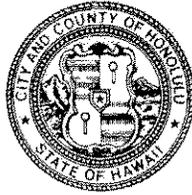


DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

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MUFI HANNEMANN
MAYOR



JUN 23 2009

DAVID K. TANOUE
DIRECTOR

ROBERT M. SUMITOMO
DEPUTY DIRECTOR

2009/ELOG-1122(ST)
2008/ED-13

May 29, 2009

Ms. Katherine Puana Kealoha, Director
Office of Environmental Quality Control
State of Hawaii
State Office Tower, Room 702
235 South Beretania Street
Honolulu, Hawaii 96813-2437

Dear Ms. Kealoha:

Subject: Shoreline Setback Variance
Chapter 343, Hawaii Revised Statutes
Environmental Assessment
Finding of No Significant Impact (FONSI)

Recorded Owner: Hawaii Metamorphosis, LLC
Applicant: REIT Management & Reserch, LLC
Agent: Masa Fujioka & Associates
Location: 91-008 Hanua Street - Honouliuli (Ewa)
Tax Map Key: 9-1-26: 26
Request: Special Management Area Use Permit and
Shoreline Setback Variance

Proposal: Soil Remediation and Containment Project: Including site grading and
consolidation, installation of clean base course and an asphalt cap and
construction of a containment wall within the shoreline setback.

Attached and incorporated by reference is the Final Environmental Assessment (EA) prepared by the applicant for the above project. We have determined that the preparation of an Environmental Impact Statement is not required and have issued a FONSI. Enclosed are a 3-1/2" Floppy Disk with a "Summary" of the project, Publication Form, and two copies of the Final EA. We request publication of a notice in The Environmental Notice.

If you have any questions, please contact Steve Tagawa of our staff at 768-8024.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Elizabeth Ch...", which is likely a placeholder or a misinterpretation of the signature.

for David K. Tanoue, Director
Department of Planning and Permitting

DKT:nt

Enclosures

G:\SteveT\ED\REIT.FONSI.doc

**FINAL
ENVIRONMENTAL ASSESSMENT**

FOR THE

HANUA STREET CONTAINMENT CAP AND BARRIER

AT

JAMES CAMPBELL INDUSTRIAL PARK
91-008 HANUA STREET
KAPOLEI, OAHU, HAWAII

TMK: 9-1-26: 26

May 8, 2009

PREPARED FOR:

Reit Management & Research, LLC
733 Bishop Street
Makai Tower, Suite 1820
Honolulu, Hawaii 96813

PREPARED BY:

Masa Fujioka & Associates
98-021 Kamehameha Highway, Suite 337
Aiea, Hawaii 96701

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- Appendix G 1979 Clark Archeological Reconnaissance Survey
- Appendix H Department of Health Letter Regarding Remedial Alternative Selection
- Appendix I Pre-Assessment Consultation Letter and Comments Received

LIST OF ACRONYMS

BMP	Best Management Practice
CCH	City and County of Honolulu
CWB	Clean Water Branch (State of Hawaii)
COEM	Coastal Erosion Management Plan
DAR	Division of Aquatic Resources
DEA	Draft Environmental Assessment
DLNR	Department of Land and Natural Resources (State of Hawaii)
DOH	Department of Health (State of Hawaii)
DP	Development Plan
DPP	Department of Planning and Permitting (City & County of Honolulu)
EA	Environmental Assessment
EIS	Environmental Impact Statement
ECP	Exposure Contingency Plan
ELCR	Estimated Cancer lifetime Risk
EMRP	Exposure Monitoring and Reporting Plan
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
HAR	Hawaii Administrative Rules
HCZMP	Hawaii Coastal Zone Management Program
HED	Honolulu Engineering District
HEER	Hazard Evaluation and Emergency Response (State of Hawaii)
HMR	Hawaii Metal Recyclers
HRS	Hawaii Revised Statutes
LAW	Leeward Auto Wreckers
LUO	Land Use Ordinance (City & County of Honolulu)
MAP	Monitoring and Assessment Plan
MFA	Masa Fujioka & Associates
NEPA	National Environmental Policy Act
NOAA	National Oceanic & Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OCCL	Office of Conservation and Coastal Lands (State of Hawaii)
OEQC	Office of Environmental Quality Control (State of Hawaii)
OSP	Office of State Planning (State of Hawaii)
PCBs	Poly-chlorinated bi-phenols
PPE	Personal Protective Equipment
PRGs	Preliminary Remedial Goals

RAA	Remedial Alternative Analysis
RAM	Remedial Alternative Memorandum
RAOs	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
SE	South East
SEI	Sea Engineering, Inc.
SHPD	State Historic Preservation Division (State of Hawaii)
SMA	Shoreline Management Area
SMP	Special Management Area Permit
SSA	Shoreline Setback Area
SSV	Shoreline Setback Variance
SW	South West
TPH	Total Petroleum Hydrocarbons
UH	University of Hawaii
UIC	Underground Injection Control
USBC	United States Bureau of the Census
USDA	United States Department of Agriculture
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
VOCs	Volatile Organic Compounds
WIS	Wave Information Studies

1.0 SUMMARY

The applicant and landowner's proposed project is a remedial action to address ash-impacted soil at the subject property. The Hawaii Department of Health (DOH) Office of Hazard Evaluation and Emergency Response (HEER) has concurred with the applicant and landowner's proposed remedy of capping the affected soil to prevent direct exposure and constructing a containment barrier to prevent erosion of ash-impacted material to the coastal environment. A portion of the subject property, lying makai of the certified shoreline, contains ash-impacted soil that will need to be excavated from the beach. The excavated area will be back filled following state-regulated beach nourishment guidelines. Actual or threatened releases of hazardous substances from the subject property, if not addressed by implementing the proposed remedy, will pose a risk to public health and the environment.

The proposed project will require Federal, State and City and County of Honolulu (CCH) permits. Excavation work will be conducted in the beach, which has the potential to impact navigable waters of the United States. The proposed project will be conducted within a Special Management Area (SMA) which requires a Special Management Area Use Permit (SMP) and also within a Shoreline Setback Area (SSA), requiring a Shoreline Setback Variance (SSV) for construction. Construction within the SSA triggers the requirement for an Environmental Assessment (EA) under Subchapter 10, DOH, Chapter 200 of Title 11, Hawaii Administrative Rules (HAR) and Chapter 343, Hawaii Revised Statutes (HRS). This EA has been prepared to fulfill the requirements of HRS Chapter 343.

Project Name: Hanua Street Containment Cap and Barrier

Proposed Action: To install a containment cap and barrier as the remedial solution for ash-impacted soil located at the subject property. Portions of the subject property located on the beach will be excavated and back filled following state-regulated beach nourishment guidelines.

