. Place names of Honouliuli, showing the current project area in red. 7
Figure 6. Features of Kalaeloa (adopted from Tuggle and Tomonari-Tuggle 1994:11–12) 8
Figure 7. Portion of an 1873 map of Honouliuli (Alexander 1873). 18
Figure 8. Map of Honouliuli Taro Lands (Monsarrat 1878) 19
Figure 9. Portion of a 1902 map of O‘ahu (Alexander 1902). 20
Figure 10. Previous archaeological studies in the vicinity of the project area. 25
Figure 11. Excavation of TR 4 with mini excavator. Orientation is to the south. 30
Figure 12. Location of trenches on aerial imagery. The project area is outlined in red. 32
Figure 13. Wider view of trench locations (in blue) on a 1999 USGS Pearl Harbor quadrangle 33
Figure 14. TR 1 northwest face profile drawing. 34
Figure 15. TR 1 northwest face photo. 35
Figure 16. TR 2 northwest face profile drawing. 36
Figure 17. TR 2 northwest face photo. 36
Figure 18. TR 3 south face profile drawing. 36
Figure 19. TR 3 south face photo. 37
Figure 20. TR 4 southwest face profile drawing. 37
Figure 21. TR 4 southwest face photo. 37
Figure 22. TR 5 north face profile drawing. 38
Figure 23. TR 5 north face photo. 38
Figure 24. TR 6 southwest face profile drawing. 39
Figure 25. TR 6 southwest face photo. 39

TABLES

Table 1. Previous Archaeology on the ‘Ewa Plain 26
Table 2. Sediment Descriptions 34

INTRODUCTION

At the request of Group 70 International, Keala Pono Archaeological Consulting conducted an archaeological inventory survey (AIS) of TMK: (1) 9-1-001:002 (por.) in Honouliuli Ahupua‘a, ‘Ewa District, on the island of O‘ahu. The Department of Education is planning the development of new classrooms and associated infrastructure on the James Campbell High School campus.

This report meets the requirements and standards of state historic preservation law, specifically Chapter 6e of the Hawai‘i Revised Statutes, and the State Historic Preservation Division’s *Rules Governing Standards for Archaeological Inventory Surveys and Reports* (§13-276). Due to negative findings, the AIS results are presented as an archaeological assessment per HAR §13–275.

The report begins with a description of the project area and a historical overview of land use and archaeology in the area. The next section presents methods used in the fieldwork, followed by the results of the archaeological inventory survey. Project results are summarized and recommendations are made in the final section. Hawaiian words, flora and fauna, and technical terms are defined in a glossary at the end of the document.

Project Location and Environment

The project area is located at Campbell High School in Honouliuli Ahupua‘a, ‘Ewa District, on the island of O‘ahu (Figure 1). The project property is recorded as TMK (1) 9-1-001:002 (por.) and consists of 1.21 ha (2.98 ac.), of which approximately .61 ha (1.5 ac.) will be developed with five new buildings and associated parking improvements (Figure 2). This .61 ha project area currently includes the school’s agriculture garden and adjacent lawns on the northeast and southwest, as well as a paved roundabout on the southwest side.

The parcel is owned by the City and County of Honolulu and is situated at roughly 3 m (10 ft.) in elevation. Campbell High School is located at 91-980 North Road, ‘Ewa Beach, Hawai‘i. The project area is at the agriculture garden of the high school, which is bounded by Building J to the northwest, The ‘Ewa Beach Public and School Library and parking lot to the southeast, a grassy lawn to the southwest, and portable buildings to the northeast (Figure 3). The agriculture garden is enclosed completely by a chainlink fence.

Rainfall is sparse in the vicinity, averaging roughly 46–64 cm (18–25 in.) per year (Juvik and Juvik 1998). Honouliuli Stream is the only permanent watercourse in the area, thus when the ‘Ewa Plain floods, water percolates into the porous limestone and drains into sinkholes. Ponds and marshes were more plentiful across the plain in the past, as drilling of artesian wells for historic-era sugarcane cultivation has drained the water table significantly. Vegetation in the project area consists grass lawns outside the school’s agriculture garden, and agricultural plants within the garden (e.g., aloe, kalo, fruit trees).

The project area lies 570 m (.35 mi.) from the coast and topography is generally flat, with an upraised coral limestone ground surface. Generally, soils in the area are of the Lualualei-Fill land-Ewa Association, described by Foote et al. (1972) as follows:

> Deep, nearly level to moderately sloping, well-drained soils that have a fine-textured or moderately fine-textured subsoil or underlying material, and areas of fill land; on coastal plains.

Specifically, soils within the project area consist entirely of coral outcrop (CR) (Figure 4). In pre-Contact times, the coral outcrop was likely more exposed, with the openings of pit caves (also known as sinkholes) on the surface.

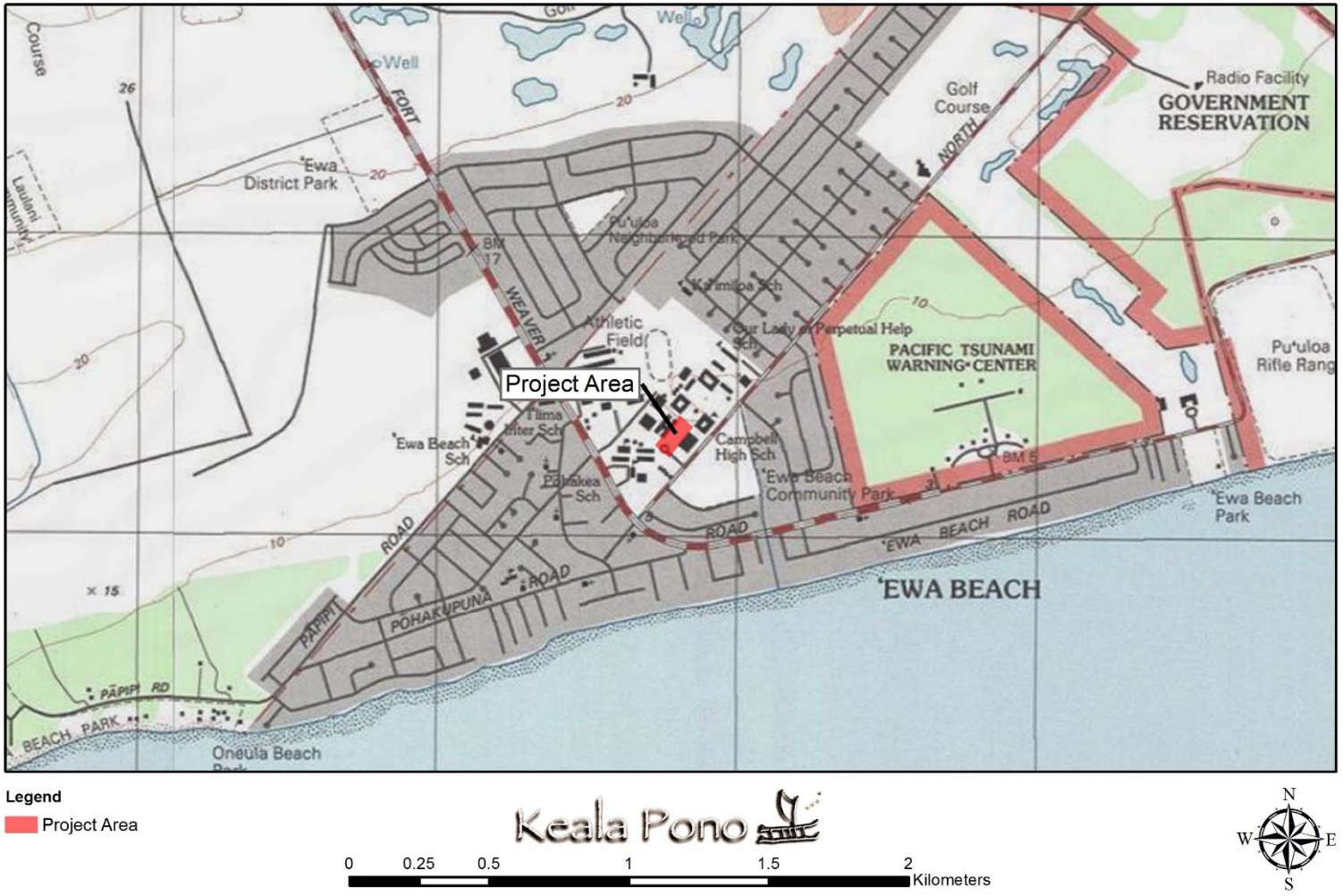


Figure 1. Project area on a 1999 USGS Pearl Harbor quadrangle map.

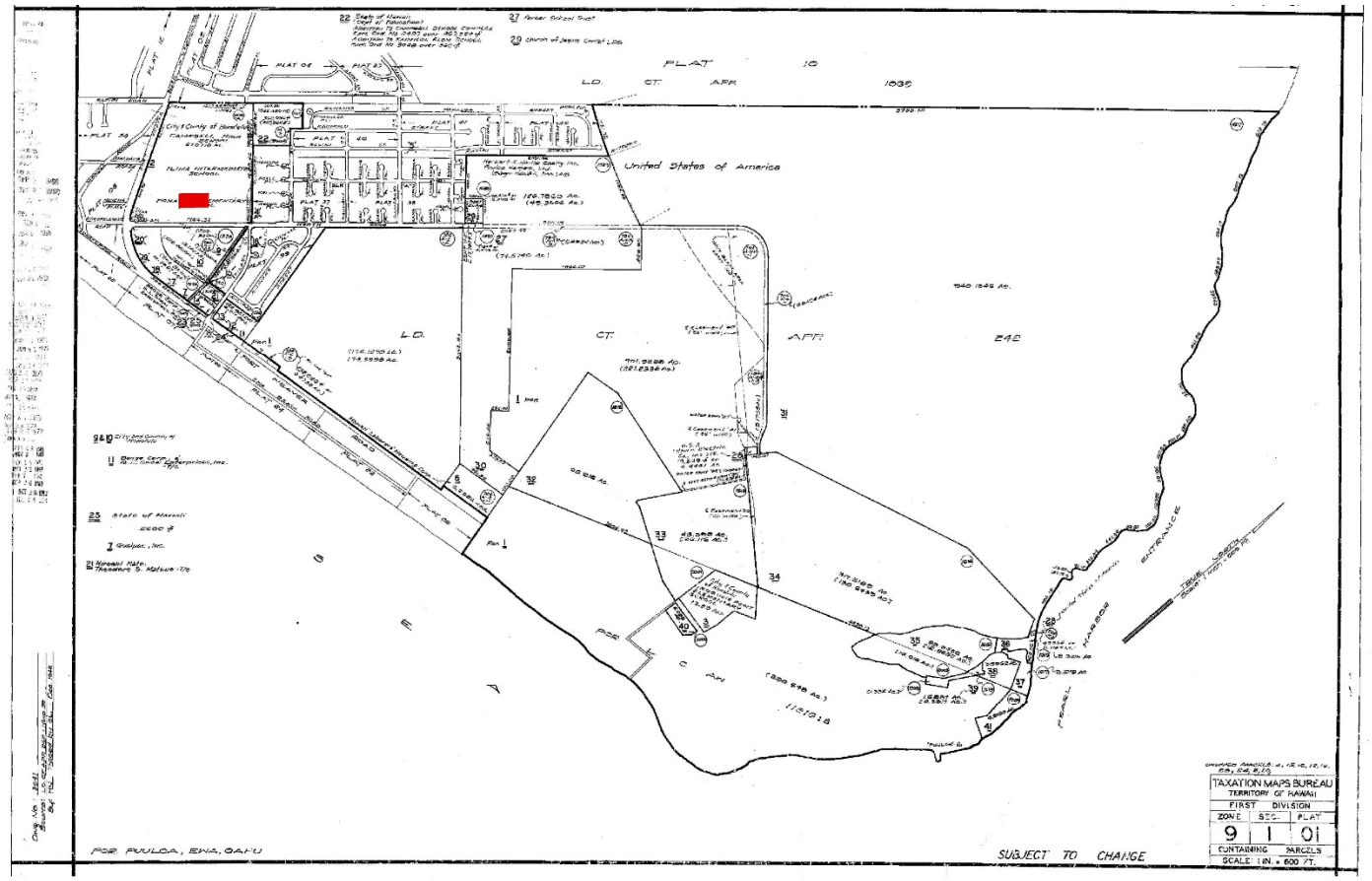


Figure 2. Project area on TMK: (1) 9-1-001 plat.

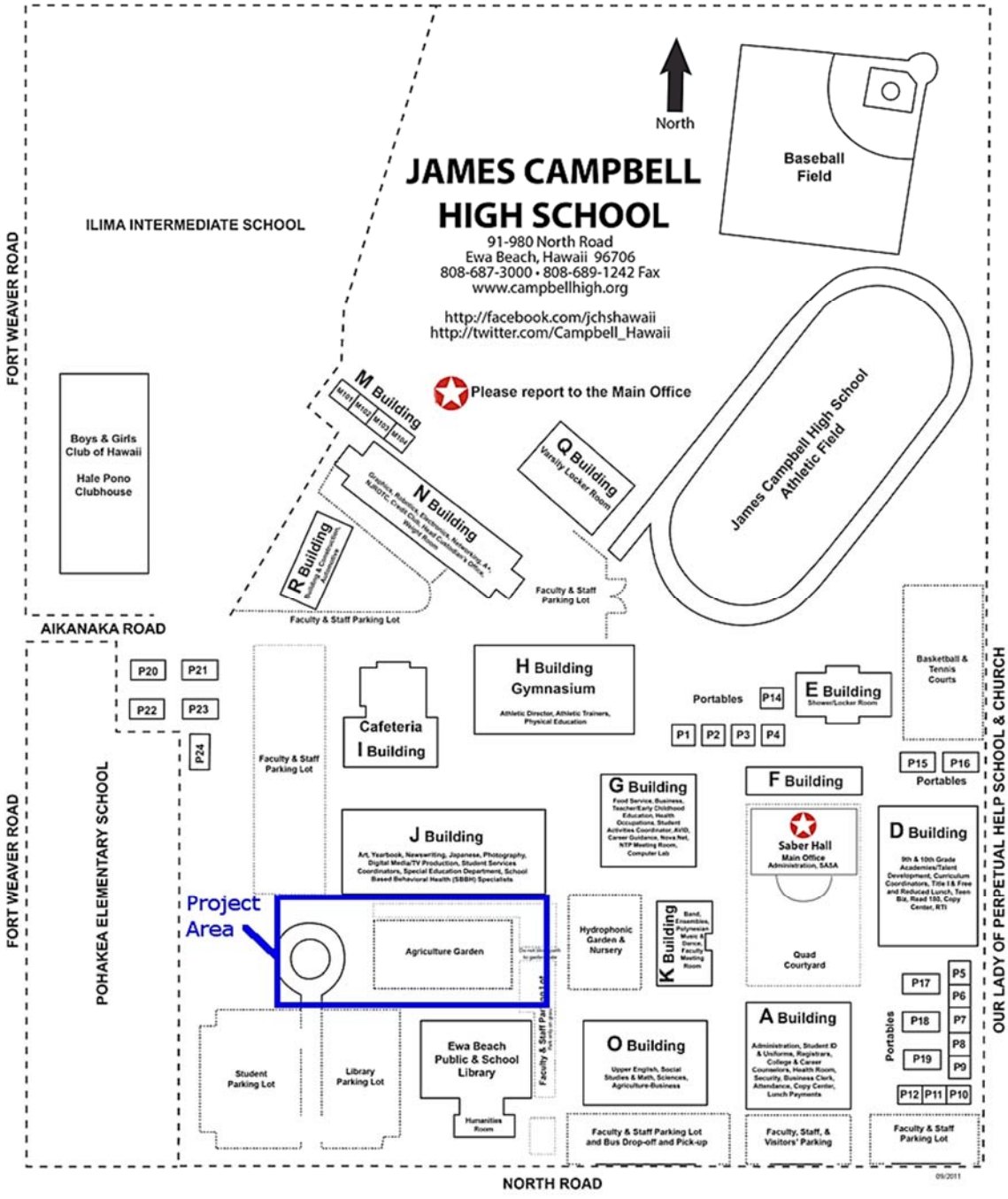


Figure 3. James Campbell High School campus map, annotated to show the project area (2012 base map from campbellhigh.org).

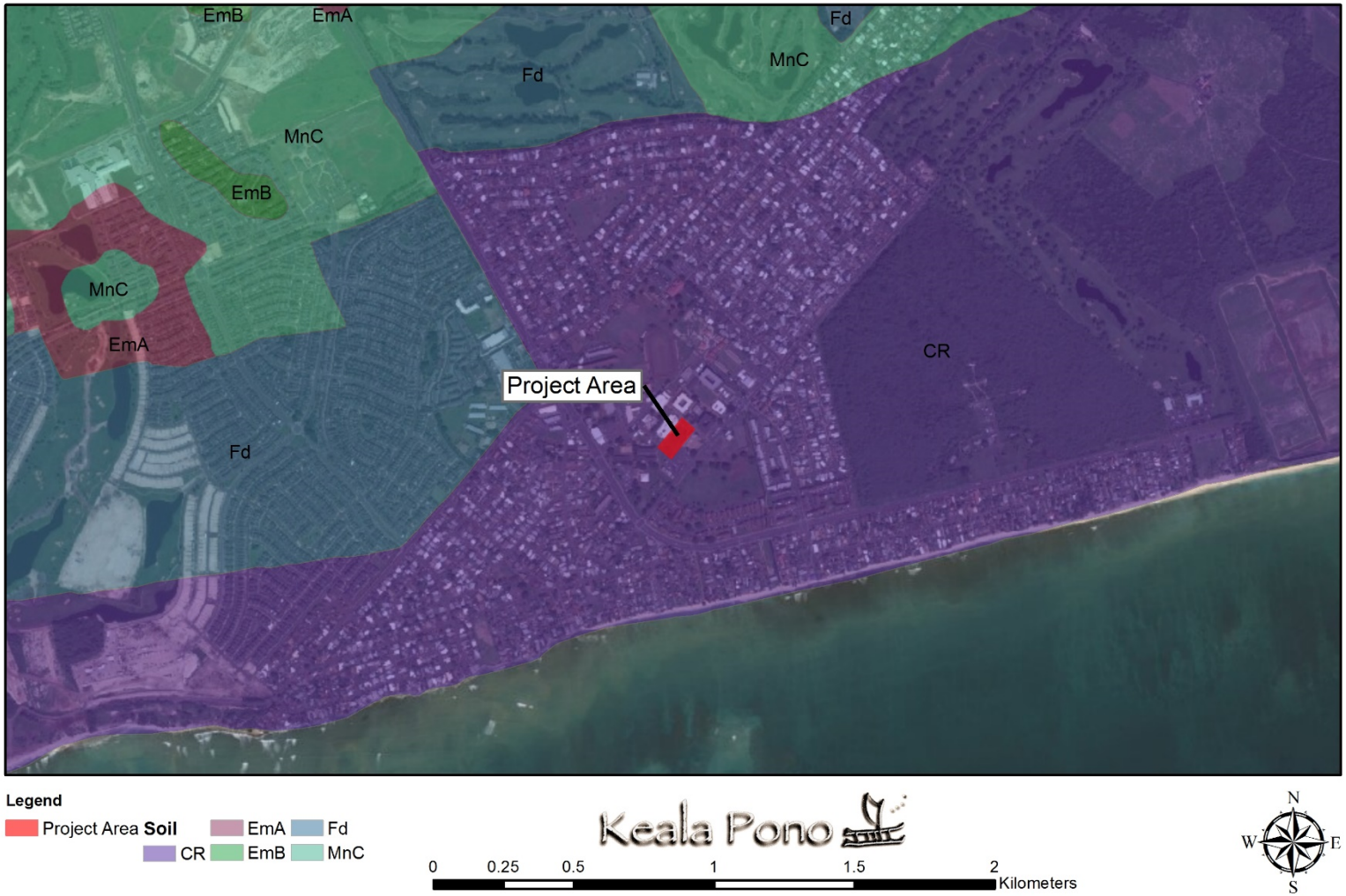


Figure 4. Soils in the vicinity of the project area (data from Foote et al. 1972).

The Project

The Department of Education is constructing five new classroom buildings connected by walkways and providing parking improvements to accommodate the space needs of James Campbell High School's large student body. The new 58,000 square foot classroom building complex will include 20 classrooms, five science labs, a culinary arts lab, a Hawaiian Studies classroom, two faculty centers, and support spaces. The project will repave the existing turnaround to provide additional tandem parking and a three-bus loading area. The driveway will also be extended to improve connectivity between parking lots. The new classroom buildings will meet the guidelines for Hawai'i Collaborative for High Performance Schools (HI-CHPS) for designing energy efficient, healthy, sustainable schools, and will have infrastructure suitable for photovoltaic installations.

BACKGROUND

This section of the report presents background information as a means to provide a context through which one can examine the cultural and historical significance of the ʻEwa Plain and the ahupuaʻa of Honouliuli. In the attempt to record and preserve both the tangible (i.e., traditional and historic archaeological sites) and intangible (i.e., moʻolelo, mele, place names) culture, this research assists in the discussion of anticipated finds. Research was conducted at the Hawaii State Archives, Hawaiʻi State Library, the State Historic Preservation Division, as well as online at databases such as the Hawaiʻi Department of General Accounting map database, Ulukau, and Waihona ʻAina. Historical maps, archaeological reports, and historical reference books were among the materials examined.

Place Names

Within various accounts, place names can contain significant information which further reveal traditional beliefs and practices associated with an area. Maps of traditional places and features can be found in Figures 5 and 6. Note that the project area in Figure 6 is off the map to the east. The following places are in the Honouliuli region:

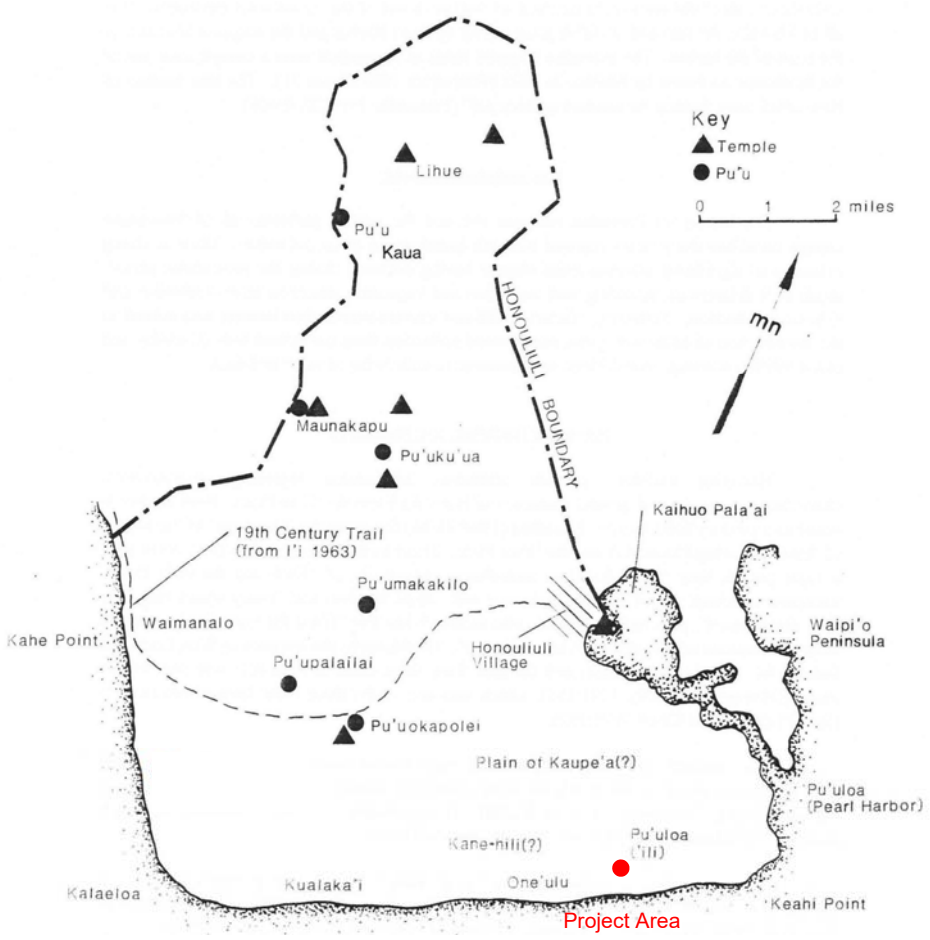


Figure 5. Place names of Honouliuli, showing the current project area in red (adopted from Tuggle 1995:10).

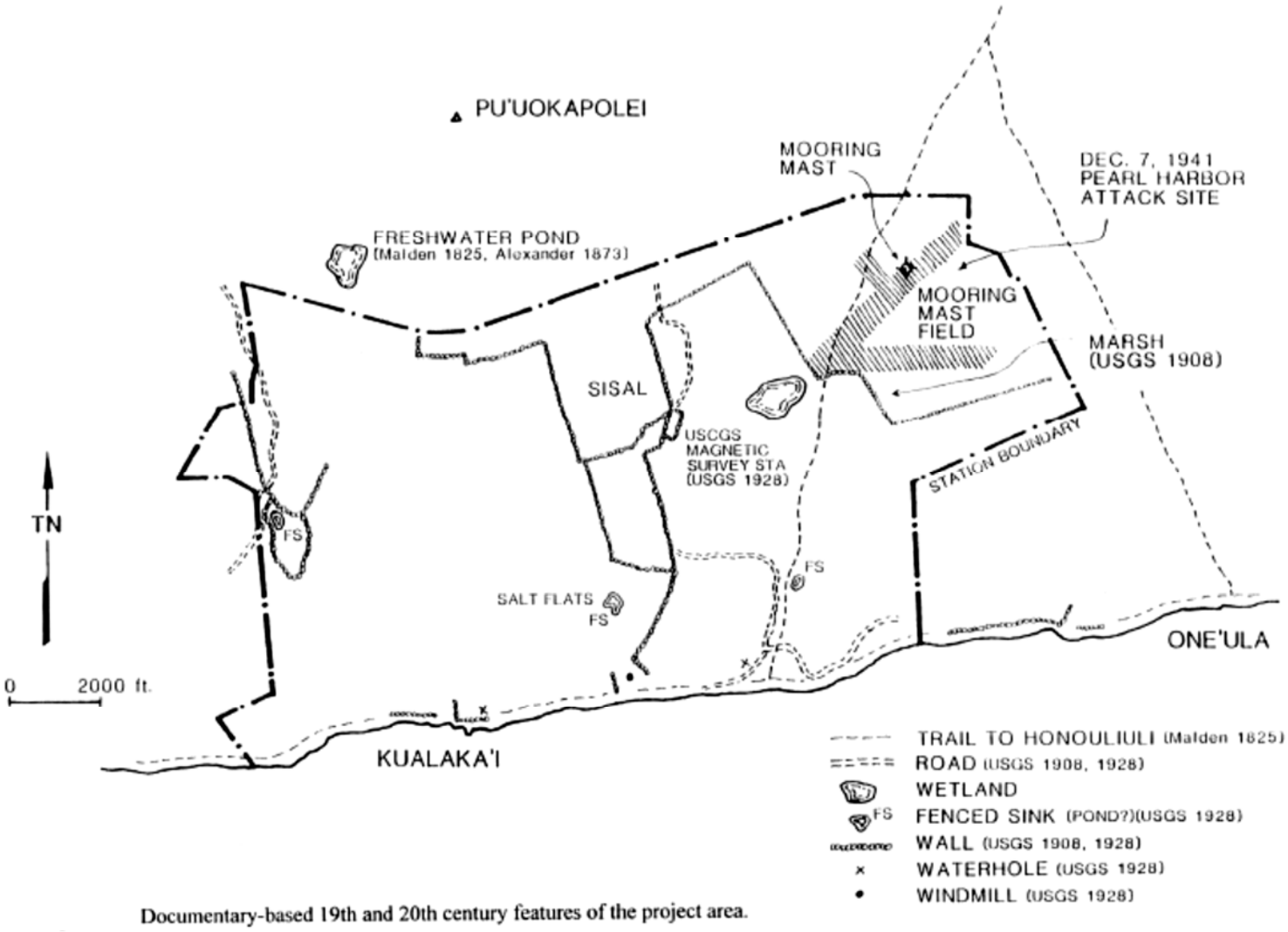


Figure 6. Features of Kalaeloa (adopted from Tuggle and Tomonari-Tuggle 1994:11–12). The project area is off the map to the east.

Hanalei

> Hanalei, a small flat land with a little gulch on either side on the right of Puuloa mauka of Puu-o-Kapolei. Formerly there was much milo, neneleau, kamani and other trees on the land, home of the iiwi and oo birds (lono, Honomu). (T. Kelsey Collection, HEN: Vol. I, p. 820 in Sterling and Summers 1978:34)

Hani-o

"The fishing ground outside Kalaeloa is named Hani-o…" (Beckwith 1970:23)

Kalaeloa

Literally meaning "the long point," this area later became known as Barbers Point after Captain Henry Barber ran aground at the point in 1796 (Pukui et al. 1974).

Kaloi

> ….Harry's first thought when riding over the country was where to find water, and during the years 1890-91-92 much was done in the way of new troughs, getting water from plantations of flumes, and digging out wet places that showed any prospects of water. One of those places is on the old trail to Palehua, and had evidently been a place of which the Hawaiians had known, for its name is Kaloi (the taro patch), and even in dry weather water would be standing in the holes made by the cattle, as they tried to get a drop or two. …When water was finally led down the rocky hillside to the trough at Kaloi, Mr. William R. Castle, who was with Harry, rechristened the spring "Wai o Kakela," Kakela being Mr. Castle's Hawaiian name. But the old name still stuck to it, and as Kaloi it is known to this day. (Knudsen von Holt 1953:116 in Sterling and Summers 1978:35)

Keahumoa

"…Was the plain before reaching the Kipapa gulch" (Fornander 1918, vol. IV:274) (see Battle of Keahumoa Plain).

Pohakea

A place where Lohiau and Hiiaka rested on their journey to meet Pele, between 'Ewa and Wai'anae (Fornander 1918:188).

> …The travelers only stopped one night and spent the following night on the other side of Pohakea. The elders and children who went with them slept above Kunia on this side of Pohakea… (I'i 1959:23)

Pukaua Plain

> The Two Old Women Who Turned to Stone
>
> If a traveller [sic] should go by the government road to Waianae, after leaving the village of gold, Honouliuli, he will first come to the plain of Puu-ainako and when that is passed, Ke-one-ae. Then there is a straight climb up to Puu-o-Kapolei and there look seaward from that government road to a small hill. That is Puu-o-Kapolei. It is this hill that hides Ewa from view. When you go to that side of Waimanalo, you see no more of the sight back here. You go down some small inclines, then to a plain. This plain is Pukaua and on the

> mauka side of the road, you will see a large rock standing on the plain. This stone has a legend that made this plain noted…. (*Ka Loea Kalaiaina* 1900 in Sterling and Summers 1978:39)

Puu-Kuua

> Here are some pointers for the traveler to Ewa. If you are going by train, look up toward the Ewa mill. If you are above Puuloa, you will see Puu-o-Kapolei, a small hill. Lying below and back of that hill is the government road going to Waianae. Above that is also a small hill and back of that, is a big hill and above it is a large hollow. That is Puu-Kuua where the very dirty ones lived. (*Ka Loea Kalaiaina* 1899 in Sterling and Summers 1978:32)

> …A place where the chiefs lived. Was said to be a battlefield. There were two important things concerning this place. (1) This place is entirely deserted and left uninhabited and it seems that this happened before the coming of righteousness to Hawaii Nei. Not an inhabitant is left. (2) The descendants of the people of this place were so mixed that they were all of one class. Here the gods became tired of working and returned to Kahiki. (*Ka Loea Kalaiaina*, July 8, 1899 in Sterling and Summers 1978:32–33)

Puʻuloa

Literally translates to "long hill," this area is now known as Pearl Harbor (Pukui et al. 1974).

Puʻu o Kapolei

Located to the north of the current project area, "it is here that Kamauluaniho (Kamaunuaniho) lived with her grandson, Kekeleaiku, the older brother of Kamapuaʻa after they left Kaliuwaa in Kaluanui, Koolau-loa" (*Ka Loea Kalaiaina* 1900 in Sterling and Summers 1978:32–33).

After Kamapuaʻa conquered most of Oʻahu, he installed his grandmother, Kamaunuaniho as queen, taking her to Puʻu o Kapolei. It was noted as a desolate spot, being "almost equally distant from the sea, from which came the fish supplies; from the taro and potato patches of Ewa, and from the mountain ravines containing the banana and sugar cane plantations." It was believed that the foundations of Kamaunuaniho's house, as well as her grave, were still present before the turn of the 20th century. However, with the expansion of sisal and cane activities at the base of Puʻu o Kapolei, stones may have been removed for making walls (Nakuina 1904:50 in Sterling and Summers 1978:34).

Puʻu o Kapolei is also noted as an important landmark which marked the season of Hoʻoilo:

> …the people of Oahu reckoned from the time when the sun set over Puʻuokapolei until it set in the hollow of Mahinaona and called this period Kau, and when it moved south again from Puʻuokapolei and it grew cold and the time came when young sprouts started, the season was called for their germination (oilo) the season of Hoʻoilo. (Kamakau n.d.:23 in Sterling and Summers 1978:34)

A legendary fisherman, Nihooleki, lived at Kuukuua on Puʻu o Kapolei under the name of Keaha-ikiaholeha. Born at Keauhou in Kona, he became a ruling chief of Waiʻanae. Wielding his famous aku-attracting pearl fishhook named Pahuhu, Keaha-ikiaholeha traveled to Kauaʻi, the birthplace of his high chiefess wife, and became ruling chief. When he died, his body was brought back to Waiʻanae and prayed back to life by his parents. Among his later exploits, Nihooleki returns to Waiʻanae and "enters his tomb" and dies (Beckwith 1970:420).

Waimanalo

> Koolina is in Waimanalo near the boundary of Ewa and Waianae. This was a vacationing place for chief Kakuhihewa and the priest Napuaikamao was the caretaker of the place. Remember Reader, this Koolina is not situated in the Waimanalo on the Koolau side of the island but the Waimanalo in Ewa. It is a lovely and delightful place and the chief, Kakuhihewa loved this home of his. (*Ke Au Hou* 1910 in Sterling and Summers 1978:41)

ʻEwa and Honouliuli in the Pre-Contact Era

The project area is located in the ʻEwa District, the largest land district on Oʻahu, situated on the southern shore of the island. The name "'Ewa" means "to crook, to twist, to bend" (Andrews 1865). This name may refer to the moʻolelo within which Kāne and Kanaloa threw stones to determine the boundaries of the district (see Moʻolelo section) (Sterling and Summers 1978). The current area of study is located within the ahupuaʻa of Honouliuli, the largest of ʻEwa's ahupuaʻa. Translated, Honouliuli means "dark bay" (Pukui et al. 1974), likely referring to the deep waters of what is now called West Loch of Pearl Harbor, located on the eastern perimeter of Honouliuli Ahupuaʻa.

Within the moʻolelo of Kūapākaʻa and Pākaʻa and the wind gourd of Laʻamaomao, the winds of Oʻahu are recited by Kūapākaʻa:

> …Moaʻe-ku is of Ewaloa,
> Kēhau is of Waiopua,
> Waikōloa is of Līhuʻe,
> Kona is of Puʻuokapolei,
> Māunuunu is of Puʻuloa… (Nakuina 1990:43)

> …He Moae-ku ko Ewaloa,
> He Kehau ko Waiopua,
> He Waikoloa ko Lihue,
> He Kona ko Puuokapolei,
> He Maunuunu ko Puuloa… (Nakuina 1902:57)

This Moaʻe wind is also mentioned in the ʻōlelo noʻeau, "Haunāele ʻEwa i ka Moaʻe" which is translated as "'Ewa is disturbed by the Moaʻe wind" (Pukui 1983:59). According to Pukui, this phrase was used when discussing something disturbing, such as a violent argument. It is said that the people of ʻEwa gathered pipi, or pearl oyster, in silence due to the belief that if they spoke, a Moaʻe breeze would blow, rippling the water and making the oysters "disappear" (Pukui 1983).

ʻŌlelo Noʻeau

ʻŌlelo noʻeau referring to the ʻEwa Plain are numerous while only one ʻōlelo noʻeau was found referring to Honouliuli and one for Puʻuloa. The following Hawaiian proverbs and poetical sayings provide further insight to traditional beliefs and practices of these lands.

> Ka iʻa hali a ka makani.
> *The fish fetched by the wind.*
> The *ʻanaeholo*, a fish that travels from Honouliuli, where it breeds, to Kaipāpaʻu on the windward side of Oʻahu. It then turns about and returns to its original home. It is driven closer to shore when the wind is strong. (Pukui 1983:145)

> Kālele ka uwahi o Puʻuloa
> The smoke of Puʻuloa leans over.
> Said in amusement of one who leans over, intent on his work. (Pukui 1983:156)

Moʻolelo

The boundaries of ʻEwa have been linked to the story of the gods Kāne and Kanaloa who, while surveying the islands, reached Red Hill and saw the expanse of what is the ʻEwa Plain. To mark the boundaries of the area, they would throw a stone, and the boundary would be placed where the stone landed. Seeing the beautiful land below them, they thought to include as much as possible, throwing the stone as far as the Waiʻanae Mountain Range in the area known as Waimānalo. While in search of their flung stone, Kāne and Kanaloa were unable to find where it had landed. Because of this, the area was named "ʻEwa" due to the "straying" of the stone. Eventually, the stone was found on a hill and was named Pili o Kahe. This place marks the boundary between the ʻEwa and Waiʻanae Districts, Honouliuli Ahupuaʻa within ʻEwa, and Nānākuli in Waiʻanae (Nawaʻa in Sterling and Summers 1978:1).

The cultural richness of ʻEwa Moku is seen with the important moʻolelo of the origin of the ʻulu, or breadfruit in Hawaiʻi. Noted as one of the two places in Hawaiʻi where the ʻulu "is to be found," the other being Kaʻawaloa in Kona on the island of Hawaiʻi (W.S. Lokai in Fornander 1918–1919:676–677). The breadfruit of Puʻuloa came from a mythical land in Kahiki, named Kanehunamoku. It was brought by two men of Puʻuloa who were out fishing and, caught in a rainstorm, landed on an island only inhabited by the gods who then introduced the two men to the fruit of the ʻulu tree.

According to Beckwith, near Puʻuloa, at ʻEwa Beach, the first humans, or olohe, landed on Oʻahu. At this place, caves of the olohe (ka lua olohe) are to be seen. Represented in legends as "professional robbers" with tendencies towards cannibalism, the olohe, or Haʻa people, were highly skilled in the art of lua which includes wrestling and bone-breaking (Beckwith 1970:343).

In the epic tale of Hiʻiakaikapoliopele, the sister of Pele, traversed the ʻEwa Plain as she returned back to Pele's domain of Kīlauea, Hawaiʻi, from Hāʻena, Kauaʻi where she was to fetch Pele's lover, Lohiʻau-ipo (Lohiʻau). The full story was printed in the Hawaiian-language newspaper, *Ka Hōkū o Hawaiʻi* from September 18, 1924 to July 17, 1928. An excellent summary of this story can be found within Appendix G of Beardsley (2001) which was written by Kepā Maly. An excerpt pertaining to the ʻEwa Plain and Honouliuli is included below (translations by Kepā Maly).

...Aloha ka hau o Kaʻala
ʻOia hau halihali ʻaʻala mauʻu nēnē
Honi ai ke kupa o Puʻuloa
He loa ka imina e ke aloha e...

Beloved is the dew of Kaʻala
That dew which bears the fragrance of the *nēnē* grasses
[fragrant dew which] Kissed the natives of Puʻuloa
One searches far for love…
(*Ka Hōkū o Hawaiʻi,* January 18, 1927 in Beardsley 2001:G-1)

As Lohiʻau and Wahineʻōmaʻo traveled by boat from Pōkaʻi (Waiʻanae) to Kou (Honolulu), Hiʻiaka traveled over land and traversed the plain of Honouliuli, encountering women on their way to gather pāpaʻi (crabs), limu (seaweeds), mahamoe, and ʻōkupe (both edible bivalves). At the plain of Keahumoa (between Waipiʻo and Honouliuli), Hiʻiaka came across a group of women gathering maʻo blossoms (*Gossypium tomentosum,* an endemic yellow-flowered hibiscus typically found on dryland plains) with which they would make lei. Hiʻiaka offered them the following oli:

E lei ana ke kula o Keahumoa i ka maʻo
ʻOhuʻohu wale nā wahine kui lei o ke kanahele
Ua like no a like me ka lehua o Hōpoe
Me he pua koili lehua ala i ka lā

Ka oni pua koai‘a i ka pali
I nā kaupoku hale o ‘Āpuku
Ke ku no I ke alo o ka pali o Pu‘uku‘ua
He ali‘i no na‘e ka ‘āina
He kauwā no na‘e ke kanaka
I kauwā no na‘e wau i ke aloha
Na ke aloha no na‘e i kono e haele no māua
E hele no wau a—

The plain of Keahumoa wears the ma‘o blossoms as its lei
Adorning the women who string garlands in the wild
It is like the lehua blossoms of Hōpoe
Lehua blossom upon which the sun beats down
On the nodding koai‘a flowers of the cliff
On the rooftops of the houses at ‘Āpuku
Rising in the presence of the cliff of Pu‘uku‘ua
The land is indeed the chief
Man is indeed a slave
I am indeed a slave to aloha – love
It is love which invites us two – come
I come-
(*Ka Hōkū o Hawai‘i,* February, 1927 in Beardsley 2001:G-3)
[Place names ‘Āpuku and Pu‘u Ku‘ua are both areas located in the uplands of Honouliuli]

The mo‘olelo of Kahalaopuna also takes place in ‘Ewa (Fornander 1918, Vol. V:188–192). Kahalaopuna was a young woman who was from Mānoa. Betrothed to marry Kauhi, a man from Ko‘olau, he sent her numerous gifts before they were to be married. He soon became very angry when he heard rumors that Kahalaopuna had been unfaithful to him. Kauhi took Kahalaopuna to ‘Ewa, leading her through the back valley and trails to a place known as Pōhākea and a large lehua tree, where he took her life, even though she begged of her innocence. After burying her body under leaves of the lehua tree, Kauhi returned home. Meanwhile, Kahalaopuna’s spirit had flown into the tree, and was able to chant to passers-by to tell her parents of her death and of her location. After she was brought back to life by her parents, Kauhi returned to Kahalaopuna, asking for forgiveness, however, she would not listen to him.