Project Location: 91-008 Hanua Street, Kapolei, HI

Tax Map Key Parcel: 9-1-026:026

Owner: Hawaii Metamorphosis, LLC

Applicant: Reit Management & Research, LLC

Approving Agency: City & County of Honolulu
Department of Planning and Permitting

EA Preparer: Masa Fujioka & Associates

Project Area: 9.572 acres

Existing/Proposed Uses Light Industrial/Commercial

State Land Use: Urban

Zoning: I-2 Intensive Industrial District

Special Management Area: Within SMA boundary

Shoreline Set Back: Within the Shoreline Setback boundary

Anticipated Determination: Finding of No Significant Impact

Impacts: The proposed action is not anticipated to have any significant short-term or long-term negative impacts upon the environment.

Pre-Assessment Consultation: A list of agencies, individuals and community groups consulted prior to submitting the Draft EA for review is provided in Section 8.1 of this report. The pre-assessment letters were written prior to a change in the shoreline survey. The revised shoreline survey initiated the need for excavation of ash-impacted soil from the beach and subsequent beach nourishment activities. A discussion held with the DLNR and State Surveyors

Office regarding this proposed project is also noted in Section 8.1 of this report.

Draft Assessment Review:

A list of agencies sent a copy of the Draft EA for their review is provided in Section 8.2 of this report. Copies of agency comments on the Draft EA and response letters are included in Appendix A.

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 PROJECT OVERVIEW

The subject property has been used by a variety of industrial businesses over many years and is contaminated primarily by lead in soil that presents a potential risk to ecological and human health if not addressed. The lead is associated with ash that is mixed and contained in the site soil to the extent that a large portion of the over 9 acre site is affected. Use of the site is and will continue to be, commercial industrial, and the proposed project will prevent humans from being exposed to the contaminated soil while working at the site by paving (capping) it. The proposed project will also stop contaminated soil from washing into the ocean by constructing a containment barrier. If this project is not implemented, contamination at the site will potentially increase the cancer risk to humans working at the site and to humans and animals using the beach and ocean adjacent to the site. The project background, proposed action and regulatory requirements are discussed in further detail below.

The proposed project will contain ash-impacted soil on the subject property. A human health risk assessment identified lead in ash-impacted soil to be the contaminant of concern present at the site. Lead, a component of the ash, was found in soil to be within the U.S. Environmental Protection Agency's (EPA's) estimated lifetime cancer risk (ELCR) target range in various locations on-site for: current and future occupational workers; future construction workers; current and future juvenile recreational user; and current and future adult recreational user. Other constituents identified on-site were not characterized as posing a risk to human health.

An ecological screening assessment concluded that a potential risk could exist to the marine environment if ash-impacted soil located near the beach were to erode and migrate to the near-shore beach sediment. Concentrations of cadmium, lead, mercury, and polychlorinated bi-phenols (PCBs) identified in soil samples collected from near shore eroding beach faces exceed both National Oceanic and Atmospheric Administration (NOAA) effects-range-low and effects-range-median screening levels.

The proposed remedial action consists of capping the affected soil and constructing a subsurface containment barrier near the shoreline to prevent erosion of ash-impacted soil to

the coastal environment. Preventing the erosion of the ash-impacted soil to the coastal environment will eliminate the potential exposure pathway of lead being ingested by humans or fauna using terrestrial and aquatic ecosystems at and near the site. Eliminating exposure pathways, eliminates potential health risks to humans and the marine and shoreline fauna from lead at the site.

A portion of the subject property, lying makai of the certified shoreline, contains ash-impacted soil that will need to be excavated from the beach. The excavated area will then be back-filled following State-regulated beach nourishment guidelines. The excavated ash-impacted soil will be placed on the subject property, mauka of the certified shoreline, and capped along with the entire subject property. This EA has been prepared to meet the HRS Chapter 343 requirements for a project constructed within the SSA. The project will begin once appropriate permits are obtained (anticipated October 2009) and will take approximately two months to complete.

Environmental assessment work performed for the subject property in 2003 identified multiple contaminant concentrations requiring the Notification of a Release as required by Section 128D HRS, Hawaii's Environmental Response Law and the State Contingency Plan (SCP), HAR Chapter 11-451-6. The proposed project is a remedial action required by the DOH for the subject property following rules outlined in the SCP, HAR Chapter 11-451-8, Hazardous Substance Response. A remedial action is required for the site because physical and analytical data demonstrate that a release mechanism and potential exposure pathway (human and ecological) for contaminants (primarily lead) exists. The owner of the subject property is liable for the required response as stated under Section 128D-5 HRS. According to Steven Mow of the DOH Hazardous Evaluation and Emergency Response (HEER) Office, if a remedial action is not taken at the site, the DOH HEER can conduct the cleanup and require remedial costs be recovered from the property owner. (S. Mow, P.C., 3/11/2009).

A copy of detailed risk information from the Executive Summary of CH2M HILL's 2004 Environmental Site Investigation and Risk Assessment Report for the site has been included as Appendix B, CH2M Hill Environmental Information.

2.2 PROJECT BACKGROUND

The subject property, James Campbell Industrial Park Lot 14, TMK 9-1-026:26 is located at 91-008 Hanua Street in Kapolei, Oahu, Hawaii as shown on Figure 1, Project Location Map and Figure 2, Site and Surrounding Areas Aerial Photograph. The subject property and surrounding areas are shown on Figure 3, Site Aerial photograph.

The subject property was developed in the 1960s. The neighboring property to the north was leased to Leeward Auto Wreckers (LAW) who operated an auto-wrecking facility on that plot. LAW's activities spread onto the subject property and an incinerator was operated near the center of the subject property. Automobiles were burned to remove unwanted materials (e.g., oil, paint, plastic, etc.) prior to metals recycling, and the resultant ash was disposed on the subject property (MFA, 2005).

No additional information regarding an incinerator at the site was found. Historical aerial images obtained for the site do not provide further information related to incineration or burning activities. The only information identified during several environment assessments performed for the site from 2003 to 2005, indicates that a facility map found in DOH files identifies that a furnace utilized by LAW, was located on the subject property, south of the Hawaii Metal Recycling (HMR) facility.

LAW conducted operations on the subject property until 1989, and the subject property has remained in light industrial use by a variety of businesses since that time. Aerial photographs show that by 1991, the entire lot was cleared and several buildings were located along the perimeter of the site. Building permits were issued to Con-Fab Corporation (Con-Fab) in 1989, 1991, and 1992 for small improvements, although a SMA permit had been issued for the construction of multiple structures. Con-Fab used the site for concrete manufacturing and as a storage facility for pre-cast and pre-stressed concrete products. Chemical inventory forms for Con-Fab from 1996 and 1997 are the last records identified related to Con-Fab's use of the site. Uses of the site during 1998 through 2004 are not known.