The mo‘olelo of Namakaokapao‘o, is about a boy with that name, who has extraordinary strength for a young man his age. His father was Kauluakahai, a great chief with a “godly relationship” who hailed from a great land in Kahiki. Namakaokapao‘o’s mother was Pōka‘i. The couple met in ‘Ewa, in a place called Hō‘ae‘ae. Shortly after Namakaokapao‘o was conceived, Kauluakahai returned to his own land. Pōka‘i then met a man named Puali‘i who was from Līhu‘e [Wahiawā, O‘ahu] and was fishing at Honouliuli. The couple resided at the plains of Keahumoa where Puali‘i had two large potato patches. One day, while Puali‘i was gone, Namakaokapao‘o pulled up Puali‘i’s potato plants. Upon his return, Puali‘i attempted to kill Namakaokapao‘o with his axe, but ended up cutting off his own head. Namakaokapao‘o flung the head towards Waipouli, a cave located on the beach at Honouliuli (Fornander 1918, Vol. 5:275, 276).

In the mo‘olelo of Kawelo, the king, ‘Aikanaka is offended by Kawelo and sends him to live at Waikīkī. While at Waikīkī, Kawelo studied the art of lua in order to get his revenge on ‘Aikanaka. Kawelo’s teacher was a fish kupua, or demi-god, Uhu maika‘ika‘i, who lived at Pōhaku o Kawai, near Kalaeloa (Hawaiian Ethnological Notes, Vol. II:114 in Sterling and Summers 1978:41).

The ‘Ewa Plain was known to be a very fruitful place, with abundant resources in the ocean and on land. Protecting such a place was the kia‘i, or caretaker of ‘Ewa, named Kanekua‘ana (Kamakau

1991:83). Relied on by the ʻEwa kamaʻāina, during times of scarcity of fish, her descendants built Waihau Heiau and lit fires for the cooking of offerings with the hope of blessings. According to Kamakau (1991), blessings were in the form of the various types of seafood:

> The *pipi* (pearl oyster)—strung along from Namakaohalawa to the cliffs of Honouliuli, from the *kuapa* fishponds of inland ʻEwa clear out to Kapakule. That was the oyster that came in from the deep water to the mussel beds near shore, from the channel entrance of Puʻuloa to the rocks along the edges of the fishponds. They grew right on the *nahawele* mussels, and thus was this *iʻa* obtained. Not six months after the *hau* branches [that placed a kapu on these waters until the *pipi* should come in] were set up, the *pipi* were found in abundance—enough for all ʻEwa—and fat with flesh. Within the oyster was a jewel (*daimana*) called a pearl (*momi*), beautiful as the eyeball of a fish, white and shining; white as cuttlefish, and shining with the colors of the rainbow—reds and yellows and blues, and some pinkish white, ranging in size from small to large. They were of great bargaining value (*he waiwai kumukuʻai nui*) in the ancient days, but were just "rubbish" (*ʻopala*) in ʻEwa. (Kamakau 1991:83)

Other seafood described by Kamakau include the transparent shrimp (ʻōpae huna) and spiked shrimp (ʻōpae kakala) which came into the kuapa and puʻuone fishponds, the nehu pala and nehu maoli fish which filled the nuku awalau (lochs), as well as the bivalves mahamoe and ʻokupe and other types which have disappeared long ago (Kamakau 1991:84).

ʻEwa's abundance could also be attributed to the blessings it received from the gods Kāne and Kanaloa:

> …There are many other legends of ʻEwa which Mrs. Pukui has collected from old-timers or translated from old newspaper stories. …According to another legend it was here in ʻEwa that Kane and Kanaloa were invoked by a planter of sweet potatoes, taros, and *ʻawa* named Maihea. This man, living in the upland of Waiʻawa, when he had prepared his meal and his *ʻawa*, would pray:

O unknown gods of mine,
Here are *ʻawa*, taro greens and sweet potatoes
Raised by me, Maihea, the great farmer.
Grant health to me, to my wife and to my son.
Grant us *mana*, knowledge and skill.
Amama. It is freed.

> Kane and Kanaloa sent ashore at Waimalu a great whale. It lay there many days. Children climbed on it. Maihea's son did likewise. One day the whale moved into the water. The other children jumped off, but Maihea's son remained on the whale's back. It swam out to sea, and on to Kahiki. There ʻUla-a-Maihea, the farmer's son, "was trained in priestly lore and all of its arts through the instructions of these gods, Kane and Kanaloa." One day two strangers appeared at his door as Maihea was about to pray to his unknown gods. He poured *ʻawa* into three cups and said, "Let me pray to my unknown gods." Then the two strangers revealed that they were his "unknown gods," Kane and Kanaloa, and instructed him to call upon them by name. "This was the beginning of the travels of these gods on earth…." The gods went up the hill named Haupuʻu and gazed down upon the fishponds and plantations and coconut groves of ʻEwa and blessed them.
>
> There was a fisherman at Puʻuloa named Hanakahi, who, like Maihea, prayed to "unknown gods." Kane and Kanaloa visited him also, revealed their identity, and taught him to pray properly. They went on to Ke-ana-puaʻa, and built a fishpond which "is there to this day." They made another at Kepoʻokala, and then another opposite this. Then they returned to Hanakahi's house and told them that these ponds were made for him and his descendants.

> Thus they blessed the beautiful land of ʻEwa" (*Ka Loea Kalaiʻaina*, June 10, 1899 in Handy and Handy 1991:472, 473).

The land of Honouliluli was known for its ʻamaʻama, or mullet fish. The following moʻolelo describes how the route of the ʻamaʻama, which travel from Honouliuli to Lāʻie, came to be.

> Kaihuopalaʻai (a place) was famous from olden times down to the time when the foreigner ruled Honouliuli, after which time the famous old name was no longer used. It is said that in those days the *ʻamaʻama* heard and understood speech, for it was a fish born of a human being, a supernatural fish. These were the keepers of this fish. Kaulu, the husband, and Apokaʻa, the wife, who bore the children, Laniloa, the son, and Awawalei, the daughter. These two children were born with two other supernatural children, an eel and a young *ʻamaʻama.* From this *ʻamaʻama* child came all the *ʻamaʻama* of Kaihuopalaʻai, and thus did it gain renown for its *ʻamaʻama*. Laniloa went to Laʻie, in Koʻolauloa, and there he married. His sister remained in Honouliuli and married Mokueo, and to them were born the people who owned the *ʻamaʻama,* including the late Mauliʻawa and others. These were fishermen who knew the art of making the fish multiply and make them come up to the sand.
>
> While Laniloa lived in Laʻie he heard of the great schools of *ʻamaʻama* at Honouliuli. There were no *ʻamaʻama,* large or small, where he lived. He thought of his younger sister, the *ʻamaʻama,* and guessed that was the reason the place was growing so famous. He said to his wife, "I shall ask my sister to send us some fish for I have a longing for *ʻamaʻama* …" Laniloa left Laʻie to go to Ewa. He reached the house and found his parents and sister. His parents were quite old for he had been away a long time. He said, "I have come to my *ʻamaʻama* sister for a bit of fish as there is none where I live except for some *au moana* (sea-faring) crabs." After three days and nights he left Ewa. The fish were divided into two groups, those that were going and those that were staying. As Laniloaʻs sister went along the shore she went in her human form. The fish came from, that is, left Honouliuli without being seen on the surface. They went deep under water until they passed Kaʻaʻaliʻi, then they rose to the surface. They reached Waikiki. They went on. The sister slept at Nuʻupia while the fish stopped outside of Na Moku Manu. Finally she reached Laʻie, and to this day this is the route taken by the *ʻamaʻama.* (Mokumaia 1922 and *Ka Loea Kalaiaina* 1899 in Titcomb 1972:65)

Land Use and Coastal Resources

What truly sets the ʻEwa area apart is its expansive coastal plain which is surrounded by the deep bays of West Loch and Pearl Harbor. Offering a favorable environment for the construction of loko iʻa, fishponds, and fish traps, residents of this area had the opportunity to catch deep-sea fish such as akule, which entered the bays during the incoming tide. These ponds were the summer home of the ʻamaʻama, or mullet. Another important resource of the coastal area was the diverse variety of shellfish found in the harbor. The Hawaiian pearl oyster, pipi, was eaten raw and was prized for its shell that was used to make fishhooks. Other shellfish of the area included papaua, ʻowaʻowaka, nahawele, kupekala, and mahamoe (Lahilahi Webb in Handy and Handy 1991:471).

The wide lowlands, bisected by streams, created a land that easily facilitated the cultivation of loʻi kalo, irrigated taro patches. ʻEwa's natural landscape and sprawling plain, and gently sloping valley walls, created environments ideal for crops such as maiʻa and uhi. Inland, ʻEwa was noted for the cultivation of ʻawa, as well as its mamaki, wauke, and olonā. This extensive upland area, also known as wao, gave inhabitants an advantage during times of famine as a place where they could forage for food during droughts (Handy and Handy 1991:469). The upland areas of ʻEwa were also home to unique avifauna and birds which were prized for their colorful feathers that were used in helmets, capes, and lei.

‘Ewa and Honouliuli in the Historic Period

Descriptions and maps from early visitors to Hawai‘i help to paint a picture of what Honouliuli was like in the 18th to 20th centuries.

Early Descriptions of the ‘Ewa Plain

Anchored off the entrance to West Loch in 1793, Captain George Vancouver described the ‘Ewa landscape:

> The part of the island opposite to us was low, or rather only moderately elevated, forming a level country between the mountains that compose the east [Koolau] and west [Waianae] ends of the island. This tract of land was of some extent, but did not seem to be populous, nor to possess any great degree of natural fertility; although we were told that, at a little distance from the sea, the soil is rich, and all the necessaries of life are abundantly produced. …Mr. Whitbey obsesrved [sic], that the soil in the neighborhood of the harbor appeared of a loose sandy nature; the country low for some distance, and, from the number of houses within the harbour, it should seem to be very populous; but the very few inhabitants who made their appearance were an indication of the contrary. (Vancouver 1801, vol. 3:361, 363)

Campbell’s 1819 account includes a description of his way through ‘Ewa:

> We passed by foot-paths winding through an extensive and fertile plain, the whole of which is the highest state of cultivation. Every stream was carefully embanked, to supply water for the taro beds. Where there was no water, the land was under crops of yams and sweet potatoes. The roads and numerous houses are shaded by cocoa-nut trees, and the sides of the mountains covered with wood to a great height. We halted two or three times, and were treated by the natives with the utmost hospitality.” (Campbell 1819:145)

G.F. Mathison, visiting the “Sandwich Islands” in 1821–1822, noted the abundance of resources of the ‘Ewa Plain:

> The adjoining low country is overflowed both naturally and by artificial means, and is well stocked with tarrow-plantations, bananas, etc. The land belongs to many different proprietors; and on every estate there is a fishpond surrounded by a stone wall, where the fish are strictly preserved for the use of their rightful owners, or tabooed, as the natives express it. One of particular dimensions belongs to the King. (Mathison 1825 in McAllister 1933:109)

During a visit to Hawai‘i in 1825, James Macrae offered the following remarks about Pu‘uloa and the surrounding area:

> The neighborhood of the Pearl River is very extensive, rising backwards with a gentle slope towards the woods, but is without cultivation, except round the outskirts to about half a mile from the water. The country is divided into separate farms or allotments belonging to the chiefs, and enclosed with walls from four to six feet high, made of a mixture of mud and stone. (Macrae 1922 in McAllister 1933:31)

Captain Jacobus Boelen’s 1828 narrative of Pu‘uloa discusses traveling to ‘Ewa from Honolulu and the shallow reefs which shelter the bay. He notes the highly fertile soils which are heavily cultivated in kalo and sugarcane:

> On 26 February, in the company of some good friends and acquaintances, we made an excursion to what the Indians called the harbor of Oporooa [Pu‘uloa], which I believe means approximately “Pearl River”—at least that is what the foreigners call this bay. This is because the Indians sometimes find pearls there, which they offer for sale in Honoruru. We departed from Honoruru at ten o’clock in the morning in two boats, sailed out of the harbor to sea, and rowed a distance of about three quarters or one league toward the west along the coral reef that encircles the whole south coast of Woahoo. We passed over the bar of Oporooa harbor. The bar is no more than ten feet deep at low tide, from which one can conclude that in a rough sea high waves will break against it. Even at high tide the passing of this bar can be very dangerous unless the sea is calm. Therefore, on the advice of our pilot, a native of the island, we remained for a time outside the bar and then rowed hard across it.
>
> We found ourselves in a rectangular bay, or rather a lake with several arms, consisting of several deep bights. Two of the most important of these stretched to the northeast, while the one to the northwest cut the farthest….The soil in this region seemed at first sight to be exceptionally fertile, and the land consisted of meadows and *taro* and sugar [cane] fields….
>
> We rowed to the end of the harbor of Opooroa, or the so-called Pearl River, and landed with the boats near a small Indian village with the name of Mannonco….In the meantime, we strolled through the surrounding land, which everywhere was very fertile, with cultivated fields of *tarro*, maize, and also sugar cane (Boelen 1988:64–65).

In an 1873 map, a salt works and “watering place,” and stone wall are located to the east of the project area (Figure 7). It appears that a small community was located in this area. It is interesting to note that while Pu‘uloa is the area adjacent to the entrance to West Loch, the map confirms that this passageway actually belongs to the “Fishery of Honouliuli” (Alexander 1873).

An 1878 map of “Honouliuli Taro Lands” illustrates the thriving cultivation of kalo in Honouliuli (Figure 8). Numerous family plots are mapped in this figure, as is an area on the west marked as “mud flats,” a road circling the land plots, as well as a wall, or “pa aina” which encloses several of the lots.

A 1902 map of O‘ahu shows an “old wall” to the east of the project area (Figure 9). This is likely the same wall depicted in the 1873 map. The place names Oneula and Keahi are labeled to the west and east of the project site, respectively. The salt works in Pu‘uloa is also shown.

Power and Warfare in Honouliuli

Known for its bountiful resources which included fertile lands and well-stocked fishponds, the ‘Ewa area was a sought-after land for the ali‘i, and as a result, numerous battles ensued. One such example is the unfought battle of the Keahumoa Plain which involved Kuali‘i (ca. 1650) who was a celebrated chief, skilled, and victorious in the art of warfare. This bloodless “battle” instigated by brothers Kapa‘ahulani and Kamaka‘aulani resulted in Kuali‘i uniting all the islands (Fornander 1918, vol. IV:364).

Another battle known to have taken place on the ‘Ewa Plain was that of Mā‘ilikūkahi. During this battle, chiefs from the island of Hawai‘i, joined with ali‘i from Maui, waged war on O‘ahu mō‘ī, Mā‘ilikūkahi. Fornander offers a genealogy of ali‘i preceding Mā‘ilikūkahi and follows with an account of the battle:

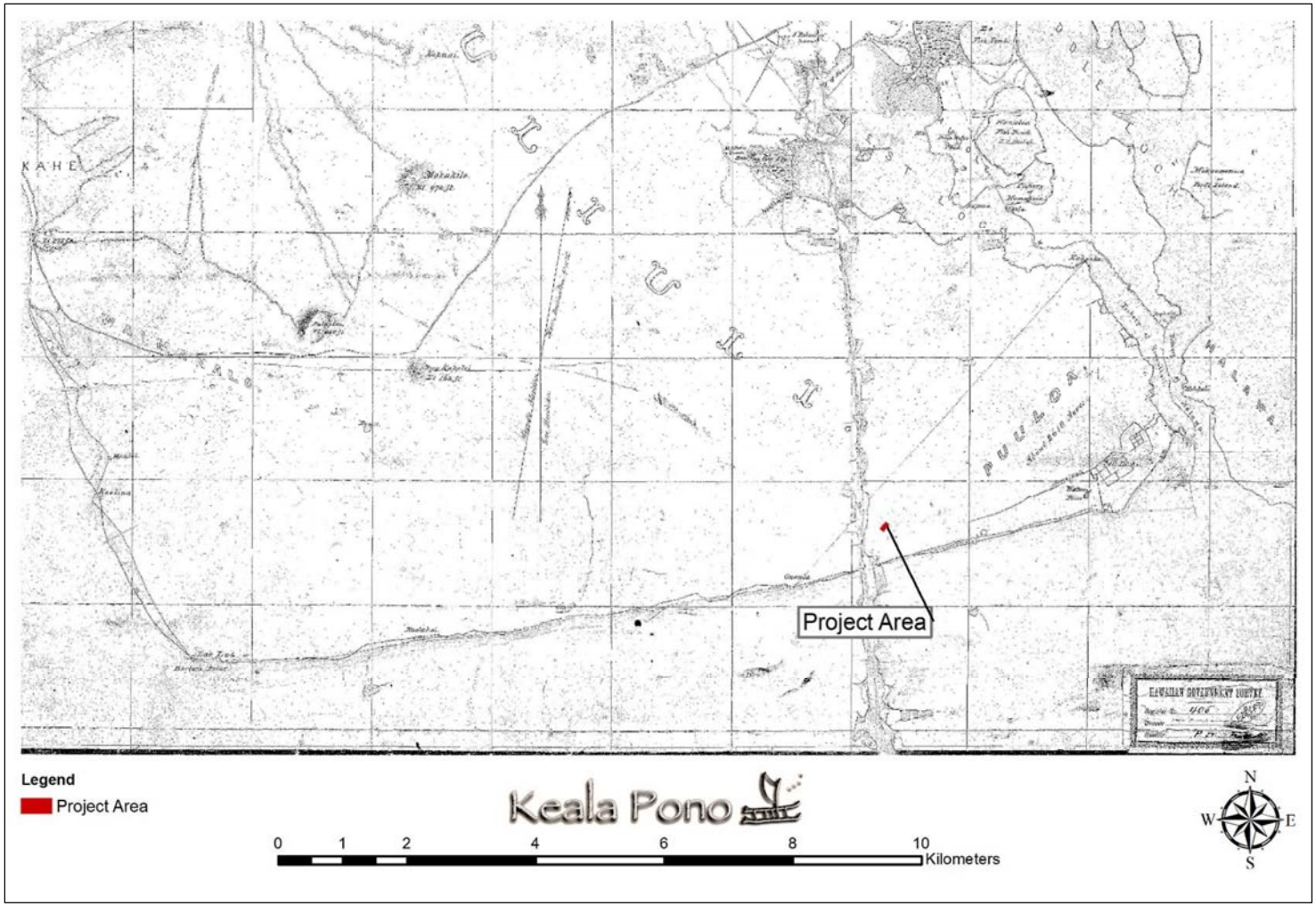


Figure 7. Portion of an 1873 map of Honouliuli (Alexander 1873).

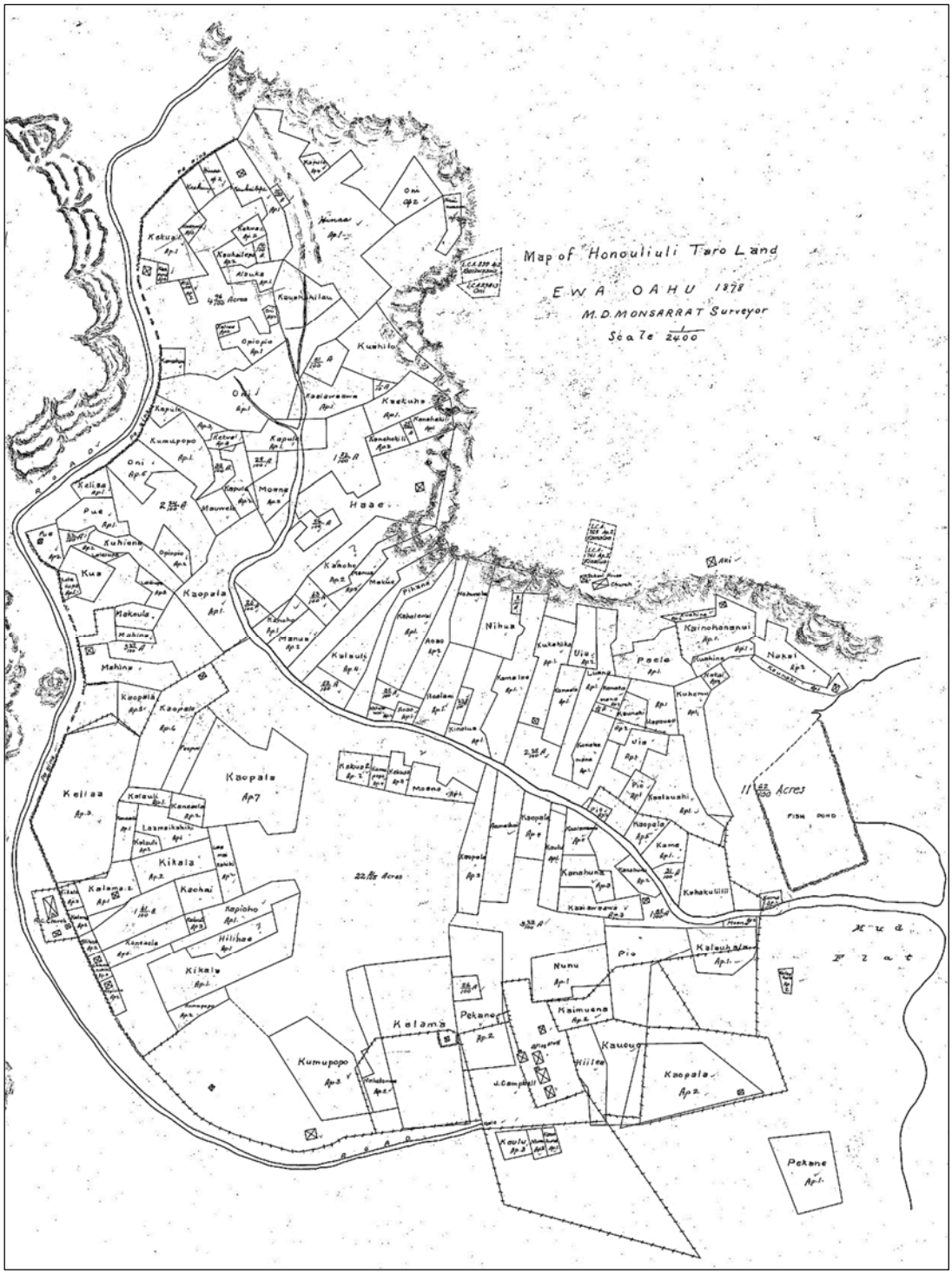


Figure 8. Map of Honouliuli Taro Lands (Monsarrat 1878). North on the map is toward the top of the page.

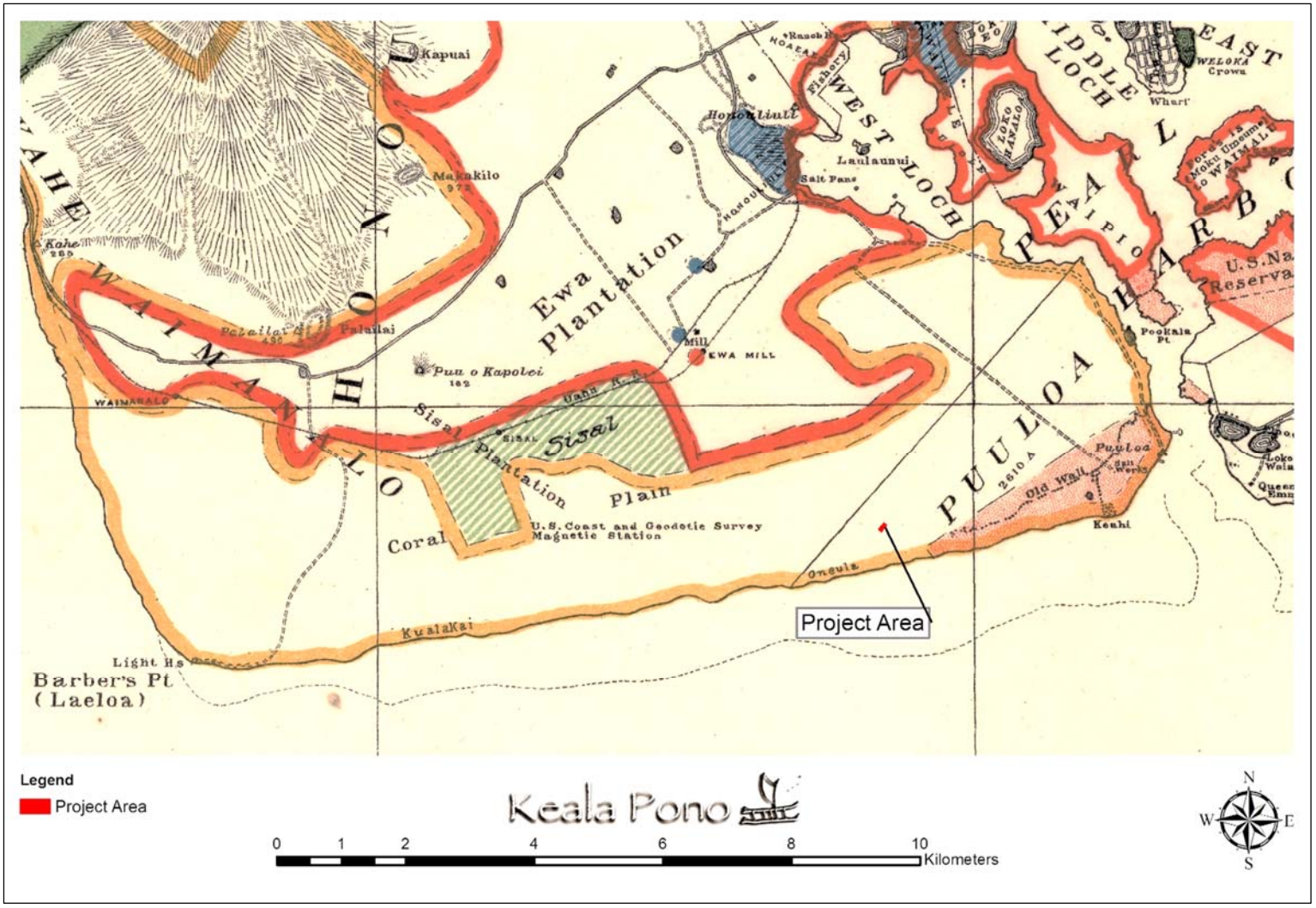


Figure 9. Portion of a 1902 map of O‘ahu (Alexander 1902).

On Oahu, at the close of the migratory period, after the departure of *Laamaikahiki,* we find his son, *Lauli-a-Laa, (*88) Maelo. married to *Maelo,* the sixth in descent from *Maweke,* and daughter of *Kuolono,* on the *Mulielealii-Moikeha* line. They probably ruled over the Kona side of the island, while *Kaulaulaokalani,* on the *Maweke-Kalehenui* line, ruled over the Koolau side, and *Lakona,* also sixth from *Maweke,* on the *Mulielealii-Kumuhonua* line, ruled over Ewa, Waianae, and Waialua districts, and in this latter line descended the dignity of Moi of Oahu. Tradition is scanty as to the exploits of the Oahu Mois and chieftains, until Haka we arrive at the time of *Haka,* Moi of Oahu, chief of Ewa, and residing at Lihue. The only genealogy of this chief that I have, while correct and confirmed by others from *Maweke* to *Kapae-a-Lakona,* is deficient in three generations from *Kapae-a-Lakona* to *Haka.* Of *Haka's* place on the genealogy there can be no doubt, however, as he was superseded as Moi by *Mailikukahi,* whose genealogy is perfectly correct from the time of *Maweke* down, and conformable to all the other genealogies, descending from *Maweke* through his various children and grandchildren. Of this *Haka,* tradition records that he was a stingy, rapacious, and ill-natured chief, who paid no regard to either his chiefs or his commoners. As a consequence they revolted from him, made war upon him, and besieged him in his fortress, called Waewae, near Lihue. During one night of the siege, an officer of his guards, whom he had ill-treated, surrendered the fort to the rebel chiefs, who entered and killed *Haka,* whose life- was the only one spilt on the occasion. Tradition does not say whether *Mailikukahi* had a hand in this affair, but he was clamorously elected by the Oahu chiefs in council convened as Moi of Oahu, and duly installed and anointed as such at the Heiau (temple).

I have before (p. 70) referred to the expedition by some Hawaii chiefs, *Hilo-a-Lakapu, Hilo-a Hilo-Kapuhi,* and *Punaluu,* joined by *Luokoo* of Maui, which invaded Oahu during the reign of *Mailikukahi.,* It cannot be considered as a war between the two islands, but rather as a (90) raid by some restless and turbulent Hawaii chiefs, whom the pacific temper of *Mailikukahi* and the wealthy condition of his island had emboldened to attempt the enterprise, as well as the *éclat* that would attend them if successful, a very frequent motive alone in those days. The invading force landed at first at Waikiki, but, for reasons not stated in the legend, altered their mind, and proceeded up the Ewa lagoon and marched inland. At Waikakalaua they met *Mailikukahi* with his forces, and a sanguinary battle ensued. The fight continued from there to the Kipapa gulch. The invaders were thoroughly defeated, and the gulch is said to have been literally paved with the corpses of the slain, and received its name, "Kipapa," from this circumstance. *Punaluu* was slain on the plain which bears his name, the fugitives were pursued as far as Waimano, and the head of *Hilo* was cut off and carried in triumph to Honouliuli, and stuck up at a place called *Poo-Hilo.*

Mailikukahi's wife was *Kanepukoa,* but to what branch of the aristocratic families of the country she belonged has not been retained on the legends. They had two sons, *Kalononui* and *Kalona-iki,* the latter succeeding his father as Moi of Oahu. (Fornander 1996:87–90)

Māhele Land Tenure and Ownership of Honouliuli and Kalaeloa

The change in the traditional land tenure system in Hawai‘i began with the appointment of the Board of Commissioners to Quiet Land Titles by Kamehameha III in 1845. The Great Māhele took place during the first few months of 1848 when Kamehameha III and more than 240 of his chiefs worked out their interests in the lands of the Kingdom. This division of land was recorded in the Māhele Book. The King retained roughly a million acres as his own as Crown Lands, while approximately a million and a half acres were designated as Government Lands. The Konohiki Awards amounted to about a million and a half acres, however title was not awarded until the konohiki presented the claim before the Land Commission.

In the fall of 1850 legislation was passed allowing citizens to present claims before the Land Commission for lands that they were cultivating within the Crown, Government, or Konohiki lands. By 1855 the Land Commission had made visits to all of the islands and had received testimony for about 12,000 land claims. This testimony is recorded in 50 volumes that have since been rendered on microfilm. Ultimately between 9,000 and 11,000 kuleana land claims were awarded to kamaʻāina totaling only about 30,000 acres and recorded in ten large volumes.

During the Māhele, 97 kuleana awards were given to applicants in Honouliuli by the Board of Commissioners to Quiet Land Titles. A majority of these claims were located in the wetland loʻi and were approximately one acre in size, with all 97 awards totaling only 106.54 acres (Haun 1991:160). The majority of the land of Honouliuli, 43,250 acres, was granted to Kekauʻonohi, granddaughter of Kamehameha I, within LCA 11216.

In 1849 Kekauʻonohi sold the land of Puʻuloa, now known as Pearl Harbor, to Isaac Montgomery, where it is believed that he and Kamehameha III established a successful salt works enterprise that shipped salt to the Pacific Northwest. This is likely the salt works illustrated in an 1873 map (see Figure 7).

Land also changed hands when Kekauʻonohi's widow, Haʻaleleʻa died, and his second wife, Anadelia Amoe deeded the land to her sister's husband, John H. Coney. In 1877 Coney subsequently sold Honouliuli to James Campbell. For approximately 43,640 acres of land, Campbell paid a sum of $95,000 (Haun 1991:160). During the initial years of his ownership, Campbell utilized about 10,000 acres as a cattle ranch and also leased out land for rice cultivation, fishing rights to Pearl Harbor, as well as a lime quarry.

In 1889, Campbell leased Honouliuli for 50 years to Benjamin Dillingham, who established the Ewa Sugar Plantation in the lower portion of the ahupuaʻa, and Oahu Sugar Company's cane fields in the upper reaches of Honouliuli. Dillingham also built the Oahu Railway and Land Company in Honouliuli which extended out to Waiʻanae. In 1893, the first sisal was brought to Hawaiʻi from Florida, and was grown in Honouliuli. The sisal plantation operated under the name of Hawaii Fibre Company in 1898.

The Military and More Recent Development

The presence of government structures in Kalaeloa began in 1888 with the construction of the Barbers Point Lighthouse by the Hawaiian Government. The following work in the area consisted of the construction of the United States Coast and Geodetic Survey Magnetic Observatory. In the 1930s the military leased a 3,000 square foot area from the Campbell Estate. This era brought much development of the area's infrastructure and capital improvements and included the creation of approximately 18 miles of road built between 1935 and 1937 (Beardsley 2001:II.23). When the military's lease expired in 1940, the Navy acquired a lease of 3,500 acres on which the ʻEwa Marine Corps Air Station, and later, Barbers Point Naval Air Station would be built. Following the Japanese bombings of Pearl Harbor on December 7, 1941, construction at the Air Station dramatically increased after the ʻEwa airstrip and majority of the planes were destroyed in the attack. Construction of the Naval Air Station at Barbers Point was completed on April 15, 1942.

Since World War II, Barbers Point Naval Air Station has played an integral role as a strategic military base and has provided a diverse range of functions, including an antisubmarine patrol, headquarters of the Pacific Airborne Barrier Command (1958–1965), guided missile units, and the Pacific Sound Surveillance System (Beardsley 2001:II.24). Over the course of time, activities associated with construction and the execution of these functions have had a major impact on cultural and natural resources. Some of these impacts include a defensive line of barbed wire and gun emplacements

along the coast, infrastructure developments of roads, sewers, water systems, electricity, gas, housing units, and general bulldozing and grading in surrounding areas (Hammatt 1984; Kelly 1991; Tuggle and Tomonari-Tuggle 1995).

James Campbell High School was built in 1962 in the current location of ʻIlima Intermediate School and the athletic fields. That same year, Pōhākea Elementary School was constructed on the Campbell High School campus.

A *Hawaii Reporter* article states that the Campbell High School football field was filled using soil containing human remains, although a search of the SHPD library found no documentation of human remains on the school grounds. Portions of the article are quoted below, as published in the independent online news source:

> The dirt that was used to build the football field was gotten from an old Waipahu Cemetery on Waikele Road in the vicinity of Waipahu Elementary School…
>
> Families of those buried at the cemetery were contacted to remove their loved one's remains. It was suggested the new Mililani Cemetery be the place for reburial.
>
> Those remains, which were not repatriated, were dug up along with the soil and trucked to the site of the new James Campbell High School football field that was at the time also under construction.
>
> I recall as a teenager seeing the field as it was being constructed.
>
> After the soil was grated level to create the new athletic field, I remember seeing a pile of approximately fifty to seventy grave headstones and wooden cross markers with human bones sticking out bulldozed in a pile of dirt at the far Honolulu side of the new field.
>
> This would be in the area of the present day Honolulu sideline bleachers… (Arakaki 2012)

Campbell High School held its first graduation in 1964, two years after its opening. The elementary school was moved southwest to its current Fort Weaver Road location in 1974.

In 1999 the Naval Air Station was closed by Base Realignment and Closure (BRAC) and was turned over to the State of Hawai‘i and is currently named the Kalaeloa Community Development District (Hawai‘i Community Development Authority 2012).

Previous Archaeology

A wealth of archaeological studies have been conducted on the ʻEwa Plain and within Honouliuli Ahupuaʻa. The following discussion provides information on archaeological investigations that have been performed within the vicinity of the project area (Figure 10). Table 1 lists archaeological studies for the larger ʻEwa Plain region. State Inventory of Historic Places (SIHP) numbers are prefixed with 50-80-13.

The first formal archaeological work in the vicinity of the project area was part of McAllister's island-wide survey (1933). McAllister identified five sites in the general area, although none are located at Campbell High School or its immediate environs. Sites 142–144 are fishing-related sites on the Waipiʻo Peninsula. They consist of Kapamuku Fishpond, Okiokilepe Fishpond, and unnamed fishtraps and an associated koʻa. Site 145 is the location in Puʻuloa where it is said that ʻulu was first planted in Hawai‘i. Site 146 includes a variety of sites scattered throughout the ʻEwa Plain.

McAllister specifically mentions ranching walls, as well as soil-filled pits that were formerly used for agriculture (1933:109).

The next archaeological work in the area did not occur until many years later, with a survey at Kaimiloa Elementary School (McCoy 1972). Fragmented walls and partial enclosures were mentioned, but no SIHP numbers were assigned.

Several studies were conducted for the Ewa Marina Community Project. The earliest surveys documented more than 100 features thought to be part of a late pre-Contact/early post-Contact habitation area (Davis 1979; Jourdane 1979). Two later studies yielded no findings (Hommon and Ahlo 1983; Davis and Burtchard 1991), although an archaeological and paleontological assessment identified possible traditional enclosures as well as historic ranching and military sites (Hammatt and Shideler 1989). Archaeological survey and test excavation documented more than 300 features, including traditional agricultural and habitation structures (Dunn and Haun 1991).

A number of archaeological studies were completed at the ʻEwa-Puʻuloa Golf Course. An early reconnaissance identified 20 surface features and five possible features (Davis 1983). They included c-shaped structures, cairns, modified sinkholes, a collapsed wall, and a probable habitation enclosure. SIHP numbers were not assigned at the time of the reconnaissance. Later work in at the same project area identified "no less than fifty (50) sites" (Kennedy 1988:6). An archaeological inventory survey identified 72 sites, most of which were later deemed no longer significant (Kennedy et al. 1992). Data recovery further investigated ten sites (Kennedy and Denham 1992). One of the major findings was a decline in avian remains from the 12th–13th centuries. An increase in marine midden followed this decline. Ranching, quarrying, and military training took place in the historic period.

In 1987 human remains and a subsurface cultural layer were discovered during construction activity at Iroquois Point (Athens 1987). Although the remains were disturbed by the construction, they were identified as a young Polynesian female. The burial and cultural layer were designated as SIHP 50-80-13-3703. A later archaeological assessment at Iroquois Point produced no findings (Dye and Jourdane 2006a).

A 1995 reconnaissance at Lualualei Naval Ammunition Depot documented 281 sites (Jensen and Head 1995). These included agricultural, military, and ranching areas. A later survey at the Ewa High Frequency Transmitter Station produced no findings (Hammatt and Borthwick 1997). Two large scale studies were conducted for corridors on the ʻEwa Plain, although there were no findings near the Campbell High School area (Hammatt and Chiogioji 1997; Moore and Kennedy 2002).

A supplemental archaeological survey was conducted for the Marina Channel and Kaloʻi Drainage Channel (Corbin 2004). The survey consisted of excavation of 53 backhoe trenches and three hand-excavated units. Although human burials were previously found in the area, this extensive subsurface testing yielded no results, suggesting that the burials were isolated instances and not part of a larger burial zone.

An archaeological inventory survey identified six sites at Iroquois Point (Carson 2007). SIHP 5878 is a historic survey marker, and SIHP 6906 is a gun mount used in Fort Weaver ca. 1932–1950. SIHP 5875, 6905, 6907, and 6908 are late pre-Contact to post-Contact subsurface midden deposits. Material within the deposits included charcoal, animal bone, and marine shell. Postmolds, small pits, and pebble pavings were also associated with the deposits.

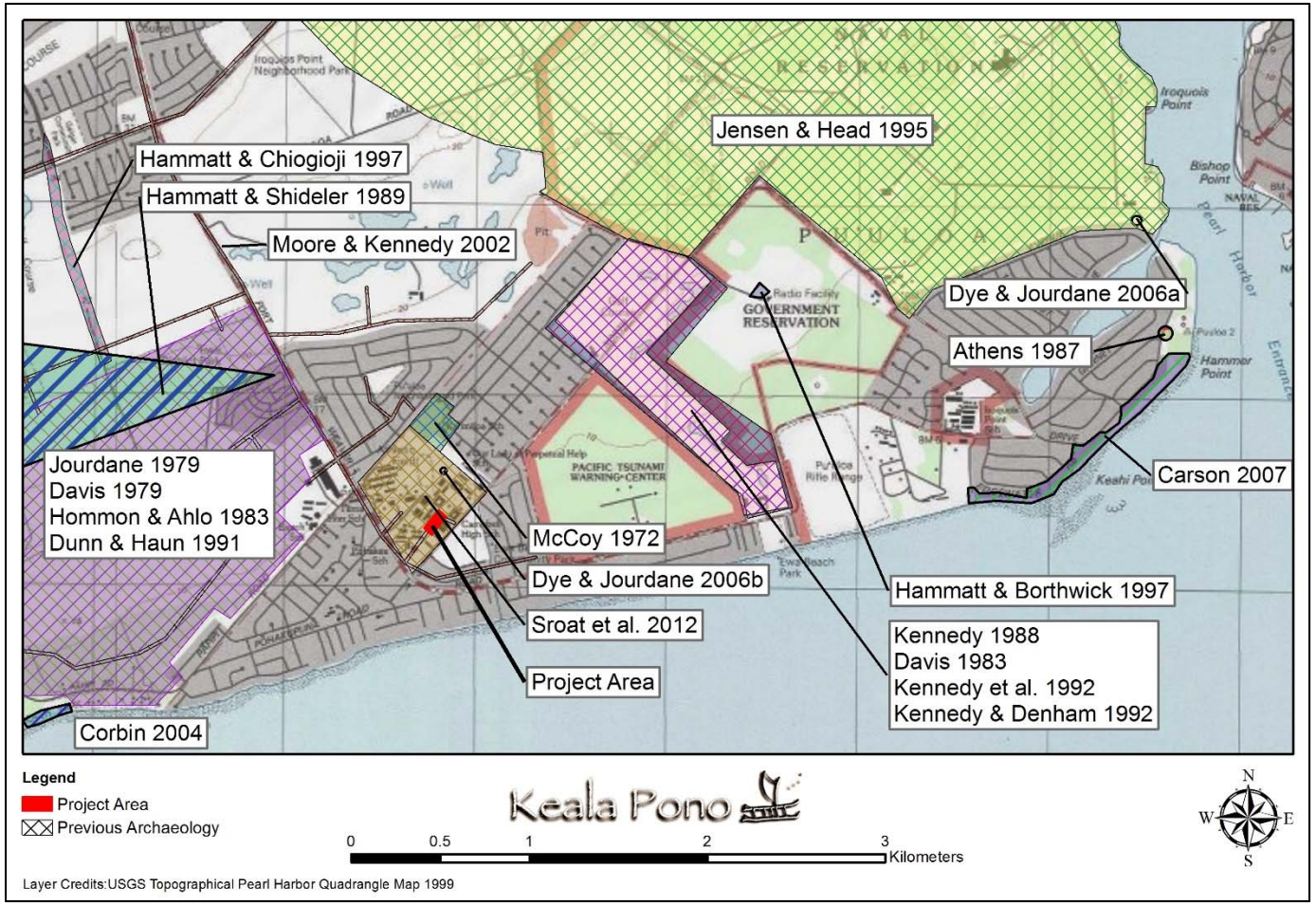


Figure 10. Previous archaeological studies in the vicinity of the project area.

Table 1. Previous Archaeology on the ʻEwa Plain

Author and Year	Location	Work Completed	Findings
McAllister 1933	Island-wide	Survey	Identified five sites in the general vicinity of the project area: 142, 143, 144, 145, and 146.
McCoy 1972	Kaimiloa Elementary School	Archaeological Inventory Survey	Noted fragmented walls and partial enclosures. No SIHP numbers were assigned.
Jourdane 1979	Ewa Marina Community	Reconnaissance	Limited survey noted archaeological sites in the area of undetermined number and age.
Davis 1979	Ewa Marina Community	Archaeological Inventory Survey	Documented 107 features that are part of a late pre-Contact/early post-Contact habitation area.
Davis 1983	Puʻuloa Golf Course	Reconnaissance	Identified 20 surface architectural features and 5 possible features. SIHP numbers were not assigned.
Hommon and Ahlo 1983	Ewa Marina Community	Subsurface Testing	None.
Athens 1987	Iroquois Point	Inadvertent Discovery of Human Remains	Identified disturbed human burial remains and a cultural layer (SIHP 3703).
Kennedy 1988	Puʻuloa Golf Course	Reconnaissance	Noted approximately 50 archaeological sites, including c-shaped structures, agricultural areas, walls, mounds, modified sinkholes, platforms, ahu, and midden.
Hammatt and Shideler 1989	Ewa Marina Community	Archaeological and Paleontological Assessment	Identified possible traditional enclosures as well as post-Contact ranching and military sites.
Dunn and Haun 1991	Ewa Marina Community	Archaeological Survey and Test Excavation	Documented more than 300 features, including traditional agricultural and habitation structures.
Kennedy et al. 1992	Puʻuloa Golf Course	Archaeological Inventory Survey	Documented 72 sites.
Kennedy and Denham 1992	Puʻuloa Golf Course	Data Recovery	Further investigated ten sites. Found a decline in avian remains from the 12th 13th centuries. An increase in marine midden followed this decline. Ranching, quarrying, and military training took place in the historic period.

Table 1. (Continued)

Author and Year	Location	Work Completed	Findings
Jensen and Head 1995	Lualualei Naval Ammunition Depot	Reconnaissance	Documented 281 sites, including agricultural, military, and ranching structures.
Hammatt and Borthwick 1997	Ewa High Frequency Transmitter Station	Archaeological Inventory Survey	None.
Hammatt and Chiogioji 1997	North-South Road Corridor	Reconnaissance	No findings near the current project area.
Moore and Kennedy 2002	Multiple Waterline Corridors	Literature Review	No findings near the current project area.
Corbin 2004	Marina Channel and Kalo‘i Drainage	Subsurface Testing	None.
Dye and Jourdane 2006a	Iroquois Point	Archaeological Assessment	None.
Dye and Jourdane 2006b	Campbell High School	Archaeological Assessment	None.
Carson 2007	Iroquois Point	Archaeological Inventory Survey	Identified SIHP 5875, 5878, and 6905-6908. They consist of two historic sites and four subsurface late pre-Contact and post-Contact midden deposits.
Sroat et al. 2012	Campbell High School	Literature Review and Field Inspection	Identified two filled-in sinkholes. SIHP numbers were not assigned.

Finally, two studies were conducted on the Campbell High School campus. An archaeological assessment yielded no findings (Dye and Jourdane 2006b). A literature review and field inspection identified two small filled-in sinkholes, although SIHP numbers were not assigned (Sroat et al. 2012). The two sinkholes are not located within the current project area.

Settlement Pattern

Based on a review of previous archaeological studies and examination of both pre- and post-Contact Hawaiian history, settlement patterns for the Honouliuli area and larger ʻEwa Plain can be surmised. Synthesized with Cordy's (1993) Oʻahu sociopolitical model, Beardsley (2001:III-8, III-9) summarizes the following settlement pattern for Honouliuli:

> ***Pre-AD 1000*** – During this period political organization of the islands consisted of small chiefdoms. Temporary habitations were located in resource rich areas. Permanent settlements were clustered around prime agricultural land; these prime agricultural lands were probably located in well-watered valleys. For the ʻEwa Plain, this means that only temporary habitations should be found in the project area, located to exploit rich marine resource areas and possible to exploit bird populations. Permanent settlements might have been established in the Honouliuli floodplain.
>
> ***AD 1000 to 1300s*** – The political organization of the island coalesced into three independent districts: Greater ʻEwa, Koʻolau and Kona. Temporary settlements were established for the first time in inland garden areas, associated with dryland agriculture; permanent habitation expanded into new areas. For ʻEwa, the Honouliuli floodplain would have been the focus of permanent habitation. Settlement in the project area focused on exploitation of marine resources, but was also associated with permanent inland settlement.
>
> ***AD 1400 to 1500s*** – Full development of class stratification occurred during this period, together with the unification of the entire island under one chief. Permanent habitations expanded in all areas; temporary habitations in inland garden areas were replaced by permanent habitations. For the project area, permanent habitations, possibly associated with rectangular enclosures, developed.
>
> ***AD 1600 to 1778*** – District chiefs fought for control over the resources of the islands. For ʻEwa, the population density was still concentrated on the irrigated Honouliuli Valley floodplain. Other population concentrations occurred around Pearl Harbor and at the base of the Waiʻanae Range. Scattered permanent habitation in the project area, possibly on a seasonal basis, or only in years of high rainfall, might have also occurred.
>
> ***Post-Contact*** – Scattered Hawaiian occupations continued across the ʻEwa Plain and in the project area until the mid-19th century. In the later historical period, populations were low and consisted of scattered families with habitation sites along the coast for marine exploitation and inland houselots with possible walled agricultural areas.

Summary, Anticipated Finds, and Research Questions

An examination of traditional and historic land-use for Honouliuli as demonstrated in moʻolelo, historic literature, and archaeological investigations, shows that this area was once a land rich in natural, as well as cultural resources. Moʻolelo and ʻōlelo noʻeau reveal a place blessed by the gods, abundant in natural resources of the land and sea. Known as an aliʻi stronghold, as well as a vacationing spot of the royalty, Honouliuli was a significant ahupuaʻa of importance.

No archaeological resources are known to occur within the current project boundaries, although archaeological sites do occur nearby. The lack of surface finds within the project area is likely due to the extensive historic alterations, modifications, and land use changes that have taken place around Campbell High School over the last several decades. Previous archaeological studies express the complexity of Hawaiian settlement of the ʻEwa Plain through the diversity and range of site types, which include modified sinkholes utilized for habitation and burial, religious sites such as heiau and koʻa, agricultural sites, walls, mounds, enclosures, iwi kūpuna, as well as the remains of extinct animal species. These were all found outside the project boundaries in areas that were not as heavily disturbed as the vicinity of the school. Subsurface features are not known for the project area but may include cultural and paleontological deposits, particularly within sinkholes. It has been reported that human remains are located within the fill of the Campbell High School football field, outside the project area to the north. Also found on the ʻEwa Plain are historic resources associated with cattle ranching, sugar and sisal plantations, transportation, and military use.

Research questions will broadly address the identification of the above archaeological resources and may become more narrowly focused based on the kinds of resources that are found. Initial research questions are as follows:

1. Is there any evidence of pre-Contact use of the project area and what is the nature of that use?
2. Are there vestiges of historic use of the project area, such as military or ranching remnants?
3. Are there sinkholes that might contain paleontological or other remains within the project area?
4. Did the fill from the football field extend into the project area?
5. If cultural resources are found, how do they relate to the settlement pattern of the wider ʻEwa Plain region?

Once these basic questions are answered, additional research questions may be developed in consultation with SHPD, tailored to the specific kinds of archaeological resources that were identified.

METHODS

Pedestrian survey and subsurface testing were conducted on June 28, 2016 by Windy McElroy, PhD and Dietrix Duhaylonsod, BA. McElroy served as Principal Investigator, overseeing all aspects of the project.

For the pedestrian survey, the ground surface was visually inspected for surface archaeological remains, with transects walked for the entire area. Archaeologists were spaced approximately 10 m apart. Of the .61 ha (1.5 ac.) survey area, 100% was covered on foot. Vegetation was very light, consisting of grass outside the school's agriculture garden, and agricultural plants within the garden (e.g., aloe, kalo, fruit trees). The vegetation did not affect visibility of the ground surface. Archaeological sites and their boundaries were identified visually.

Test trenches (TR) were excavated in six locations throughout the project area. The excavation strategy was approved by SHPD beforehand via email. A mini excavator was used for excavation of the trenches (Figure 11). Vertical provenience was measured from the surface, and trenches were excavated to the basal coral shelf where possible. Profiles were drawn and photographed, and sediments were described using Munsell soil color charts and a sediment texture flowchart (Thien 1979). Trench locations were recorded with a 3 m-accurate Garmin GPSmap 62st, and all trenches were backfilled after excavation.

The scale in all field photographs is marked in 10 cm increments. The north arrow on all maps points to magnetic north. Throughout this report rock sizes follow the conventions outlined in *Field Book for Describing and Sampling Soils*: Gravel <7 cm; Cobble 7–25 cm; Stone 25–60 cm; Boulder >60 cm (Schoeneberger et al. 2002:2–35). No materials were collected and no laboratory analyses were conducted.



Figure 11. Excavation of TR 4 with mini excavator. Orientation is to the south.

RESULTS

Pedestrian survey and subsurface testing were conducted in the .61 ha (1.5 ac.) project area. No archaeological resources were found. Excavation of six test trenches did not yield any evidence of subsurface archaeological deposits or features.

Community Consultation

A cultural impact assessment (CIA) is currently being conducted. The CIA is being prepared simultaneously with this AA report, and three interviews with community members are planned. Two interviews have been completed thus far, with community members, Earl Arakai and Tesha Malama interviewed.

Earl Arakaki stated that soil from a former graveyard in Waipahu was used to construct the football field area of Campbell High School. He remembers seeing the tombstones piled up at one end of the field. He noted that the rest of the campus had dirt brought in to cover the coral but he does not know if the other parts of the campus used the same graveyard soil.

Tesha Malama feels that money could be better spent on acquiring one of the adjacent elementary schools, repurpose their buildings for the high school, focus money on Campbell's athletic and performing arts programs, and redistrict the area's children to the remaining elementary schools. But if the current plan goes through, she wants air conditioning for the classrooms and a plan that allows for traffic to go from the current project area and across campus to the gym. She also stated that a monument at the current roundabout within the project area might be more than 50 years old.

Pedestrian Survey

The surface survey included 100% of the .61 ha (1.5 ac.) project area. No surface archaeological remains were observed within any part of the project area; any archaeological features that may have once been present are no longer there because of the extensive modern use of these lands. The entire project area has been disturbed by recent construction. An effort was made to locate the monument described by Tesha Malama. The monument was once located at the current roundabout, although it is no longer there today.

Subsurface Testing

A subsurface testing plan was approved by SHPD before trenching began. The six trenches were excavated within the project area to determine the presence or absence of subsurface archaeological deposits or material (Figures 12–13 and Table 2). No archaeological resources were found, and stratigraphy consisted of topsoil above a coral shelf.

TR 1 was located between Building J and the roundabout (see Figure 12). The trench measured 7.8 m long and 70 cm wide. It was excavated to 85 cm below surface (cmbs), where a coral shelf was encountered. This shelf was shallower on the northeast end of the trench, where it was found at 20 cmbs. Above the coral shelf, stratigraphy consisted of a layer of fill above a deposit mixed with fill and weathered coral (Figures 14 and 15, see Table 2). No archaeological deposits or materials were identified.

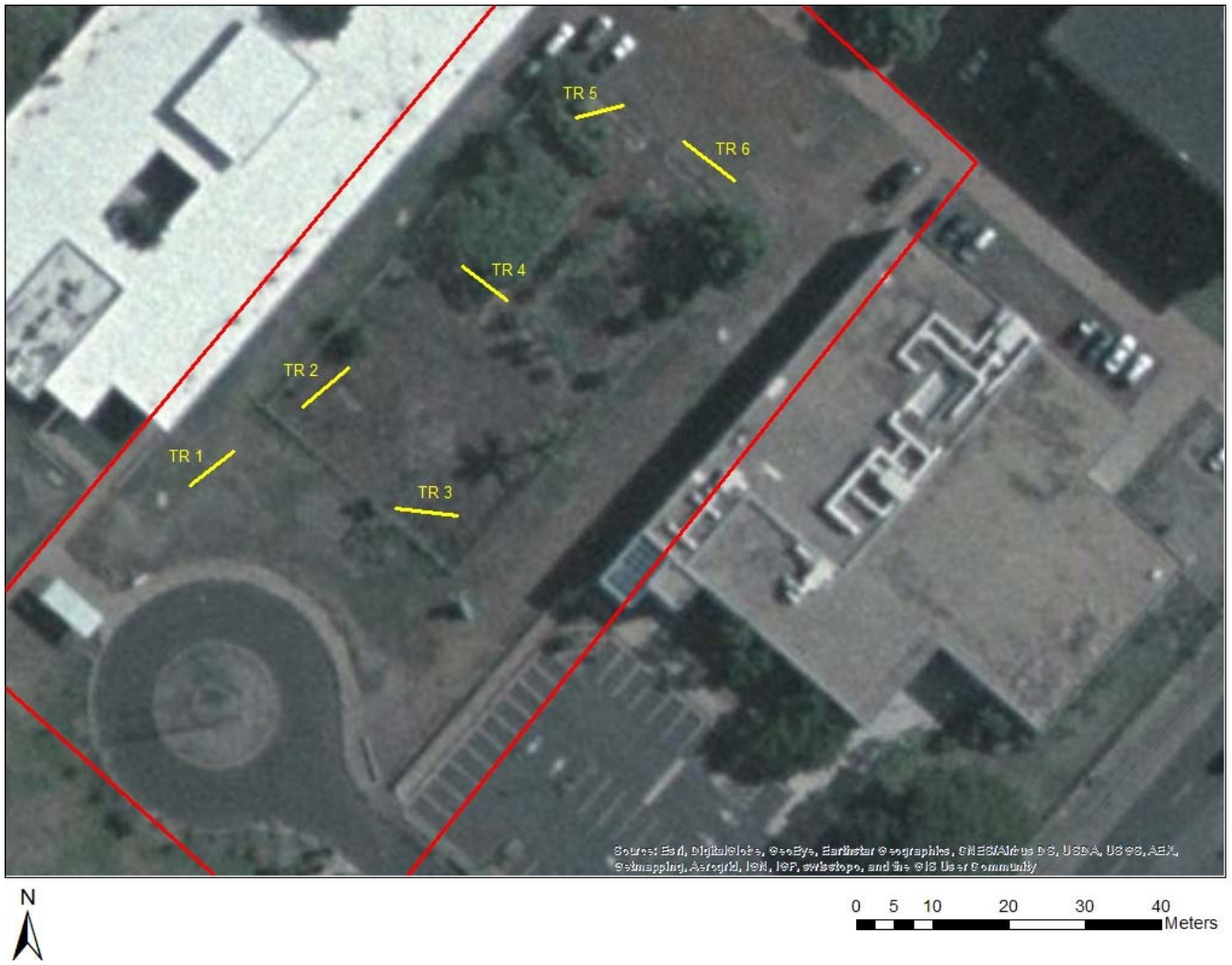


Figure 12. Location of trenches on aerial imagery. The project area is outlined in red.

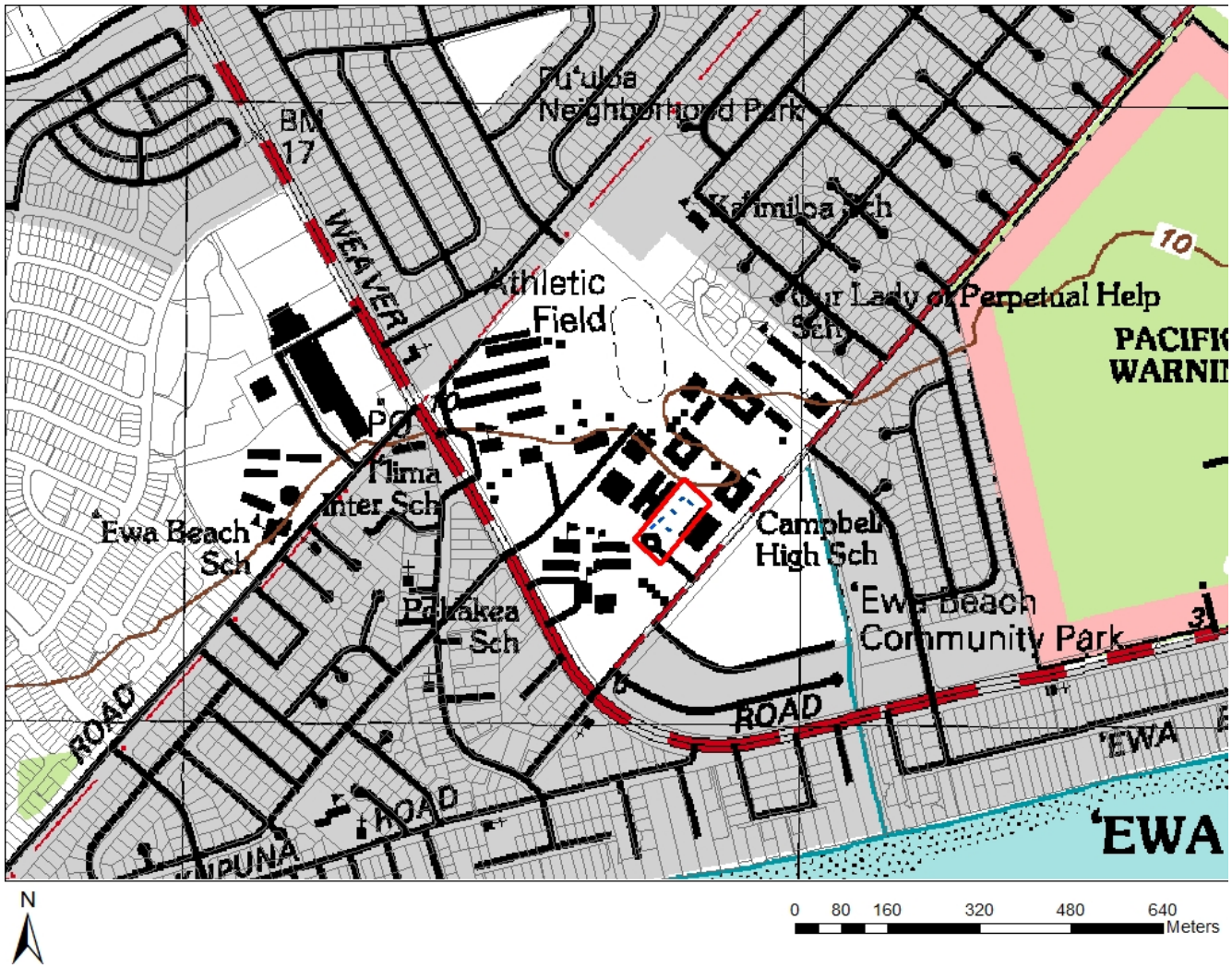


Figure 13. Wider view of trench locations (in blue) on a 1999 USGS Pearl Harbor quadrangle. The project area is outlined in red.

Table 2. Sediment Descriptions

Location	Layer	Depth (cmbs)	Color	Description	Interpretation
TR 1	I	0–42	5YR 3/4	Clay loam; 2% roots, 5% coral cobbles; smooth, very abrupt boundary.	Fill
	II	42–85+	10YR 7/3	Sandy loam; 50% coral cobbles; base of excavation.	Fill Mixed with Weathered Coral
TR 2	I	0–22	5YR 3/4	Clay loam; 2% roots, 5% coral cobbles; sparse modern debris; smooth, very abrupt boundary.	Fill
	II	22–73+	7.5YR 4/3	Sandy loam; 50% coral cobbles; base of excavation.	Fill Mixed with Weathered Coral
TR 3	I	0–22	5YR 3/4	Clay loam; 2% roots, 5% coral cobbles; sparse modern debris; smooth, very abrupt boundary.	Fill
	II	22–64+	7.5YR 4/3	Sandy loam; 50% coral cobbles; base of excavation.	Fill Mixed with Weathered Coral
TR 4	I	0–30	5YR 3/4	Clay loam; 2% roots, 5% coral cobbles; sparse modern debris; smooth, very abrupt boundary.	Fill
	II	30–78+	10YR 4/2	Sandy loam; 50% coral cobbles; base of excavation.	Fill Mixed with Weathered Coral
TR 5	I	0–20	5YR 3/4	Clay loam; 2% roots, 5% coral cobbles; 50% basalt gravel in upper 20 cm of north end of trench; sparse modern debris; smooth, very abrupt boundary.	Fill
	II	20–74+	10YR 6/3	Sandy loam; 50% coral cobbles; base of excavation.	Fill Mixed with Weathered Coral
TR 6	I	0–28	5YR 3/4	Clay loam; 2% roots, 5% coral cobbles; 50% basalt gravel in upper 20 cm of northeast side of trench sparse modern debris; smooth, very abrupt boundary.	Fill
	II	28–64+	10YR 6/2	Sandy loam; 50% coral cobbles; base of excavation.	Fill Mixed with Weathered Coral

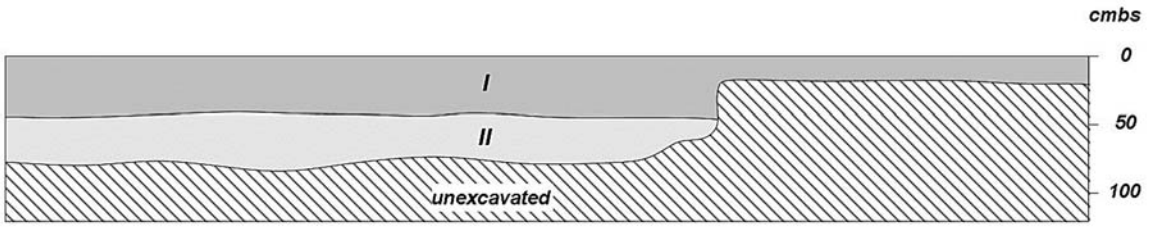


Figure 14. TR 1 northwest face profile drawing.



Figure 15. TR 1 northwest face photo.

TR 2 was placed within the school's agriculture garden, southeast of Building J (see Figure 12). The trench measured 8.8 m long and 70 cm wide. It was excavated to 73 cmbs, where a coral shelf was encountered. This shelf was shallower on the northeast end of the trench, where it was found at 40 cmbs. Above the coral shelf, stratigraphy consisted of a layer of fill above a deposit mixed with fill and weathered coral (Figures 16 and 17, see Table 2). No archaeological deposits or material were identified.

TR 3 was excavated in the south corner of the school's agriculture garden (see Figure 12). The trench measured 7.9 m long and 70 cm wide. It was excavated to 64 cmbs, where a coral shelf was encountered. This shelf was shallower in various places within the trench, where it was found at 20–30 cmbs. Above the coral shelf, stratigraphy consisted of a layer of fill above a deposit mixed with fill and weathered coral (Figures 18 and 19, see Table 2). No archaeological deposits or material were identified.

TR 4 was placed in the center of the school's agriculture garden (see Figure 12). The trench measured 7.6 m long and 70 cm wide. It was excavated to 78 cmbs, where a coral shelf was encountered. This shelf was shallower on the northwest side of the trench, where it was found at 40 cmbs. Above the coral shelf, stratigraphy consisted of a layer of fill above a deposit mixed with fill and weathered coral (Figures 20 and 21, see Table 2). No archaeological deposits or material were identified.

TR 5 was located in the northwest corner of the school's agriculture garden (see Figure 12). The trench measured 5.5 m long and 70 cm wide. It was excavated to 74 cmbs, where a coral shelf was encountered. This shelf was shallower on the east side of the trench, where it was found at 30 cmbs. Above the coral shelf, stratigraphy consisted of a layer of fill above a deposit mixed with fill and weathered coral (Figures 22 and 23, see Table 2). There was also an abundance of basalt gravel at the surface on the east side of the trench, extending to 20 cmbs. A set of abandoned wires was found protruding from the north and south faces of the trench, just below the upper fill layer. No archaeological deposits or material were identified.

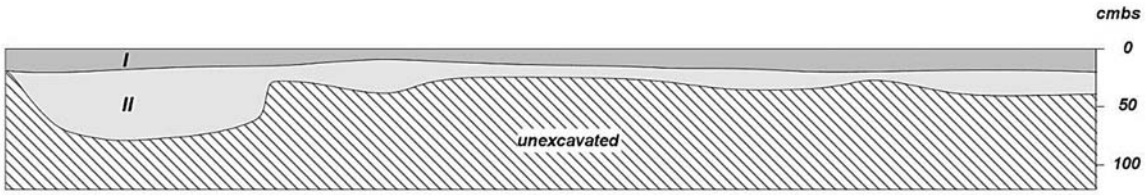


Figure 16. TR 2 northwest face profile drawing.



Figure 17. TR 2 northwest face photo.

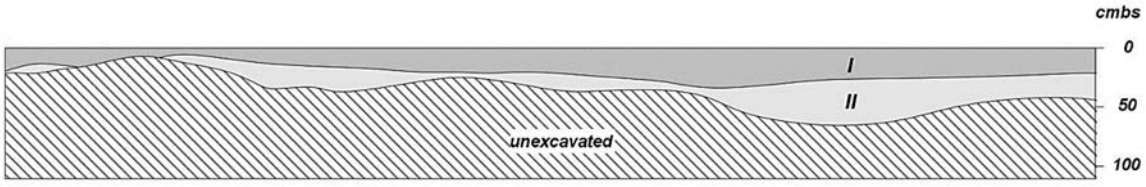


Figure 18. TR 3 south face profile drawing.



Figure 19. TR 3 south face photo.

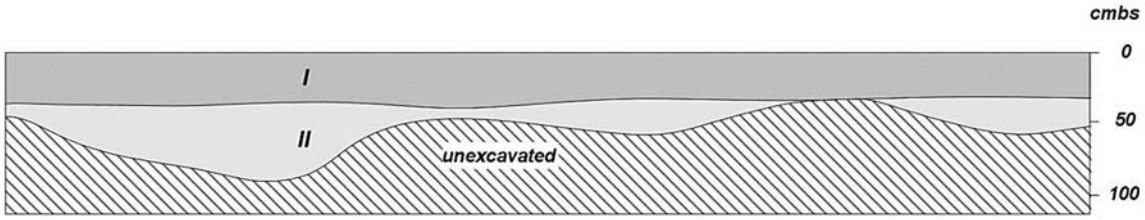


Figure 20. TR 4 southwest face profile drawing.



Figure 21. TR 4 southwest face photo.

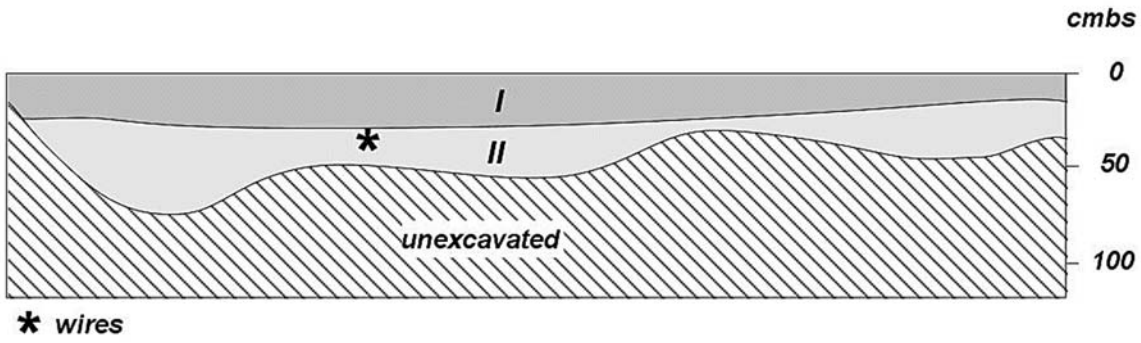


Figure 22. TR 5 north face profile drawing.



Figure 23. TR 5 north face photo.

TR 6 was placed just outside the agriculture garden's fence, on the northeast side (see Figure 12). The trench measured 7.9 m long and 70 cm wide. It was excavated to 64 cmbs, where a coral shelf was encountered. This shelf was shallower on the southeast side of the trench, where it was found at 30 cmbs. Above the coral shelf, stratigraphy consisted of a layer of fill above a deposit mixed with fill and weathered coral (Figures 24 and 25, see Table 2). Rebar pieces and basalt gravel were found within the upper fill layer of the trench, likely remnants from a former parking lot in this area. No archaeological deposits or material were identified.

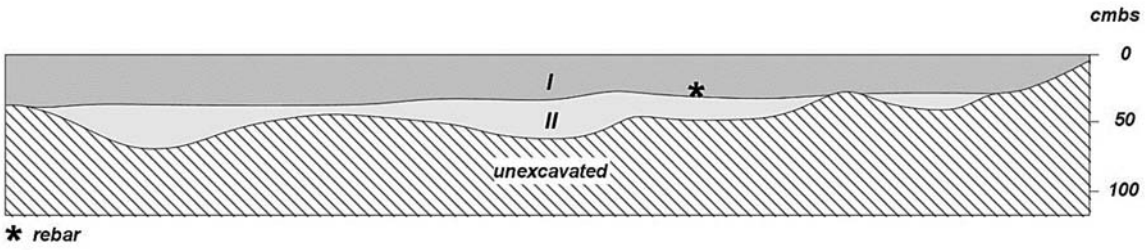


Figure 24. TR 6 southwest face profile drawing.



Figure 25. TR 6 southwest face photo.

Summary of Findings

Pedestrian survey of .61 ha (1.5 ac.) at Campbell High School yielded no findings. The entire project area has been disturbed by modern development, such as the landscaping of lawns, the installation of utility lines, preparation of the agriculture garden, construction of the road and roundabout to the southwest of the garden, and construction of the former parking lot to the northeast of the garden. Subsurface testing, consisting of six trenches, did not identify any subsurface cultural deposits or features. Stratigraphy consisted of fill above a coral shelf.

CONCLUSION AND RECOMMENDATIONS

An archaeological inventory survey was conducted at James Campbell High School on TMK: (1) 9-1-001:002 (por.) in Honouliuli Ahupua‘a, ‘Ewa District, on the island of O‘ahu. The Department of Education is planning the development of new classrooms and associated infrastructure on campus. The archaeological work included pedestrian survey that covered 100% of the .61 ha (1.5 ac.) project area, as well as test excavations consisting of six trenches. Due to negative findings, the AIS results are presented as an archaeological assessment per HAR §13–275.

No surface archaeological remains were found during pedestrian survey of the parcels. The entire area has been disturbed by modern activity, particularly preparation of the school’s agriculture garden, which encompasses most of the project area. Likewise, subsurface testing did not yield any evidence of subsurface archaeological features or deposits. Stratigraphy consisted of fill above a coral shelf.

Given the lack of findings and the shallow depth of the coral shelf, archaeological monitoring is not recommended. However, even though human remains were not found during the survey, it is still possible that they may be unearthed during construction. Should human burial remains be discovered during construction activities, work in the vicinity of the remains should cease and the SHPD should be contacted.

GLOSSARY

ahu A shrine or altar.

ahupua‘a Traditional Hawaiian land division usually extending from the uplands to the sea.

aku The bonito or skipjack (*Katsuwonus pelamis*), a prized eating fish.

akule Big-eyed or Goggled-eyed scad fish (*Trachurops crumenophthalmus*).

ali‘i Chief, chiefess, monarch.

aloe The *Aloe vera* plant, used as a skin moisturizer, for healing burns, and to detoxify the body.

‘ama‘ama The mullet, or *Mugil cephalus*, a prized indigenous fish.

‘awa The shrub *Piper methysticum*, or kava, the root of which was used as a ceremonial drink throughout the Pacific.

banana The mai‘a, or *Musa* sp., whose fruit was eaten and leaves used traditionally as a wrapping for cooking food in earth ovens.

heiau Place of worship and ritual in traditional Hawai‘i.

iwi Bone.

Kahiki A far away land, sometimes refers to Tahiti.

kalo The Polynesian-introduced *Colocasia esculenta*, or taro, the staple of the traditional Hawaiian diet.

kama‘āina Native-born.

Kanaloa A major god, typically associated with Kāne.

Kāne The leading of the traditional Hawaiian deities.

kauhale A group of houses that comprise the traditional Hawaiian homestead. Often included are a sleeping house, men's eating house, women's eating house, cooking house, and canoe house.

kia‘i Guard, caretaker; to watch or guard; to overlook, as a bluff.

kiawe The algarroba tree, *Prosopis* sp., a legume from tropical America, first planted in 1828 in Hawai‘i.

ko‘a Fishing shrine.

koa haole The small tree *Leucaena glauca*, historically-introduced to Hawai‘i.

konohiki The overseer of an ahupua‘a ranked below a chief; land or fishing rights under control of the konohiki; such rights are sometimes called konohiki rights.

kuapā Wall of a fishpond.

kukui The candlenut tree, or *Aleurites moluccana*, the nuts of which were eaten as a relish and used for lamp fuel in traditional times.

kuleana Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.

kupekala A bivalve of Pearl Harbor, possibly *Chama* spp.

kupua Demigod, hero, or supernatural being below the level of a full-fledged deity.

kupuna Grandparent, ancestor; kūpuna is the plural form.

lehua The native tree *Metrosideros polymorpha*, the wood of which was utilized for carving images, as temple posts and palisades, for canoe spreaders and gunwales, and in musical instruments.

limu Refers to all sea plants, such as algae and edible seaweed.

loʻi, loʻi kalo An irrigated terrace or set of terraces for the cultivation of taro.

loko, loko iʻa Pond, lake, pool.

lua The ancient style of fighting involving the breaking of bones, dislocation of joints, and inflicting pain by applying pressure to nerve centers.

mahamoe Sleek, as a plump animal, attractive; smooth; also the name of an edible bivalve.

Māhele The 1848 division of land.

maiʻa The banana, or *Musa* sp., whose fruit was eaten and leaves used traditionally as a wrapping for cooking food in earth ovens.

māmaki *Piptarus spp.*, a small native tree. Fiber from its bark was used to make a kind of coarse tapa. Sometimes spelled mamake in old texts.

maʻo *Gossypium sandvicense*, or native cotton, a shrub in the hibiscus family that bears yellow flowers and seed cases containing brown cotton.

mauka Inland, upland, toward the mountain.

mele Song, chant, or poem.

midden A heap or stratum of refuse normally found on the site of an ancient settlement. In Hawaiʻi, the term generally refers to food remains, whether or not they appear as a heap or stratum.

mōʻī King.

moku District, island.

moʻolelo A story, myth, history, tradition, legend, or record.

nahawele Bivalves of the family *Isognomonidae* or *Brachiodontes*, the purse shell and mussel, respectively.

nehu The anchovy, *Stolephorus purpureus*, used for eating and as a chum for bonito.

nuku Beak, snout, tip, end; spout, beak of a pitcher; mouth or entrance, as of a harbor, river, or mountain pass or gap.

ʻōkupe A method of digging holes using a stick, to prod the earth aside, as for taro; to stumble or trip; err or go astray morally; the name for the bivalve *Spondylus tenebrosus*.

oli Chant.

olonā The native plant *Touchardia latifolia*, traditionally used for making cordage.

ʻōpae Shrimp.

ʻowāʻowaka A bivalve, possibly of the family *Isognomonidae*.

pāpaʻi General term for crabs.

pāpaua The clam *Isognomon*, a bivalve.

pipi *Pinctada radiata*, the Hawaiian Pearl Oyster. In songs this is referred to as the *i‘a hāmau leo o ‘Ewa*, or ‘Ewa's silent sea creature, as it was believed that speaking would cause a breeze to ripple the ocean and scare the *pipi*.

pipipi A marine shell, *Nerita picea*, common in the intertidal zone.

post-contact After A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.

pre-contact Prior to A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.

puka Hole, void, space, entrance.

pu‘uone Pond near the seashore, as at the end of a stream.

uhi The yam *Dioscorea alata*, commonly grown for food.

‘ulu The Polynesian-introduced tree *Artocarpus altilis*, or breadfruit.

wao A general term for inland areas, usually forested and uninhabited.

wauke The paper mulberry, or *Broussonetia papyrifera*, which was made into tapa cloth in traditional Hawai‘i.

REFERENCES

Alexander, W.D.
1873 *Map of Honouliuli, Oahu*. Hawaiian Government Survey Map. Scale: 2,000 feet = 1 inch.

1902 *Oahu Hawaiian Islands*. Hawaii Territory Survey Map. Scale on map.

Andrews, L.
1865 *A Dictionary of the Hawaiian Language*. Henry M. Whitney, Honolulu.

Arakaki, E.
2012 "Disrespectful Treatment of Human Remains." In James Campbell High School Football Field A Lesson for Today." *Hawaii Reporter* October 2, 2012. <http://www.hawaiireporter.com/disrespectful-treatment-of-human-remains-in-james-campbell-high-school-football-field-a-lesson-for-today/123>

Athens, J.S.
1987 *Human Burial Removal, Iroquois Point, Oahu*. International Archaeological Research Institute, Inc., Honolulu.

Beardsley, F.
2001 *Phase II – Intensive Survey and Testing Naval Air Station Barbers Point Land of Honouliuli, 'Ewa District, Island of O'ahu Contract No. N62742-93-D-0502 Delivery Orders No. 7 and No. 19*. International Archaeological Research Institute, Inc., Honolulu.

Beckwith, M.
1970 *Hawaiian Mythology*. University of Hawaii Press, Honolulu.

Boelen, J.
1988 *A Merchant's Perspective: Captain Jacobus Boelen's Narrative of his visit to Hawai'i in 1828*. The Hawaiian Historical Society, Honolulu.

Campbell, A.
1819 *Voyage Round the World from 1806–1812*. New York.

Carson, M.T.
2007 *Archaeological Inventory Survey at Iroquois Point Beach Development Parcel, Pu'uloa, O'ahu Island, Hawai'i*. International Archaeological Research Institute, Inc., Honolulu.

Corbin, A.B.
2004 *Supplemental Archaeological Survey: Subsurface Testing of Beach Areas at Marina Channel and Kalo'i Drainage Channel, Ocean Pointe Project*. Paul H. Rosendahl, PhD, Inc., Hilo, Hawai'i.

Cordy, R.H.
1993 *The Rise and Fall of the O'ahu Kingdom; A Brief Overview of O'ahu's History*. Typescript, Division of Historic Preservation, Honolulu.

Davis, B.D.
1979 *Report on Archaeological Survey of the Proposed Ewa-Marina Community Development, Ewa Beach, Oahu Island*. Hawaii Marine Research, Inc., Honolulu.

1983 *Report on Preliminary Reconnaissance of the Proposed Ewa-Puuloa Golf Course in the Pu'uloa Section of Hono'uli'uli, Southwestern O'ahu*.

Davis, B.D. and G.C. Burtchard
1991 *Archaeological Inventory Survey of the Proposed PPV Housing Area, West Loch Unit of the Lualualei Naval Ammunition Depot, Pu'uloa, 'Ewa, O'ahu, Hawai'i*. International Archaeological Research Institute, Inc., Honolulu.

Dunn, A.E. and A.E. Haun
1991 *Intensive Archaeological Survey and Test Excavations, Ewa Marina Project- Phase 1. Land of Honouliuli, Ewa District, Island of Oahu (TMK 9-1-011-001,2,34,5,6,7;9-1-012-008,9,11,12,13,16,1)*. Paul H. Rosendahl, PhD, Inc., Hilo, Hawai'i.

Dye, T.S. and E.H.R. Jourdane
2006a *Archaeological Assessment for the Proposed T-MobileWest Hickam-Iroquois Point Cell Site No. HI 186P, 6376 Ibis Avenue, Pu'uloa, 'Ewa, O'ahu Island, TMK:(1)9–1–001:034 por.* T.S. Dye & Colleagues, Archaeologists, Inc., Honolulu.

2006b *Archaeological Assessment for the Proposed Sprint PCS Campbell High School Cell Site No. HI60XC506A, 91–980 North Road, Honouliuli, 'Ewa, O'ahu Island, TMK:(1)9–1–001:002 por*. T.S. Dye & Colleagues, Archaeologists, Inc., Honolulu.

Foote, D., E. Hill, S. Nakamura, and F. Stephens
1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. United States Department of Agriculture, Soil Conservation Service. Published in cooperation with the University of Hawaii Agricultural Experiment Station, Washington, D.C.

Fornander, A.
1918 *Fornander Collection of Hawaiian Antiquities and Folk-Lore, Vol. V*. Bishop Museum Press, Honolulu.

1919 *Fornander Collection of Hawaiian Antiquities and Folk-Lore, Vol. VI.* Bishop Museum Press, Honolulu.

1996 *Ancient History of the Hawaiian People to the Times of Kamehameha I*. Mutual Publishing, Honolulu.

Hammatt, H.H.
1984 *Reconnaissance and Evaluation of Archaeological Sites in the Proposed Ewa Marina Community, 'Ewa, O'ahu, Hawai'i.* Cultural Surveys Hawai'i, Kailua, Hawai'i.