In 2004 the following tenants occupied the site: Giordano's Painting; Kalaka Nui; Finishing Edge Curb & Sidewalk; and Island Ready Mix Concrete, Inc.. In 2005, the same tenants were on-site in addition to Worldwide Moving and Storage, Inc. The site was vacant during 2006 and 2007.

The Site is currently vacant, although some concrete structures remain from former tenants. During 2008 and early portions of 2009, the subject property was occupied by Mendocino Forest Products, LLC, a lumber distributor who used the site for lumber storage. One small trailer, used for office space, and lumber was stored on northeast portions of the subject property.

Several soil and groundwater investigations performed in the past several years at the subject property have characterized environmental impacts from these previous activities. Approximately 6.5 acres of the subject property, centered towards the middle and seaward portions of the subject property, have buried ash deposits. The ash-impacted soil has an average thickness of approximately 2.5 feet and a maximum depth of approximately 6 feet. Reported concentrations of lead in soil ranged from below laboratory detection limits to a maximum of 39,100 milligrams per kilogram. Native soils above and below the ash-impacted soil layer were not found to contain appreciable amounts of lead. Analytical tests of leachate potential indicated that the potential for erosion of contaminants from the affected soil to groundwater was low (CH2M HILL, 2004). Groundwater, which occurs at a depth of approximately 6 feet below ground surface, contained no contaminants above regulatory limits in groundwater samples collected from wells on the subject property. More detailed historical environmental investigation information, including ash-impacted soils lead leachate testing results, have been included in Appendix B and Appendix C, 2005 MFA Environmental Investigation Report.

A human health risk assessment, which used data collected during the investigations, identified lead as the contaminant of concern present at the subject property (CH2M HILL, 2004). Lead in soil, associated with the buried ash deposits, was found to be in excess of the U.S. Environmental Protection Agency (EPA) industrial Preliminary Remedial Goals (PRGs) in various locations on the subject property. Additionally, an ecological screening assessment concluded that a potential risk could exist to the marine environment if ash-impacted soil located near the beach were to erode and migrate to the near-shore beach sediment (CH2M HILL, 2004).

A Remedial Alternative Analysis (RAA) was conducted for the subject property in 2006. The RAA: presented Remedial Action Objectives (RAOs); identified several possible remedial alternatives; developed preferred remedial alternatives; and evaluated the alternatives

based on the DOH's criteria of effectiveness, implementability, and cost. In addition to the No Action alternative, three potential remediation alternatives were developed: installation of a containment cap and barrier; excavation and off-subject property disposal; and soil stabilization.

A containment cap and barrier can be readily implemented with local materials and services, and creates the least disturbance of ash-impacted soil on the subject property. Due to its superior ability to be implemented, its protection of public health and the environment through engineered and institutional controls, its proven effectiveness at similar local properties, and lowest costs, the containment cap and barrier was identified in the RAA study as the preferred remedial alternative for the subject property (MFA, 2006).

Recent changes in the certified shoreline survey have required a modification of the remedial alternative selected in 2006. The shoreline previously had been mapped at or makai of the ash-impacted soil located on the subject property in 1997. During 2007, in support of conducting this environmental assessment for the subject property, an updated shoreline survey was performed. As part of the state shoreline certification process, staff from the Department of Land and Natural Resources (DLNR) visited the subject property in August 2007. Based on debris line observations made in the field by DLNR staff, the central portion of the subject property's shoreline location was revised. The revised shoreline was moved mauka of the original surveyed shoreline by a maximum of 63 feet and increased the amount of beach on the subject property by 0.17 acres. Ash-impacted soil is located in this newly defined beach area and will need to be excavated (S. Lemmo, Personal Communication, 11/27/2007). The excavated ash-impacted soil will then be placed on the subject property and capped. A copy of the January 3, 2008 Certified Shoreline Survey is included as Appendix D.

Excavating ash-impacted soil from the beach and placing it on the subject property for capping is a modification of the selected remedial alternative that does not detract from the selected alternative being the best permanent long-term remedial solution for the subject property.

Based on the RAA, a draft Response Action Memorandum (RAM) prepared in 2006 presented the remedial alternative, containment cap and barrier, for the subject property. The RAM summarized pertinent property information, documented the basis for remediation, and described the rationale for selecting the remedial alternative. The RAM was based on the

results of previous subject property characterizations, risk assessments, and analysis of remedial action alternatives. The DOH HEER office was contacted about the revised shoreline survey and excavation of ash-impacted soil from the beach. DOH HEER concurred that the excavation work was a minor modification of the remedial alternative (S. Mow, Personal Communication, January 16, 2008) and a revised draft RAM is now being prepared to address this modification.

2.3 PROJECT DESCRIPTION

The proposed remedial action consists of excavating ash-impacted soil located on the beach, capping the affected soil with clean earthen materials and constructing a subsurface containment barrier near the shoreline as shown in Figure 4, Site Map Showing Proposed Containment Cap, Barrier, Excavation and Nourishment Locations. The cap would be surfaced with asphalt. The subsurface containment barrier would be constructed near, but mauka of the shoreline, to prevent the erosion of ash-impacted soil to the beach and marine waters. In addition to these containment measures, institutional controls (such as an environmental covenant) would be implemented to ensure worker safety and minimize future disturbances of the ash-impacted soils capped at the subject property.

When the remedial project has been completed, use of the subject property is assumed to be for commercial and/or industrial purposes as currently zoned. The remedial project consists only of the installation of a containment cap and barrier. No other site improvements are included as part of this DEA and related permitting processes. The subject property owner is currently working to obtain a Lessee for the site, but none has been secured. No information regarding future site improvements can be provided, because it is currently unknown.

The subject property owner is aware that this EA and related permit applications solely address the installation of the remedial containment cap and barrier. Any future site improvements would need to follow all applicable Federal, State and local laws and regulations relating to development work at the site.

Site Preparation: The first stage of cap construction would be subject property preparation including the implementation of erosion, drainage and dust control measures. An integrated silt fence/dust screen would be constructed at the subject property borders to prevent runoff

of sediment or blowing of dust to surrounding areas. The integrity of the silt fence and dust screen will be verified on a daily basis by the contractor.

A clean zone would be established and maintained at the subject property ingress and egress point located in the northeast corner of the subject property. Heavy equipment (including material transport trucks) would be washed prior to exiting the subject property, in order to remove soil from blades, buckets, tires, etc. The remainder of the subject property would be considered a “hot zone” for as long as ash-impacted soils remain exposed on the subject property. Personnel entering the hot zone would be required to wear appropriate personnel protective equipment (PPE) to prevent exposure to contaminated dust and soil.

All concrete structures located on site are planned to be demolished so that the site slope can be graded towards Drains A & B. Demolished concrete, dilapidated fencing (remaining from previous tenants), and other miscellaneous site debris will be removed from the site or crushed and reused, if feasible.

Excavation and Nourishment of Beach Area: Approximately 1200 cubic yards of ash-impacted soil is proposed for excavation from the central portion of the subject property’s beach (Figure 4). The area to be excavated is approximately 7,350 square feet (0.17 acres) in size and will affect approximately 200 feet, or 20% of the subject property’s shoreline. Excavation from the beach will be conducted in two 100 foot lengths, in order to minimize the amount of open excavation at any one time. Prior to excavation, double silt fences would be placed around the area to be excavated in a “U” shape, allowing for access by the excavating equipment to the beach from only the non-beach portions of the subject property. Because of nearby wave action, silt fences will need to be secured in place at the beginning of each day. Excavation will proceed from the furthest point makai and progress mauka to the certified shoreline. Only the amount of excavated area that can be re-nourished on a daily basis will be removed. No open excavation will be allowed during non-working hours or storm events. Excavated areas will be back filled with clean carbonate sand from an approved source. As excavated areas are re-nourished, the sand will be sloped to meet pre-excavation elevations and slopes. Beach profiling and daily monitoring required for a small-scale beach nourishment project will be followed as discussed below.

A site-specific Best Management Practices (BMPs) plan will be designed, implemented, operated and maintained in a manner to properly isolate, confine and control

the excavation and nourishment activities and to contain and prevent any potential pollutant(s) discharges from adversely impacting State waters. A site-specific Monitoring and Assessment Plan (MAP) will also be prepared to address monitoring requirements for all required permits. Additionally, the small-scale beach nourishment permit and water quality permits will have specific conditions that also will be incorporated into the site-specific BMP and MAP.

Construction of Containment Barrier: Once the subject property is prepared, a subsurface containment barrier is proposed for construction along the southern portion of the subject property, mauka of the certified shoreline (Figure 5, Proposed Containment Cap and Barrier Conceptual Model). A trench would be dug down to the underlying coral deposits (located 4 to 6 feet below ground surface in various locations); and the surface of the coral deposit would be scarified to provide a bonding surface for the containment barrier. Groundwater is located approximately 5-6 feet from the ground surface (MFA, 2005) in these areas and therefore no construction de-watering is anticipated during the installation of the containment barrier.

The trench would be approximately 1,000 feet long and follow along the mauka side of the certified shoreline. During trenching activities, ash-impacted soils located makai of the certified shoreline would be excavated (estimated 5,000 cubic yards) and be spread onto low areas of the subject property. It would then be covered with clean earthen material, with care taken to ensure that dust or affected soil does not migrate off the subject property. An approximate one-foot-thick concrete containment barrier with footing would be poured into the trench, and keyed into the coral deposit for stability. The containment barrier would extend to match the final grade, as necessary. A conceptual model of the barrier cap and containment barrier is shown on Figure 5, Proposed Containment Cap and Barrier Conceptual Model. A copy of the draft designed barrier drawing has been included as Appendix E, Containment Barrier Design. This plan was prepared and stamped by a professional structural engineer, Myron Okubo, P.E. of Wilson Okamoto, Corporation.

Sub-Base Preparation: The existing soil surface across the subject property would be minimally graded and compacted to the satisfaction of the project engineer to provide an acceptable sub-base. Grading would only be conducted as needed to create a generally flat final grade and to match required drainage conditions. Ash-impacted soil excavated from the beach and soil removed from the containment barrier trench excavation would be covered

with clean earthen materials. Grading will be conducted using BMPs to prevent dust erosion, soil erosion, and mechanical transport of the affected soil. The primary dust control measure would be application of water, which would be closely monitored in order to avoid over-application that could result in runoff leaving the subject property. Air at downwind areas of the fence line would be monitored every day that ash-impacted soil may be disturbed in order to verify and document the efficacy of dust control measures.

Due to a lack of lead in excess of the EPA PRG, and the absence of ash-impacted soil layer, the northernmost section of the subject property would not require a cap. The barrier cap would only be required in the “Extent of Proposed Cap” area shown on Figure 4, comprising approximately 6.5 acres. However, the base course and asphalt layer would be extended across the entire subject property to mitigate potential dust and to provide ease of use for future tenants. Therefore, the existing soil in the northern area would be (minimally) graded accordingly.

Construction of Cap: The prepared existing soil would comprise the first layer of the cap and serve as a buffer layer. A single layer of high-density polyethylene plastic with yellow warning tape would be installed on top of the prepared existing soil. The marker layer would warn potential future construction and/or utility crews of the potentially hazardous soil below.

Once the marker layer is in place and approved by the project engineer, a 6-inch thick layer of clean fill material with fines (i.e., base course) would be graded across the subject property, and compacted to the satisfaction of the project engineer; estimated amount of fill material is 5,250 cubic yards (compacted). Most (5,000 cubic yards) of this fill material will be provided by excavating ash-impacted soil from the beach. The cap would be surfaced with a 6-inch layer of asphaltic concrete.

Maintenance and Management Practices: In order to satisfy the long-term effectiveness RAO, several management and maintenance plans would be required. The following plans will be prepared as part of the detailed design, subject to DOH approval:

- *Exposure Monitoring and Reporting Plan (EMRP)* would describe the existing subject property conditions, including natural barriers and engineered controls, contaminant detection and monitoring systems, and preventative maintenance measures to be employed. Such measures may include cap inspection, integrity evaluation, record keeping, and notification procedures.

- *Exposure Contingency Plan (ECP)* would be prepared as a stand-alone, action-oriented response plan. Should the subject property conditions or the EMRP provisions indicate a breach in or failure of the engineered exposure barriers, the ECP would be activated. The ECP would describe contingency response actions, including notification and record keeping requirements.

Institutional Controls: Institutional controls, in the form of an environmental covenant, would be placed upon the property. The environmental covenant would notify potential future subject property owners or operators of the nature and extent of contamination, describe the configuration of the cap and restrict disturbance of affected soil. Subject property easement holder(s) would also be similarly notified.

3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.1 OVERVIEW

This section of the EA contains a description of the existing physical, biological and socio-economic environment affected by the proposed project. The physical, biological and socio-economic factors were considered during the analysis of project components, potential impacts and mitigation measures, and proposed project alternatives.

3.2 PHYSICAL ENVIRONMENT

3.2.1 General Setting

The subject property is located on the leeward coast of the island of Oahu, 9.572 acres, located at the southern terminus of Hanua Street, within James Campbell Industrial Park and as shown in Figure 1. The subject property is bound to the south by the Pacific Ocean, to the west by Drain A, to the north by Drain B, and is adjacent to another James Campbell Industrial Park Lot to the east (Figures 2, 3, and 4). The subject property is currently vacant, although some concrete structures remain from former tenants.

The subject and neighboring properties are primarily industrial, with the exception of Barber's Point Beach Park, which is located west of the subject property, across Drain A. The shoreline at the subject property, accessible to the general public, is buffered by a broad flat coralline reef at the waters' edge which meet gently sloping sandy dunes.