Hammatt, H.H. and D.F. Borthwick
1997 *Archaeological Inventory Survey of a 0.8 Acre Study Area within the 'Ewa High Frequency Transmitter Station at Pu'uloa, Honouliuli Ahupua'a, O'ahu (TMK:9-1-01)*. Cultural Surveys Hawaii, Kailua, Hawai'i.

Hammatt, H.H. and R. Chiogioji
1997 *Archaeological Reconnaissance Survey of a 4.5 Kilometer (14,730-FT) Long Land Corridor Within Honouliuli Ahupua'a, 'Ewa District, O`ahu Island*. Cultural Surveys Hawai'i, Kailua, Hawai'i.

Hammatt, H.H. and D. Shideler
1989 *An Archaeological and Paleontological Assessment of Proposed Ewa Marina; Phase II Lands of Honouliuli, Ewa, O'ahu*. Cultural Surveys Hawaii, Kailua, Hawai'i.

Handy, E.S.C. and E.G. Handy (with the collaboration of M.K. Pukui)
1991 *Native Planters in Old Hawaii, Their Life, Lore, and Environment*. Revised Edition. Bishop Museum Press, Honolulu.

Haun, A.E.
1991 *An Archaeological Survey of the Naval Air Station, Barber's Point, O'ahu, Hawai'i*. The Applied Research Group of Bishop Museum, Honolulu.

Hawai'i Community Development Authority
2012 http://hcdaweb.org/kalaeloa. Accessed 6/5/2012.

Hommon, R.J. and H. Ahlo
1983 *Archaeological Test Excavations at the Proposed Ewa Marina Community Development Area, Ewa, Oahu*. Science Management, Inc.

I'i, J.P.
1959 *Fragments of Hawaiian History* (Puku'i Translation). Bishop Museum Press, Honolulu.

Jensen, P.M., and J. Head
1995 *Phase I Archaeological Reconnaissance Survey Naval Magazine Lualualei NAVMAG-West Loch*. Paul H. Rosendahl, Inc., Hilo, Hawai'i.

Jourdane, E.
1979 *Archaeological Reconnaissance Survey of Proposed Ewa Marina, Campbell Estate Properties, One'ula, Honouliuli, O'ahu*. Departmemt of Anthropology, B.P. Bishop Museum, Honolulu.

Juvik, S.P. and S.O. Juvik
1998 *Atlas of Hawaii*. Third Edition. University of Hawai'i Press, Honolulu.

Kamakau, S.M.
1991 *Ka Po'e Kahiko, The People of Old*. Bishop Museum Press, Honolulu.

n.d. *Ka Moolelo o Hawaii*. Bishop Museum, Honolulu.

Kelly, M.
1991 *Notes on the History of Honouliuli, Appendix A in A.E. Haun 1991, An Archaeological Survey of the Naval Air Station, Barber's Point, O'ahu, Hawai'i.* The Department of Anthropology, B.P. Bishop Museum, Honolulu.

Kennedy. J.
1988 *A Preliminary Archaeological Reconnaissance Conducted at TMK: 9-1-01:06, 27*. Archaeological Consultants of Hawai'i, Inc., Hale'iwa, Hawai'i.

Kennedy, J. and T. Denham
1992 *Archaeological Data Recovery Report for the Puuloa Golf Course Located at Ewa, Island of Oahu, TMK: 9-1-01:027 & 6.* Archaeological Consultants of Hawai'i, Inc., Hale'iwa, Hawai'i.

Kennedy, J., J. Berlin, and T. Denham
1992 *Archaeological Inventory Survey for the Puuloa Golf Course Site TMK: 9-1-01:027 & 6, Located at Ewa, Island of Oahu*. Archaeological Consultants of Hawai'i, Inc., Hale'iwa, Hawai'i.

McAllister, J.G.
1933 *Archaeology of O'ahu.* Bishop Museum Bulletin 104. Bernice P. Bishop Museum, Honolulu.

McCoy, P.
1972 *Archaeological Survey of the Proposed Puuloa Elementary School Site, Ewa Beach, Oahu*. B.P. Bishop Museum, 1972, Honolulu.

Monsarrat, M.D.
1878 *Map of Honouliuli Taro Land*. Scale: 1:2400.

Moore, J.R. and J. Kennedy
2002 *An Archaeological Archival Research Report for the ʻEwa Nonpotable Water System, Honouliuli Ahupuaʻa, ʻEwa District, Island of Oʻahu*. Archaeological Consultants of the Pacific, Haleʻiwa, Hawaiʻi.

Nakuina, M.K.
1990 *The Wind Gourd of Laʻamaomao*. Kalamakū Press, Honolulu.

Pukui, M.K.
1983 *ʻŌlelo Noʻeau: Hawaiian Proverbs & Poetical Sayings*. Bishop Museum Press, Honolulu.

Pukui, M.K., S.H. Elbert, and E.T. Mookini
1974 *Place Names of Hawaii*. University of Hawaiʻi Press, Honolulu.

Schoeneberger, P.J., D.A. Wysocki, E.C. Benham, and W.D. Broderson (editors)
2002 *Field Book for Describing and Sampling Soils, Version 2.0*. Natural Resources Conservation Service, National Soil Survey Center, Lincoln, Nebraska.

Sroat, E., D.W. Shideler, and H.H. Hammatt
2012 *Archaeological Literature Review and Field Inspection for the Campbell High School Project, Puʻuloa, Honouliuli Ahupuaʻa, ʻEwa District, Oʻahu Island TMKL [1] 9-1-001:002*. Cultural Surveys Hawaiʻi, Kailua, Hawaiʻi.

Sterling, E.P. and C.C. Summers
1978 *Sites of Oahu*. Bishop Museum Press, Honolulu.

Thien, S.
1979 A Flow Diagram for Teaching Texture-By-Feel Analysis. *Journal of Agronomic Education* 8:54–55.

Titcomb, M.
1972 *Native Use of Fish in Hawaiʻi*. University of Hawaii Press, Honolulu.

Tuggle, H.D.
1995 *Archaeological Inventory Survey for Construction Projects at Naval Air Station Barbers Point, Oʻahu, Hawaiʻi.* International Archaeological Research Institute, Inc., Honolulu.

Tuggle, H.D. and M.J. Tomonari-Tuggle
1994 *Cultural Resources of Naval Air Station, Barbers Point: Summary, Assessment, and Inventory Research Design: Archaeological Research Services for the Proposed Cleanup, Disposal and Reuse of Naval Air Station, Barbers Point, Oʻahu, Hawaiʻi (Task 1b).* International Archaeological Research Institute, Inc., Honolulu.

1995 *Prefinal: A Cultural Resource Inventory of Naval Air Station, Barbers Point, Oʻahu, Hawaiʻi: Part I: Phase I Survey and Inventory Survey.* International Archaeological Research Institute, Inc., Honolulu.

Vancouver, Captain George
1801 *A Voyage of Discovery to the North Pacific Ocean and Round the World.* 6 vols., London.

Appendix F

CULTURAL IMPACT ASSESSMENT

FINAL—Cultural Impact Assessment for Improvements to Campbell High School, Honouliuli Ahupua‘a, ‘Ewa District, Island of O‘ahu

TMK: (1) 9-1-001:002



Prepared For:

Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813

Keala Pono Archaeological Consulting, LLC ● PO Box 1645, Kaneohe, HI 96744 ● Phone 808.381.2361

FINAL—Cultural Impact Assessment for Improvements to Campbell High School, Honouliuli Ahupua‘a, ‘Ewa District, Island of O‘ahu

TMK: (1) 9-1-001:002

Prepared For:

Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813



Prepared By:

Dietrix Duhaylonsod, BA
and
Windy McElroy, PhD

August 2016



Keala Pono Archaeological Consulting, LLC ● PO Box 1645, Kaneohe, HI 96744 ● Phone 808.381.2361

MANAGEMENT SUMMARY

A Cultural Impact Assessment was conducted at James Campbell High School for TMK: (1) 9-1-001:002 in Honouliuli Ahupua‘a, ‘Ewa District, on the island of O‘ahu. The Department of Education is planning the development of new classrooms and associated infrastructure on campus. The current study took the form of background research and an ethnographic survey consisting of three interviews, all of which are included in this report.

The background research synthesizes traditional and historic accounts and land use history for the Campbell High School area. Community consultations were performed to obtain information about the cultural significance of the subject property and Honouliuli as a whole, as well as to address concerns of community members regarding the effects of the proposed construction on places of cultural or traditional importance.

The background study revealed that Honouliuli was a land rich in natural and cultural resources. The geology of the ‘Ewa Plain, with karst systems and sinkholes, led to the development of practices unique to the area, such as planting within the sinkholes. Interviews with individuals knowledgeable about the Campbell High School area produced information on its cultural history. The interviewees shared several concerns and recommendations for the improvements to the school. Concerns centered around potential traffic and flooding. Recommendations include having a blessing for the project; being mindful of drainage to minimize flooding; linking parking lots together to provide better circulation and lessen traffic; making sure that the new classrooms are air conditioned; using funds for a new athletic complex; and looking at long term solutions for school overcrowding.

CONTENTS

MANAGEMENT SUMMARY i
FIGURES v
TABLES v

INTRODUCTION 1
Project Location and Environment 1
The Project 1
BACKGROUND 6
Place Names 6
Hanalei 8
Hani-o 8
Kalaeloa 8
Kaloi 8
Keahumoa 8
Pohakea 8
Pukaua Plain 8
Puu-Kuua 9
Puʻuloa 9
Puʻu o Kapolei 9
Waimanalo 10
ʻEwa and Honouliuli in the Pre-Contact Era 10
ʻŌlelo Noʻeau 10
Moʻolelo 11
Land Use and Coastal Resources 14
ʻEwa and Honouliuli in the Historic Period 15
Early Descriptions of the ʻEwa Plain 15
Power and Warfare in Honouliuli 16
Māhele Land Tenure and Ownership of Honouliuli and Kalaeloa 20
The Military and More Recent Development 21
Previous Archaeology 22
Settlement Pattern 27
Summary and Anticipated Finds 27
ETHNOGRAPHIC SURVEY 29
Methods 29
Interviewee Background 29
Earl Arakaki 30
Tesha Malama 30
Ivy Pantastico 31
Topical Breakouts 31
Connections to the Project Lands 31
Archaeological Sites and Cultural Practices 32
The Natural Environment 34

Contents

Campbell High School History 34
Change Through Time 35
Concerns and Recommendations 36
Summary of Ethnographic Survey 40
SUMMARY AND RECOMMENDATIONS 41
Cultural Resources, Practices, and Beliefs Identified 41
Potential Effects of the Proposed Project 41
Confidential Information Withheld 41
Conflicting Information 41
Recommendations/Mitigations 42
GLOSSARY 43
REFERENCES 46
APPENDIX A: AGREEMENT TO PARTICIPATE 50
APPENDIX B: CONSENT FORM 53
APPENDIX C: TRANSCRIPT RELEASE 55
APPENDIX D: INTERVIEW WITH EARL ARAKAKI 57
APPENDIX E: INTERVIEW WITH TESHA MALAMA 64
APPENDIX F: INTERVIEW WITH IVY PANTASTICO 76

FIGURES

Figure 1. Project area on a 1999 USGS Pearl Harbor quadrangle map. 2
Figure 2. Project area on TMK: (1) 9-1-001 plat. 3
Figure 3. James Campbell High School campus map. 4
Figure 4. Soils in the vicinity of the project area (data from Foote et al. 1972). 5
Figure 5. Place names of Honouliuli (adopted from Tuggle 1995:10). 6
Figure 6. Features of Kalaeloa (adopted from Tuggle and Tomonari-Tuggle 1994:11–12) 7
Figure 7. Portion of an 1873 map of Honouliuli (Alexander 1873). 17
Figure 8. Map of Honouliuli Taro Lands (Monsarrat 1878). 18
Figure 9. Portion of a 1902 map of O‘ahu (Alexander 1902). 19
Figure 10. Previous archaeological studies in the vicinity of the project area. 24

TABLES

Table 1. Previous Archaeology on the ‘Ewa Plain 25
Table 2. List of Individuals Contacted 30

INTRODUCTION

At the request of Group 70 International, Keala Pono Archaeological Consulting conducted a Cultural Impact Assessment (CIA) for TMK: (1) 9-1-001:002 in Honouliuli Ahupua‘a, ‘Ewa District, on the island of O‘ahu. The Department of Education is planning the development of new classrooms and associated infrastructure on the James Campbell High School campus. The CIA was designed to identify any cultural resources or practices that may occur in the area and to gain an understanding of the community’s perspectives on the proposed improvements.

The report begins with a description of the project area and a historical overview of land use and archaeology in the area. The next section presents methods and results of the ethnographic survey. Project results are summarized and recommendations are made in the final section. Hawaiian words, flora and fauna, and technical terms are defined in a glossary. Also included are appendices with documents relevant to the ethnographic survey, including full transcripts of the interviews.

Project Location and Environment

The project area is located at Campbell High School in Honouliuli Ahupua‘a, ‘Ewa District, on the island of O‘ahu (Figure 1). The project property is recorded as TMK: (1) 9-1-001:002 and consists of 1.21 ha (2.98 ac.), of which approximately .61 ha (1.5 ac.) will be developed with five new buildings and associated parking improvements (Figure 2). This .61-ha development area currently includes the school’s agriculture garden and adjacent lawns on the northeast and southwest, as well as a paved roundabout on the southwest side (Figure 3). The parcel is owned by the City and County of Honolulu and is situated at roughly 3 m (10 ft.) in elevation.

Rainfall is sparse in the vicinity, averaging roughly 46–64 cm (18–25 in.) per year (Juvik and Juvik 1998). Honouliuli Stream is the only permanent watercourse in the area, thus when the ‘Ewa Plain floods, water percolates into the porous limestone and drains into sinkholes. Ponds and marshes were more plentiful across the plain in the past, as drilling of artesian wells for historic-era sugarcane cultivation has drained the water table significantly. Vegetation in the development area consists of grass lawns outside the school’s agriculture garden, and agricultural plants within the garden (e.g., aloe, kalo, fruit trees).

The project area lies 570 m (.35 mi.) from the coast and topography is generally flat, with an upraised coral limestone ground surface. Generally, soils in the area are of the Lualualei-Fill land-Ewa Association, described by Foote et al. (1972) as follows:

> Deep, nearly level to moderately sloping, well-drained soils that have a fine-textured or moderately fine-textured subsoil or underlying material, and areas of fill land; on coastal plains.

Specifically, soils within the project area consist entirely of coral outcrop (CR) (Figure 4). In pre-Contact times, the coral outcrop was likely more exposed, with the openings of pit caves (also known as sinkholes) on the surface.

The Project

The Department of Education is constructing five new classroom buildings connected by walkways and providing parking improvements to accommodate the space needs of James Campbell High School’s large student body. The new 58,000 square foot classroom building complex will include 20 classrooms, five science labs, a culinary arts lab, a Hawaiian Studies classroom, two faculty centers, and support spaces. The project will repave the existing turnaround to provide additional tandem parking and a three-bus loading area. The driveway will also be extended to improve connectivity between parking lots. The new classroom buildings will meet the guidelines for Hawai‘i Collaborative for High Performance Schools (HI-CHPS) for designing energy efficient, healthy, sustainable schools, and will have infrastructure suitable for photovoltaic installations.

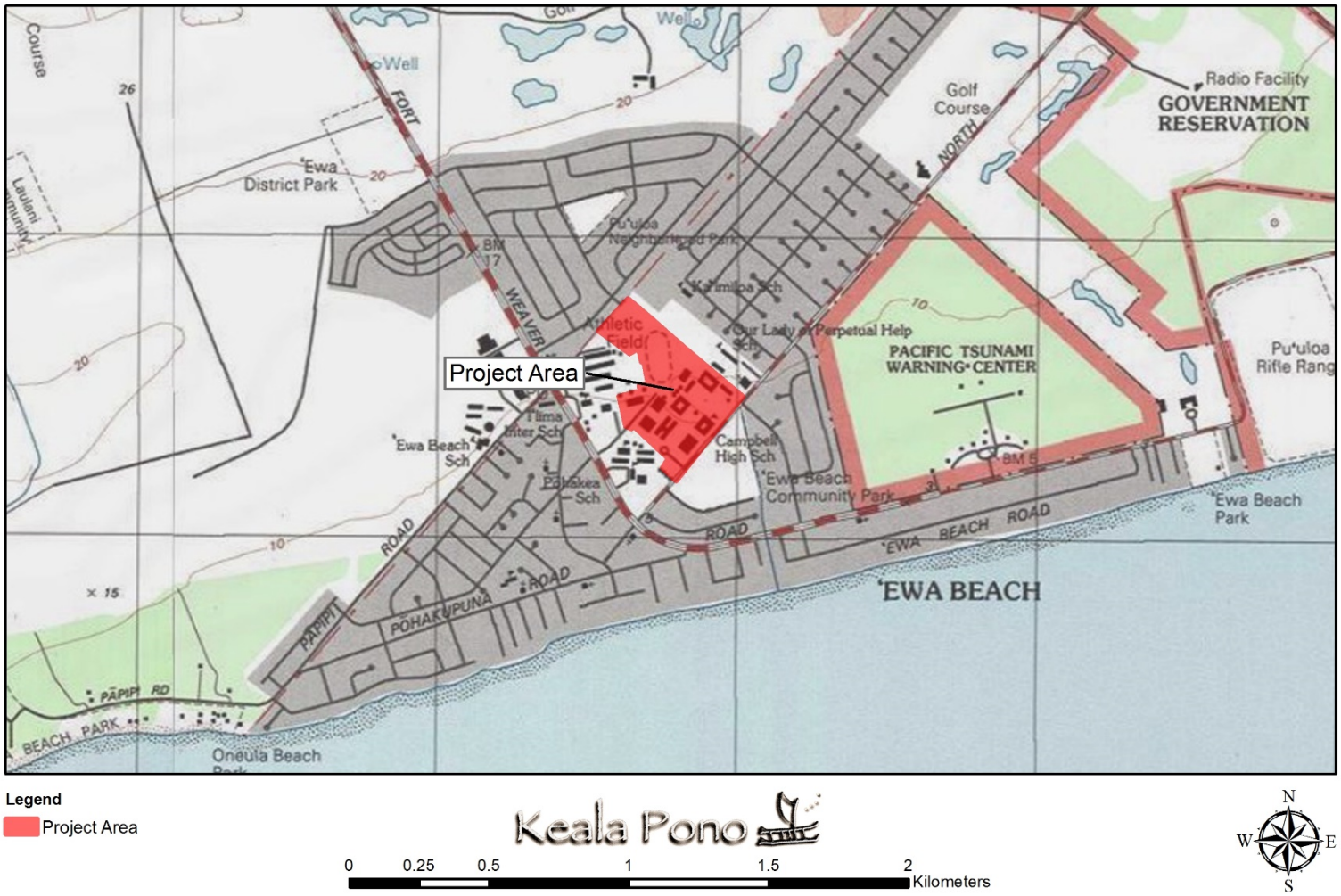


Figure 1. Project area on a 1999 USGS Pearl Harbor quadrangle map.

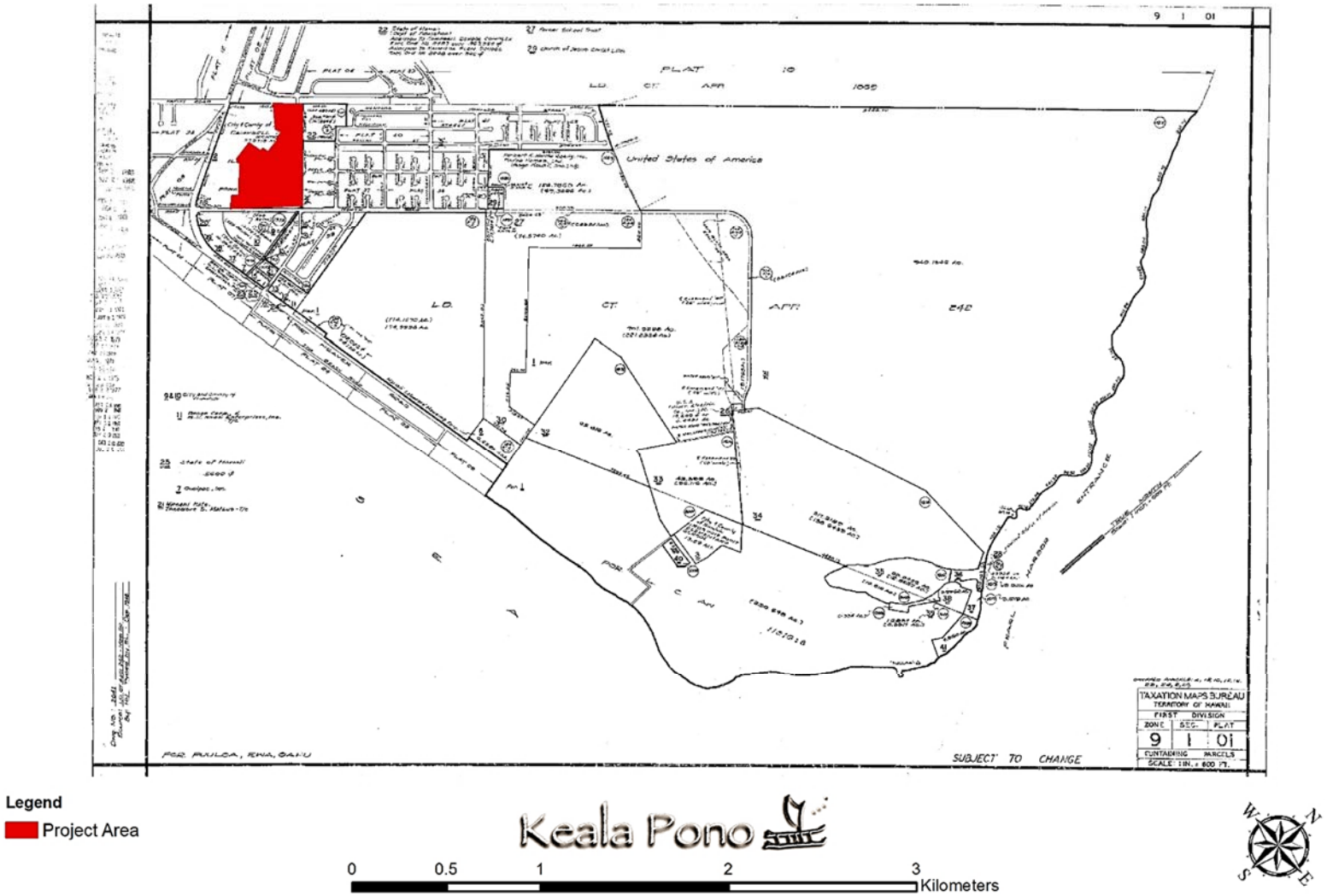


Figure 2. Project area on TMK: (1) 9-1-001 plat.

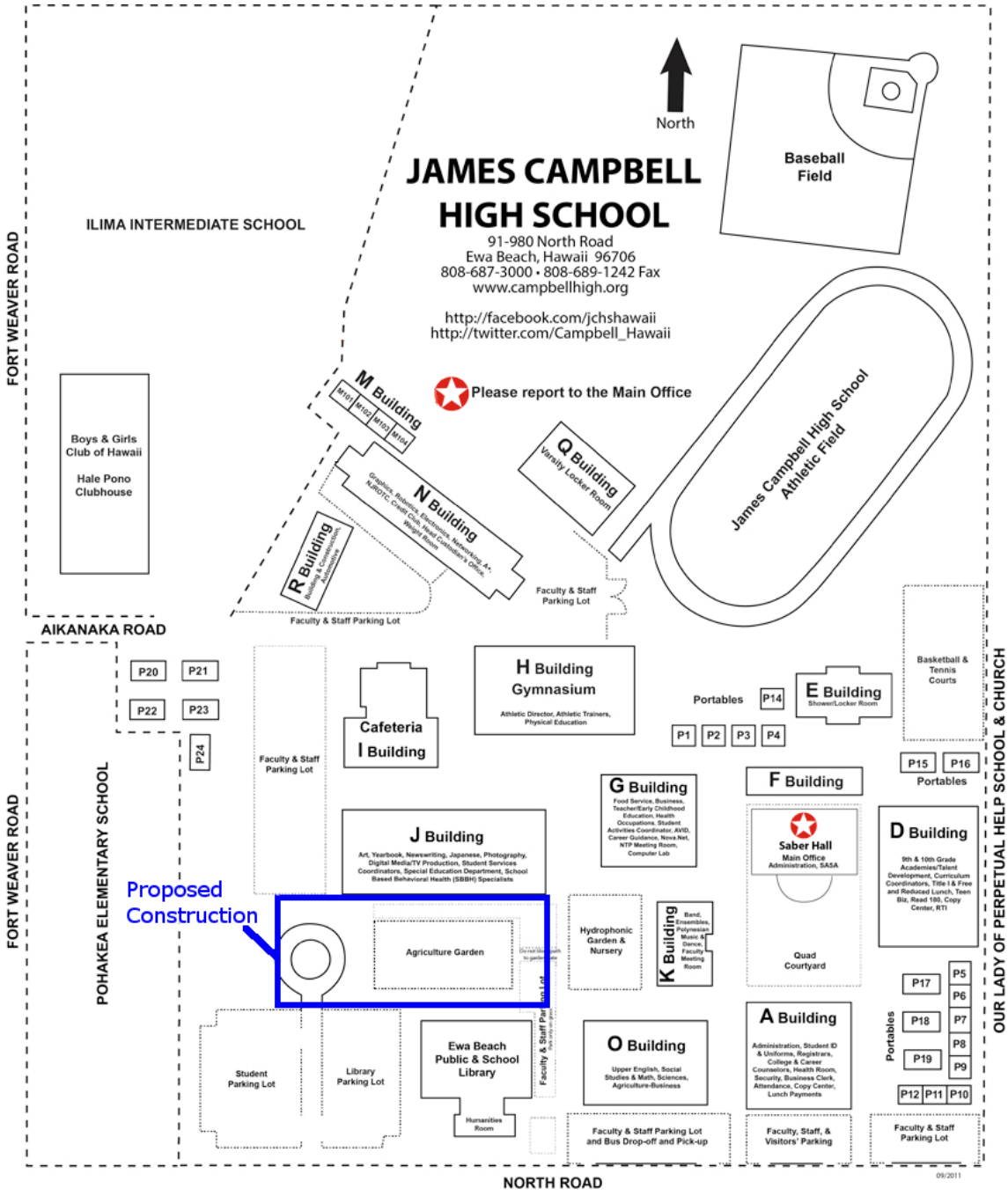


Figure 3. James Campbell High School campus map, annotated to show the area proposed for construction (2012 base map from campbellhigh.org).

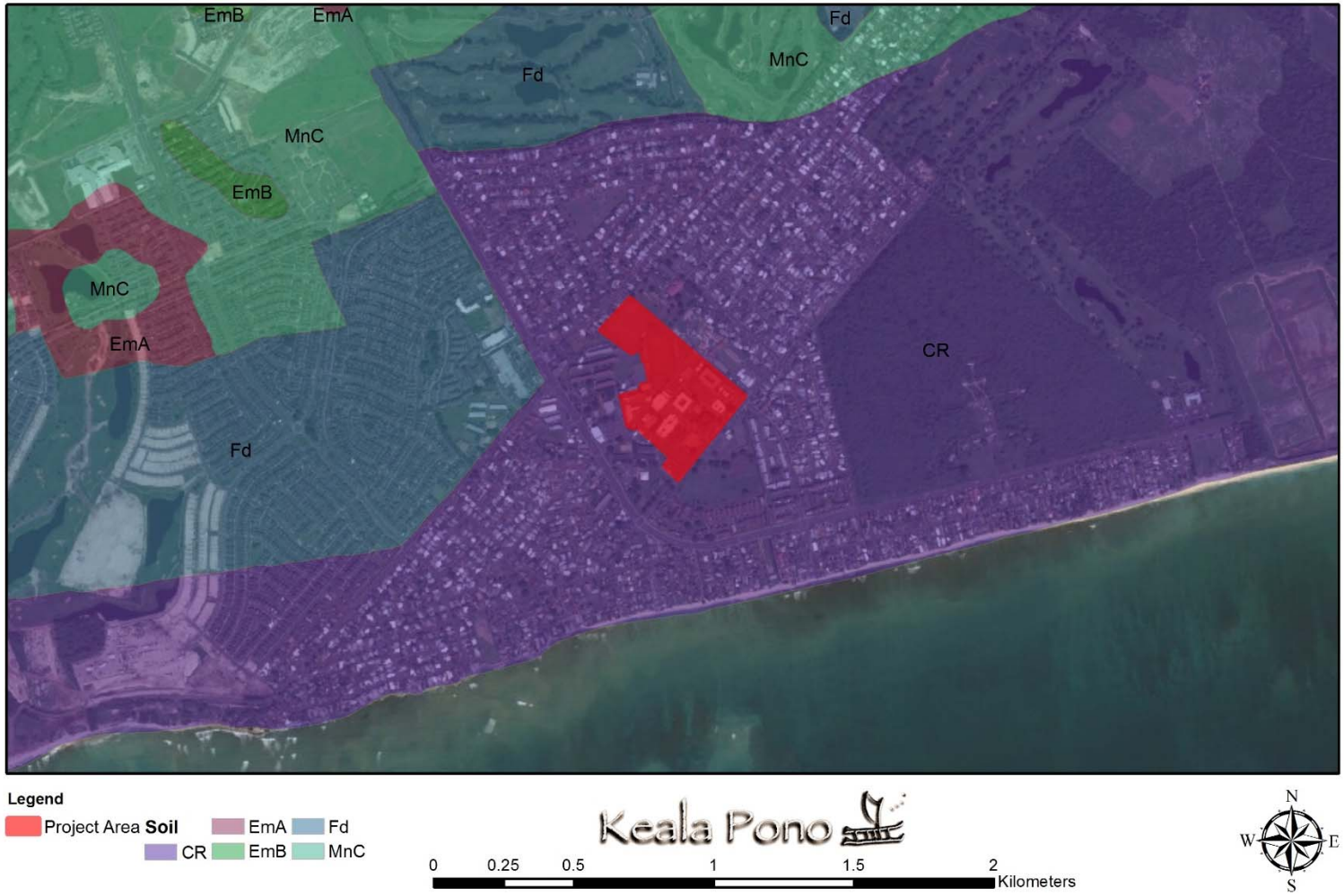


Figure 4. Soils in the vicinity of the project area (data from Foote et al. 1972).

BACKGROUND

This section of the report presents background information as a means to provide a context through which one can examine the cultural and historical significance of the ʻEwa Plain and the ahupuaʻa of Honouliuli. In the attempt to record and preserve both the tangible (i.e., traditional and historic archaeological sites) and intangible (i.e., moʻolelo, mele, place names) culture, this research assists in the discussion of anticipated finds. Research was conducted at the Hawaii State Archives, Hawaiʻi State Library, the State Historic Preservation Division, as well as online at databases such as the Hawaiʻi Department of General Accounting map database, Ulukau, and Waihona ʻAina. Historical maps, archaeological reports, and historical reference books were among the materials examined.

Place Names

Within various accounts, place names can contain significant information which further reveal traditional beliefs and practices associated with an area. Maps of traditional places and features can be found in Figures 5 and 6. Note that the project area in Figure 6 is off the map to the east. The following places are in the Honouliuli region:

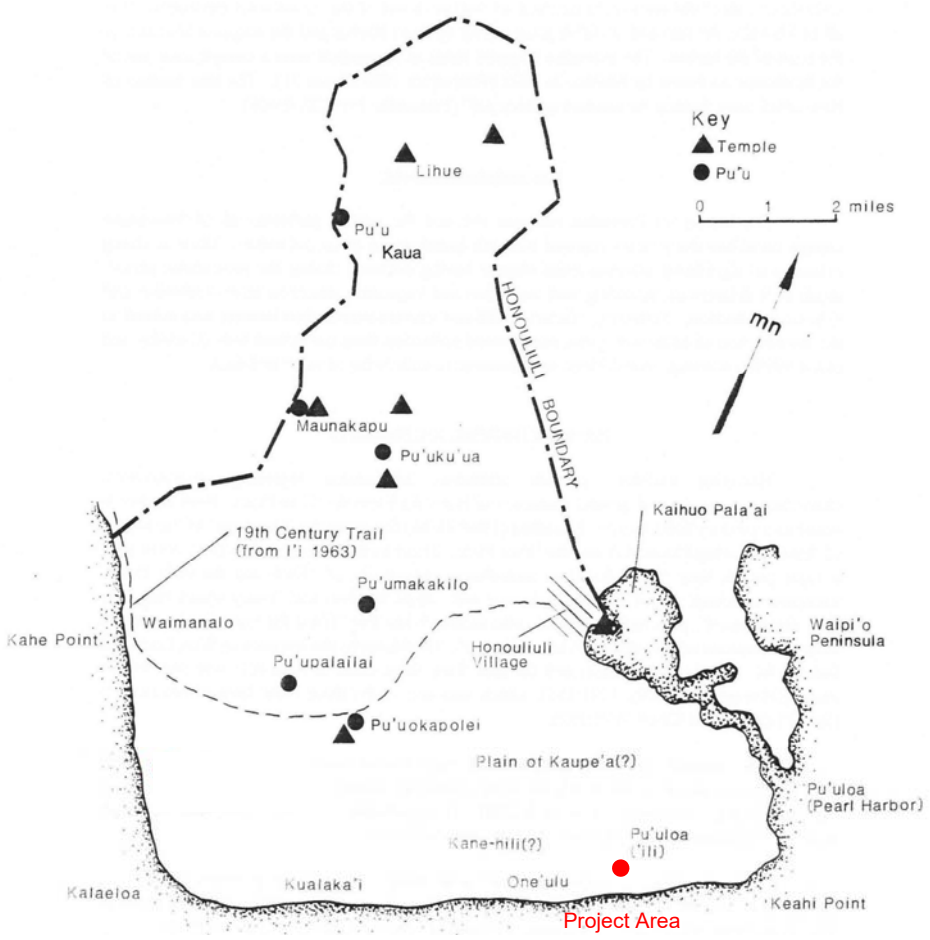


Figure 5. Place names of Honouliuli, showing the current project area in red (adopted from Tuggle 1995:10).

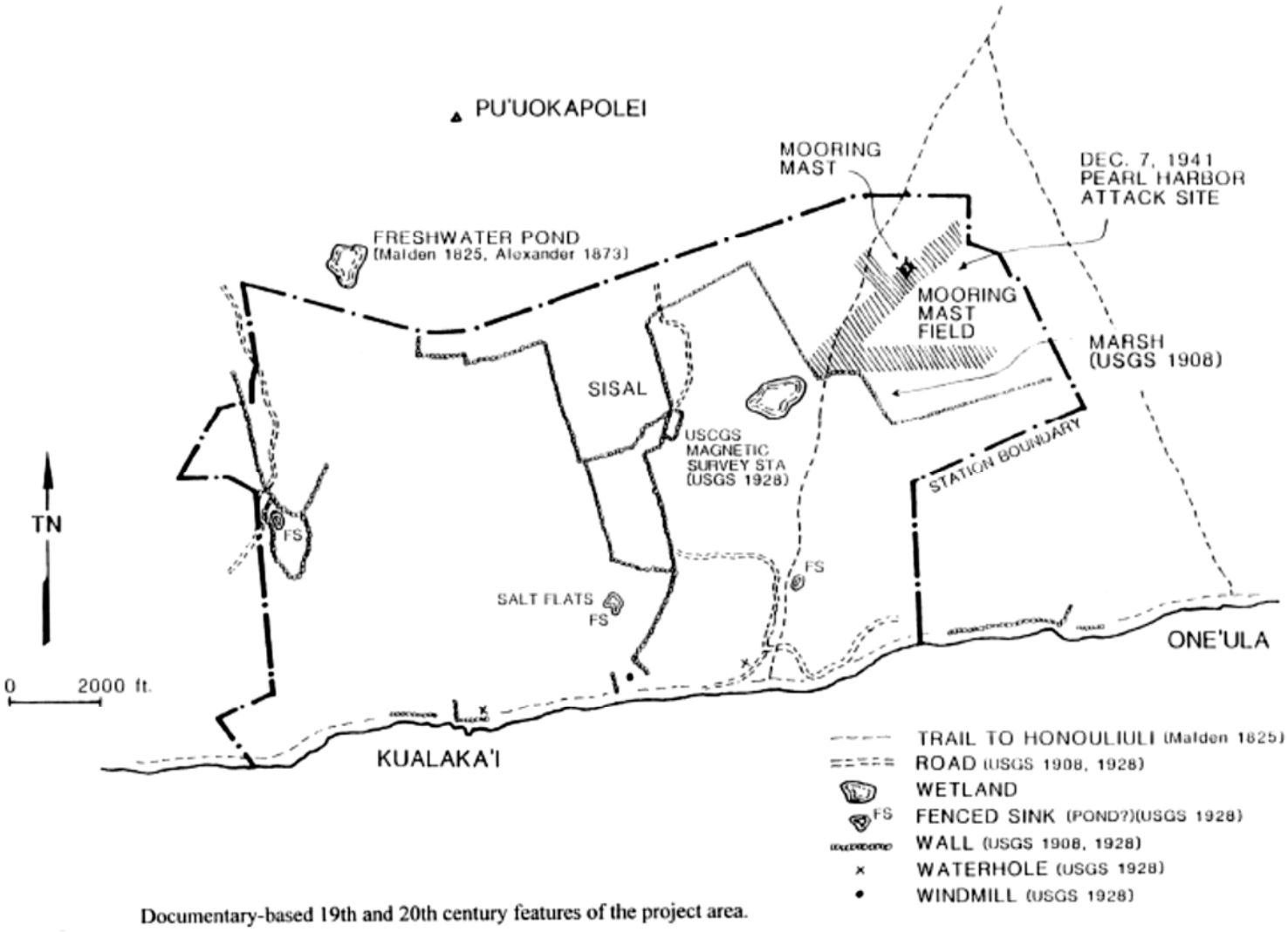


Figure 6. Features of Kalaeloa (adopted from Tuggle and Tomonari-Tuggle 1994:11–12). The project area is off the map to the east.

Hanalei

> Hanalei, a small flat land with a little gulch on either side on the right of Puuloa mauka of Puu-o-Kapolei. Formerly there was much milo, neneleau, kamani and other trees on the land, home of the iiwi and oo birds (lono, Honomu). (T. Kelsey Collection, HEN: Vol. I, p. 820 in Sterling and Summers 1978:34)

Hani-o

"The fishing ground outside Kalaeloa is named Hani-o…" (Beckwith 1970:23)

Kalaeloa

Literally meaning "the long point," this area later became known as Barbers Point after Captain Henry Barber ran aground at the point in 1796 (Pukui et al. 1974).

Kaloi

> ….Harry's first thought when riding over the country was where to find water, and during the years 1890-91-92 much was done in the way of new troughs, getting water from plantations of flumes, and digging out wet places that showed any prospects of water. One of those places is on the old trail to Palehua, and had evidently been a place of which the Hawaiians had known, for its name is Kaloi (the taro patch), and even in dry weather water would be standing in the holes made by the cattle, as they tried to get a drop or two. …When water was finally led down the rocky hillside to the trough at Kaloi, Mr. William R. Castle, who was with Harry, rechristened the spring "Wai o Kakela," Kakela being Mr. Castle's Hawaiian name. But the old name still stuck to it, and as Kaloi it is known to this day. (Knudsen von Holt 1953:116 in Sterling and Summers 1978:35)

Keahumoa

"…Was the plain before reaching the Kipapa gulch" (Fornander 1918, vol. IV:274) (see Battle of Keahumoa Plain).

Pohakea

A place where Lohiau and Hiiaka rested on their journey to meet Pele, between ʻEwa and Waiʻanae (Fornander 1918:188).

> …The travelers only stopped one night and spent the following night on the other side of Pohakea. The elders and children who went with them slept above Kunia on this side of Pohakea… (Iʻi 1959:23)

Pukaua Plain

> The Two Old Women Who Turned to Stone
>
> If a traveller [sic] should go by the government road to Waianae, after leaving the village of gold, Honouliuli, he will first come to the plain of Puu-ainako and when that is passed, Ke-one-ae. Then there is a straight climb up to Puu-o-Kapolei and there look seaward from that government road to a small hill. That is Puu-o-Kapolei. It is this hill that hides Ewa from view. When you go to that side of Waimanalo, you see no more of the sight back here. You go down some small inclines, then to a plain. This plain is Pukaua and on the

> mauka side of the road, you will see a large rock standing on the plain. This stone has a legend that made this plain noted…. (*Ka Loea Kalaiaina* 1900 in Sterling and Summers 1978:39)

Puu-Kuua

> Here are some pointers for the traveler to Ewa. If you are going by train, look up toward the Ewa mill. If you are above Puuloa, you will see Puu-o-Kapolei, a small hill. Lying below and back of that hill is the government road going to Waianae. Above that is also a small hill and back of that, is a big hill and above it is a large hollow. That is Puu-Kuua where the very dirty ones lived. (*Ka Loea Kalaiaina* 1899 in Sterling and Summers 1978:32)

> …A place where the chiefs lived. Was said to be a battlefield. There were two important things concerning this place. (1) This place is entirely deserted and left uninhabited and it seems that this happened before the coming of righteousness to Hawaii Nei. Not an inhabitant is left. (2) The descendants of the people of this place were so mixed that they were all of one class. Here the gods became tired of working and returned to Kahiki. (*Ka Loea Kalaiaina*, July 8, 1899 in Sterling and Summers 1978:32–33)

Puʻuloa

Literally translates to "long hill," this area is now known as Pearl Harbor (Pukui et al. 1974).

Puʻu o Kapolei

Located to the north of the current project area, "it is here that Kamauluaniho (Kamaunuaniho) lived with her grandson, Kekeleaiku, the older brother of Kamapuaʻa after they left Kaliuwaa in Kaluanui, Koolau-loa" (*Ka Loea Kalaiaina* 1900 in Sterling and Summers 1978:32–33).

After Kamapuaʻa conquered most of Oʻahu, he installed his grandmother, Kamaunuaniho as queen, taking her to Puʻu o Kapolei. It was noted as a desolate spot, being "almost equally distant from the sea, from which came the fish supplies; from the taro and potato patches of Ewa, and from the mountain ravines containing the banana and sugar cane plantations." It was believed that the foundations of Kamaunuaniho's house, as well as her grave, were still present before the turn of the 20th century. However, with the expansion of sisal and cane activities at the base of Puʻu o Kapolei, stones may have been removed for making walls (Nakuina 1904:50 in Sterling and Summers 1978:34).