Several easements exist on the subject property. Five easement held by the CCH include three drainage easements and two subdivision easements. There is one Right of Way easement for both Hawaiian Electric Company and Hawaii TeleCommunications

An easement for underground pipelines lies on the eastern edge of the Site. The easement is listed in State of Hawaii Land Court documents as #664 for Hawaiian Independent Refinery, Inc. (CKA Tesoro Corporation) underground pipelines located at Lot 1111, 9.572 acres, Map 122 of Land Court Application 1069 of the Trustees of the Estate of James Campbell and expires April 30, 2019.

There are 4 pipelines in this easement: one 20" Black Oil Pipeline; one 12" Diesel Pipeline; one 10" Jet Pipeline and a 10" Gasoline pipeline. They are located within 15 feet of

the eastern property boundary and are at least 4 feet deep from the ground surface. During grading and any follow-on compaction work, there should be no problem with using a compactor roller over the pipeline. If the pipeline area is excavated to the pipeline line, Tesoro has a specific material, C33 sand, to be placed within 1 foot of pipeline. Otherwise normal fill outside the specified 1 foot surrounding pipeline is acceptable backfill material around the pipes. If needed, Tesoro has a compaction specification for fill over the pipelines.

Tesoro's easement states that it needs normal maintenance access to the pipelines. Should building or structure be proposed for construction, the land-owner will notify Tesoro for approvals. Tesoro requested to be on-Site during any excavation work that may take place over the pipelines, but none is planned.

3.2.2 Climate

The outstanding features of the Hawaiian Islands' climate include mild and equable temperatures year round, moderate humidity, persistence of northeasterly tradewinds, remarkable differences in rainfall within short distances, and infrequency of severe storms (UH Dept. Geography, 1983). In most of Hawaii there are only two seasons. The "dry" season occurs between about May and October, the weather warmer and drier, and the tradewinds most persistent. The "wet" season occurs between about October and April, the weather cooler, and the tradewinds more often interrupted by other winds and by intervals of widespread clouds and rain (Figure 6, Median Annual Rainfall and Surface Wind Map).

Mean annual temperature in the islands generally varies between 72° and 75°F near sea level and decreases by about 3°F for each 1,000 feet of elevation (UH Dept. Geography, 1983). Almost everywhere at low elevations the highest temperatures of the year are in the low 90s and the lowest near 50°F.

The islands' heaviest rains are brought by storms during the October-to-April season (UH Dept. Geography, 1983). The subject property receives an average annual rainfall of less than 20 inches per year, Figure 6 (Climate Source, 2002). Periodic thunderstorms can result in flooding, especially during winter months. Evaporation rates are high, approximately 80-86 inches annually, resulting from brisk tradewinds and high solar radiation. Potential impacts and mitigation measures for runoff control during construction are discussed in Section 5.2.4 of this EA.

3.2.3 Air Quality and Noise Levels

Air quality in most areas of Oahu is generally affected by vehicular traffic and stationary sources. The general lack of high volumes of both sources, combined with the normal fresh tradewind conditions and close proximity to the shoreline, indicate that the air quality is good in the project area.

High noise levels in the northern portions of the project area are due to industrial land use directly adjacent the subject property. The existing ambient noise levels within the project area are dominated by heavy equipment operating at the abutting Schnitzer Steel Hawaii Corporation (a.k.a., Hawaii Metal Recycling Company) facility and from vehicular traffic and equipment operating at nearby industrial properties. Potential impacts and mitigation measures regarding air quality and noise levels are discussed in Section 5.2.1 of this EA.

3.2.4 Geology

The Hawaiian Islands are comprised of an undersea mountain range almost wholly built up by volcanic activity. The eroded remains of the Koolau volcanic shield, approximately 37 miles long and oriented northwest southeast, comprise eastern Oahu. The shield-building phase of the volcano resulted in the Koolau Volcanic series. A long period of volcanic quiescence followed the shield building state, during which erosion occurred and alluvium and marine sediments accumulated along the coastal regions when a series of worldwide sea level changes occurred. During the periods of greater submergence, sedimentation filled the great valleys, resulting in flat valley floors and coral reefs grew in areas presently above sea level (Stearns and Vaksvik, 1938).

The subject property is located south of the Waianae Range on the southwestern Ewa coastal plain of Oahu. Extrusive igneous rocks (lava flows) from the Waianae Volcanic Series underlie the relatively thin sequence of coastal sedimentary deposits. This relatively thin sequence of sedimentary deposits is collectively referred to as caprock. The caprock in the vicinity of the subject property has been subject to dissolution as a result of natural chemical weathering and exhibits the pitted and cavernous characteristics commonly termed “karstic”. The coralline limestone and consolidated sand dune deposits were emplaced during higher stands of the Ewa coastal plain. These carbonate formations are a result of marine sedimentation and precipitation with subsequent partial dissolution. The Ewa coastal plain is situated on an extensive formation of interbedded carbonate and terrigenous sediments with a

thick vertical component (caprock). There are no known structural discontinuities (that is, faults) in this area (Stearns and Vaksvik, 1938).

3.2.5 Soils

Surface soil at the subject property (Figure 7, Soils Map) has been classified by the U.S. Department of Agriculture, Soil Conservation Service (USDA) as “Coralline Rock” with “Beach Sand” along the southern edge of the subject property. The material consists of coral or cemented calcareous sand. Small areas of coral outcrop are exposed on the ocean shore and are geographically associated with Jaucas, Keaau and Mokuleia soils. These coral outcrop soils are sedimentary coastal marine deposits. Coral outcrop makes up about 80 to 90 percent of this type of soil. The remaining 10 percent are a thin layer of friable red soil materials formed as alluvium occurs in cracks, crevices and depressions within the coral. The generalized soil map for the subject property area describes it as having 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. These soils are described to have moderate permeability (USDA, 1972).

Subsurface soil textures, identified in soil borings installed during environmental investigations, generally consisted of reddish-brown silty, sandy gravel, sandy coral gravel and coralline sand underlying the buried ash-impacted material (CH2M HILL, 2004 & MFA, 2005). Potential impacts and mitigation measures regarding soil are discussed in Section 5.2.2 of this EA.

3.2.6 Topography and Slopes

Topographic map coverage of the subject property is provided by the U.S. Geological Survey (USGS) Ewa Quadrangle at a scale of 1:24,000 (USGS, 1998). The Ewa Quadrangle was used as the base map for Figure 1 and the USGS topographic information can be viewed on this figure. The subject property regional topography is relatively flat. A topographic survey was conducted at the subject property in June 2007 and ground surface elevations at the subject property are less than 10 feet above mean sea level.