Puʻu o Kapolei is also noted as an important landmark which marked the season of Hoʻoilo:

> …the people of Oahu reckoned from the time when the sun set over Puʻuokapolei until it set in the hollow of Mahinaona and called this period Kau, and when it moved south again from Puʻuokapolei and it grew cold and the time came when young sprouts started, the season was called for their germination (oilo) the season of Hoʻoilo. (Kamakau n.d.:23 in Sterling and Summers 1978:34)

A legendary fisherman, Nihooleki, lived at Kuukuua on Puʻu o Kapolei under the name of Keaha-ikiaholeha. Born at Keauhou in Kona, he became a ruling chief of Waiʻanae. Wielding his famous aku-attracting pearl fishhook named Pahuhu, Keaha-ikiaholeha traveled to Kauaʻi, the birthplace of his high chiefess wife, and became ruling chief. When he died, his body was brought back to Waiʻanae and prayed back to life by his parents. Among his later exploits, Nihooleki returns to Waiʻanae and "enters his tomb" and dies (Beckwith 1970:420).

Waimanalo

> Koolina is in Waimanalo near the boundary of Ewa and Waianae. This was a vacationing place for chief Kakuhihewa and the priest Napuaikamao was the caretaker of the place. Remember Reader, this Koolina is not situated in the Waimanalo on the Koolau side of the island but the Waimanalo in Ewa. It is a lovely and delightful place and the chief, Kakuhihewa loved this home of his. (*Ke Au Hou* 1910 in Sterling and Summers 1978:41)

ʻEwa and Honouliuli in the Pre-Contact Era

The project area is located in the ʻEwa District, the largest land district on Oʻahu, situated on the southern shore of the island. The name "ʻEwa" means "to crook, to twist, to bend" (Andrews 1865). This name may refer to the moʻolelo within which Kāne and Kanaloa threw stones to determine the boundaries of the district (see Moʻolelo section) (Sterling and Summers 1978). The current area of study is located within the ahupuaʻa of Honouliuli, the largest of ʻEwa's ahupuaʻa. Translated, Honouliuli means "dark bay" (Pukui et al. 1974), likely referring to the deep waters of what is now called West Loch of Pearl Harbor, located on the eastern perimeter of Honouliuli Ahupuaʻa.

Within the moʻolelo of Kūapākaʻa and Pākaʻa and the wind gourd of Laʻamaomao, the winds of Oʻahu are recited by Kūapākaʻa:

> …Moaʻe-ku is of Ewaloa,
> Kēhau is of Waiopua,
> Waikōloa is of Līhuʻe,
> Kona is of Puʻuokapolei,
> Māunuunu is of Puʻuloa… (Nakuina 1990:43)

> …He Moae-ku ko Ewaloa,
> He Kehau ko Waiopua,
> He Waikoloa ko Lihue,
> He Kona ko Puuokapolei,
> He Maunuunu ko Puuloa… (Nakuina 1902:57)

This Moaʻe wind is also mentioned in the ʻōlelo noʻeau, "Haunāele ʻEwa i ka Moaʻe" which is translated as "'Ewa is disturbed by the Moaʻe wind" (Pukui 1983:59). According to Pukui, this phrase was used when discussing something disturbing, such as a violent argument. It is said that the people of ʻEwa gathered pipi, or pearl oyster, in silence due to the belief that if they spoke, a Moaʻe breeze would blow, rippling the water and making the oysters "disappear" (Pukui 1983).

ʻŌlelo Noʻeau

ʻŌlelo noʻeau referring to the ʻEwa Plain are numerous while only one ʻōlelo noʻeau was found referring to Honouliuli and one for Puʻuloa. The following Hawaiian proverbs and poetical sayings provide further insight to traditional beliefs and practices of these lands.

> Ka iʻa hali a ka makani.
> *The fish fetched by the wind.*
> The *ʻanaeholo*, a fish that travels from Honouliuli, where it breeds, to Kaipāpaʻu on the windward side of Oʻahu. It then turns about and returns to its original home. It is driven closer to shore when the wind is strong. (Pukui 1983:145)

> Kālele ka uwahi o Puʻuloa
> The smoke of Puʻuloa leans over.
> Said in amusement of one who leans over, intent on his work. (Pukui 1983:156)

Moʻolelo

The boundaries of ʻEwa have been linked to the story of the gods Kāne and Kanaloa who, while surveying the islands, reached Red Hill and saw the expanse of what is the ʻEwa Plain. To mark the boundaries of the area, they would throw a stone, and the boundary would be placed where the stone landed. Seeing the beautiful land below them, they thought to include as much as possible, throwing the stone as far as the Waiʻanae Mountain Range in the area known as Waimānalo. While in search of their flung stone, Kāne and Kanaloa were unable to find where it had landed. Because of this, the area was named "ʻEwa" due to the "straying" of the stone. Eventually, the stone was found on a hill and was named Pili o Kahe. This place marks the boundary between the ʻEwa and Waiʻanae Districts, Honouliuli Ahupuaʻa within ʻEwa, and Nānākuli in Waiʻanae (Nawaʻa in Sterling and Summers 1978:1).

The cultural richness of ʻEwa Moku is seen with the important moʻolelo of the origin of the ʻulu, or breadfruit in Hawaiʻi. Noted as one of the two places in Hawaiʻi where the ʻulu "is to be found," the other being Kaʻawaloa in Kona on the island of Hawaiʻi (W.S. Lokai in Fornander 1918–1919:676–677). The breadfruit of Puʻuloa came from a mythical land in Kahiki, named Kanehunamoku. It was brought by two men of Puʻuloa who were out fishing and, caught in a rainstorm, landed on an island only inhabited by the gods who then introduced the two men to the fruit of the ʻulu tree.

According to Beckwith, near Puʻuloa, at ʻEwa Beach, the first humans, or olohe, landed on Oʻahu. At this place, caves of the olohe (ka lua olohe) are to be seen. Represented in legends as "professional robbers" with tendencies towards cannibalism, the olohe, or Haʻa people, were highly skilled in the art of lua which includes wrestling and bone-breaking (Beckwith 1970:343).

In the epic tale of Hiʻiakaikapoliopele, the sister of Pele, traversed the ʻEwa Plain as she returned back to Pele's domain of Kīlauea, Hawaiʻi, from Hāʻena, Kauaʻi where she was to fetch Pele's lover, Lohiʻau-ipo (Lohiʻau). The full story was printed in the Hawaiian-language newspaper, *Ka Hōkū o Hawaiʻi* from September 18, 1924 to July 17, 1928. An excellent summary of this story can be found within Appendix G of Beardsley (2001) which was written by Kepā Maly. An excerpt pertaining to the ʻEwa Plain and Honouliuli is included below (translations by Kepā Maly).

...Aloha ka hau o Kaʻala
ʻOia hau halihali ʻaʻala mauʻu nēnē
Honi ai ke kupa o Puʻuloa
He loa ka imina e ke aloha e...

Beloved is the dew of Kaʻala
That dew which bears the fragrance of the *nēnē* grasses
[fragrant dew which] Kissed the natives of Puʻuloa
One searches far for love…
(*Ka Hōkū o Hawaiʻi,* January 18, 1927 in Beardsley 2001:G-1)

As Lohiʻau and Wahineʻōmaʻo traveled by boat from Pōkaʻi (Waiʻanae) to Kou (Honolulu), Hiʻiaka traveled over land and traversed the plain of Honouliuli, encountering women on their way to gather pāpaʻi (crabs), limu (seaweeds), mahamoe, and ʻōkupe (both edible bivalves). At the plain of Keahumoa (between Waipiʻo and Honouliuli), Hiʻiaka came across a group of women gathering maʻo blossoms (*Gossypium tomentosum,* an endemic yellow-flowered hibiscus typically found on dryland plains) with which they would make lei. Hiʻiaka offered them the following oli:

E lei ana ke kula o Keahumoa i ka maʻo
ʻOhuʻohu wale nā wahine kui lei o ke kanahele
Ua like no a like me ka lehua o Hōpoe
Me he pua koili lehua ala i ka lā

Ka oni pua koai‘a i ka pali
I nā kaupoku hale o ‘Āpuku
Ke ku no I ke alo o ka pali o Pu‘uku‘ua
He ali‘i no na‘e ka ‘āina
He kauwā no na‘e ke kanaka
I kauwā no na‘e wau i ke aloha
Na ke aloha no na‘e i kono e haele no māua
E hele no wau a—

The plain of Keahumoa wears the ma‘o blossoms as its lei
Adorning the women who string garlands in the wild
It is like the lehua blossoms of Hōpoe
Lehua blossom upon which the sun beats down
On the nodding koai‘a flowers of the cliff
On the rooftops of the houses at ‘Āpuku
Rising in the presence of the cliff of Pu‘uku‘ua
The land is indeed the chief
Man is indeed a slave
I am indeed a slave to aloha – love
It is love which invites us two – come
I come-
(*Ka Hōkū o Hawai‘i,* February, 1927 in Beardsley 2001:G-3)
[Place names ‘Āpuku and Pu‘u Ku‘ua are both areas located in the uplands of Honouliuli]

The mo‘olelo of Kahalaopuna also takes place in ‘Ewa (Fornander 1918, Vol. V:188–192). Kahalaopuna was a young woman who was from Mānoa. Betrothed to marry Kauhi, a man from Ko‘olau, he sent her numerous gifts before they were to be married. He soon became very angry when he heard rumors that Kahalaopuna had been unfaithful to him. Kauhi took Kahalaopuna to ‘Ewa, leading her through the back valley and trails to a place known as Pōhākea and a large lehua tree, where he took her life, even though she begged of her innocence. After burying her body under leaves of the lehua tree, Kauhi returned home. Meanwhile, Kahalaopuna’s spirit had flown into the tree, and was able to chant to passers-by to tell her parents of her death and of her location. After she was brought back to life by her parents, Kauhi returned to Kahalaopuna, asking for forgiveness, however, she would not listen to him.

The mo‘olelo of Namakaokapao‘o, is about a boy with that name, who has extraordinary strength for a young man his age. His father was Kauluakahai, a great chief with a “godly relationship” who hailed from a great land in Kahiki. Namakaokapao‘o’s mother was Pōka‘i. The couple met in ‘Ewa, in a place called Hō‘ae‘ae. Shortly after Namakaokapao‘o was conceived, Kauluakahai returned to his own land. Pōka‘i then met a man named Puali‘i who was from Līhu‘e [Wahiawā, O‘ahu] and was fishing at Honouliuli. The couple resided at the plains of Keahumoa where Puali‘i had two large potato patches. One day, while Puali‘i was gone, Namakaokapao‘o pulled up Puali‘i’s potato plants. Upon his return, Puali‘i attempted to kill Namakaokapao‘o with his axe, but ended up cutting off his own head. Namakaokapao‘o flung the head towards Waipouli, a cave located on the beach at Honouliuli (Fornander 1918, Vol. 5:275, 276).

In the mo‘olelo of Kawelo, the king, ‘Aikanaka is offended by Kawelo and sends him to live at Waikīkī. While at Waikīkī, Kawelo studied the art of lua in order to get his revenge on ‘Aikanaka. Kawelo’s teacher was a fish kupua, or demi-god, Uhu maika‘ika‘i, who lived at Pōhaku o Kawai, near Kalaeloa (Hawaiian Ethnological Notes, Vol. II:114 in Sterling and Summers 1978:41).

The ‘Ewa Plain was known to be a very fruitful place, with abundant resources in the ocean and on land. Protecting such a place was the kia‘i, or caretaker of ‘Ewa, named Kanekua‘ana (Kamakau

1991:83). Relied on by the ʻEwa kamaʻāina, during times of scarcity of fish, her descendants built Waihau Heiau and lit fires for the cooking of offerings with the hope of blessings. According to Kamakau (1991), blessings were in the form of the various types of seafood:

> The *pipi* (pearl oyster)—strung along from Namakaohalawa to the cliffs of Honouliuli, from the *kuapa* fishponds of inland ʻEwa clear out to Kapakule. That was the oyster that came in from the deep water to the mussel beds near shore, from the channel entrance of Puʻuloa to the rocks along the edges of the fishponds. They grew right on the *nahawele* mussels, and thus was this *iʻa* obtained. Not six months after the *hau* branches [that placed a kapu on these waters until the *pipi* should come in] were set up, the *pipi* were found in abundance—enough for all ʻEwa—and fat with flesh. Within the oyster was a jewel (*daimana*) called a pearl (*momi*), beautiful as the eyeball of a fish, white and shining; white as cuttlefish, and shining with the colors of the rainbow—reds and yellows and blues, and some pinkish white, ranging in size from small to large. They were of great bargaining value (*he waiwai kumukuʻai nui*) in the ancient days, but were just "rubbish" (*ʻopala*) in ʻEwa. (Kamakau 1991:83)

Other seafood described by Kamakau include the transparent shrimp (ʻōpae huna) and spiked shrimp (ʻōpae kakala) which came into the kuapa and puʻuone fishponds, the nehu pala and nehu maoli fish which filled the nuku awalau (lochs), as well as the bivalves mahamoe and ʻokupe and other types which have disappeared long ago (Kamakau 1991:84).

ʻEwa's abundance could also be attributed to the blessings it received from the gods Kāne and Kanaloa:

> …There are many other legends of ʻEwa which Mrs. Pukui has collected from old-timers or translated from old newspaper stories. …According to another legend it was here in ʻEwa that Kane and Kanaloa were invoked by a planter of sweet potatoes, taros, and *ʻawa* named Maihea. This man, living in the upland of Waiʻawa, when he had prepared his meal and his *ʻawa*, would pray:

O unknown gods of mine,
Here are *ʻawa*, taro greens and sweet potatoes
Raised by me, Maihea, the great farmer.
Grant health to me, to my wife and to my son.
Grant us *mana*, knowledge and skill.
Amama. It is freed.

> Kane and Kanaloa sent ashore at Waimalu a great whale. It lay there many days. Children climbed on it. Maihea's son did likewise. One day the whale moved into the water. The other children jumped off, but Maihea's son remained on the whale's back. It swam out to sea, and on to Kahiki. There ʻUla-a-Maihea, the farmer's son, "was trained in priestly lore and all of its arts through the instructions of these gods, Kane and Kanaloa." One day two strangers appeared at his door as Maihea was about to pray to his unknown gods. He poured *ʻawa* into three cups and said, "Let me pray to my unknown gods." Then the two strangers revealed that they were his "unknown gods," Kane and Kanaloa, and instructed him to call upon them by name. "This was the beginning of the travels of these gods on earth…." The gods went up the hill named Haupuʻu and gazed down upon the fishponds and plantations and coconut groves of ʻEwa and blessed them.
>
> There was a fisherman at Puʻuloa named Hanakahi, who, like Maihea, prayed to "unknown gods." Kane and Kanaloa visited him also, revealed their identity, and taught him to pray properly. They went on to Ke-ana-puaʻa, and built a fishpond which "is there to this day." They made another at Kepoʻokala, and then another opposite this. Then they returned to Hanakahi's house and told them that these ponds were made for him and his descendants.

> Thus they blessed the beautiful land of ʻEwa" (*Ka Loea Kalaiʻaina*, June 10, 1899 in Handy and Handy 1991:472, 473).

The land of Honouliluli was known for its ʻamaʻama, or mullet fish. The following moʻolelo describes how the route of the ʻamaʻama, which travel from Honouliuli to Lāʻie, came to be.

> Kaihuopalaʻai (a place) was famous from olden times down to the time when the foreigner ruled Honouliuli, after which time the famous old name was no longer used. It is said that in those days the *ʻamaʻama* heard and understood speech, for it was a fish born of a human being, a supernatural fish. These were the keepers of this fish. Kaulu, the husband, and Apokaʻa, the wife, who bore the children, Laniloa, the son, and Awawalei, the daughter. These two children were born with two other supernatural children, an eel and a young *ʻamaʻama.* From this *ʻamaʻama* child came all the *ʻamaʻama* of Kaihuopalaʻai, and thus did it gain renown for its *ʻamaʻama*. Laniloa went to Laʻie, in Koʻolauloa, and there he married. His sister remained in Honouliuli and married Mokueo, and to them were born the people who owned the *ʻamaʻama,* including the late Mauliʻawa and others. These were fishermen who knew the art of making the fish multiply and make them come up to the sand.
>
> While Laniloa lived in Laʻie he heard of the great schools of *ʻamaʻama* at Honouliuli. There were no *ʻamaʻama,* large or small, where he lived. He thought of his younger sister, the *ʻamaʻama,* and guessed that was the reason the place was growing so famous. He said to his wife, "I shall ask my sister to send us some fish for I have a longing for *ʻamaʻama* …" Laniloa left Laʻie to go to Ewa. He reached the house and found his parents and sister. His parents were quite old for he had been away a long time. He said, "I have come to my *ʻamaʻama* sister for a bit of fish as there is none where I live except for some *au moana* (sea-faring) crabs." After three days and nights he left Ewa. The fish were divided into two groups, those that were going and those that were staying. As Laniloaʻs sister went along the shore she went in her human form. The fish came from, that is, left Honouliuli without being seen on the surface. They went deep under water until they passed Kaʻaʻaliʻi, then they rose to the surface. They reached Waikiki. They went on. The sister slept at Nuʻupia while the fish stopped outside of Na Moku Manu. Finally she reached Laʻie, and to this day this is the route taken by the *ʻamaʻama.* (Mokumaia 1922 and *Ka Loea Kalaiaina* 1899 in Titcomb 1972:65)

Land Use and Coastal Resources

What truly sets the ʻEwa area apart is its expansive coastal plain which is surrounded by the deep bays of West Loch and Pearl Harbor. Offering a favorable environment for the construction of loko iʻa, fishponds, and fish traps, residents of this area had the opportunity to catch deep-sea fish such as akule, which entered the bays during the incoming tide. These ponds were the summer home of the ʻamaʻama, or mullet. Another important resource of the coastal area was the diverse variety of shellfish found in the harbor. The Hawaiian pearl oyster, pipi, was eaten raw and was prized for its shell that was used to make fishhooks. Other shellfish of the area included papaua, ʻowaʻowaka, nahawele, kupekala, and mahamoe (Lahilahi Webb in Handy and Handy 1991:471).

The wide lowlands, bisected by streams, created a land that easily facilitated the cultivation of loʻi kalo, irrigated taro patches. ʻEwa's natural landscape and sprawling plain, and gently sloping valley walls, created environments ideal for crops such as maiʻa and uhi. Inland, ʻEwa was noted for the cultivation of ʻawa, as well as its mamaki, wauke, and olonā. This extensive upland area, also known as wao, gave inhabitants an advantage during times of famine as a place where they could forage for food during droughts (Handy and Handy 1991:469). The upland areas of ʻEwa were also home to unique avifauna and birds which were prized for their colorful feathers that were used in helmets, capes, and lei.

‘Ewa and Honouliuli in the Historic Period

Descriptions and maps from early visitors to Hawai‘i help to paint a picture of what Honouliuli was like in the 18th to 20th centuries.

Early Descriptions of the ‘Ewa Plain

Anchored off the entrance to West Loch in 1793, Captain George Vancouver described the ‘Ewa landscape:

> The part of the island opposite to us was low, or rather only moderately elevated, forming a level country between the mountains that compose the east [Koolau] and west [Waianae] ends of the island. This tract of land was of some extent, but did not seem to be populous, nor to possess any great degree of natural fertility; although we were told that, at a little distance from the sea, the soil is rich, and all the necessaries of life are abundantly produced. …Mr. Whitbey obsesrved [sic], that the soil in the neighborhood of the harbor appeared of a loose sandy nature; the country low for some distance, and, from the number of houses within the harbour, it should seem to be very populous; but the very few inhabitants who made their appearance were an indication of the contrary. (Vancouver 1801, vol. 3:361, 363)

Campbell’s 1819 account includes a description of his way through ‘Ewa:

> We passed by foot-paths winding through an extensive and fertile plain, the whole of which is the highest state of cultivation. Every stream was carefully embanked, to supply water for the taro beds. Where there was no water, the land was under crops of yams and sweet potatoes. The roads and numerous houses are shaded by cocoa-nut trees, and the sides of the mountains covered with wood to a great height. We halted two or three times, and were treated by the natives with the utmost hospitality.” (Campbell 1819:145)

G.F. Mathison, visiting the “Sandwich Islands” in 1821–1822, noted the abundance of resources of the ‘Ewa Plain:

> The adjoining low country is overflowed both naturally and by artificial means, and is well stocked with tarrow-plantations, bananas, etc. The land belongs to many different proprietors; and on every estate there is a fishpond surrounded by a stone wall, where the fish are strictly preserved for the use of their rightful owners, or tabooed, as the natives express it. One of particular dimensions belongs to the King. (Mathison 1825 in McAllister 1933:109)

During a visit to Hawai‘i in 1825, James Macrae offered the following remarks about Pu‘uloa and the surrounding area:

> The neighborhood of the Pearl River is very extensive, rising backwards with a gentle slope towards the woods, but is without cultivation, except round the outskirts to about half a mile from the water. The country is divided into separate farms or allotments belonging to the chiefs, and enclosed with walls from four to six feet high, made of a mixture of mud and stone. (Macrae 1922 in McAllister 1933:31)

Captain Jacobus Boelen’s 1828 narrative of Pu‘uloa discusses traveling to ‘Ewa from Honolulu and the shallow reefs which shelter the bay. He notes the highly fertile soils which are heavily cultivated in kalo and sugarcane:

> On 26 February, in the company of some good friends and acquaintances, we made an excursion to what the Indians called the harbor of Oporooa [Puʻuloa], which I believe means approximately "Pearl River"—at least that is what the foreigners call this bay. This is because the Indians sometimes find pearls there, which they offer for sale in Honoruru. We departed from Honoruru at ten o'clock in the morning in two boats, sailed out of the harbor to sea, and rowed a distance of about three quarters or one league toward the west along the coral reef that encircles the whole south coast of Woahoo. We passed over the bar of Oporooa harbor. The bar is no more than ten feet deep at low tide, from which one can conclude that in a rough sea high waves will break against it. Even at high tide the passing of this bar can be very dangerous unless the sea is calm. Therefore, on the advice of our pilot, a native of the island, we remained for a time outside the bar and then rowed hard across it.
>
> We found ourselves in a rectangular bay, or rather a lake with several arms, consisting of several deep bights. Two of the most important of these stretched to the northeast, while the one to the northwest cut the farthest….The soil in this region seemed at first sight to be exceptionally fertile, and the land consisted of meadows and *taro* and sugar [cane] fields….
>
> We rowed to the end of the harbor of Opooroa, or the so-called Pearl River, and landed with the boats near a small Indian village with the name of Mannonco….In the meantime, we strolled through the surrounding land, which everywhere was very fertile, with cultivated fields of *tarro*, maize, and also sugar cane (Boelen 1988:64–65).

In an 1873 map, a salt works and "watering place," and stone wall are located to the east of the project area (Figure 7). It appears that a small community was located in this area. It is interesting to note that while Puʻuloa is the area adjacent to the entrance to West Loch, the map confirms that this passageway actually belongs to the "Fishery of Honouliuli" (Alexander 1873).

An 1878 map of "Honouliuli Taro Lands" illustrates the thriving cultivation of kalo in Honouliuli (Figure 8). Numerous family plots are mapped in this figure, as is an area on the west marked as "mud flats," a road circling the land plots, as well as a wall, or "pa aina" which encloses several of the lots.

A 1902 map of Oʻahu shows an "old wall" to the east of the project area (Figure 9). This is likely the same wall depicted in the 1873 map. The place names Oneula and Keahi are labeled to the west and east of the project site, respectively. The salt works in Puʻuloa is also shown.

Power and Warfare in Honouliuli

Known for its bountiful resources which included fertile lands and well-stocked fishponds, the ʻEwa area was a sought-after land for the aliʻi, and as a result, numerous battles ensued. One such example is the unfought battle of the Keahumoa Plain which involved Kualiʻi (ca. 1650) who was a celebrated chief, skilled, and victorious in the art of warfare. This bloodless "battle" instigated by brothers Kapaʻahulani and Kamakaʻaulani resulted in Kualiʻi uniting all the islands (Fornander 1918, vol. IV:364).

Another battle known to have taken place on the ʻEwa Plain was that of Māʻilikūkahi. During this battle, chiefs from the island of Hawaiʻi, joined with aliʻi from Maui, waged war on Oʻahu mōʻī, Māʻilikūkahi. Fornander offers a genealogy of aliʻi preceding Māʻilikūkahi and follows with an account of the battle:

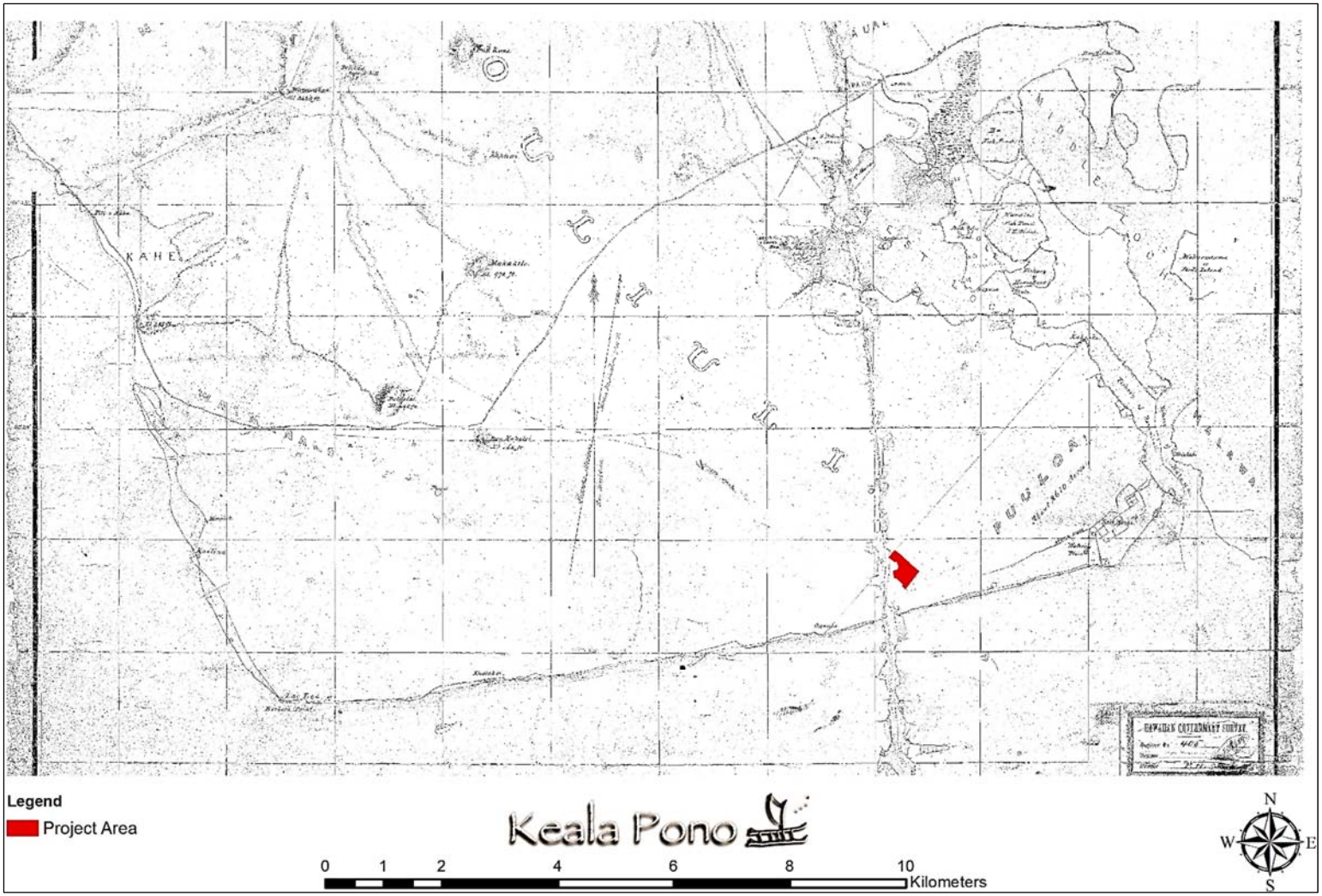


Figure 7. Portion of an 1873 map of Honouliuli (Alexander 1873).

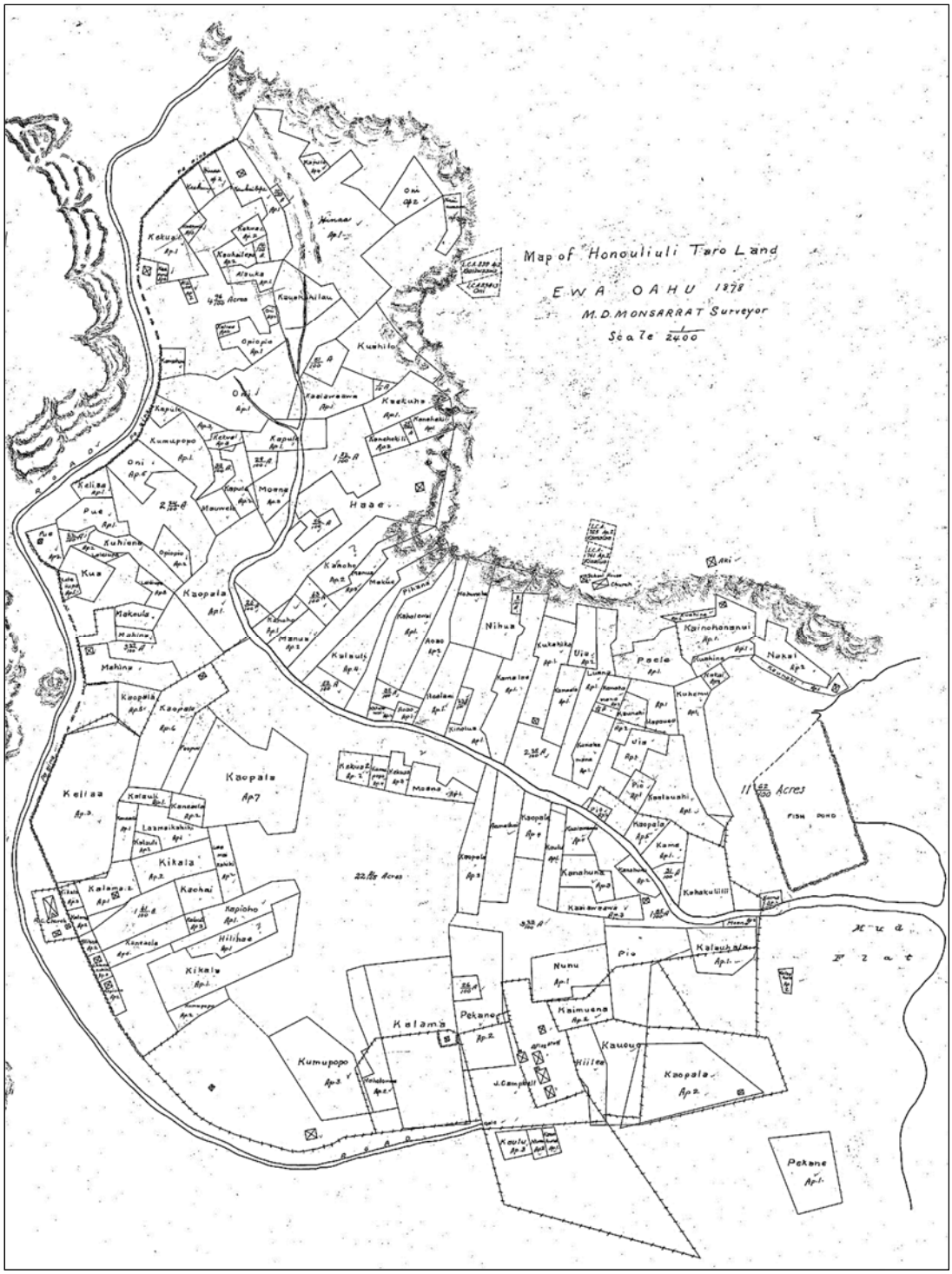


Figure 8. Map of Honouliuli Taro Lands (Monsarrat 1878). North on the map is toward the top of the page.

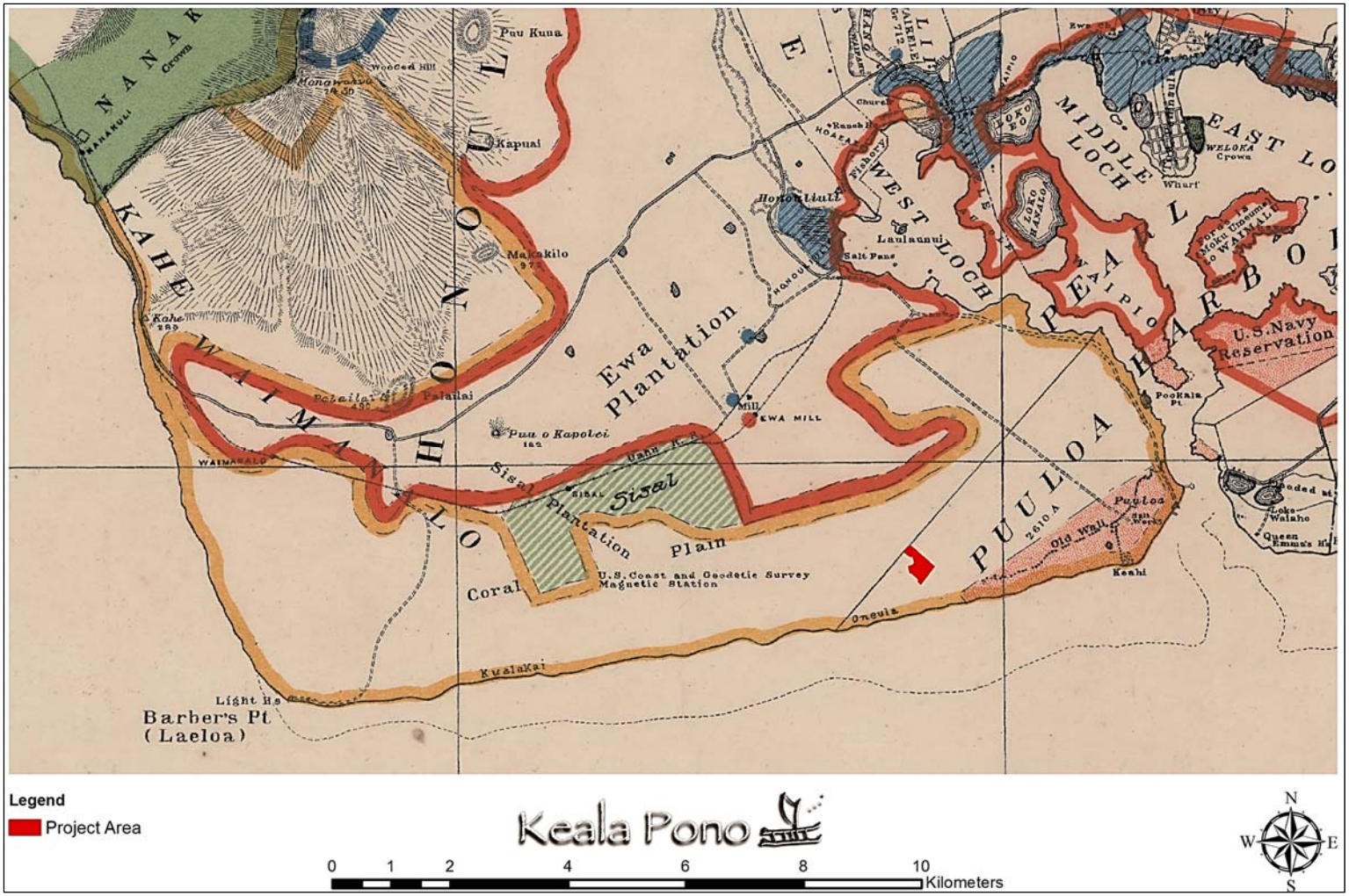


Figure 9. Portion of a 1902 map of O‘ahu (Alexander 1902).

On Oahu, at the close of the migratory period, after the departure of *Laamaikahiki,* we find his son, *Lauli-a-Laa, (*88) Maelo. married to *Maelo,* the sixth in descent from *Maweke,* and daughter of *Kuolono,* on the *Mulielealii-Moikeha* line. They probably ruled over the Kona side of the island, while *Kaulaulaokalani,* on the *Maweke-Kalehenui* line, ruled over the Koolau side, and *Lakona,* also sixth from *Maweke,* on the *Mulielealii-Kumuhonua* line, ruled over Ewa, Waianae, and Waialua districts, and in this latter line descended the dignity of Moi of Oahu. Tradition is scanty as to the exploits of the Oahu Mois and chieftains, until Haka we arrive at the time of *Haka,* Moi of Oahu, chief of Ewa, and residing at Lihue. The only genealogy of this chief that I have, while correct and confirmed by others from *Maweke* to *Kapae-a-Lakona,* is deficient in three generations from *Kapae-a-Lakona* to *Haka.* Of *Haka's* place on the genealogy there can be no doubt, however, as he was superseded as Moi by *Mailikukahi,* whose genealogy is perfectly correct from the time of *Maweke* down, and conformable to all the other genealogies, descending from *Maweke* through his various children and grandchildren. Of this *Haka,* tradition records that he was a stingy, rapacious, and ill-natured chief, who paid no regard to either his chiefs or his commoners. As a consequence they revolted from him, made war upon him, and besieged him in his fortress, called Waewae, near Lihue. During one night of the siege, an officer of his guards, whom he had ill-treated, surrendered the fort to the rebel chiefs, who entered and killed *Haka,* whose life- was the only one spilt on the occasion. Tradition does not say whether *Mailikukahi* had a hand in this affair, but he was clamorously elected by the Oahu chiefs in council convened as Moi of Oahu, and duly installed and anointed as such at the Heiau (temple).

I have before (p. 70) referred to the expedition by some Hawaii chiefs, *Hilo-a-Lakapu, Hilo-a Hilo-Kapuhi,* and *Punaluu,* joined by *Luokoo* of Maui, which invaded Oahu during the reign of *Mailikukahi.,* It cannot be considered as a war between the two islands, but rather as a (90) raid by some restless and turbulent Hawaii chiefs, whom the pacific temper of *Mailikukahi* and the wealthy condition of his island had emboldened to attempt the enterprise, as well as the *éclat* that would attend them if successful, a very frequent motive alone in those days. The invading force landed at first at Waikiki, but, for reasons not stated in the legend, altered their mind, and proceeded up the Ewa lagoon and marched inland. At Waikakalaua they met *Mailikukahi* with his forces, and a sanguinary battle ensued. The fight continued from there to the Kipapa gulch. The invaders were thoroughly defeated, and the gulch is said to have been literally paved with the corpses of the slain, and received its name, "Kipapa," from this circumstance. *Punaluu* was slain on the plain which bears his name, the fugitives were pursued as far as Waimano, and the head of *Hilo* was cut off and carried in triumph to Honouliuli, and stuck up at a place called *Poo-Hilo.*

Mailikukahi's wife was *Kanepukoa,* but to what branch of the aristocratic families of the country she belonged has not been retained on the legends. They had two sons, *Kalononui* and *Kalona-iki,* the latter succeeding his father as Moi of Oahu. (Fornander 1996:87–90)

Māhele Land Tenure and Ownership of Honouliuli and Kalaeloa

The change in the traditional land tenure system in Hawai‘i began with the appointment of the Board of Commissioners to Quiet Land Titles by Kamehameha III in 1845. The Great Māhele took place during the first few months of 1848 when Kamehameha III and more than 240 of his chiefs worked out their interests in the lands of the Kingdom. This division of land was recorded in the Māhele Book. The King retained roughly a million acres as his own as Crown Lands, while approximately a million and a half acres were designated as Government Lands. The Konohiki Awards amounted to about a million and a half acres, however title was not awarded until the konohiki presented the claim before the Land Commission.

In the fall of 1850 legislation was passed allowing citizens to present claims before the Land Commission for lands that they were cultivating within the Crown, Government, or Konohiki lands. By 1855 the Land Commission had made visits to all of the islands and had received testimony for about 12,000 land claims. This testimony is recorded in 50 volumes that have since been rendered on microfilm. Ultimately between 9,000 and 11,000 kuleana land claims were awarded to kamaʻāina totaling only about 30,000 acres and recorded in ten large volumes.

During the Māhele, 97 kuleana awards were given to applicants in Honouliuli by the Board of Commissioners to Quiet Land Titles. A majority of these claims were located in the wetland loʻi and were approximately one acre in size, with all 97 awards totaling only 106.54 acres (Haun 1991:160). The majority of the land of Honouliuli, 43,250 acres, was granted to Kekauʻonohi, granddaughter of Kamehameha I, within LCA 11216.

In 1849 Kekauʻonohi sold the land of Puʻuloa, now known as Pearl Harbor, to Isaac Montgomery, where it is believed that he and Kamehameha III established a successful salt works enterprise that shipped salt to the Pacific Northwest. This is likely the salt works illustrated in an 1873 map (see Figure 7).

Land also changed hands when Kekauʻonohi's widower, Haʻaleleʻa died, and his second wife, Anadelia Amoe deeded the land to her sister's husband, John H. Coney. In 1877 Coney subsequently sold Honouliuli to James Campbell. For approximately 43,640 acres of land, Campbell paid a sum of $95,000 (Haun 1991:160). During the initial years of his ownership, Campbell utilized about 10,000 acres as a cattle ranch and also leased out land for rice cultivation, fishing rights to Pearl Harbor, as well as a lime quarry.

In 1889, Campbell leased Honouliuli for 50 years to Benjamin Dillingham, who established the Ewa Sugar Plantation in the lower portion of the ahupuaʻa, and Oahu Sugar Company's cane fields in the upper reaches of Honouliuli. Dillingham also built the Oahu Railway and Land Company in Honouliuli which extended out to Waiʻanae. In 1893, the first sisal was brought to Hawaiʻi from Florida, and was grown in Honouliuli. The sisal plantation operated under the name of Hawaii Fibre Company in 1898.

The Military and More Recent Development

The presence of government structures in Kalaeloa began in 1888 with the construction of the Barbers Point Lighthouse by the Hawaiian Government. The following work in the area consisted of the construction of the United States Coast and Geodetic Survey Magnetic Observatory. In the 1930s the military leased a 3,000 square foot area from the Campbell Estate. This era brought much development of the area's infrastructure and capital improvements and included the creation of approximately 18 miles of road built between 1935 and 1937 (Beardsley 2001:II.23). When the military's lease expired in 1940, the Navy acquired a lease of 3,500 acres on which the ʻEwa Marine Corps Air Station, and later, Barbers Point Naval Air Station would be built. Following the Japanese bombings of Pearl Harbor on December 7, 1941, construction at the Air Station dramatically increased after the ʻEwa airstrip and majority of the planes were destroyed in the attack. Construction of the Naval Air Station at Barbers Point was completed on April 15, 1942.

Since World War II, Barbers Point Naval Air Station has played an integral role as a strategic military base and has provided a diverse range of functions, including an antisubmarine patrol, headquarters of the Pacific Airborne Barrier Command (1958–1965), guided missile units, and the Pacific Sound Surveillance System (Beardsley 2001:II.24). Over the course of time, activities associated with construction and the execution of these functions have had a major impact on cultural and natural resources. Some of these impacts include a defensive line of barbed wire and gun emplacements

along the coast, infrastructure developments of roads, sewers, water systems, electricity, gas, housing units, and general bulldozing and grading in surrounding areas (Hammatt 1984; Kelly 1991; Tuggle and Tomonari-Tuggle 1995).

James Campbell High School was built in 1962 in the current location of ʻIlima Intermediate School and the athletic fields. That same year, Pōhākea Elementary School was constructed on the Campbell High School campus.

A *Hawaii Reporter* article states that the Campbell High School football field was filled using soil containing human remains, although a search of the SHPD library found no documentation of human remains on the school grounds. Portions of the article are quoted below, as published in the independent online news source:

> The dirt that was used to build the football field was gotten from an old Waipahu Cemetery on Waikele Road in the vicinity of Waipahu Elementary School…
>
> Families of those buried at the cemetery were contacted to remove their loved one's remains. It was suggested the new Mililani Cemetery be the place for reburial.
>
> Those remains, which were not repatriated, were dug up along with the soil and trucked to the site of the new James Campbell High School football field that was at the time also under construction.
>
> I recall as a teenager seeing the field as it was being constructed.
>
> After the soil was grated level to create the new athletic field, I remember seeing a pile of approximately fifty to seventy grave headstones and wooden cross markers with human bones sticking out bulldozed in a pile of dirt at the far Honolulu side of the new field.
>
> This would be in the area of the present day Honolulu sideline bleachers… (Arakaki 2012)

Campbell High School held its first graduation in 1964, two years after its opening. The elementary school was moved southwest to its current Fort Weaver Road location in 1974.

In 1999 the Naval Air Station was closed by Base Realignment and Closure (BRAC) and was turned over to the State of Hawai‘i and is currently named the Kalaeloa Community Development District (Hawai‘i Community Development Authority 2012).

Previous Archaeology

A wealth of archaeological studies have been conducted on the ʻEwa Plain and within Honouliuli Ahupuaʻa. The following discussion provides information on archaeological investigations that have been performed within the vicinity of the project area (Figure 10). Table 1 lists archaeological studies for the larger ʻEwa Plain region. State Inventory of Historic Places (SIHP) numbers are prefixed with 50-80-13.

The first formal archaeological work in the vicinity of the project area was part of McAllister's island-wide survey (1933). McAllister identified five sites in the general area, although none are located at Campbell High School or its immediate environs. Sites 142–144 are fishing-related sites on the Waipiʻo Peninsula. They consist of Kapamuku Fishpond, Okiokilepe Fishpond, and unnamed fishtraps and an associated koʻa. Site 145 is the location in Puʻuloa where it is said that ʻulu was first planted in Hawai‘i. Site 146 includes a variety of sites scattered throughout the ʻEwa Plain.

McAllister specifically mentions ranching walls, as well as soil-filled pits that were formerly used for agriculture (1933:109).

The next archaeological work in the area did not occur until many years later, with a survey at Kaimiloa Elementary School (McCoy 1972). Fragmented walls and partial enclosures were mentioned, but no SIHP numbers were assigned.

Several studies were conducted for the Ewa Marina Community Project. The earliest surveys documented more than 100 features thought to be part of a late pre-Contact/early post-Contact habitation area (Davis 1979; Jourdane 1979). Two later studies yielded no findings (Hommon and Ahlo 1983; Davis and Burtchard 1991), although an archaeological and paleontological assessment identified possible traditional enclosures as well as historic ranching and military sites (Hammatt and Shideler 1989). Archaeological survey and test excavation documented more than 300 features, including traditional agricultural and habitation structures (Dunn and Haun 1991).

A number of archaeological studies were completed at the ʻEwa-Puʻuloa Golf Course. An early reconnaissance identified 20 surface features and five possible features (Davis 1983). They included c-shaped structures, cairns, modified sinkholes, a collapsed wall, and a probable habitation enclosure. SIHP numbers were not assigned at the time of the reconnaissance. Later work in at the same project area identified "no less than fifty (50) sites" (Kennedy 1988:6). An archaeological inventory survey identified 72 sites, most of which were later deemed no longer significant (Kennedy et al. 1992). Data recovery further investigated ten sites (Kennedy and Denham 1992). One of the major findings was a decline in avian remains from the 12th–13th centuries. An increase in marine midden followed this decline. Ranching, quarrying, and military training took place in the historic period.

In 1987 human remains and a subsurface cultural layer were discovered during construction activity at Iroquois Point (Athens 1987). Although the remains were disturbed by the construction, they were identified as a young Polynesian female. The burial and cultural layer were designated as SIHP 50-80-13-3703. A later archaeological assessment at Iroquois Point produced no findings (Dye and Jourdane 2006a).

A 1995 reconnaissance at Lualualei Naval Ammunition Depot documented 281 sites (Jensen and Head 1995). These included agricultural, military, and ranching areas. A later survey at the Ewa High Frequency Transmitter Station produced no findings (Hammatt and Borthwick 1997). Two large scale studies were conducted for corridors on the ʻEwa Plain, although there were no findings near the Campbell High School area (Hammatt and Chiogioji 1997; Moore and Kennedy 2002).

A supplemental archaeological survey was conducted for the Marina Channel and Kaloʻi Drainage Channel (Corbin 2004). The survey consisted of excavation of 53 backhoe trenches and three hand-excavated units. Although human burials were previously found in the area, this extensive subsurface testing yielded no results, suggesting that the burials were isolated instances and not part of a larger burial zone.

An archaeological inventory survey identified six sites at Iroquois Point (Carson 2007). SIHP 5878 is a historic survey marker, and SIHP 6906 is a gun mount used in Fort Weaver ca. 1932–1950. SIHP 5875, 6905, 6907, and 6908 are late pre-Contact to post-Contact subsurface midden deposits. Material within the deposits included charcoal, animal bone, and marine shell. Postmolds, small pits, and pebble pavings were also associated with the deposits.

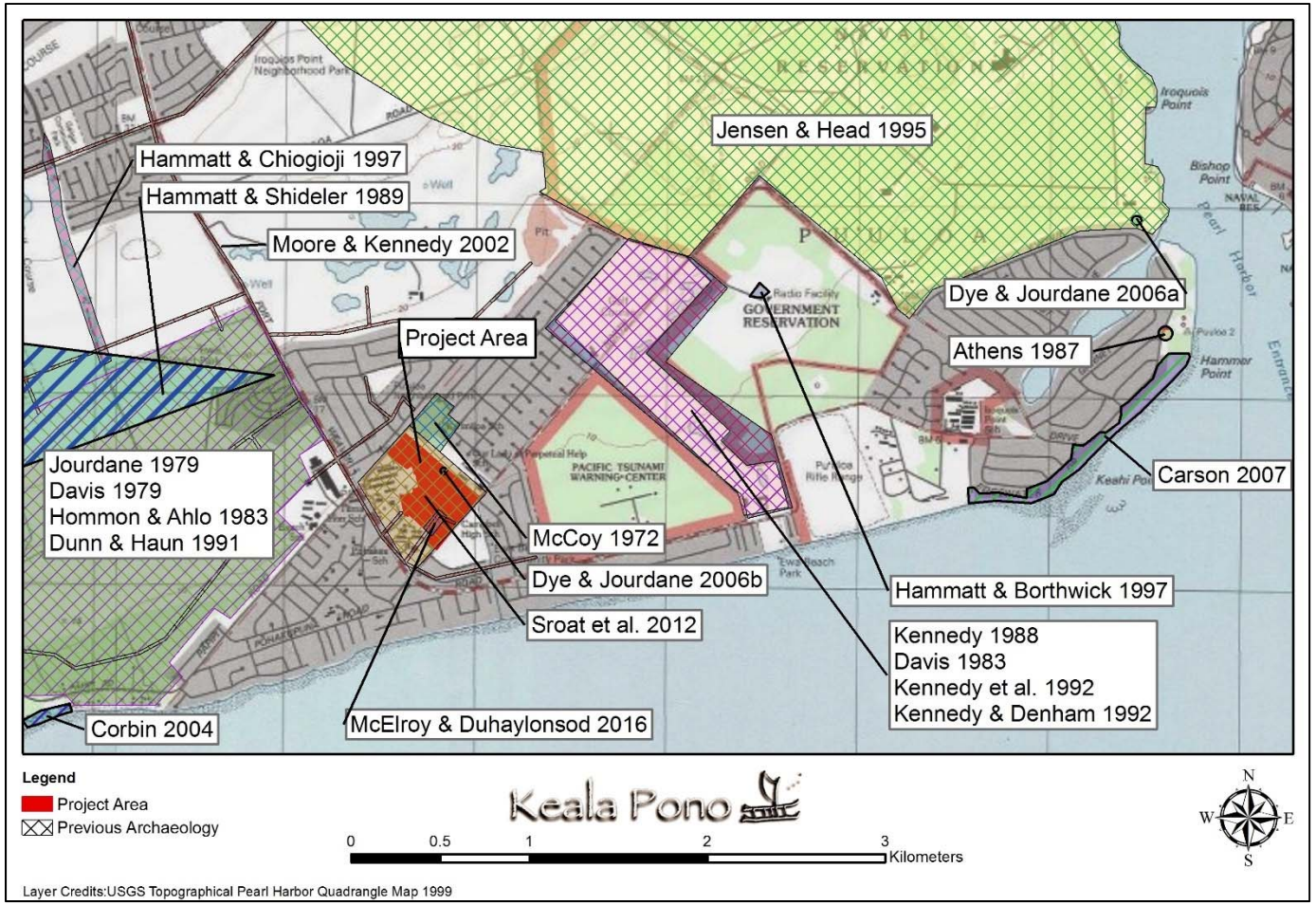


Figure 10. Previous archaeological studies in the vicinity of the project area.

Table 1. Previous Archaeology on the ʻEwa Plain

Author and Year	Location	Work Completed	Findings
McAllister 1933	Island-wide	Survey	Identified five sites in the general vicinity of the project area: 142, 143, 144, 145, and 146.
McCoy 1972	Kaimiloa Elementary School	Archaeological Inventory Survey	Noted fragmented walls and partial enclosures. No SIHP numbers were assigned.
Jourdane 1979	Ewa Marina Community	Reconnaissance	Limited survey noted archaeological sites in the area of undetermined number and age.
Davis 1979	Ewa Marina Community	Archaeological Inventory Survey	Documented 107 features that are part of a late pre-Contact/early post-Contact habitation area.
Davis 1983	Puʻuloa Golf Course	Reconnaissance	Identified 20 surface architectural features and 5 possible features. SIHP numbers were not assigned.
Hommon and Ahlo 1983	Ewa Marina Community	Subsurface Testing	None.
Athens 1987	Iroquois Point	Inadvertent Discovery of Human Remains	Identified disturbed human burial remains and a cultural layer (SIHP 3703).
Kennedy 1988	Puʻuloa Golf Course	Reconnaissance	Noted approximately 50 archaeological sites, including c-shaped structures, agricultural areas, walls, mounds, modified sinkholes, platforms, ahu, and midden.
Hammatt and Shideler 1989	Ewa Marina Community	Archaeological and Paleontological Assessment	Identified possible traditional enclosures as well as post-Contact ranching and military sites.
Dunn and Haun 1991	Ewa Marina Community	Archaeological Survey and Test Excavation	Documented more than 300 features, including traditional agricultural and habitation structures.
Kennedy et al. 1992	Puʻuloa Golf Course	Archaeological Inventory Survey	Documented 72 sites.
Kennedy and Denham 1992	Puʻuloa Golf Course	Data Recovery	Further investigated ten sites. Found a decline in avian remains from the 12th 13th centuries. An increase in marine midden followed this decline. Ranching, quarrying, and military training took place in the historic period.

Table 1. (Continued)

Author and Year	Location	Work Completed	Findings
Jensen and Head 1995	Lualualei Naval Ammunition Depot	Reconnaissance	Documented 281 sites, including agricultural, military, and ranching structures.
Hammatt and Borthwick 1997	Ewa High Frequency Transmitter Station	Archaeological Inventory Survey	None.
Hammatt and Chiogioji 1997	North-South Road Corridor	Reconnaissance	No findings near the current project area.
Moore and Kennedy 2002	Multiple Waterline Corridors	Literature Review	No findings near the current project area.
Corbin 2004	Marina Channel and Kalo‘i Drainage	Subsurface Testing	None.
Dye and Jourdane 2006a	Iroquois Point	Archaeological Assessment	None.
Dye and Jourdane 2006b	Campbell High School	Archaeological Assessment	None.
Carson 2007	Iroquois Point	Archaeological Inventory Survey	Identified SIHP 5875, 5878, and 6905-6908. They consist of two historic sites and four subsurface late pre-Contact and post-Contact midden deposits.
Sroat et al. 2012	Campbell High School	Literature Review and Field Inspection	Identified two filled-in sinkholes. SIHP numbers were not assigned.
McElroy and Duhaylonsod 2016	Campbell High School	Archaeological Inventory Survey	None.

Finally, three studies were conducted on the Campbell High School campus. An initial archaeological inventory survey yielded no findings (Dye and Jourdane 2006b). A literature review and field inspection identified two small filled-in sinkholes, although SIHP numbers were not assigned (Sroat et al. 2012). An archaeological inventory survey associated with the current project did not yield any findings (McElroy and Duhaylonsod 2016).

Settlement Pattern

Based on a review of previous archaeological studies and examination of both pre- and post-Contact Hawaiian history, settlement patterns for the Honouliuli area and larger ʻEwa Plain can be surmised. Synthesized with Cordy's (1993) Oʻahu sociopolitical model, Beardsley (2001:III-8, III-9) summarizes the following settlement pattern for Honouliuli:

> ***Pre-AD 1000*** – During this period political organization of the islands consisted of small chiefdoms. Temporary habitations were located in resource rich areas. Permanent settlements were clustered around prime agricultural land; these prime agricultural lands were probably located in well-watered valleys. For the ʻEwa Plain, this means that only temporary habitations should be found in the project area, located to exploit rich marine resource areas and possible to exploit bird populations. Permanent settlements might have been established in the Honouliuli floodplain.
>
> ***AD 1000 to 1300s*** – The political organization of the island coalesced into three independent districts: Greater ʻEwa, Koʻolau and Kona. Temporary settlements were established for the first time in inland garden areas, associated with dryland agriculture; permanent habitation expanded into new areas. For ʻEwa, the Honouliuli floodplain would have been the focus of permanent habitation. Settlement in the project area focused on exploitation of marine resources, but was also associated with permanent inland settlement.
>
> ***AD 1400 to 1500s*** – Full development of class stratification occurred during this period, together with the unification of the entire island under one chief. Permanent habitations expanded in all areas; temporary habitations in inland garden areas were replaced by permanent habitations. For the project area, permanent habitations, possibly associated with rectangular enclosures, developed.
>
> ***AD 1600 to 1778*** – District chiefs fought for control over the resources of the islands. For ʻEwa, the population density was still concentrated on the irrigated Honouliuli Valley floodplain. Other population concentrations occurred around Pearl Harbor and at the base of the Waiʻanae Range. Scattered permanent habitation in the project area, possibly on a seasonal basis, or only in years of high rainfall, might have also occurred.
>
> ***Post-Contact*** – Scattered Hawaiian occupations continued across the ʻEwa Plain and in the project area until the mid-19th century. In the later historical period, populations were low and consisted of scattered families with habitation sites along the coast for marine exploitation and inland houselots with possible walled agricultural areas.

Summary and Anticipated Finds

An examination of traditional and historic land-use for Honouliuli as demonstrated in moʻolelo, historic literature, and archaeological investigations, shows that this area was once a land rich in natural, as well as cultural resources. Moʻolelo and ʻōlelo noʻeau reveal a place blessed by the gods, abundant in natural resources of the land and sea. Known as an aliʻi stronghold, as well as a vacationing spot of the royalty, Honouliuli was a significant ahupuaʻa of importance.

No archaeological resources are known to occur within the current project boundaries, although archaeological sites do occur nearby. The lack of surface finds within the project area is likely due to the extensive historic alterations, modifications, and land use changes that have taken place around Campbell High School over the last several decades. Previous archaeological studies express the complexity of Hawaiian settlement of the ʻEwa Plain through the diversity and range of site types, which include modified sinkholes utilized for habitation and burial, religious sites such as heiau and koʻa, agricultural sites, walls, mounds, enclosures, iwi kūpuna, as well as the remains of extinct animal species. These were all found outside the project boundaries in areas that were not as heavily disturbed as the vicinity of the school. Subsurface features are not known for the project area but may include cultural and paleontological deposits, particularly within sinkholes. It has been reported that human remains are located within the fill of the Campbell High School football field, outside the project area to the north. Also found on the ʻEwa Plain are historic resources associated with cattle ranching, sugar and sisal plantations, transportation, and military use.

ETHNOGRAPHIC SURVEY

As we all know, there are some things that cannot be found in the archives, in textbooks, or at the library. It is here, through the stories, knowledge and experiences of our kama‘āina and kūpuna, that we are able to better understand the past and plan for our future. With the goal to identify and understand the importance of, and potential impacts to, traditional Hawaiian and/or historic cultural resources and traditional cultural practices of Honouliuli, ethnographic interviews were conducted with community members who are knowledgeable about the project area.

Methods

This Cultural Impact Assessment was conducted through a multi-phase process between May and July, 2016. Guiding documents for this work include The Hawai‘i Environmental Council’s Guidelines for Assessing Cultural Impacts, A Bill for Environmental Impact Statements, and Act 50 (State of Hawai‘i). Personnel involved with this study include Windy McElroy, PhD, Principal Investigator of Keala Pono Archaeological Consulting and Dietrix Duhaylonsod, BA, Ethnographer.

Interviewees were selected because they met one or more of the following criteria: 1) was referred by Keala Pono Archaeological Consulting or Group 70; 2) had/has ties to the project area or vicinity; 3) is a known Hawaiian cultural resource person; 4) is a known Hawaiian traditional practitioner; or 5) was referred by other cultural resource professionals. Three individuals participated in the current study. Mana‘o and ‘ike shared during these interviews are included in this report.

Interviews were taped using a digital MP3 recorder. During the interviews, each person was provided with a map or aerial photograph of the subject property, the Agreement to Participate (Appendix A), and Consent Form (Appendix B), and briefed on the purpose of the Cultural Impact Assessment. Research categories were addressed in the form of open questions which allowed the interviewee to answer in the manner that he/she was most comfortable. Follow-up questions were asked based on the interviewee‘s responses or to clarify what was said.

Transcription was completed by listening to recordings and typing what was said. A copy of the edited transcript was sent to each interviewee for review, along with the Transcript Release Form. The Transcript Release Form provided space for clarifications, corrections, additions, or deletions to the transcript, as well as an opportunity to address any objections to the release of the document (Appendix C). When the forms were returned, transcripts were corrected to reflect any changes made by the interviewee.

Several potential interviewees were contacted, resulting in the three interviews (Table 4). The ethnographic analysis process consisted of examining each transcript and organizing information into research themes, or categories. Research topics include connections to the project lands, archaeological sites and cultural practices, the natural environment, Campbell High School history, change through time, and concerns and recommendations for the project. Edited transcripts are presented in Appendices D–F.

Interviewee Background

The following section includes background information for each interviewee, in their own words. This includes information on the interviewee’s ‘ohana and where the interviewee was born and raised. The interviewees are Earl Arakaki, Tesha Malama, and Ivy Pantastico.

Table 2. List of Individuals Contacted

Name and Affiliation	Method of Contact	Result of Contact
Earl Arakaki (Community Member, Author)	Email, Phone, In Person	Interview Completed
Ron Gionson (Old time Ewa Beach family)	Email	David Olivera to Contact; No Reply
Tesha Malama (Ewa Beach Community Leader)	Email, Phone, In Person	Interview Completed
David Oliveira (Old time Ewa Beach family)	Email, Phone	No Reply
Ivy Pantastico (Community Member, Proprietor of Silva's Store)	Email, Phone, In Person	Interview Completed
Kauʻi Serrao (Ewa-Puuloa Hawaiian Civic Club)	Email	Declined Interview; Suggested the Book *He Moʻolelo ʻĀina*

Earl Arakaki

[My name is]…Earl Arakaki, I live in Ewa Beach for the past 65 years. I grew up here, went to school, Ewa Elementary, and later on, Waipahu High School, graduated from Waipahu High School. So my whole life has been here in Ewa Beach.

Well, both parents have passed away. I'm going to be 70 this November. And I have three half-brothers that also live here in Ewa Beach, excuse me, two live in Ewa Beach, one lives in Kona, different last name, the Palmeira family. Quite a few of them live here in Ewa Beach also.

Tesha Malama

[My name is] Tesha Malama, I was actually born in, we used to live Kapahulu, 1965, and we moved to Ewa Beach in 1970. And I went to Our Lady of Perpetual Help Catholic School and then Kaimiloa Elementary, all in Ewa Beach, kinda surrounding Campbell High School, [I went to] Ilima Intermediate, and graduated from Campbell High School in 1983.

Basically, I went to UH, got my Bachelor's Degree in 1988 in Political Science, and it was a pre-law requirement, and so long story short, that was supposed to have been my course, [but] my grandfather had one stroke. And so I was raised by a single parent, and so my mom said, "You gotta go work, you cannot keep on going school," [laughs] so ended up I went to school. When I was going to UH, I actually dormed, but when I graduated, came home, started working, I used to go back and forth. I used to work in town for, at the time, it was this long distance company. But I was sick about sitting in traffic, so I was trying to figure out what the hell is going on hea. How come the road's not built? I had many concerns in regards to infrastructure, so I got involved with, at the time, the Ewa Neighborhood Board, and got involved back with Campbell High School, in regards to trying to figure what could we do to better the school and better the community.

And so I served as the Chair on the Ewa Neighborhood Board for about 4, 5 years, and also worked with, at the time, Principal Dr. Gail Awakuni, to establish the James Campbell Alumni Community Foundation back in 2006. I currently work for the State of Hawaiʻi. It's an attached agency to DBEDT, Department of Business Economic Development

Tourism. I'm responsible for the planning and development of the Kalaeloa Community Development District. And I am currently still the president for the James Campbell Alumni Community Foundation.

Basically, my family on this island is from, kinda in Kaimukī, and then my Malama side comes from Kauaʻi, and my mother's side, Maʻas [the Maʻa family], actually came from Waipiʻo, Big Island, and Kona, Big Island. So connected to those islands in regards to, you know, just the sites, the places, and in fact, on the Maʻa side, they used to work and had property in Waipiʻo Valley. So my grandma and tūtū-them used to go back summers to work, and that would get them money so they could have money for the school year. So I have a lot of aloha for those two islands because that's where my family comes from.

Kauaʻi, [I] don't know too much about them. My mom and dad divorced when I was in the 4th grade. So my dad's side is the Malama side, and just recently sat down with one of what would be my dad's, dad's, dad, his cousins, and so we went through some of the genealogy and stuff like that. So just kind of learning that side, but that's kind of the family background.

Ivy Pantastico

[My name is] Ivy Pantastico, and I went to school at Campbell, and I graduated 1968. I moved to Ewa Beach in 1963… We moved from ʻAiea, where Fun Factory is. Pretty much I grew up there, and I went from kindergarten to 8th grade in ʻAiea. Then we moved to Ewa Beach, and I went to high school here, when it was Campbell High School and Ilima Intermediate. (Aunty Ivy is also the proprietor of Silva's Store, a family-run market not far from Campbell High School that has been in operation for many years)

Topical Breakouts

The following sections are extended quotations from the interviews, organized by topic. Interviewees provided information on connections to the project lands, archaeological sites and cultural practices, the natural environment, Campbell High School history, and change through time. They also shared their concerns and recommendations for the proposed improvements to the school.

Connections to the Project Lands

I love my job, and we're involved because it's just about Sabers loving Sabers [mascot of Campbell High School], and so however we can get involved. [Tesha Malama]

Well, basically through school, you know, during school time, but when I went to college, some of the stuff that I had to do projects on was really paying attention to where you came from. And so Ewa Beach-Puʻuloa is what I considered my home although we lived in Kapahulu with my great-grandmother at the time. [Tesha Malama]

So I did some research, you know, a lot of my classes had to do with Hawaiian studies and the political strategies of Hawaiian Studies. A lot of classes was through Kameʻeleihiwa, Dorothen, well I shouldn't really say Dorothen, but at the time that's what her name was, so out of respect, I took multiple classes from her, and I think one class from Haunani at the time, and a lot of classes from David Stannard in regards to Ethnic Studies, that kind of stuff. [Tesha Malama]

So you know, a lot of the requirements was pushing the students back to where they come from and learning. And so at one time, there was a question in regards to Hawaiians and ceded lands and does that Campbell land actually, are they ceded lands. Or even now that

I'm responsible for the old Naval Air Station Barbers Point, was that ceded land property, right? [Tesha Malama]

I been here sooo long, before they taught history in school, I was here. [Earl Arakaki]

…I grew up on Muumuu place….Today I live on Amio Street, which is further west [than Muumuu Place and closer to Haubush]. The homes in Ewa Beach, the old Ewa Beach, ran from what is today Hailipo Street, going Honolulu direction towards the old fire station, on Pohakupuna Road. It would intersect with Fort Weaver Road, Pohakupuna and Fort Weaver, near what is Parish Drive. [Earl Arakaki]

I just know [the project area] as Campbell because my grandchildren went there. They graduated from Campbell. [Ivy Pantastico]

Archaeological Sites and Cultural Practices

Well, I can remember when they were building the football field, and my parents and the other families had notice that they were gonna transport the dirt from Waikele Road, from the cemetery, to the rear of Waipahu Elementary School, which is still there today. Part of the cemetery is still there today. And they were going to build the Kings Apartment Hotel which is a different name today, but the buildings are still there, on Waikele Road, just Waiʻanae side of Aniani Place. [Earl Arakaki]

And people were notified to take the remains of their family or loved ones that were buried at that cemetery and have them reinterred at the Mililani cemetery which was just being started. So those who failed to comply, the remains of their family or loved ones at that Waipahu cemetery were simply scooped up in the dump truck with a front-end loader and transported to today's James Campbell High School football field back in the day. [Earl Arakaki]

Now, I remember one of my brothers was going to, I believe, Pohakea or Ewa Beach Elementary. Anyway, the school had sent out notices for the children not to go around the construction area, the football field, and not to touch the bones because you don't know what kind of diseases that the deceased might have had with their remains there, and to stick away from the area. But you know, being a teenager, I think I was like in the 8th grade or 9th grade, one Saturday I was riding my bike, and I had to make mahaʻoi, [laughs] and I went down to the construction site, the football field, and I distinctly remember what would be today's Honolulu side line of the football field, I seen a long row of dirt pile with grave markers, crosses, and other grave markers sticking out of the dirt, with bones sticking out of the dirt. Lots of, I would estimate, the grave markers, maybe 70, you know, I know easily more than 50. And there were bones sticking out that were human bones, but I paid attention to the part where they said, "Don't touch the bones." So I never touched the bones, I just looked at 'em. I didn't touch 'em. And I just was curious as a kid, and I just went around there and looked at it, and I left. But that's all, I seen. [Earl Arakaki]

And then later on, years later, they constructed the football field, and my friends and I, we're from Waipahu, and there was a little friendly competition between the students of Campbell High School and Waipahu High School. And Campbell was a new school, so they were building their [Campbell High School] football program. And I remember their coach was Mr. Cambra. And of course they were rebuilding, they never had a senior class yet. They started from sophomores, there were juniors, so they didn't win any games, but the students back in the day, we used to tease 'em that, you know, Campbell's colors were orange and black, and we used to tell them, "Oh, you guys get Halloween colors 'cause you get spooks in the field." [laughs] "That's why you get Halloween colors, 'cause you

get spooks in the field. That's why you guys not winning, 'cause you get bad luck." [Earl Arakaki]

Also, some of my friends that went to Campbell High School, they talked about, but I never seen it myself, they mentioned, as the dirt settled on the football field, once in a while they'd see bones being exposed in the middle of the grass. I don't know what they did, you know, maybe they pushed it back in, or they pulled it out, you know, tossed it on the side. But I heard stories like that, some of the people that used the football field. I, myself, I've never seen that. [Earl Arakaki]

I was discussing this story with a friend of mine. He used to work construction back in the day. And he said, he remembered that. He himself never worked at the football field, but he did some job with this company called Pacific Construction. And according to a friend of mine, he said the company that worked on that was Pacific Construction. I don't know if they still exist today. [Earl Arakaki]

But you gotta remember that all of Ewa Beach was all coral. All the bottom is all white coral. So, all the development in Ewa Beach, the dirt had to have been brought in from somewhere else. As far as I know, the bone story is regarding the football field. The rest of the school, I don't know where the soil came from. [Earl Arakaki]

[There are] not [any kind of traditional cultural sites or practices that] that I know of [that construction would hinder access to]. [Earl Arakaki]

No, neva have anything there before (when asked if there were any archaeological sites in the project area). [Ivy Pantastico]

I don't think [the project will affect any place of cultural significance]. [Ivy Pantastico]

Now the high school itself, or that whole property, basically for this area, James and Abigail Campbell purchased so much acres in this area, almost a million acres, in regards to coming west, established water. That specific property, the discussions during that time was that there were burial sites, in regards to, people would gather. And so during that time, if people passed, it wasn't like you take 'em to a designated area. So we did hear stories of people that was still linked to that area, or ghosts or visions. People would see that. But this particular site though, I don't have any specifics in regards to any cultural sites there. [Tesha Malama]

I know it's previously disturbed because when they had to lay out the school, all of that kind of construction activity happened. But I don't have any evidence of that not being a place where it was already disturbed. [Tesha Malama]

You know what, they might be 50 years old 'cause that was '70s. So I think if it's historical, gotta be 50 years plus…So that would be like I think the library. But I mean, I don't know of any specific sites on this [project] footprint because when we was going school used to have sunflowers over dea. I think there was like one electrical box. But so on this site, no, not really particularly any historical buildings. But I think the closest might be the library. [Tesha Malama]

That roundabout, get these poles, and the poles were part of when you built a certain place, there's a requirement that you gotta focus so much on art. And so those poles in that roundabout were considered the art of that time. So that might be, I don't even know if that poles still there….Yeah, like these damm poles that went look like one volcano or something, I don't know. [laughs] That was the art of the time. …That's the only thing I

can think of, and that would be over 50 years 'cause I think Campbell made 50, two years ago. [Tesha Malama]

[There are] not [gathering practices] specific to that area. [Tesha Malama]

The Natural Environment

And it was one smart type of ecosystem because you would go up in the mountains, you would gather there. But when they would come to the ocean to fish and gather at the ocean, you literally had these areas, pockets of water that you'd grab along the way. And then you had ti leaf, you had 'ulu growing. And so everybody think, "You west. It's arid, barren." Whatevers, but no, you had these jewels, these pockets of these little springs that really, to me, when they brought all the soil from Kunia, that just went [makes sound effect like a tire losing air]. It still exists, like you know there's an underground water system through this area because you get pockets that come up. And with my job, that's why it was so important to preserve the Kalaeloa Heritage Park because you have these sinkholes that have this water. [Tesha Malama]

So where Campbell is, my house is four blocks from the high school. We knew that, yeah, if you dig 2 feet deep, oh yeah, you going have soil. But if you go 3 feet deep, then you hit coral, like that. And our properties were all cesspool, mines is still cesspool. So at times when it's high, the cesspool might for some families, it would overflow, especially if they had multiple people --- seven, eight people. But then, it would go down. And so you knew that there was some activity 'cause it wasn't just linked to the ocean, it was linked to this other water, so I mean, that's kind of what I know about the place. [Tesha Malama]

[The vegetation was] kiawe. [Ivy Pantastico]

Campbell High School History

In fact, I remember that they were going to name Campbell High School, "Wailani High School." And the community protested because Wailani is in Waipahu. So that's how they named it Campbell High School, after James Campbell. [Earl Arakaki]

And about that time, I believe I was in the 8th grade at Ewa Elementary and Intermediate School. And they tore down the kiawe forest at the present Ilima Intermediate site. They had started construction of what was to become James Campbell High and Intermediate School. [Earl Arakaki]

Okay, Pohakea [Elementary] came up in nineteen-sixty-? When I started high school here, it was Campbell High School and Ilima Intermediate [on the current Ilima Intermediate campus], and in A-Building, they had the elementary classes, because they were still building Pohakea. [Ivy Pantastico]

Okay, so I am aware that at one time, when we were in school, that was like the Future Farmers of America used to grow stuff, and so that was an open space between the library and I guess that was J-building. So that space was utilized for those types of things when we were in school. [Tesha Malama]

So I had to go back and of course you looking at the written document that, even that is questionable, right? Because you know how, I'm familiar with the land exchange and the concepts of land was different from ownership, from the Hawaiian culture. So from what we could tell, these lands were purchased. And so, even the Naval Air Station property, it was purchased, first by the Marines. The Marines had about maybe 200 acres. But the

greater Naval Air Station was purchased between the Navy and James Campbell. [Tesha Malama]

So I'm thinking it was kind of all leased during the time my mom-them moved out, although our particular property was in fee. Actually it was a city agreement between Frank Fasi at the time, and I think Nixon was the president at the time, and HUD, you know, programs. [Tesha Malama]

Change Through Time

Well, it was nice and not crowded. My graduating class was like half, maybe less than half, of the graduating classes now. [laughs] We graduated on campus. [Ivy Pantastico]

Yes, and it was all sugarcane, nice…Mmmm [thinking] it was like a lot of sugarcane and a lot of kiawe. And Iroquois was already there. That was a military home base. Barbers Point was a navy base. There was only one way in and one way out [laughs] no other way, unless you go through the sugarcane. And there was only, I think, two traffic lights, at Geiger Road [and Fort Weaver Road], and Papipi [and Fort Weaver Road]. [Ivy Pantastico]

[There were only] two [lanes]…Oh yeah, big difference, and it was like hardly any cars. [Ivy Pantastico]

And those homes going up North Road, they came up in the 1970s, I think like in the early '70s…The town houses [are across the street] and there's also the houses on the other side of the church, OLPH [Our Lady of Perpetual Help]. [Ivy Pantastico]

So all of those areas that we knew of, I didn't know when we were young, like we would go to Ice Pond, which now is the whole Hoakalei area for the resort. You know, this particular area was all areas that either you're going to park for recreation, you know, that kind of stuff, and all of this stuff I learned when I'm older. Like I knew that the ali'i would come from Waikīkī, and they gotta get down to Wai'anae that this would be an area that they would either go to fish, restock, grab water 'cause of the artesians [artesian wells]. So we had brackish water, right, and we sit on the coral cap. So there is water, and we remember it because we played in the ponds, was ice [cold], we knew it. We tasted it, it wasn't salty. So that's the kind of stuff, as we see the housing come up, that you have one sense of, not so much loss, but just that of change. And so you grew up, you know, you had cane fields burning. And that is what I knew as somebody who was young. [Tesha Malama]

But yeah, when I went to college, I found out, oh yeah, no, cane fields? This wasn't even one area for growing stuff. You know, you had rocks, ranching during the time, like that kind of stuff that came up. It's interesting to listen to these guys in regards to the arguments about the rail, and ag property, and all of that stuff. And then you go back, and you think. I mean, if anything, in my opinion, this my humble opinion, but really, in my opinion, all of the plantation would kill what literally was here, the access to water. [Tesha Malama]

You know, our classroom size was about 400 [students]. This last graduating class was almost 900 kids, so double. We used to graduate classes in the 80s on campus. And now, although maybe the stadium floor is not packed, there's thousands of people filled in the parking lots for the kids. So yeah, when I was in school and now, it doubled, tripled. You know, nieces, talking to them, we got 15 year-olds, and we got people freshmen through senior year, and literally, the kids are piled on top of each other, 35+ kids [in a classroom], you know, some in a/c buildings, probably a handful, and the rest all hot [without a/c]. [Tesha Malama]

Right at North Road and Fort Weaver Road, I remember there was one old, wooden gate, like you see on farms. There was a wooden gate right at that intersection where Kulana Village is right now. And they built Pohakea School right about the time that they built Campbell High School on the site of today's Ilima Intermediate School. [Earl Arakaki]

Well, prior to the old James Campbell High School being constructed, the first large development bordered Kuhina Street, bordered Fort Weaver Road-Kuhina, and going Honolulu direction on Kuhina, Hanakahi Street going come from Fort Weaver Road, further mauka side on Fort Weaver, and they would intersect way down the Honolulu end of, we call that, the Leeward Estates Community. [Earl Arakaki]

That's Kuhina, right near the shopping center. Hanakahi [Street] is mauka side. And from Hanakahi-Fort Weaver, [it] would meet Kuhina Street, on the far Honolulu end of that development. I remember that was Blackfield enterprises, that was the developer of that community, Blackfield Enterprises. [Earl Arakaki]

Leeward Estates, and that was the first major development in Ewa Beach. And the houses sold over there, and I remember they had a grand opening. And I was a kid, and again, making maha'oi, I go check out the big celebration, and I distinctly remember the emcee was Lucky Luck. [Earl Arakaki]

Everything was makai of Fort Weaver Road. Everything was makai --- Parish Drive, Hapalua Street --- there was no canal there, no drainage canal. Kulana Village and all the North Road development didn't exist. That was all kiawe forest. There was cattle in there, and everything was makai of Fort Weaver Road, so you had homes as you head toward Pearl Harbor direction, towards the old rifle range, going towards the Ewa Beach Park. All the homes would be on the makai side. You had Ewa Beach Road further makai, further in, yeah? [Earl Arakaki]

You had Silva's Store, you had Jimmy Ha's Store, and then there was a Ewa Market at the corner of Ewa Beach Road and Fort Weaver [Road] where there's an apartment building there today, was a 3-story apartment building, but used to be a store there. And then there was another store, today it's Ted's Barber Shop. The building is still dea, right on Fort Weaver Road, just maybe a dozen doors, Honolulu side of the intersection of Ewa Beach Road and Fort Weaver [Road], there's Ted's Barber Shop. That was a little store over there too. And that was Dr. Hayashi's, later on, the dentist, Dr. Hayashi, was the first dentist in Ewa Beach, and he had his business, his dentist place right there at what is today, Ted's Barber Shop. Then later on he moved upstairs of the 7-Eleven that's there today. The 7-Eleven [store there today] used to be Tanaka Store. The C.M. Tanaka Store used to be where the 7-Eleven is now. Then you go at the intersection where Makule Road intersects with Fort Weaver Road, used to be what they call "Kiawe Corner." There used to be a huge kiawe tree with a picnic table over there, and Mrs. Kaneko used to have a saimin stand there. [Earl Arakaki]

Concerns and Recommendations

Well, you know, any time that you construct something, the best thing is to give it the proper blessing. [Earl Arakaki]

…There's a lot of publicity about air conditioners, so when you build this building, put a/c ah? …Well, back in the day, when I went to school, we got off in June, and we went back to school right after Labor Day, early September. So the hottest months of the year, you know, we were home…So we went down the beach, to cool off. But now the student

schedules are different….So during the hot months, the kids are in school. So now, you gotta build differently [such as with buildings with a/c]. [Earl Arakaki]

I think it is a concern in regards to we always looked at this particular area as drainage. And so, although there aren't a lot of big rains in Ewa Beach, this area would pool up, and so just the natural grade of things. Because it was open, it would get, literally, like you could take one boogie board in there and kind of slide through there during heavy rains, you know, play around, right? So that kind of stuff, now I wouldn't know what the infrastructure requirements are specifically to that particular area, but one of the concerns would be that it be mindful of drainage, and just drainage throughout the school so you're not flooding out any other place. [Tesha Malama]

Okay, 'cause right now, it's due to like fencing and due to not really connecting it up, you can get to the roundabout, but it's like you cannot go from North Road to the gym. And that roundabout could serve as a link. So in regards to traffic, because traffic is such a pet peeve of mine too, my whole thing is open things up, circulation. So if there is gonna be parking, it would be good to link all of that parking, the library parking, I mean just for a comprehensive approach when you looking at planning. Because I looking at five buildings, two of 'em 3-story, two of 'em 2-story, so I don't know how many classrooms per building? But you figure, okay, for the most part, kids are supposed to walk or bus through. But if you just calculate those numbers, yeah, where is everybody gonna park? Let's just say the teachers, oh they might come from the community, but I would have concerns with parking. So literally, I would wanna see all of this, you know, 'cause right now you get Pohakea [pointing at a map of the area], this is the library, that turnabout, get one little section over here if this becomes parking, make sure that this is all linked so if you had to, you could get to the gym or get to the cafeteria or whatevers, just in regards to circulation. 'Cause the thing is everybody get stuck over hea. And you gotta come out hea, North Road. Or you gotta come out here and get out to Fort Weaver [Road]. So I would say be mindful of that now. [Tesha Malama]

I bring this up, and I know that it's not really culturally based, but I bring this up in regards to the amount of money that's going to be spent on the buildings, they could literally re-district the elementary grade levels and assume Pohakea Elementary [into Campbell High School]. And Pohakea Elementary would give them at least two 2-story buildings, a library building, an administrative building, and one cafeteria. [Tesha Malama]