During 2007, in support of conducting this environmental assessment for the subject property, an updated shoreline survey was performed. As part of the state shoreline certification process, staff from the Department of Land and Natural Resources (DLNR) visited the subject property in August 2007. Based on debris line observations made in the

field by DLNR staff, the central portion of the subject property's shoreline location was revised. The revised shoreline was moved mauka of the original surveyed shoreline by a maximum of 63 feet and increased the amount of beach on the subject property by 0.17 acres. Ash-impacted soil is located in this newly defined beach area and will need to be excavated (S. Lemmo, Personal Communication, 11/27/2007). The excavated ash-impacted soil will then be placed on the subject property and capped. A copy of the January 3, 2008 Certified Shoreline Survey is included (Appendix D).

Potential impacts and mitigation measures regarding topography and slopes are discussed in Section 5.2.3 of this EA.

3.2.7 Hydrology and Drainage

No surface water features, ponds, streams or wetlands are located within the project boundaries. A topographic and shoreline survey was performed in June 2007 that did not identify any surface water features or significant surface depression on the subject property.

There are 2 drainage canals, Drain A and Drain B, located along the western and northern boundaries of the subject property, respectively (Figures 2, 3, and 4). Drain B is a narrow ditch (approximately 10 wide) that bounds the subject property to the north and discharges entirely to Drain A. These drainage canals provide for stormwater runoff catchment from the subject and neighboring properties. Drain A (approximately 25 feet wide) discharges to the ocean through an outlet located near the south-western corner of the subject property. There are no other known drainage features.

Drain A was constructed into surface soil and subsurface coralline bedrock and consists of calm stretches of shallow water when a storm event is not present. Vegetation along the banks of Drain A is sparse or non-existent near the mouth, but approximately 100 feet north, the vegetation becomes gradually more dense. Emergent vegetation within Drain A is sparse and the majority of the main channel lacks an overhanging vegetative cover. According to City and County of Honolulu staff, there are no storm drain connection licenses for connections between the CCH and privately-owned storm water drain system in areas near the subject property to Drain A (D. Kimura, Personal Communication, 5/15/2007). CCH utility maps document connections between CCH and privately-owned portions of the drainage system in James Campbell Industrial Park that eventually discharge to Drain A. A review of government records was requested from the DOH Clean Water Branch (CWB) and

according to their files, there are no discharge permits of any type for the subject property or for businesses who have historically leased space at the subject property. Storm water from the subject property directly infiltrates into soil of unpaved portions of the subject property, drains to the ocean, to Drain A or to Drain B by overland surface flow.

Flood zones are geographic areas that the Federal Emergency Management Agency (FEMA) has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area. According to the FEMA FIRM 15003C03115F, the subject property is located in flood hazard Zones A and AE (FEMA, 2004). The entire property is designated as Zone A and approximately 60% of the property appears to be in Zone AE. Both Zone A and Zone AE are defined as high risk areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage (Figure 8, FEMA Flood Map).

Based on the FEMA flood information, the subject property is defined by the CCH Land Use Ordinance (LUO) (DPP, 1997) as being located in three different categories of flood districts: a General floodplain district (Zone A); a Flood fringe district (Zones AE, AO, AH); and a Floodway district (Zone AE). It is not located within a Coastal high hazard district (Zone VE). There are specific required development standards for permitting construction within this type of district and these requirements are discussed further in Section 4.3.3. Potential impacts and mitigation measures regarding hydrology, drainage and potential flooding issues related to the project are discussed in Section 5.2.4.

3.2.8 Groundwater Resources

Data presented in *Aquifer Identification and Classification for O'ahu: Groundwater Protection Strategy for Hawaii* (Mink and Lau, 1990) indicates the shallow groundwater located beneath the subject property is part of the Ewa aquifer system of the Pearl Harbor aquifer sector. This aquifer is unconfined and is comprised of caprock sediments that flank the Waianae basalt. Groundwater within the caprock aquifer is considered unconfined basal groundwater and resides within the sedimentary materials overlaying the lava flows of the Waianae Volcano. Groundwater within the volcanic basal flank aquifer is considered confined and resides within the interconnected pore space and fractures of the underlying Waianae basalt lavas.

The inter-layered sedimentary sequence comprising the caprock aquifer typically contains stratigraphic units that exhibit low permeability, which generally retards upward flow of groundwater from the basal flank volcanic aquifer. Because of the confining nature of the caprock sedimentary unit, groundwater within the volcanic basal flank aquifer is artesian in nature. Because rainfall tends to be greater in the interior mountainous areas of the island, recharge to the basal groundwater bodies is also greatest in these areas. As a result, groundwater levels are high in these areas, causing groundwater to flow, generally, from the interior to the shoreline.

The system identifier for the Ewa System is 30204116(13321)/30204121(13213) (Mink and Lau, 1990). The numerator represents the upper sedimentary aquifer and the denominator represents the lower basalt aquifer (Figure 9, Aquifer Identification Map). Regional groundwater immediately underlying the subject property (the upper sedimentary aquifer) has a moderate salinity (1,000 to 5,000 milligrams per liter chlorides) and is currently in use. It is classified as unsuitable for drinking water purposes (Mink and Lau, 1990). Groundwater is located approximately 5-6 feet from the ground surface (MFA, 2005) at the subject property. No construction de-watering is anticipated during the proposed work.

The Hawaiian Islands typically have groundwater flow directions that follow topographic gradients (USGS, 1999). Surface topography can be indicative of groundwater flow because it often mimics the gradients of underlying, relatively impervious surfaces of horizontal volcanic flows, along which the hydraulic conductivity is much greater parallel to the horizontal directions of the layers and least conductive in the direction perpendicular to stratigraphic sections (USGS, 1999).

Regional groundwater flow direction at the subject property would be expected to be generally seaward (to the south). However, the subject property's proximity to the ocean and the adjacent drains likely results in tidal influence over the groundwater gradient. Water levels in the adjacent drains have been observed to vary greatly. These observations suggest that at low tides, groundwater discharges to the near shore environment and at high tides, groundwater is recharged by the near shore environment. Nonetheless, groundwater regionally is governed by the dominating hydrologic cycle, forcing flow of groundwater towards an open-water, ocean environment.

The nearest drinking water well (DLNR well # 3-2004-05) is located approximately 3.7 miles northeast and hydraulically up gradient of the subject property (DOH, 1983). The project is located approximately 1.2 miles makai (seaward) of the Underground Injection Control (UIC) line (DOH, 1983). Potential impacts and mitigation measures regarding groundwater resources are discussed in Section 5.2.5.

Testing of both soil and groundwater samples collected from the site was conducted to assess for potential groundwater contamination. Groundwater collected from the site has been tested by multiple environmental consultants during several environmental assessments and investigations performed for the site. Groundwater samples were tested for a variety of constituent groups, including total petroleum hydrocarbons (TPH), total and dissolved concentrations of eight Resource Conservation and Recovery Act (RCRA) regulated metals, and volatile organic compounds (VOCs). Groundwater results indicated no contaminants above regulatory limits in groundwater samples collected from wells on the subject property. No dissolved lead was identified in groundwater. Constituents present in groundwater at the site do not pose a significant risk to potential human receptors and do not exceed screening levels for ecological receptors.