And I know the administration, they're focused on trying to build new buildings. But what would it cost to literally build these five buildings? They could take that same money and really build new things that the Campbell High School needs. Like they really need a new sports and fitness complex. They do. Like, the grandparents [of the students] cannot even maneuver to get up to the field to watch football, soccer, women's soccer. The kids no more locker rooms, no more locker room space. Our track and the condition of the track really doesn't meet standards in regards to, I mean, we had track people who broke the record, but because the track is not standard, you cannot hold the records. And you cannot hold state tournaments dea because you no moa the facilities. [Tesha Malama]

Softball, back to back, women's, we took [the championship]. Baseball, we took the championship last year. And you go to the field, and it's like you gotta bring in luas [portable restrooms]. And so it makes it so difficult for the rest of the community. No moa parking, you know. And I'm not sure if it's appropriate that I bring it up here, but whatever these five buildings would cost, those monies could go to accent the actual campus. And then just assume Pohakea Elementary because you already got facilities there. And so, I know that that might not be consistent with the administration, and we have a close relationship which I consider close with the principal, Principal Lee, there. But to me, the Department of Education needs to take a visionary look at what's happening in Ewa Beach

and the Campbell Complex because there's a discussion, the Representative Lopresti is talking about building a new high school. And the reason why I know is because he's looking at the Kalaeloa area. And right now he's targeting the area that is under the critical habitat. [Tesha Malama]

He's looking at this southern skeet [pointing at map]. This northern and southern skeet used to be where the Navy used to practice gun, you know, it was a shooting range. And then Ordy Pond is this huge sinkhole that they went dump all kine stuff in 'em so they trying to clean up ordnance, but there's cultural sites. So you see on this side where it's cultural sites here? [Tesha Malama]

So I know they having this discussion. There's about 55 acres. And they're saying that they need one new high school for Campbell, but they don't. They just need to re-district Pohakea. Now, Pohakea Elementary, and I been talking to elementary teachers, so someplace like where I went to elementary, Ka'imiloa, because around there there isn't new development, our families are growing older, so you no moa the same influx of kids like when we were young. And that was the '70s. So [class of] '83, I was at Ka'imiloa like at '73, '74, so you had like one influx of kids. And you know before, the campuses were all built really connectivity-wise where the kids should be walking to school, or they walk to Ilima, the next inter. So I still believe that we can cure what Campbell needs without these buildings, amount of buildings. Or maybe two buildings we may need to add. [Tesha Malama]

But literally, if you drive down there, you see all of Campbell portables pretty much already in Pohakea. Pohakea's student body could be absorbed, if we open Fort Weaver Road, and take them into Iroquois Point, which all of Ewa Beach Road, Kilipoe Street, that whole area, all those kids, elementary, could literally go to Iroquois Point [school] if you just open Fort Weaver Road, which they closed the connection to Iroquois, or whatever they calling 'em now, Pu'uloa, that was closed during 9-11. But you know, there's ways to solve the issues that I think the policy makers are not looking. [Tesha Malama]

And I'm not saying that Campbell does not have, you know, I know a blown out population. But they're focusing on building new buildings when we really do need the things that we never did have. In my experience, it's gonna end up being more important doing the sports and fitness complex which would allow to take all of these guys and put 'em in these locker rooms and so on. You open up those buildings, you get the arts, you can put the sciences. [Tesha Malama]

Like literally, [with] Pohakea Elementary, that [Campbell problem] can be solved in one summer program. You know, you take the summer, let's re-district, start notifying. It's not more than what, maybe 600 kids. And we get Ka'imiloa Elementary, if you put Iroquois [Elementary] in the mix. Iroquois, their class size is not more than 17, the average. Then you get Ewa Beach Elementary. And you have Ka'imiloa. And Ka'imiloa is in the 17 [average per class] too. [Tesha Malama]

So in the next few years, you going have about 1,200 more units come up. Ho'opili project, about 15, 1,200 units, they're gonna build a new high school, an elementary school and a middle school. So at one point, if you do build an additional high school in Kalaeloa, you going end up choking out Campbell. And then Campbell is at the end of the road. So what happens is it becomes the stepchild for funding. All the new kids, all the Hoakalei resort area, Ocean Pointe, all their kids is gonna be districted to the new high school. So then you going have this huge campus at Campbell sitting there. [Tesha Malama]

And we know that that's what happens because take a look at Kaimukī. Take a look at Hawai'i Kai where all this development is not happening. Then you got elementaries all through by where Kaimukī connects to Wai'alae, that whole area. Look at the numbers at Kalani High School. You see what I mean? And then you going build one whole new high school for the next resort area for come in. It's like one private high school. And then Campbell's the loser. [Tesha Malama]

Whereas what we did with Ewa Beach Elementary, and because they built Keoneula Elementary, when they sub-districted, half of the new Hoakalei-Ocean Pointe area, so all the new houses that's gonna be built along Papipi Street in the Hoakalei area, their kids gotta go to Ewa Beach Elementary. And the reason why, I thought, was one social justice. Look at it in regards to, okay those houses that going be built at Haubush [at the end of Papipi Street], which we know as Oneula, but for us growing up, that was Haubush, those houses going be two, three million dollars. It's gonna be overlooking one of the most beautiful oceans on the southwest side that many people don't know about, only us, because we grew up [here] right? Now when it's Fourth of July, you can see the fireworks at Pearl Harbor, you can see 'em at Ala Moana, and you can see 'em at Waikīkī. And if you at Haubush, you can look to the right, and you can see the fireworks at Ko 'Olina. Like, we got everything. Those houses, it's gonna take a mortgage of at least six grand or so, building along that oceanfront. I want those kids to go to Ewa Beach Elementary because on Papipi Street, where those guys, maybe they're paying the mortgage handed down from the grandma, I like the two million, three million dollar house kid grow up with this kid who paying one mortgage of a thousand dollars, so they both can see how each other live. And that there's compassion for one side, and the other side, there's motivation that I need to learn how to be able to afford that in Hawai'i. If I love Hawai'i, if I love Ewa Beach, how am I going to afford to stay hea? I gotta go school, I gotta whateva. [Tesha Malama]

If they build the new high school, then we're done, Campbell High School is done. That's why I really, really do believe DOE and the [Campbell High] administration has to take one holistic approach to what they're doing at Campbell. And re-districting is the answer for the next ten years. And then once everything's built out, then it'll settle. Right now, we just been growing, growing, growing. And to be perfectly honest, the facilities that we need at Campbell has not kept pace with the growth of it. And to me, that is a government issue because it's hard. Because the developers are building houses, they've gotta dedicate so much land and stuff, but I don't think anybody thought that you're going to build a new high school in the area, because you going see that attrition. And then nobody's gonna go to Campbell. And if you don't have the facilities built in now, there'll be no reason for people to go to Campbell. Everybody going try sub-district out [of the Campbell area]. We've seen it because the Wai'anae Coast, they all try to sub-district to Kapolei, why, that's the new high school. Same thing happened with Campbell, sub-district, try and get to Kapolei [High School]. [Tesha Malama]

But Campbell, education wise, what it puts out, the community, it's a good school. And it's a good school despite not having all of these facilities. And I sorry I going off on my bandwagon, but I'm passionate in regards to, you going build this five buildings, but these five buildings do not represent an additional asset. It's like, oh you trying to house students, and [the problem of] housing students can be done in one summer, and you take over Pohakea Elementary. And you might maybe need to do [fix up] maybe one or two buildings, but really focus on getting the facilities Campbell needs. [Tesha Malama]

But yeah in regards to, I think there's a whole shift that has to happen at Campbell, and if we just focus on doing buildings, somebody's gonna try and get one new high school built, and we going have all this excess buildings. In 25 years, we going have all these concrete buildings on there, and nobody's gonna be in 'em. That's why you gotta take one approach

that is, I know it looks like the answer, but it's not the answer. It's not the answer for long term because yeah, then in 30 years, what you going do with those buildings? And then Hoʻopili's high school is gonna be off of Fort Weaver [Road] and Farrington Highway. Okay, for that high school, all of Kolowaka is supposed to go to that high school. So once again, you going have all of old ʻEwa, the new Kolowaka, all north of that up West Loch Fairways Estates, all behind Queen's Medical West, they supposed to go to that Hoʻopili high school. So again, you going have one shift in population. So building a new high school for the Ewa Beach area is not the answer. [Tesha Malama]

I just was thinking about the heights [of the new building], but O-building is 3-story. So I think the heights are consistent. I would just double check the heights, the view plane. Because Boys and Girls Club, they asked for an extension, and it was off Fort Weaver Road. This one is tucked in. And I think the 3-story is consistent with the zoning. That would be the only other thing I can think of. [Tesha Malama]

I think they need more buildings. They need more teachers. And if they're gonna build new, they may as well add the air conditioning instead of waiting 'til later when it would cost you more money, I think. [Ivy Pantastico]

Oh maybe, [they could build] a new high school? …Maybe [call it] Ewa High School. [Ivy Pantastico]

Summary of Ethnographic Survey

The interviewees have extensive knowledge of Campbell High School and the surrounding region of Ewa Beach. Two cultural resources were specifically noted for the Campbell High School campus. One interviewee remembers that the school's football field was filled with soil containing human remains and tombstone fragments from a cemetery. Another remembers a sculpture in the roundabout in the form of poles that resembled a volcano.

The natural environment was mentioned as well, with the ʻEwa Plain was known to have fresh water springs. Plants such as ti and ʻulu would grow in the vicinity of the springs. There was also sugarcane and kiawe growing in the area of the school, and cattle roamed the vicinity. The interviewees went on to describe the changes of the area over time. They asserted that the school is much more crowded now and there is more development in the general area.

The interviewees also voiced their concerns and recommendations for the project. Concerns include potential flooding and traffic. Recommendations consist of the following:

- Having a blessing for the project.
- Being mindful of drainage to minimize flooding.
- Linking parking lots together to provide better circulation and lessen traffic.
- Making sure that the new classrooms are air conditioned.
- Using funds for a new athletic complex.
- Looking at long term solutions for overcrowding.
    - One interviewee suggested re-districting of schools instead of building a new high school. If students from Pohakea Elementary to go to other elementary schools in the area, Campbell High School would then incorporate that adjacent Pohakea Elementary campus as part of Campbell High and utilize those buildings for Campbell's students.
    - Another interviewee was in favor of building a new school.

SUMMARY AND RECOMMENDATIONS

The ʻEwa Plain has been an important area of Oʻahu since pre-Contact times and has retained its importance today. This study highlights the unique past of Campbell High School and the larger ʻEwa Plain, and demonstrates the importance of these places to the community. Three community members were interviewed to share their manaʻo and to help identify any potential cultural resources or practices that might be affected by proposed improvements to the school. The consultants did not identify any cultural practices within the project area that would be affected. They did recognize cultural resources in the area, and they offered valuable recommendations for the project.

Cultural Resources, Practices, and Beliefs Identified

Archival research and ethnographic interviews compiled for the current study revealed that the ʻEwa Plain was a culturally significant area with many of the natural resources which supported traditional subsistence activities such as fishing, the gathering of plants, various shellfish as well as limu. The geology of the ʻEwa Plain, with karst systems and sinkholes, led to the development of practices unique to the area, such as planting within sinkholes.

Historically, the lands of ʻEwa were cultivated in sugarcane, used for cattle ranching, and most recently, utilized as a military base. As new development of this area occurs, archaeological studies reveal the physical evidence supporting knowledge of the traditional and cultural wealth of the region. The identification and dating of floral and faunal material, much of which were recovered from sinkholes, has provided significant data which has afforded archaeologists and scientists the opportunity to explore theories of settlement pattern, as well as the decrease/extinction of native birds and the pre-Polynesian floral landscape.

Ethnographic interviews identified two cultural resources on the Campbell High School Campus. The first is the fill of the football field, which is said to contain scattered iwi from a cemetery in Waipahu. The second is a work of art that was once located in the roundabout fronting the current agriculture garden of Campbell High School. It is said to have been comprised of poles in the form of a volcano, however the structure is no longer there. A third cultural resource was identified in an archaeological study and consists of two infilled sinkholes (Sroat et al. 2012).

Potential Effects of the Proposed Project

The cultural resources noted above lie outside the area of proposed construction (football field fill and sinkholes) or are no longer there (artwork). They will therefore not be affected by the proposed project. The interviewees did mention that the proposed project may have general effects on the area such as flooding or increased traffic.

Confidential Information Withheld

During the course of researching the present report and conducting the ethnographic survey program, no sensitive or confidential information was discovered or revealed, therefore, no confidential information was withheld.

Conflicting Information

No conflicting information was obvious in analyzing the gathered sources. On the contrary, a number of themes were repeated and information was generally confirmed by independent sources.

Recommendations/Mitigations

The interviewees shared several recommendations for the project:

- Having a blessing for the project.
- Being mindful of drainage to minimize flooding.
- Linking parking lots together to provide better circulation and lessen traffic.
- Making sure that the new classrooms are air conditioned.
- Using funds for a new athletic complex.
- Looking at long term solutions for overcrowding
    - One interviewee suggested re-districting of schools instead of building a new high school.
    - Another interviewee was in favor of building a new school.

Background research and oral history interviews did not reveal any archaeological resources within the project area that would be affected by the proposed construction. Nevertheless, interviews with three community members revealed key concerns and recommendations for the proposed project. These as well as any other concerns and recommendations brought forward by the community should be considered during all phases of the Campbell High School improvement project.

GLOSSARY

ahu A shrine or altar.

ahupua‘a Traditional Hawaiian land division usually extending from the uplands to the sea.

aku The bonito or skipjack (*Katsuwonus pelamis*), a prized eating fish.

akule Big-eyed or Goggled-eyed scad fish (*Trachurops crumenophthalmus*).

ali‘i Chief, chiefess, monarch.

aloe The *Aloe vera* plant, used as a skin moisturizer, for healing burns, and to detoxify the body.

‘ama‘ama The mullet, or *Mugil cephalus*, a prized indigenous fish.

‘awa The shrub *Piper methysticum*, or kava, the root of which was used as a ceremonial drink throughout the Pacific.

banana The mai‘a, or *Musa* sp., whose fruit was eaten and leaves used traditionally as a wrapping for cooking food in earth ovens.

heiau Place of worship and ritual in traditional Hawai‘i.

‘ike To see, know, feel; knowledge, awareness, understanding.

iwi Bone.

Kahiki A far away land, sometimes refers to Tahiti.

kalo The Polynesian-introduced *Colocasia esculenta*, or taro, the staple of the traditional Hawaiian diet.

kama‘āina Native-born.

Kanaloa A major god, typically associated with Kāne.

Kāne The leading of the traditional Hawaiian deities.

kauhale A group of houses that comprise the traditional Hawaiian homestead. Often included are a sleeping house, men's eating house, women's eating house, cooking house, and canoe house.

kia‘i Guard, caretaker; to watch or guard; to overlook, as a bluff.

kiawe The algarroba tree, *Prosopis* sp., a legume from tropical America, first planted in 1828 in Hawai‘i.

ko‘a Fishing shrine.

koa haole The small tree *Leucaena glauca*, historically-introduced to Hawai‘i.

konohiki The overseer of an ahupua‘a ranked below a chief; land or fishing rights under control of the konohiki; such rights are sometimes called konohiki rights.

kuapā Wall of a fishpond.

kukui The candlenut tree, or *Aleurites moluccana*, the nuts of which were eaten as a relish and used for lamp fuel in traditional times.

kuleana Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.

kupekala A bivalve of Pearl Harbor, possibly *Chama* spp.

kupua Demigod, hero, or supernatural being below the level of a full-fledged deity.

kupuna Grandparent, ancestor; kūpuna is the plural form.

lehua The native tree *Metrosideros polymorpha*, the wood of which was utilized for carving images, as temple posts and palisades, for canoe spreaders and gunwales, and in musical instruments.

limu Refers to all sea plants, such as algae and edible seaweed.

loʻi, loʻi kalo An irrigated terrace or set of terraces for the cultivation of taro.

loko, loko iʻa Pond, lake, pool.

lua The ancient style of fighting involving the breaking of bones, dislocation of joints, and inflicting pain by applying pressure to nerve centers; hole, pit; toilet.

mahalo Thank you.

mahalo nui loa Thank you very much.

mahamoe Sleek, as a plump animal, attractive; smooth; also the name of an edible bivalve.

mahaʻoi Bold, rude, forward.

Māhele The 1848 division of land.

maiʻa The banana, or *Musa* sp., whose fruit was eaten and leaves used traditionally as a wrapping for cooking food in earth ovens.

makai Toward the sea.

māmaki *Piptarus spp.*, a small native tree. Fiber from its bark was used to make a kind of coarse tapa. Sometimes spelled mamake in old texts.

manaʻo Thoughts, opinions, ideas.

maʻo *Gossypium sandvicense*, or native cotton, a shrub in the hibiscus family that bears yellow flowers and seed cases containing brown cotton.

mauka Inland, upland, toward the mountain.

mele Song, chant, or poem.

midden A heap or stratum of refuse normally found on the site of an ancient settlement. In Hawaiʻi, the term generally refers to food remains, whether or not they appear as a heap or stratum.

mōʻī King.

moku District, island.

moʻolelo A story, myth, history, tradition, legend, or record.

nahawele Bivalves of the family *Isognomonidae* or *Brachiodontes*, the purse shell and mussel, respectively.

nehu The anchovy, *Stolephorus purpureus*, used for eating and as a chum for bonito.

nuku Beak, snout, tip, end; spout, beak of a pitcher; mouth or entrance, as of a harbor, river, or mountain pass or gap.

ʻohana Family.

ʻōkupe	A method of digging holes using a stick, to prod the earth aside, as for taro; to stumble or trip; err or go astray morally; the name for the bivalve *Spondylus tenebrosus*.
oli	Chant.
olonā	The native plant *Touchardia latifolia*, traditionally used for making cordage.
ʻōpae	Shrimp.
ʻowāʻowaka	A bivalve, possibly of the family *Isognomonidae*.
pāpaʻi	General term for crabs.
pāpaua	The clam *Isognomon*, a bivalve.
pipi	*Pinctada radiata*, the Hawaiian Pearl Oyster. In songs this is referred to as the *iʻa hāmau leo o ʻEwa*, or ʻEwa's silent sea creature, as it was believed that speaking would cause a breeze to ripple the ocean and scare the *pipi*.
pipipi	A marine shell, *Nerita picea*, common in the intertidal zone.
post-contact	After A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.
pre-contact	Prior to A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.
puka	Hole, void, space, entrance.
puʻuone	Pond near the seashore, as at the end of a stream.
ti (kī)	The plant *Cordyline terminalis*, whose leaves were traditionally used in house thatching, raincoats, sandals, whistles, and as a wrapping for food.
tūtū	Grandmother or grandfather.
uhi	The yam *Dioscorea alata*, commonly grown for food.
ʻulu	The Polynesian-introduced tree *Artocarpus altilis*, or breadfruit.
wao	A general term for inland areas, usually forested and uninhabited.
wauke	The paper mulberry, or *Broussonetia papyrifera*, which was made into tapa cloth in traditional Hawaiʻi.

REFERENCES

Alexander, W.D.
1873 *Map of Honouliuli, Oahu*. Hawaiian Government Survey Map. Scale: 2,000 feet = 1 inch.

1902 *Oahu Hawaiian Islands*. Hawaii Territory Survey Map. Scale on map.

Andrews, L.
1865 *A Dictionary of the Hawaiian Language*. Henry M. Whitney, Honolulu.

Arakaki, E.
2012 "Disrespectful Treatment of Human Remains." In James Campbell High School Football Field A Lesson for Today." *Hawaii Reporter* October 2, 2012. <http://www.hawaiireporter.com/disrespectful-treatment-of-human-remains-in-james-campbell-high-school-football-field-a-lesson-for-today/123>

Athens, J.S.
1987 *Human Burial Removal, Iroquois Point, Oahu*. International Archaeological Research Institute, Inc., Honolulu.

Beardsley, F.
2001 *Phase II – Intensive Survey and Testing Naval Air Station Barbers Point Land of Honouliuli, 'Ewa District, Island of O'ahu Contract No. N62742-93-D-0502 Delivery Orders No. 7 and No. 19*. International Archaeological Research Institute, Inc., Honolulu.

Beckwith, M.
1970 *Hawaiian Mythology*. University of Hawaii Press, Honolulu.

Boelen, J.
1988 *A Merchant's Perspective: Captain Jacobus Boelen's Narrative of his visit to Hawai'i in 1828*. The Hawaiian Historical Society, Honolulu.

Campbell, A.
1819 *Voyage Round the World from 1806–1812*. New York.

Carson, M.T.
2007 *Archaeological Inventory Survey at Iroquois Point Beach Development Parcel, Pu'uloa, O'ahu Island, Hawai'i*. International Archaeological Research Institute, Inc., Honolulu.

Corbin, A.B.
2004 *Supplemental Archaeological Survey: Subsurface Testing of Beach Areas at Marina Channel and Kalo'i Drainage Channel, Ocean Pointe Project*. Paul H. Rosendahl, PhD, Inc., Hilo, Hawai'i.

Cordy, R.H.
1993 *The Rise and Fall of the O'ahu Kingdom; A Brief Overview of O'ahu's History*. Typescript, Division of Historic Preservation, Honolulu.

Davis, B.D.
1979 *Report on Archaeological Survey of the Proposed Ewa-Marina Community Development, Ewa Beach, Oahu Island*. Hawaii Marine Research, Inc., Honolulu.

1983 *Report on Preliminary Reconnaissance of the Proposed Ewa-Puuloa Golf Course in the Pu'uloa Section of Hono'uli'uli, Southwestern O'ahu*.

Davis, B.D. and G.C. Burtchard
1991 *Archaeological Inventory Survey of the Proposed PPV Housing Area, West Loch Unit of the Lualualei Naval Ammunition Depot, Pu'uloa, 'Ewa, O'ahu, Hawai'i*. International Archaeological Research Institute, Inc., Honolulu.

Dunn, A.E. and A.E. Haun
1991 *Intensive Archaeological Survey and Test Excavations, Ewa Marina Project- Phase 1. Land of Honouliuli, Ewa District, Island of Oahu (TMK 9-1-011-001,2,34,5,6,7;9-1-012-008,9,11,12,13,16,1)*. Paul H. Rosendahl, PhD, Inc., Hilo, Hawai'i.

Dye, T.S. and E.H.R. Jourdane
2006a *Archaeological Assessment for the Proposed T-MobileWest Hickam-Iroquois Point Cell Site No. HI 186P, 6376 Ibis Avenue, Pu'uloa, 'Ewa, O'ahu Island, TMK:(1)9–1–001:034 por.* T.S. Dye & Colleagues, Archaeologists, Inc., Honolulu.

2006b *Archaeological Assessment for the Proposed Sprint PCS Campbell High School Cell Site No. HI60XC506A, 91–980 North Road, Honouliuli, 'Ewa, O'ahu Island, TMK:(1)9–1–001:002 por*. T.S. Dye & Colleagues, Archaeologists, Inc., Honolulu.

Foote, D., E. Hill, S. Nakamura, and F. Stephens
1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. United States Department of Agriculture, Soil Conservation Service. Published in cooperation with the University of Hawaii Agricultural Experiment Station, Washington, D.C.

Fornander, A.
1918 *Fornander Collection of Hawaiian Antiquities and Folk-Lore, Vol. V*. Bishop Museum Press, Honolulu.

1919 *Fornander Collection of Hawaiian Antiquities and Folk-Lore, Vol. VI.* Bishop Museum Press, Honolulu.

1996 *Ancient History of the Hawaiian People to the Times of Kamehameha I*. Mutual Publishing, Honolulu.

Hammatt, H.H.
1984 *Reconnaissance and Evaluation of Archaeological Sites in the Proposed Ewa Marina Community, 'Ewa, O'ahu, Hawai'i.* Cultural Surveys Hawai'i, Kailua, Hawai'i.

Hammatt, H.H. and D.F. Borthwick
1997 *Archaeological Inventory Survey of a 0.8 Acre Study Area within the 'Ewa High Frequency Transmitter Station at Pu'uloa, Honouliuli Ahupua'a, O'ahu (TMK:9-1-01)*. Cultural Surveys Hawaii, Kailua, Hawai'i.

Hammatt, H.H. and R. Chiogioji
1997 *Archaeological Reconnaissance Survey of a 4.5 Kilometer (14,730-FT) Long Land Corridor Within Honouliuli Ahupua'a, 'Ewa District, O`ahu Island*. Cultural Surveys Hawai'i, Kailua, Hawai'i.

Hammatt, H.H. and D. Shideler
1989 *An Archaeological and Paleontological Assessment of Proposed Ewa Marina; Phase II Lands of Honouliuli, Ewa, O'ahu*. Cultural Surveys Hawaii, Kailua, Hawai'i.

Handy, E.S.C. and E.G. Handy (with the collaboration of M.K. Pukui)
1991 *Native Planters in Old Hawaii, Their Life, Lore, and Environment*. Revised Edition. Bishop Museum Press, Honolulu.

Haun, A.E.
1991 *An Archaeological Survey of the Naval Air Station, Barber's Point, O'ahu, Hawai'i*. The Applied Research Group of Bishop Museum, Honolulu.

Hawai'i Community Development Authority
2012 http://hcdaweb.org/kalaeloa. Accessed 6/5/2012.

Hommon, R.J. and H. Ahlo
1983 *Archaeological Test Excavations at the Proposed Ewa Marina Community Development Area, Ewa, Oahu*. Science Management, Inc.

I'i, J.P.
1959 *Fragments of Hawaiian History* (Puku'i Translation). Bishop Museum Press, Honolulu.

Jensen, P.M., and J. Head
1995 *Phase I Archaeological Reconnaissance Survey Naval Magazine Lualualei NAVMAG-West Loch*. Paul H. Rosendahl, Inc., Hilo, Hawai'i.

Jourdane, E.
1979 *Archaeological Reconnaissance Survey of Proposed Ewa Marina, Campbell Estate Properties, One'ula, Honouliuli, O'ahu*. Departmemt of Anthropology, B.P. Bishop Museum, Honolulu.

Juvik, S.P. and S.O. Juvik
1998 *Atlas of Hawaii*. Third Edition. University of Hawai'i Press, Honolulu.

Kamakau, S.M.
1991 *Ka Po'e Kahiko, The People of Old*. Bishop Museum Press, Honolulu.

n.d. *Ka Moolelo o Hawaii*. Bishop Museum, Honolulu.

Kelly, M.
1991 *Notes on the History of Honouliuli, Appendix A in A.E. Haun 1991, An Archaeological Survey of the Naval Air Station, Barber's Point, O'ahu, Hawai'i.* The Department of Anthropology, B.P. Bishop Museum, Honolulu.

Kennedy. J.
1988 *A Preliminary Archaeological Reconnaissance Conducted at TMK: 9-1-01:06, 27*. Archaeological Consultants of Hawai'i, Inc., Hale'iwa, Hawai'i.

Kennedy, J. and T. Denham
1992 *Archaeological Data Recovery Report for the Puuloa Golf Course Located at Ewa, Island of Oahu, TMK: 9-1-01:027 & 6.* Archaeological Consultants of Hawai'i, Inc., Hale'iwa, Hawai'i.

Kennedy, J., J. Berlin, and T. Denham
1992 *Archaeological Inventory Survey for the Puuloa Golf Course Site TMK: 9-1-01:027 & 6, Located at Ewa, Island of Oahu*. Archaeological Consultants of Hawai'i, Inc., Hale'iwa, Hawai'i.

McAllister, J.G.
1933 *Archaeology of O'ahu.* Bishop Museum Bulletin 104. Bernice P. Bishop Museum, Honolulu.

McCoy, P.
1972 *Archaeological Survey of the Proposed Puuloa Elementary School Site, Ewa Beach, Oahu*. B.P. Bishop Museum, 1972, Honolulu.

McElroy, W.K. and D. Duhaylonsod
2016 *Archaeological Assessment for Improvements to Campbell High School, Honouliuli Ahupua'a, 'Ewa District, Island of O'ahu TMK: (1) 9-1-001:002*. Keala Pono Archaeological Consulting, Kāne'ohe, Hawai'i.

Monsarrat, M.D.
1878 *Map of Honouliuli Taro Land*. Scale: 1:2400.

Moore, J.R. and J. Kennedy
2002 *An Archaeological Archival Research Report for the 'Ewa Nonpotable Water System, Honouliuli Ahupua'a, 'Ewa District, Island of O'ahu*. Archaeological Consultants of the Pacific, Hale'iwa, Hawai'i.

Nakuina, M.K.
1990 *The Wind Gourd of La'amaomao*. Kalamakū Press, Honolulu.

Pukui, M.K.
1983 *'Ōlelo No'eau: Hawaiian Proverbs & Poetical Sayings*. Bishop Museum Press, Honolulu.

Pukui, M.K., S.H. Elbert, and E.T. Mookini
1974 *Place Names of Hawaii*. University of Hawai'i Press, Honolulu.

Sroat, E., D.W. Shideler, and H.H. Hammatt
2012 *Archaeological Literature Review and Field Inspection for the Campbell High School Project, Pu'uloa, Honouliuli Ahupua'a, 'Ewa District, O'ahu Island TMKL [1] 9-1-001:002*. Cultural Surveys Hawai'i, Kailua, Hawai'i.

Sterling, E.P. and C.C. Summers
1978 *Sites of Oahu*. Bishop Museum Press, Honolulu.

Titcomb, M.
1972 *Native Use of Fish in Hawai'i*. University of Hawaii Press, Honolulu.

Tuggle, H.D.
1995 *Archaeological Inventory Survey for Construction Projects at Naval Air Station Barbers Point, O'ahu, Hawai'i.* International Archaeological Research Institute, Inc., Honolulu.

Tuggle, H.D. and M.J. Tomonari-Tuggle
1994 *Cultural Resources of Naval Air Station, Barbers Point: Summary, Assessment, and Inventory Research Design: Archaeological Research Services for the Proposed Cleanup, Disposal and Reuse of Naval Air Station, Barbers Point, O'ahu, Hawai'i (Task 1b).* International Archaeological Research Institute, Inc., Honolulu.

1995 *Prefinal: A Cultural Resource Inventory of Naval Air Station, Barbers Point, O'ahu, Hawai'i: Part I: Phase I Survey and Inventory Survey.* International Archaeological Research Institute, Inc., Honolulu.

Vancouver, Captain George
1801 *A Voyage of Discovery to the North Pacific Ocean and Round the World.* 6 vols., London.

APPENDIX A: AGREEMENT TO PARTICIPATE

Agreement to Participate in the Cultural Impact Assessment for the Campbell High School Project
Dietrix J. U. Duhaylonsod, Ethnographer, Keala Pono Archaeological Consulting

You are invited to participate in a Cultural Impact Assessment (CIA) for the Campbell High School Project in ʻEwa Beach, on the island of Oʻahu (herein referred to as "the Project"). The Project is being conducted by Keala Pono Archaeological Consulting (Keala Pono), a cultural resource management firm, on behalf of Group 70 International. The ethnographer will explain the purpose of the Project, the procedures that will be followed, and the potential benefits and risks of participating. A brief description of the Project is written below. Feel free to ask the ethnographer questions if the Project or procedures need further clarification. If you decide to participate in the Project, please sign the attached Consent Form. A copy of this form will be provided for you to keep.

Description of the Project

This CIA is being conducted to collect information about the Project property in ʻEwa Beach and its surrounding areas in the ʻEwa region of Oʻahu Island through interviews with individuals who are knowledgeable about this area, and/or about information including (but not limited to) cultural practices and beliefs, moʻolelo, mele, or oli associated with this area. The goal of this Project is to identify and understand the importance of any traditional Hawaiian and/or historic cultural resources, or traditional cultural practices in properties on the current subject properties. This Assessment will also attempt to identify any affects that the proposed development may have on cultural resources present, or once present within the Project area.

Procedures

After agreeing to participate in the Project and signing the Consent Form, the ethnographer will digitally record your interview and it may be transcribed in part or in full. The transcript may be sent to you for editing and final approval. Data from the interview will be used as part of the ethno-historical report for this project and transcripts may be included in part or in full as an appendix to the report. The ethnographer may take notes and photographs and ask you to spell out names or unfamiliar words.

Discomforts and Risks

Possible risks and/or discomforts resulting from participation in this Project may include, but are not limited to the following: being interviewed and recorded; having to speak loudly for the recorder; providing information for reports which may be used in the future as a public reference; your uncompensated dedication of time; possible misunderstanding in the transcribing of information; loss of privacy; and worry that your comments may not be understood in the same way you understand them. It is not possible to identify all potential risks, although reasonable safeguards have been taken to minimize them.

Benefits

This Project will give you the opportunity to express your thoughts and opinions and share your knowledge, which will be considered, shared, and documented for future generations. Your sharing of knowledge may be instrumental in the preservation of cultural resources, practices, and information.

Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected upon request. You may request, for example, that your name and/or sex not be mentioned in Project material, such as in written notes, on tape, and in reports; or you may request that some of the information you provide remain off-the-record and not be recorded in any way. To ensure protection of your privacy, confidentiality and/or anonymity, you should immediately inform the ethnographer of your requests. The ethnographer will ask you to specify the method of protection, and note it on the attached Consent Form.

Refusal/Withdrawal

At any time during the interview process, you may choose to not participate any further and ask the ethnographer for the tape and/or notes. If the transcription of your interview is to be included in the report, you will be given an opportunity to review your transcript, and to revise or delete any part of the interview.

APPENDIX B: CONSENT FORM

Consent Form

I, _____, am a participant in the Campbell High School Cultural Impact Assessment (herein referred to as "Project"). I understand that the purpose of the Project is to conduct oral history interviews with individuals knowledgeable about the subject property and surrounding area in the ʻEwa region of Oʻahu Island. I understand that Keala Pono Archaeological Consulting and/or Group 70 International will retain the product of my participation (digital recording, transcripts of interviews, etc.) as part of their permanent collection and that the materials may be used for scholarly, educational, land management, and other purposes.

_____ I hereby grant to Keala Pono and Group 70 International ownership of the physical property delivered to the institution and the right to use the property that is the product of my participation (e.g., my interview, photographs, and written materials) as stated above. By giving permission, I understand that I do not give up any copyright or performance rights that I may hold.

_____ I also grant to Keala Pono and Group 70 International my consent for any photographs provided by me or taken of me in the course of my participation in the Project to be used, published, and copied by Keala Pono and Group 70 International and its assignees in any medium for purposes of the Project.

_____ I agree that Keala Pono and Group 70 International may use my name, photographic image, biographical information, statements, and voice reproduction for this Project without further approval on my part.

_____ If transcriptions are to be included in the report, I understand that I will have the opportunity to review my transcripts to ensure that they accurately depict what I meant to convey. I also understand that if I do not return the revised transcripts after two weeks from the date of receipt, my signature below will indicate my release of information for the draft report, although I will still have the opportunity to make revisions during the draft review process.

By signing this permission form, I am acknowledging that I have been informed about the purpose of this Project, the procedure, how the data will be gathered, and how the data will be analyzed. I understand that my participation is strictly voluntary, and that I may withdraw from participation at any time without consequence.

Consultant Signature	**Date**
Print Name	**Phone**
Address	

Thank you for participating in this valuable study.

APPENDIX C: TRANSCRIPT RELEASE

Transcript Release

I, _____, am a participant in the Cultural Impact Assessment for the Campbell High School Project (herein referred to as "Project") and was interviewed for the Project. I have reviewed the transcripts of the interview and agree that the transcript is complete and accurate except for those matters delineated below under the heading "CLARIFICATION, CORRECTIONS, ADDITIONS, DELETIONS."

I agree that Keala Pono Archaeological Consulting and/or Group 70 International may use and release my identity, biographical information, and other interview information, for the purpose of including such information in a report to be made public, subject to my specific objections, to release as set forth below under the heading "OBJECTIONS TO RELEASE OF INTERVIEW MATERIALS."

CLARIFICATION, CORRECTIONS, ADDITIONS, DELETIONS:

OBJECTIONS TO RELEASE OF INTERVIEW MATERIALS:

Consultant Signature **Date**

Print Name **Phone**

Address

APPENDIX D: INTERVIEW WITH EARL ARAKAKI

TALKING STORY WITH

EARL ARAKAKI (EA)

Oral History for the James Campbell High School project by Dietrix Duhaylonsod (DD)
For Keala Pono 6/21/2016

DD: Aloha, today is Tuesday, June 21. We're at Loco Moco, Ewa Beach Shopping Center. We're going to be talking about the proposed construction of this building at the Campbell High School campus. We're talking story with Earl Arakaki, and before we go any further, we'd just like to say, "Thank you for spending time out of your schedule to talk story with us."

So aloha, and if we could start, could you state your name, where/when you were born, where you grew up, where you went to school?

EA: Okay, Earl Arakaki, I live in Ewa Beach for the past 65 years. I grew up here, went to school, Ewa Elementary, and later on, Waipahu High School, graduated from Waipahu High School. So my whole life has been here in Ewa Beach.

DD: Okay, thank you. And is there anything else you'd like to tell us about your family background?

EA: Well, both parents have passed away. I'm going to be 70 this November. And I have three half-brothers that also live here in Ewa Beach, excuse me, two live in Ewa Beach, one lives in Kona, different last name, the Palmeira family. Quite a few of them live here in Ewa Beach also.

DD: Okay, thank you. So we're talking about the Campbell High School campus area. I know you were saying that you went to Waipahu High School, but could you tell us if you have any kind of association with the Campbell High School area?

EA: Well growing up here in Ewa Beach, I remember, what is today the Ilima Intermediate School used to be the Campbell High School. And I could remember when that [the present Campbell High School area] was kiawe bushes, was kiawe forest there. And the Loco Moco here at the Ewa Beach Shopping Center, I remember when that was a kiawe forest, and this area, you know, Loco Moco right next to First Hawaiian Bank and the Chevron Service Station, I remember when that was a cattle pen. There was this open area right where the Chevron and the Loco Moco is, there was an open area and someone had cattle in here. And then they cleared it out once in a while. And the Ewa Beach carnival was held over here.

I been here sooo long, before they taught history in school, I was here.

DD: Hu, that's long time! [laughs]

Okay, so to clarify, this Ewa Beach area, a lot of it was kiawe. So you're saying that where Ilima Intermediate is, that was the high school. And also, where Campbell High School is now, that was all kiawe trees?

EA: Yes. Right at North Road and Fort Weaver Road, I remember there was one old, wooden gate, like you see on farms. There was a wooden gate right at that intersection where Kulana Village is right now. And they built Pohakea School right about the time that they built Campbell High School on the site of today's Ilima Intermediate School.

In fact, I remember that they were going to name Campbell High School, "Wailani High School." And the community protested because Wailani is in Waipahu. So that's how they named it Campbell High School, after James Campbell.

DD: Ho, that would be totally different.

EA: That's right. And about that time, I believe I was in the 8th grade at Ewa Elementary and Intermediate School. And they tore down the kiawe forest at the present Ilima Intermediate site. They had started construction of what was to become James Campbell High and Intermediate School.

DD: Okay, so back in those days, if you're from Ewa Beach, your elementary and intermediate school was in 'Ewa. And then your high school was in Waipahu? Is that correct?

EA: Right. Prior to them building Ewa Beach Elementary School on Papipi Road, which only went up to the 6th grade, the students that lived in Ewa Beach, most of 'em would catch the school bus and be transported to Ewa School on Renton Road. Then when they built the Ewa Beach Elementary School on Papipi Road, then a lot of students went to that school. However, the ones who were older than 6th grade had to continue on at Ewa School.

DD: Ewa Intermediate?

EA: Ewa Elementary and Intermediate.

DD: Okay, and then high school in Waipahu?

EA: Right, up until the class of 1964, at Waipahu, James Campbell High School's first graduating class was 1965.

DD: That's some interesting history there, the districting.

Okay, so what about that area of the current Campbell High School, do you have any experiences going around there when you was a kid, or anything you remember back there?

EA: Well, I can remember when they were building the football field, and my parents and the other families had notice that they were gonna transport the dirt from Waikele Road, from the cemetery, to the rear of Waipahu Elementary School, which is still there today. Part of the cemetery is still there today. And they were going to build the Kings Apartment Hotel which is a different name today, but the buildings are still there, on Waikele Road, just Wai'anae side of Aniani Place.

And people were notified to take the remains of their family or loved ones that were buried at that cemetery and have them reinterred at the Mililani cemetery which was just being started. So those who failed to comply, the remains of their family or loved ones at that Waipahu cemetery were simply scooped up in the dump truck with a front-end loader and transported to today's James Campbell High School football field back in the day.

Now, I remember one of my brothers was going to, I believe, Pohakea or Ewa Beach Elementary. Anyway, the school had sent out notices for the children not to go around the construction area, the football field, and not to touch the bones because you don't know what kind of diseases that the deceased might have had with their remains there, and to stick away from the area. But you know, being a teenager, I think I was like in the 8th grade or 9th grade, one Saturday I was riding my bike, and I had to make maha'oi, [laughs] and I went down to the construction site, the football field, and I distinctly remember what would be today's Honolulu side line of the football field, I seen a

long row of dirt pile with grave markers, crosses, and other grave markers sticking out of the dirt, with bones sticking out of the dirt. Lots of, I would estimate, the grave markers, maybe 70, you know, I know easily more than 50. And there were bones sticking out that were human bones, but I paid attention to the part where they said, "Don't touch the bones." So I never touched the bones, I just looked at 'em. I didn't touch 'em. And I just was curious as a kid, and I just went around there and looked at it, and I left. But that's all, I seen.

And then later on, years later, they constructed the football field, and my friends and I, we're from Waipahu, and there was a little friendly competition between the students of Campbell High School and Waipahu High School. And Campbell was a new school, so they were building their [Campbell High School] football program. And I remember their coach was Mr. Cambra. And of course they were rebuilding, they never had a senior class yet. They started from sophomores, there were juniors, so they didn't win any games, but the students back in the day, we used to tease 'em that, you know, Campbell's colors were orange and black, and we used to tell them, "Oh, you guys get Halloween colors 'cause you get spooks in the field." [laughs] "That's why you get Halloween colors, 'cause you get spooks in the field. That's why you guys not winning, 'cause you get bad luck."