The following information was taken directly from Section 6.2.5 of CH2M HILL's 2004 Investigation Report regarding an assessment of lead leaching potential.

“The potential for lead present in the impacted unit to become mobile through dissolution and aqueous transport of lead is low. As presented in Table H-4 in Appendix H, the results of the synthetic precipitation leaching procedures (SPLP) analysis (which stimulates the leaching process under natural conditions) on samples of burned debris demonstrated to contain the most elevated concentrations of lead present at the site indicate that the potential for leaching is low. This is also supported by the non-detectable concentrations of lead and the low concentrations of arsenic in groundwater samples collected from the two wells located within the burned debris area.

As previously suggested by LFR, the geochemical environment in the local limestone aquifer is neutral to alkaline and

probably highly buffered, conditions which reduce the solubility of metals. Since the unit containing the elevated concentrations of lead and other metal compounds occurs within the unsaturated zone in the subsurface and is closely associated with alkaline materials (coralline sands, gravels, and limestone) that may both reduce the solubility of metal compounds and promote the precipitation of any metals that may be mobilized by the infiltration of slightly acidic rain water, the mobilization potential of lead or other materials is reduced.”

Groundwater flowing towards the ocean does not contain dissolved lead or contaminants at concentrations requiring remedial action or causing human or ecological health risks. Lead in site soil has been tested to determine if it will leach from the soil to groundwater beneath it. The potential for lead to leach from on-site soils to the groundwater beneath it is low. The potential for lead to leach from the local limestone aquifer is low. Groundwater from the site is not considered contaminated and is not expected to adversely affect the near shore environment. A copy of CH2M HILL’s Table H-4 has been included with their environmental information (Appendix B).

3.2.9 Oceanographic and Shoreline Characteristics

The following sections, Wave, Shoreline Description and Shoreline Trends were provided for the Site by David A. Smith, Ph.D., P.E., Coastal Engineer with Sea Engineering, Inc. (SEI) of Waimanalo, Hawaii.

Waves

Prevailing waves

The wave climate in Hawaii is typically characterized by four general wave types. These include northeast tradewind waves, southern swell, North Pacific swell, and Kona wind waves. Tropical storms and hurricanes also generate waves that can approach the islands from virtually any direction. Unlike winds, any and all of these wave conditions may occur at the same time.

Tradewind waves occur throughout the year and are the most persistent April through September when they usually dominate the local wave climate. They result from the strong and steady tradewinds blowing from the northeast quadrant over long fetches of open ocean.

Tradewind deepwater waves are typically between 3 to 8 feet high with periods of 5 to 10 seconds, depending upon the strength of the tradewinds and how far the fetch extends east of the Hawaiian Islands. The direction of approach, like the tradewinds themselves, varies between north-northeast and east-southeast and is centered on the east-northeast direction. The project site is well sheltered from the direct approach of tradewind waves by the island itself, and only a small portion of the tradewind wave energy refracting and diffracting around the southeast end of the island reaches the Barbers Point area.

Southern swell is generated by storms in the southern hemisphere and is most prevalent during the summer months of April through September. Traveling distances of up to 5,000 miles, these waves arrive with relatively low deepwater wave heights of 1 to 4 feet and periods of 14 to 20 seconds. Depending on the positions and tracks of the southern hemisphere storms, southern swells approach between the southeasterly and southwesterly directions. The project site is directly exposed to swell from the southerly direction and these waves represent the greatest source of wave energy reaching the project site.

During the winter months in the northern hemisphere, strong storms are frequent in the North Pacific in the mid latitudes and near the Aleutian Islands. These storms generate large North Pacific swells that range in direction from west-northwest to northeast and arrive at the northern Hawaiian shores with little attenuation of wave energy. These are the waves that have made surfing beaches on the north shores of Oahu and Maui famous. Deepwater wave heights often reach 15 feet and in extreme cases can reach 30 feet. Periods vary between 12 and 20 seconds, depending on the location of the storm. The project site is sheltered from swell approach from the north and northwest; however, North Pacific swell approaching from the west will refract and diffract around Barbers Point and affect the site.

Kona storm waves also directly approach the project site; however these waves are fairly infrequent, occurring only about 10 percent of the time during a typical year. Kona waves typically range in period from 6 to 10 seconds with heights of 5 to 10 feet, and approach from the southwest. Deepwater wave heights during the severe Kona storm of January 1980 were about 17 feet. Deepwater wave heights during the severe Kona storm of January 1980 were about 17 feet. These waves had a significant impact on the south and west shores of Oahu.

Severe tropical storms and hurricanes obviously have the potential to generate extremely large waves, which in turn could potentially result in large waves at the project site. Recent hurricanes impacting the Hawaiian Islands include Hurricane Iwa in 1982 and Hurricane Iniki in 1992. Iniki directly hit the island of Kauai and resulted in large waves along the southern shores of all the Hawaiian islands. Damage from these hurricanes was extensive. Although not a frequent or even likely event, they should be considered in the project design, particularly with regard to beach nourishment and structure design.