DD: [laughs] That was the "Cane Knife Classic"? [name of football rivalry between Campbell and Waipahu High Schools]

EA: That was before the Cane Knife Classic. But it did evolve into the Cane Knife Classic because on this side, on Ewa Beach side, 'Ewa, you had Ewa Plantation, and at Waipahu, you had Oahu Sugar Company. So that was something common amongst plantation communities.

DD: Right.

Wow, it's such a sad story to hear that all of the remains were dug up and transported like that.

EA: Also, some of my friends that went to Campbell High School, they talked about, but I never seen it myself, they mentioned, as the dirt settled on the football field, once in a while they'd see bones being exposed in the middle of the grass. I don't know what they did, you know, maybe they pushed it back in, or they pulled it out, you know, tossed it on the side. But I heard stories like that, some of the people that used the football field. I, myself, I've never seen that.

I was discussing this story with a friend of mine. He used to work construction back in the day. And he said, he remembered that. He himself never worked at the football field, but he did some job with this company called Pacific Construction. And according to a friend of mine, he said the company that worked on that was Pacific Construction. I don't know if they still exist today.

DD: Wow. Mahalo for sharing that. And as far as you remember, it was just the football field area?

EA: That's all I remember.

DD: Okay.

EA: But you gotta remember that all of Ewa Beach was all coral. All the bottom is all white coral. So, all the development in Ewa Beach, the dirt had to have been brought in from somewhere else. As far as I know, the bone story is regarding the football field. The rest of the school, I don't know where the soil came from.

DD: Okay, that makes sense. Mahalo.

So you mentioned that it changed from kiawe, from ranching. Is there any other way you remember the place changing, from before to now?

EA: Well, prior to the old James Campbell High School being constructed, the first large development bordered Kuhina Street, bordered Fort Weaver Road-Kuhina, and going Honolulu direction on Kuhina, Hanakahi Street going come from Fort Weaver Road, further mauka side on Fort Weaver, and they would intersect way down the Honolulu end of, we call that, the Leeward Estates Community.

DD: Leeward Estates, right over hea? [pointing]

EA: Right across the shopping center.

DD: Oh okay, that's Hanakahi right over here too, ah?

EA: That's Kuhina.

DD: Oh, that's Kuhina?

EA: That's Kuhina, right near the shopping center. Hanakahi [Street] is mauka side. And from Hanakahi-Fort Weaver, [it] would meet Kuhina Street, on the far Honolulu end of that development. I remember that was Blackfield enterprises, that was the developer of that community, Blackfield Enterprises.

DD: And that was called Leeward Estates?

EA: Leeward Estates, and that was the first major development in Ewa Beach. And the houses sold over there, and I remember they had a grand opening. And I was a kid, and again, making maha'oi, I go check out the big celebration, and I distinctly remember the emcee was Lucky Luck.

DD: Oh, das da old days, that. [laughs]

EA: [laughs] You not going remember Lucky Luck, but your parents would remember Lucky Luck.

DD: Wow, I heard that name before.

And then, just for the record, you were saying that you live by Papipi [Road] side, by Haubush, yeah?

EA: No, I grew up on Muumuu place.

DD: Oh, Muumuu, okay.

EA: Today I live on Amio Street, which is further west [than Muumuu Place and closer to Haubush]. The homes in Ewa Beach, the old Ewa Beach, ran from what is today Hailipo Street, going Honolulu direction towards the old fire station, on Pohakupuna Road. It would intersect with Fort Weaver Road, Pohakupuna and Fort Weaver, near what is Parish Drive.

Everything was makai of Fort Weaver Road. Everything was makai --- Parish Drive, Hapalua Street --- there was no canal there, no drainage canal. Kulana Village and all the North Road development didn't exist. That was all kiawe forest. There was cattle in there, and everything was makai of Fort Weaver Road, so you had homes as you head toward Pearl Harbor direction, towards the old rifle range, going towards the Ewa Beach Park. All the homes would be on the makai side. You had Ewa Beach Road further makai, further in, yeah?

DD: Okay, that's where Silva's Store stay, then?

EA: Exactly. You had Silva's Store, you had Jimmy Ha's Store, and then there was a Ewa Market at the corner of Ewa Beach Road and Fort Weaver [Road] where there's an apartment building there today, was a 3-story apartment building, but used to be a store there. And then there was another store, today it's Ted's Barber Shop. The building is still dea, right on Fort Weaver Road, just maybe a dozen doors, Honolulu side of the intersection of Ewa Beach Road and Fort Weaver [Road], there's Ted's Barber Shop. That was a little store over there too. And that was Dr. Hayashi's, later on, the dentist, Dr. Hayashi, was the first dentist in Ewa Beach, and he had his business, his dentist place right there at what is today, Ted's Barber Shop. Then later on he moved upstairs of the 7-Eleven that's there today. The 7-Eleven [store there today] used to be Tanaka Store. The C.M. Tanaka Store used to be where the 7-Eleven is now. Then you go at the intersection where Makule Road intersects with Fort Weaver Road, used to be what they call "Kiawe Corner." There used to be a huge kiawe tree with a picnic table over there, and Mrs. Kaneko used to have a saimin stand there.

DD: Ho, such a different picture from now. Ewa Beach originals, ah?

EA: Oh yeah. And actually, there's other old-timers that are not here today that can tell you stories.

DD: Right. Wow, thanks for painting that picture there of old Ewa Beach.

So for the Campbell High School area, as far as you know, do you know if there's any traditional sites on that property, maybe, any historic buildings on that property?

EA: Not that I know of.

DD: Okay.

What about, would you know if this construction on Campbell would prevent access to any kind of traditional cultural sites or practices?

EA: Not that I know of.

DD: Okay, so if this is developed, as it's been planned, do you think there will be any adverse effects from it? Can you think of any ways to lessen any adverse effects?

EA: You talking about spiritual things?

DD: Oh spiritual, or anything, any type of adverse effects.

EA: Well, you know, any time that you construct something, the best thing is to give it the proper blessing.

DD: The proper blessing, yeah, that's true, definite.

Okay, and then, are you aware of any other cultural concerns the community might have regarding this Campbell area, any other cultural concerns that we didn't talk about that maybe the community would be talking about?

EA: No.

DD: No?

EA: Well, you know, I don't know of any, there may be, but I'm not aware of it.

DD: Okay, and then are there any other community people that you would suggest that we talk story with?

EA: You talk to Tesha Malama?

DD: Yes, I talked to Tesha Malama.

EA: I can't think of…

DD: All the Ewa Beach old-time families, everybody gone already?

EA: Yeah, they've all passed on.

DD: Well, did we miss anything, anything else you'd like to say?

EA: Well, no, regarding the site of the school, but there's a lot of publicity about air conditioners, so when you build this building, put a/c ah? [laughs]

DD: [laughs] That's a really good point. Yeah, it's really hot this side, so that's a good point to bring up, to make sure there's a/c for the students.

EA: Well, back in the day, when I went to school, we got off in June, and we went back to school right after Labor Day, early September. So the hottest months of the year, you know, we were home.

DD: Right.

EA: So we went down the beach, to cool off. But now the student schedules are different.

DD: Year-round.

EA: So during the hot months, the kids are in school. So now, you gotta build differently [such as with buildings with a/c].

DD: Good point.

Okay, well that concludes our talk story, and again, I'd just like to say, "Mahalo," to Uncle Earl Arakaki over here for taking time to talk story. Aloha.

APPENDIX E: INTERVIEW WITH TESHA MALAMA

TALKING STORY WITH

TESHA MALAMA (TM)

Oral History for the James Campbell High School project by Dietrix Duhaylonsod (DD)
For Keala Pono 6/20/2016

DD: Aloha, today is June 21, Monday, 2016. We're sitting in Kapolei, at the office of Tesha Malama, and we're gonna be talking story about the Campbell High School project, where they intend to make room for 20 classrooms and do other improvements with the parking lot and such. And so, before we go any further we'd just like to say, "Mahalo," to Tesha for making time out of her schedule to talk story.

TM: Okay, so I just going make sure, [it's] June 20, Monday, June 20.

DD: Oh I'm sorry. [laughs] Today is June 20.

TM: [laughs] Yeah, June 20, small kine, just like clarify. [laughs]

DD: [laughs] Thank you for that, Tesha.

Okay, could we start with your name, if you could state where/when you were born, where you grew up, where you went to school, things like that?

TM: So, Tesha Malama, I was actually born in, we used to live Kapahulu, 1965, and we moved to Ewa Beach in 1970. And I went to Our Lady of Perpetual Help Catholic School and then Kaimiloa Elementary, all in Ewa Beach, kinda surrounding Campbell High School, [I went to] Ilima Intermediate, and graduated from Campbell High School in 1983.

Basically, I went to UH, got my Bachelor's Degree in 1988 in Political Science, and it was a pre-law requirement, and so long story short, that was supposed to have been my course, [but] my grandfather had one stroke. And so I was raised by a single parent, and so my mom said, "You gotta go work, you cannot keep on going school," [laughs] so ended up I went to school. When I was going to UH, I actually dormed, but when I graduated, came home, started working, I used to go back and forth. I used to work in town for, at the time, it was this long distance company. But I was sick about sitting in traffic, so I was trying to figure out what the hell is going on hea. How come the road's not built? I had many concerns in regards to infrastructure, so I got involved with, at the time, the Ewa Neighborhood Board, and got involved back with Campbell High School, in regards to trying to figure what could we do to better the school and better the community.

And so I served as the Chair on the Ewa Neighborhood Board for about 4, 5 years, and also worked with, at the time, Principal Dr. Gail Awakuni, to establish the James Campbell Alumni Community Foundation back in 2006. I currently work for the State of Hawai‘i. It's an attached agency to DBEDT, Department of Business Economic Development Tourism. I'm responsible for the planning and development of the Kalaeloa Community Development District. And I am currently still the president for the James Campbell Alumni Community Foundation.

DD: Wow, I can see that you're busy.

TM: Yeah, I love it though. [laughs]

DD: [laughs]

TM: I love my job, and we're involved because it's just about Sabers loving Sabers [mascot of Campbell High School], and so however we can get involved.

DD: Go Sabers!

TM: You know, thank you for including me in this discussion.

DD: Mahalo ia ʻoe.

Is there anything else that you'd like to share about your ʻohana or family background?

TM: Basically, my family on this island is from, kinda in Kaimukī, and then my Malama side comes from Kauaʻi, and my mother's side, Maʻas [the Maʻa family], actually came from Waipiʻo, Big Island, and Kona, Big Island. So connected to those islands in regards to, you know, just the sites, the places, and in fact, on the Maʻa side, they used to work and had property in Waipiʻo Valley. So my grandma and tūtū-them used to go back summers to work, and that would get them money so they could have money for the school year. So I have a lot of aloha for those two islands because that's where my family comes from.

Kauaʻi, [I] don't know too much about them. My mom and dad divorced when I was in the 4th grade. So my dad's side is the Malama side, and just recently sat down with one of what would be my dad's, dad's, dad, his cousins, and so we went through some of the genealogy and stuff like that. So just kind of learning that side, but that's kind of the family background.

DD: Okay, thank you for sharing. That's a beautiful valley, Waipiʻo.

Okay so, could you share about your association to that subject property over at Campbell?

TM: Okay, so I am aware that at one time, when we were in school, that was like the Future Farmers of America used to grow stuff, and so that was an open space between the library and I guess that was J-building. So that space was utilized for those types of things when we were in school.

Now the high school itself, or that whole property, basically for this area, James and Abigail Campbell purchased so much acres in this area, almost a million acres, in regards to coming west, established water. That specific property, the discussions during that time was that there were burial sites, in regards to, people would gather. And so during that time, if people passed, it wasn't like you take 'em to a designated area. So we did hear stories of people that was still linked to that area, or ghosts or visions. People would see that. But this particular site though, I don't have any specifics in regards to any cultural sites there.

I know it's previously disturbed because when they had to lay out the school, all of that kind of construction activity happened. But I don't have any evidence of that not being a place where it was already disturbed.

DD: Okay. Okay, so you're saying that the property in general, you know, people were connected, but not necessarily that specific place where the project is?

TM: Yeah.

DD: Okay, got it. Got it.

And so, could you share some ways that you've learned about this place?

TM: Well, basically through school, you know, during school time, but when I went to college, some of the stuff that I had to do projects on was really paying attention to where you came from. And so Ewa Beach-Puʻuloa is what I considered my home although we lived in Kapahulu with my great-grandmother at the time.

So I did some research, you know, a lot of my classes had to do with Hawaiian studies and the political strategies of Hawaiian Studies. A lot of classes was through Kameʻeleihiwa, Dorothen, well I shouldn't really say Dorothen, but at the time that's what her name was, so out of respect, I took multiple classes from her, and I think one class from Haunani at the time, and a lot of classes from David Stannard in regards to Ethnic Studies, that kind of stuff.

So you know, a lot of the requirements was pushing the students back to where they come from and learning. And so at one time, there was a question in regards to Hawaiians and ceded lands and does that Campbell land actually, are they ceded lands. Or even now that I'm responsible for the old Naval Air Station Barbers Point, was that ceded land property, right?

DD: Huu! [laughs]

TM: [laughs] So I had to go back and of course you looking at the written document that, even that is questionable, right? Because you know how, I'm familiar with the land exchange and the concepts of land was different from ownership, from the Hawaiian culture. So from what we could tell, these lands were purchased. And so, even the Naval Air Station property, it was purchased, first by the Marines. The Marines had about maybe 200 acres. But the greater Naval Air Station was purchased between the Navy and James Campbell.

So I'm thinking it was kind of all leased during the time my mom-them moved out, although our particular property was in fee. Actually it was a city agreement between Frank Fasi at the time, and I think Nixon was the president at the time, and HUD, you know, programs.

So all of those areas that we knew of, I didn't know when we were young, like we would go to Ice Pond, which now is the whole Hoakalei area for the resort. You know, this particular area was all areas that either you're going to park for recreation, you know, that kind of stuff, and all of this stuff I learned when I'm older. Like I knew that the aliʻi would come from Waikīkī, and they gotta get down to Waiʻanae that this would be an area that they would either go to fish, restock, grab water 'cause of the artesians [artesian wells]. So we had brackish water, right, and we sit on the coral cap. So there is water, and we remember it because we played in the ponds, was ice [cold], we knew it. We tasted it, it wasn't salty. So that's the kind of stuff, as we see the housing come up, that you have one sense of, not so much loss, but just that of change. And so you grew up, you know, you had cane fields burning. And that is what I knew as somebody who was young.

But yeah, when I went to college, I found out, oh yeah, no, cane fields? This wasn't even one area for growing stuff. You know, you had rocks, ranching during the time, like that kind of stuff that came up. It's interesting to listen to these guys in regards to the arguments about the rail, and ag property, and all of that stuff. And then you go back, and you think. I mean, if anything, in my opinion, this my humble opinion, but really, in my opinion, all of the plantation would kill what literally was here, the access to water.

And it was one smart type of ecosystem because you would go up in the mountains, you would gather there. But when they would come to the ocean to fish and gather at the ocean, you literally had these areas, pockets of water that you'd grab along the way. And then you had ti leaf, you had ʻulu growing. And so everybody think, "You west. It's arid, barren." Whatevers, but no, you had

these jewels, these pockets of these little springs that really, to me, when they brought all the soil from Kunia, that just went [makes sound effect like a tire losing air]. It still exists, like you know there's an underground water system through this area because you get pockets that come up. And with my job, that's why it was so important to preserve the Kalaeloa Heritage Park because you have these sinkholes that have this water.

So where Campbell is, my house is four blocks from the high school. We knew that, yeah, if you dig 2 feet deep, oh yeah, you going have soil. But if you go 3 feet deep, then you hit coral, like that. And our properties were all cesspool, mines is still cesspool. So at times when it's high, the cesspool might for some families, it would overflow, especially if they had multiple people --- seven, eight people. But then, it would go down. And so you knew that there was some activity 'cause it wasn't just linked to the ocean, it was linked to this other water, so I mean, that's kind of what I know about the place.

DD: Oh, awesome, thank you for sharing. And you bring up that research, when you do the research in college, and it connects you to your own experiences growing up.

TM: Yeah.

DD: Gotta love those 'Ike Hawai'i classes.

TM: Yes! I gotta say, it made me pay attention to what is everybody doing around here? Or not doing? 'Cause really, that was the time, right? They just bulldozed everything, right? So the fact that you're here today asking these questions, you know you came a long way. And of course, we can always be better, but, you know.

DD: I agree.

Okay, so, is there any other personal anecdotes or other stories you'd like to share about the subject area? Mo'olelo, mele, oli, place names, in general?

TM: I think it is a concern in regards to we always looked at this particular area as drainage. And so, although there aren't a lot of big rains in Ewa Beach, this area would pool up, and so just the natural grade of things. Because it was open, it would get, literally, like you could take one boogie board in there and kind of slide through there during heavy rains, you know, play around, right? So that kind of stuff, now I wouldn't know what the infrastructure requirements are specifically to that particular area, but one of the concerns would be that it be mindful of drainage, and just drainage throughout the school so you're not flooding out any other place.

Even the roundabout parking lot, 'cause I'm assuming they going take out that roundabout, yeah?

DD: Well they said they were gonna modify it.

TM: Okay, 'cause right now, it's due to like fencing and due to not really connecting it up, you can get to the roundabout, but it's like you cannot go from North Road to the gym. And that roundabout could serve as a link. So in regards to traffic, because traffic is such a pet peeve of mine too, my whole thing is open things up, circulation. So if there is gonna be parking, it would be good to link all of that parking, the library parking, I mean just for a comprehensive approach when you looking at planning. Because I looking at five buildings, two of 'em 3-story, two of 'em 2-story, so I don't know how many classrooms per building? But you figure, okay, for the most part, kids are supposed to walk or bus through. But if you just calculate those numbers, yeah, where is everybody gonna park? Let's just say the teachers, oh they might come from the community, but I would have concerns with parking. So literally, I would wanna see all of this,

you know, 'cause right now you get Pohakea [pointing at a map of the area], this is the library, that turnabout, get one little section over here if this becomes parking, make sure that this is all linked so if you had to, you could get to the gym or get to the cafeteria or whatevers, just in regards to circulation. 'Cause the thing is everybody get stuck over hea. And you gotta come out hea, North Road. Or you gotta come out here and get out to Fort Weaver [Road]. So I would say be mindful of that now.

I don't know what the actual description is. Do you know, in regards to the buildings, how many classrooms they going have?

DD: I think it's a total of 20 classrooms with the five buildings, a place for culinary arts, a place for Hawaiian Studies…

TM: Oh so there is a focus on like what kind of studies. Oh okay.

DD: And I think there'll be a place for the sciences. But for the record, Tesha's pointing at the map. We have a picture of the map. And she's pointing at the roundabout and at the adjacent parking lot that leads toward the gym. And you can see that they're not connected.

TM: By J-building.

DD: Yes, in front of J-building. And so really good ideas, she's suggesting to open that up so that there's a flow, you can get from one side of the campus to the other, or from North Road towards the gym area, right?

TM: Yeah.

DD: And also, again, she's suggesting to watch the construction as far as flooding, being mindful of flooding.

TM: Yeah, flooding and drainage.

DD: Okay, mahalo for that.

So when you think back to your experiences at Campbell, this area, how has the area changed? Could you share how it was when you were young and how it's different now?

TM: You know, our classroom size was about 400 [students]. This last graduating class was almost 900 kids, so double. We used to graduate classes in the 80s on campus. And now, although maybe the stadium floor is not packed, there's thousands of people filled in the parking lots for the kids. So yeah, when I was in school and now, it doubled, tripled. You know, nieces, talking to them, we got 15 year-olds, and we got people freshmen through senior year, and literally, the kids are piled on top of each other, 35+ kids [in a classroom], you know, some in a/c buildings, probably a handful, and the rest all hot [without a/c].

I bring this up, and I know that it's not really culturally based, but I bring this up in regards to the amount of money that's going to be spent on the buildings, they could literally re-district the elementary grade levels and assume Pohakea Elementary [into Campbell High School]. And Pohakea Elementary would give them at least two 2-story buildings, a library building, an administrative building, and one cafeteria.

And I know the administration, they're focused on trying to build new buildings. But what would it cost to literally build these five buildings? They could take that same money and really build new things that the Campbell High School needs. Like they really need a new sports and fitness

complex. They do. Like, the grandparents [of the students] cannot even maneuver to get up to the field to watch football, soccer, women's soccer. The kids no more locker rooms, no more locker room space. Our track and the condition of the track really doesn't meet standards in regards to, I mean, we had track people who broke the record, but because the track is not standard, you cannot hold the records. And you cannot hold state tournaments dea because you no moa the facilities.

Softball, back to back, women's, we took [the championship]. Baseball, we took the championship last year. And you go to the field, and it's like you gotta bring in luas [portable restrooms]. And so it makes it so difficult for the rest of the community. No moa parking, you know. And I'm not sure if it's appropriate that I bring it up here, but whatever these five buildings would cost, those monies could go to accent the actual campus. And then just assume Pohakea Elementary because you already got facilities there. And so, I know that that might not be consistent with the administration, and we have a close relationship which I consider close with the principal, Principal Lee, there. But to me, the Department of Education needs to take a visionary look at what's happening in Ewa Beach and the Campbell Complex because there's a discussion, the Representative Lopresti is talking about building a new high school. And the reason why I know is because he's looking at the Kalaeloa area. And right now he's targeting the area that is under the critical habitat.

DD: Oh really?

TM: He's looking at this southern skeet [pointing at map]. This northern and southern skeet used to be where the Navy used to practice gun, you know, it was a shooting range. And then Ordy Pond is this huge sinkhole that they went dump all kine stuff in 'em so they trying to clean up ordnance, but there's cultural sites. So you see on this side where it's cultural sites here?

So I know they having this discussion. There's about 55 acres. And they're saying that they need one new high school for Campbell, but they don't. They just need to re-district Pohakea. Now, Pohakea Elementary, and I been talking to elementary teachers, so someplace like where I went to elementary, Ka'imiloa, because around there there isn't new development, our families are growing older, so you no moa the same influx of kids like when we were young. And that was the '70s. So [class of] '83, I was at Ka'imiloa like at '73, '74, so you had like one influx of kids. And you know before, the campuses were all built really connectivity-wise where the kids should be walking to school, or they walk to Ilima, the next inter. So I still believe that we can cure what Campbell needs without these buildings, amount of buildings. Or maybe two buildings we may need to add.

But literally, if you drive down there, you see all of Campbell portables pretty much already in Pohakea. Pohakea's student body could be absorbed, if we open Fort Weaver Road, and take them into Iroquois Point, which all of Ewa Beach Road, Kilipoe Street, that whole area, all those kids, elementary, could literally go to Iroquois Point [school] if you just open Fort Weaver Road, which they closed the connection to Iroquois, or whatever they calling 'em now, Pu'uloa, that was closed during 9-11. But you know, there's ways to solve the issues that I think the policy makers are not looking.

And I'm not saying that Campbell does not have, you know, I know a blown out population. But they're focusing on building new buildings when we really do need the things that we never did have. In my experience, it's gonna end up being more important doing the sports and fitness complex which would allow to take all of these guys and put 'em in these locker rooms and so on. You open up those buildings, you get the arts, you can put the sciences.

Like literally, [with] Pohakea Elementary, that [Campbell problem] can be solved in one summer program. You know, you take the summer, let's re-district, start notifying. It's not more than what, maybe 600 kids. And we get Kaʻimiloa Elementary, if you put Iroquois [Elementary] in the mix. Iroquois, their class size is not more than 17, the average. Then you get Ewa Beach Elementary. And you have Kaʻimiloa. And Kaʻimiloa is in the 17 [average per class] too.

So in the next few years, you going have about 1,200 more units come up. Hoʻopili project, about 15, 1,200 units, they're gonna build a new high school, an elementary school and a middle school. So at one point, if you do build an additional high school in Kalaeloa, you going end up choking out Campbell. And then Campbell is at the end of the road. So what happens is it becomes the stepchild for funding. All the new kids, all the Hoakalei resort area, Ocean Pointe, all their kids is gonna be districted to the new high school. So then you going have this huge campus at Campbell sitting there.

And we know that that's what happens because take a look at Kaimukī. Take a look at Hawaiʻi Kai where all this development is not happening. Then you got elementaries all through by where Kaimukī connects to Waiʻalae, that whole area. Look at the numbers at Kalani High School. You see what I mean? And then you going build one whole new high school for the next resort area for come in. It's like one private high school. And then Campbell's the loser.

Whereas what we did with Ewa Beach Elementary, and because they built Keoneula Elementary, when they sub-districted, half of the new Hoakalei-Ocean Pointe area, so all the new houses that's gonna be built along Papipi Street in the Hoakalei area, their kids gotta go to Ewa Beach Elementary. And the reason why, I thought, was one social justice. Look at it in regards to, okay those houses that going be built at Haubush [at the end of Papipi Street], which we know as Oneula, but for us growing up, that was Haubush, those houses going be two, three million dollars. It's gonna be overlooking one of the most beautiful oceans on the southwest side that many people don't know about, only us, because we grew up [here] right? Now when it's Fourth of July, you can see the fireworks at Pearl Harbor, you can see 'em at Ala Moana, and you can see 'em at Waikīkī. And if you at Haubush, you can look to the right, and you can see the fireworks at Ko ʻOlina. Like, we got everything. Those houses, it's gonna take a mortgage of at least six grand or so, building along that oceanfront. I want those kids to go to Ewa Beach Elementary because on Papipi Street, where those guys, maybe they're paying the mortgage handed down from the grandma, I like the two million, three million dollar house kid grow up with this kid who paying one mortgage of a thousand dollars, so they both can see how each other live. And that there's compassion for one side, and the other side, there's motivation that I need to learn how to be able to afford that in Hawaiʻi. If I love Hawaiʻi, if I love Ewa Beach, how am I going to afford to stay hea? I gotta go school, I gotta whateva.

If they build the new high school, then we're done, Campbell High School is done. That's why I really, really do believe DOE and the [Campbell High] administration has to take one holistic approach to what they're doing at Campbell. And re-districting is the answer for the next ten years. And then once everything's built out, then it'll settle. Right now, we just been growing, growing, growing. And to be perfectly honest, the facilities that we need at Campbell has not kept pace with the growth of it. And to me, that is a government issue because it's hard. Because the developers are building houses, they've gotta dedicate so much land and stuff, but I don't think anybody thought that you're going to build a new high school in the area, because you going see that attrition. And then nobody's gonna go to Campbell. And if you don't have the facilities built in now, there'll be no reason for people to go to Campbell. Everybody going try sub-district out [of the Campbell area]. We've seen it because the Waiʻanae Coast, they all try to sub-district to

Kapolei, why, that's the new high school. Same thing happened with Campbell, sub-district, try and get to Kapolei [High School].

But Campbell, education wise, what it puts out, the community, it's a good school. And it's a good school despite not having all of these facilities. And I sorry I going off on my bandwagon, but I'm passionate in regards to, you going build this five buildings, but these five buildings do not represent an additional asset. It's like, oh you trying to house students, and [the problem of] housing students can be done in one summer, and you take over Pohakea Elementary. And you might maybe need to do [fix up] maybe one or two buildings, but really focus on getting the facilities Campbell needs.

And this is not something that we took a stand in, but I sent this all forward, because we meet the third Saturday of each month. So I'm gonna bring it up that I sat down with you, plug that's the '88 grad, and then so we can have those kinds of discussions. And then I don't know how many more people you gotta talk to, but one of the directors is a '73 grad, one of the directors '76, and '78. So that gives you some access to people older than me, and they can explain about their time.

But yeah in regards to, I think there's a whole shift that has to happen at Campbell, and if we just focus on doing buildings, somebody's gonna try and get one new high school built, and we going have all this excess buildings. In 25 years, we going have all these concrete buildings on there, and nobody's gonna be in 'em. That's why you gotta take one approach that is, I know it looks like the answer, but it's not the answer. It's not the answer for long term because yeah, then in 30 years, what you going do with those buildings? And then Hoʻopili's high school is gonna be off of Fort Weaver [Road] and Farrington Highway. Okay, for that high school, all of Kolowaka is supposed to go to that high school. So once again, you going have all of old ʻEwa, the new Kolowaka, all north of that up West Loch Fairways Estates, all behind Queen's Medical West, they supposed to go to that Hoʻopili high school. So again, you going have one shift in population. So building a new high school for the Ewa Beach area is not the answer.

DD: I see. So your main point is to avoid building a new school, which would eventually take away from using the money wisely by instead acquiring the adjacent property [of Pohakea Elementary] next to Campbell High School. And then, rather than build this many new buildings, because you acquiring the adjacent property with its buildings there, you can use that other money saved for other facilities

TM: That Campbell [High School] never did have.

DD: Right. And then with that additional acquired space and the additional buildings you can absorb more population.

TM: You can absorb more, yeah.

DD: Okay, got it.

TM: Sorry, I don't know if that's where you were going.

DD: No, that's really good points. Thank you for putting that out.

TM: It was important to me, so I said, "I gotta get it down."

DD: That's good, because we're talking about the change from how it used to be and how it is now. But you also talking about the future and what this all means a generation or two from now.

TM: Mmhmm.

DD: So that's all laying it all out. Mahalo for that.

You were mentioning that the Campbell High School property, you said that as far as you know there are no cultural sites. What about any historic buildings? Are there any historic buildings?

TM: You know what, they might be 50 years old 'cause that was '70s. So I think if it's historical, gotta be 50 years plus.

DD: Yes, 50 years.

TM: So that would be like I think the library. But I mean, I don't know of any specific sites on this [project] footprint because when we was going school used to have sunflowers over dea. I think there was like one electrical box. But so on this site, no, not really particularly any historical buildings. But I think the closest might be the library.

DD: Okay, we'll look into that.

And then what about, do you think that this development would affect any access to a place of cultural significance?

TM: No.

DD: Okay.

TM: Oh, but you know what? That roundabout, get these poles, and the poles were part of when you built a certain place, there's a requirement that you gotta focus so much on art. And so those poles in that roundabout were considered the art of that time. So that might be, I don't even know if that poles still there. I cannot even remember, like I'm trying to figure out, did I see the poles? I just was down North Road past the library, but I went church yesterday. [laughs]

DD: [laughs] That was the sculpture of the time ah?

TM: Yeah, like these damm poles that went look like one volcano or something, I don't know. [laughs] That was the art of the time.

DD: [laughs] Okay, we should look at that.

TM: That's the only thing I can think of, and that would be over 50 years 'cause I think Campbell made 50, two years ago.

DD: Oh okay, wow. So we'll look at that sculpture also.

And are there any traditional gathering practices in the area?

TM: Not specific to that area.

DD: Okay, and then you were mentioning about lessening adverse effects with flooding and with traffic.

TM: Yeah.

DD: Are there any other mitigation measures you can think of?

TM: I just was thinking about the heights [of the new building], but O-building is 3-story. So I think the heights are consistent. I would just double check the heights, the view plane. Because Boys and Girls Club, they asked for an extension, and it was off Fort Weaver Road. This one is tucked in. And I think the 3-story is consistent with the zoning. That would be the only other thing I can think of.

DD: Okay, so main thing it doesn't exceed…

TM: Yeah, whatever the heights.

DD: Okay.

TM: Because O-building is 3-story, that's the one overlooking the park, yeah?

DD: Right.

TM: And then I think, what is that, D-building?

DD: In the back, by OLPH [Our Lady of Perpetual Help church].

TM: By OLPH is 3-story. So I think the heights would be consistent.

DD: Okay, so looking at the heights.

TM: No gathering.

DD: Okay.

Are you aware of any other cultural concerns the community might have related to Hawaiian cultural practices within the vicinity of the project site?

TM: [pause, thinking] No, because even that site alone, like it's not like we had hula mound or anything like that over there. If we did any of the cultural stuff, was literally now where Saber Hall is, but it was that court, you know that big grass area over there. I don't know, you guys went graduate over there?

DD: Yeah, I went graduate over dea.

TM: Oh okay.

DD: But they made that concrete stage dea.

TM: Yeah, okay. So I don't remember anything specific to that site. I don't think there's any, if the building goes up, that there's gonna be any impact.

DD: Okay, okay.

Well finally, do you know of any other kūpuna, kamaʻāina, cultural descendants who might be willing to share their manaʻo of the Campbell High School area?

TM: I know of, you know they do the Puʻuloa Canoe Club. I don't know if it was identified, but the last name Serrao.

DD: Is that a Kauʻi Serrao?

TM: Yeah.

DD: Oh okay.

TM: She's with the Pu'uloa Hawaiian Civic Club. And she's also with the Pu'uloa Canoe Club. So that's why I'm thinking she might be one good resource. And I later found out that that's my father's side. So her mother passed, but the aunty, the sistah, our aunty is still alive, Aunty May, so that might be one good [resource], I can get you connected up though, if you need.

DD: Okay sure.

TM: I can just forward your email.

DD: Okay, mahalo.

TM: Who else would be on that? I guess from a cultural, then I think Aunty Arlene Eaton's family, I don't know if that's the son, teaches at Iroquois Point Elementary, runs I think the Hawaiian Studies.

DD: Oh okay.

TM: Or he does some kupuna work at Iroquois, so that's the kinda two people I think, well at least the two sources, you know. I cannot remember now, but I can ask Kau'i 'cause they know, and they're part of the Pu'uloa Hawaiian Civic Club too. So I'm just thinking that might be the resource 'cause they know what the area was before plantation, you know, because they study that.

DD: Oh, that's good to know.

TM: And then the Hoakalei Cultural Foundation, that's all the build out of Haseko, all that Ewa Beach property, Ocean Pointe, they have an established Hoakalei Cultural Foundation. So that's one good resource in regards to Kepā Maly was there before, but now he's doing work on Lāna'i. But he comes back and forth. But I gotta go find out who's [there], somebody's there that works with Kepā. And then Kau'i-them is part of the Hoakalei [foundation] too. So that's why I identify them, because just the reach, yeah, 'cause you get the canoe club, you get the civic club, you get the cultural foundation, and so it's a good, I think, a good source, especially for like the Ewa Beach area. I'll go send you that contact info. I gotta go look.

DD: Okay, and I can go follow up and call them up and all.

TM: Yeah.

DD: Okay.

So I guess that concludes our talk story today.

TM: Okay.

DD: Mahaaaalo. And have a good day.

TM: Thanks.

APPENDIX F: INTERVIEW WITH IVY PANTASTICO

TALKING STORY WITH

IVY PANTASTICO (IP)

Oral History for the James Campbell High School project by Dietrix Duhaylonsod (DD)
For Keala Pono 7/30/2016

DD: Okay, today is Saturday, July 30, 2016, we're sitting at Silva's Store in Ewa Beach, and we need to say, "Thank you, mahalo nui loa," to Aunty Ivy Pantastico, because she is so busy, but she's taking time to talk story with us. We are going to be talking about the construction on the Campbell High School campus, and we'd just like to hear your thoughts about that area. So good morning and aloha.

IP: Aloha, good morning.

DD: Okay, if we could start, if you could say your name, where/when you were born, where you grew up, where you went to school?

IP: Since you already said my name [laughs]

DD: [laughs]

IP: Ivy Pantastico, and I went to school at Campbell, and I graduated 1968. I moved to Ewa Beach in 1963.

DD: Okay, and is there anything else you'd like to share about your family?

IP: We moved from ʻAiea, where Fun Factory is. Pretty much I grew up there, and I went from kindergarten to 8th grade in ʻAiea. Then we moved to Ewa Beach, and I went to high school here, when it was Campbell High School and Ilima Intermediate.

DD: Oh okay, so it was combined. And it was the old campus where Ilima Intermediate is.

IP: The old campus, yes.

DD: Okay, got it, mahalo.

So we're talking about this area on Campbell High School right next to the library. Could you share anything about how you know about that area, your connection to the place?

IP: Campbell High School?

DD: Yeah, and especially the project area near the library.

IP: I just know it as Campbell because my grandchildren went there. They graduated from Campbell.

DD: And we were talking earlier, and one of your sons was my classmate. [laughs]

IP: [laughs] And my children went to Campbell too.

DD: And are there any personal stories about the Campbell High School area that you'd like to share?

IP: Well, it was nice and not crowded. My graduating class was like half, maybe less than half, of the graduating classes now. [laughs] We graduated on campus.

DD: Now it's at the [Aloha] Stadium?

IP: Yeah.

DD: Wow, this place been building and growing, ah?

IP: Yes, and it was all sugarcane, nice.

DD: Nice, fields of green.

IP: Yes.

DD: Okay, so we're talking about the sugarcane and the Campbell High School area, how has this place changed? Could you describe how it used to be and compare it to how it is now?

IP: Mmmm [thinking] it was like a lot of sugarcane and a lot of kiawe. And Iroquois was already there. That was a military home base. Barbers Point was a navy base. There was only one way in and one way out [laughs] no other way, unless you go through the sugarcane. And there was only, I think, two traffic lights, at Geiger Road [and Fort Weaver Road], and Papipi [and Fort Weaver Road].

DD: How many lanes back then?

IP: Two.

DD: Two? One lane both ways? [laughs] Big difference to now.

IP: Oh yeah, big difference, and it was like hardly any cars.

DD: Wow, so Aunty Ivy is talking about Iroquois Point and Barbers Point. So Iroquois Point, for the record, is at the very, very end, the tip of Ewa Beach, going towards the entrance to Pearl Harbor.

IP: Oh Iroquois? Oh yeah.

DD: At the end of, what is that road? Fort Weaver Road?

IP: Fort Weaver, yes, yes.

DD: Just keep going to the end. Okay, and it ends up at the tip [of Ewa Beach] by the entrance to Pearl Harbor.

IP: Yeah, it goes into Iroquois. And there's a rifle range right on the other side, you know at the end over hea? Get one more last road at the end, and right on the other side of that is a rifle range.

DD: Okay, so Aunty is describing, from Silva's Store on the way to Iroquois Point, there was a rifle range.

IP: There is.

DD: Oh, there is, still is a rifle range.

IP: Mmhmm, yeah.

DD: Okay, and then Aunty Ivy was talking about Barbers Point, and she said that was a navy base. And that's to the west of this Ewa Beach area.

IP: Kalaeloa.

DD: Now it's Kalaeloa.

IP: Yeah. I think it was before too.

DD: Right, the old name of the area, ah?

IP: Yeah.

DD: Right, and then after [Barber's Point] there's Campbell Industrial [Park] and then Ko Olina. So that kind of gives a location to where we're at.

Where in Ewa Beach you folks was living?

IP: Ewa Beach Road.

DD: Oh okay, so Aunty them was living on this side, going towards Iroquois Point. Okay, thank you for sharing.

Okay, so regarding Campbell High School, do you know of any cultural sites that were or are on there? Any historic buildings? Any burials on that area?

IP: No, neva have anything there before.

DD: Oh okay.

IP: And those homes going up North Road, they came up in the 1970s, I think like in the early '70s.

DD: So the homes on North Road are right across the street from the library [and the project area].

IP: The town houses [are across the street] and there's also the houses on the other side of the church, OLPH [Our Lady of Perpetual Help].

DD: Oh okay, so the new houses…

[takes a break from the interview as a customer comes into the store to buy things]

IP: Thank you. Have a good day! [to the customer]

DD: Okay, so Aunty Ivy's talking about the townhouses across the street from the library, as well as the houses by OLPH church, which is right next to Campbell [High School campus]. She said that all of those came up in the '70s.

IP: Mmhmm. Yeah.

DD: Okay, so what was on the Campbell property itself?

IP: Kiawe.

Okay, Pohakea [Elementary] came up in nineteen-sixty-? When I started high school here, it was Campbell High School and Ilima Intermediate [on the current Ilima Intermediate campus], and in A-Building, they had the elementary classes, because they were still building Pohakea.

DD: Ohhhh, okayyy. So A-Building on the campus was elementary…

IP: At one time, yeah, I guess they had to complete [building] Pohakea.

DD: Oh wow. And Pohakea is the one on the corner [of Fort Weaver Road and North Road], yeah?

IP: Yes.

DD: And then Kaimiloa [Elementary] is the other one in the back.

IP: Yes.

DD: Okay. So right now, there's four different schools all in this one area --- Ilima, Pohakea on the corner, Campbell High School, and then Kaimiloa in the back corner. But back then, Campbell High School and Ilima

was together on the current Ilima Intermediate campus, and one of the buildings was being used for Pohakea while they were finishing building it, does that sound right?

IP: Right.

DD: Okay, got 'em [laughs], thank you Aunty.

So if they build on Campbell High School, do you think it would affect any places of cultural significance, or anybody doing gathering practices?

IP: I don't think so.

DD: Okay, yeah it's already been built over.

IP: Yeah.

DD: Okay, and do you think there would be any adverse effects because of the building? Any thoughts on that?

IP: I don't think so, no.

DD: Okay, and are there any other concerns that we haven't discussed that we should talk about?

IP: No, I think they need more buildings. They need more teachers. And if they're gonna build new, they may as well add the air conditioning instead of waiting 'til later when it would cost you more money, I think.

DD: Important point. They need more buildings, and they need more teachers, and while they're building, Aunty Ivy said they might as well put a/c because it's really hot [in Ewa Beach].

IP: Yes.

DD: And it's smarter to put it in now than try to put it in later when it would cost more later, good points, Aunty. Anything else?

IP: No. Oh maybe, [they could build] a new high school?

DD: Oh, a totally new high school, what should we name this new high school? [both laughing]

IP: Maybe Ewa High School.

DD: Oh yeah, Ewa High School, okay!

[Takes a break from the interview as Aunty Ivy answers the phone]

Like she was saying, the school nowadays has twice as much students as when she was going there, so she's suggesting that maybe they need a new school.

[Aunty finishes the phone call]

Are there any other community concerns, anything that we haven't talked about that you'd like to bring up?

IP: Mmmm, no.

DD: No? Okay, and one last thing, do you suggest that we talk to anybody else?

IP: I don't know, I know one old man, but I hardly see him now.

DD: What was his name?

IP: Alejandro Lacuesta.

DD: Oh, Alejandro Lacuesta?

IP: He said, actually he grew up here, and probably born and raised here, but I know he said that he was 8 years old when this store started. And I think he's 79 [years old].

DD: Wow. He's been here in Ewa Beach long time. Okay, we'll add his name.

And that's about it then. Thank you so much Aunty, making time for us while you so busy over here running the store [Aunty Ivy laughs]. So that concludes our talk story, thank you again to Aunty, have a good day, and aloha.

IP: Aloha.