Prevailing Deepwater Wave Climate

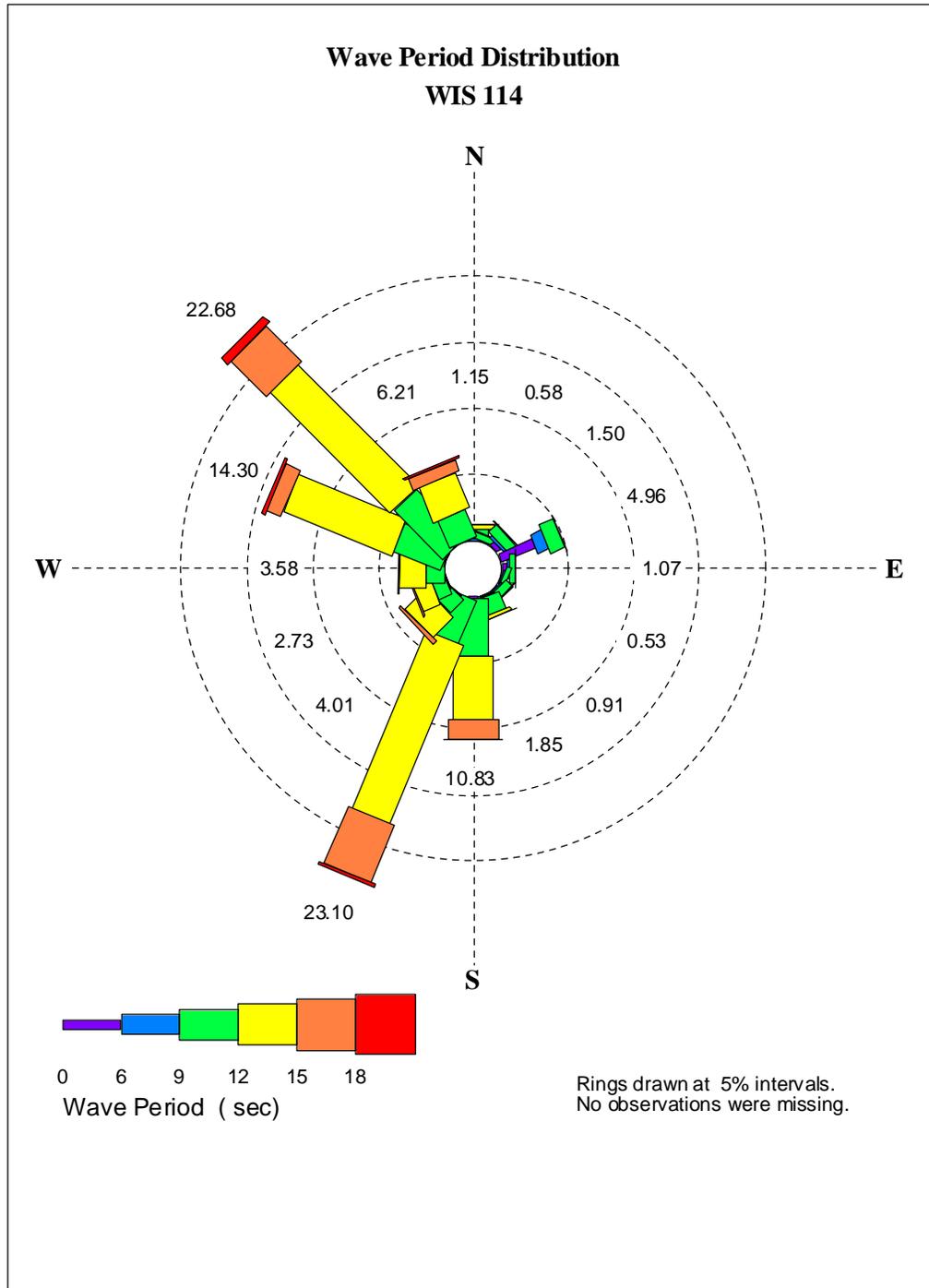
Wave information is available in the form of hindcast data sets provided by the U.S. Army Corps of Engineers' Wave Information Studies (WIS). WIS results are generated by numerical simulation of past wind and wave conditions. WIS information produces records of wave conditions based on historical wind and wave conditions at numerous stations around the Hawaiian Islands. These hourly records of wave conditions are available for the years 1981 through 2004.

WIS Station 114, located 65 miles southwest of Maui, was chosen as being representative, since it was exposed to the same waves that would affect the south shore of Oahu (e.g., exposed to southern swell and sheltered from prevailing tradewind waves by the island. Table 1 shows the frequency of occurrence of wave height and period for the WIS data. To make the data representative of wave conditions at the project site, this data has been filtered into 22.5-degree bins for directions southeast clockwise through west-southwest, as waves from other directions are blocked by the island of Oahu. The wave height and wave period distributions for the full WIS 114 data set are presented as roses in Figures 1 and 2. Since the WIS station is located far from shore, the wave roses show the north swell, south swell, and tradewind waves.

The wave direction roses for WIS station 114 (shown previously in Figures 1 and 2) show that greater than 23% of all waves at that station are from the south-southwest direction. The filtered data shows that nearly 54% of the waves approaching the project site are from the south-southwest direction. Within that direction band, nearly all of the significant wave heights are between 2 and 6 ft with periods of primarily 12 to 15 sec. Based on this information, the most frequently occurring deepwater wave that can affect the project site is $Dir = SSW (202.5^\circ)$, $H_s = 4$ ft, $T_p = 14$ sec.

Table 1 WIS Station 114 Deepwater waves, 1981-2004, filtered to directions SE to WSW. Percent frequency of occurrence: significant wave height H_s (ft) vs. peak period T_p (sec)

Dir (°TN)	Hs\Tp	<6	6-8	8-10	10-12	12-14	14-16	16-18	>=18	Total%
SE 123.75 - 146.25	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.97	0.08	-	-	-	-	1.0
	3-4	-	-	0.85	0.14	-	-	-	-	1.0
	4-5	-	-	0.10	0.02	-	-	-	-	0.1
	5-6	0.06	-	-	-	-	-	-	-	0.1
	Total%		0.1	0.0	1.9	0.2	0.0	0.0	0.0	0.0
SSE 146.25 - 168.75	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.83	0.75	-	-	-	-	1.6
	3-4	-	-	0.24	1.80	-	-	-	-	2.0
	4-5	-	-	0.45	0.28	-	-	-	-	0.7
	5-6	-	-	-	0.12	-	-	-	-	0.1
	Total%		0.0	0.0	1.5	2.9	0.0	0.0	0.0	0.0
S 168.75 - 191.25	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.99	2.07	0.32	0.22	0.14	-	3.7
	3-4	-	-	0.14	5.75	5.14	1.88	0.63	-	13.5
	4-5	-	-	-	1.09	3.02	2.01	0.41	-	6.5
	5-6	-	-	-	0.08	-	-	0.02	-	0.1
	6-7	-	-	-	-	-	-	-	-	0.0
	7-8	0.06	-	-	-	-	-	-	-	0.1
	8-9	-	0.18	-	-	-	-	-	-	0.2
Total%		0.1	0.2	1.1	9.0	8.5	4.1	1.2	0.0	24.1
SSW 191.25 - 213.75	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.30	1.96	3.42	2.19	1.24	0.24	9.3
	3-4	-	-	0.36	3.73	11.63	7.53	3.79	0.36	27.4
	4-5	-	-	-	1.28	4.98	4.62	1.84	0.08	12.8
	5-6	-	-	-	0.04	0.41	1.96	0.59	0.16	3.2
	6-7	-	-	-	-	0.04	0.40	0.55	-	1.0
	7-8	-	-	-	-	-	-	-	-	0.0
	8-9	-	0.06	-	-	-	-	-	-	0.1
	9-10	-	0.02	-	-	-	-	-	-	0.0
Total%		0.0	0.1	0.7	7.0	20.5	16.7	8.0	0.8	53.7
SW 213.75 - 236.25	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	0.02	-	-	-	-	0.0
	2-3	-	-	0.41	1.19	0.93	0.18	-	-	2.7
	3-4	-	-	0.18	1.66	2.05	0.75	0.16	-	4.8
	4-5	-	-	-	0.63	1.07	0.14	0.02	-	1.9
	5-6	-	-	-	0.02	0.24	-	-	-	0.3
	6-7	-	-	-	-	0.04	-	-	-	0.0
	7-8	-	-	-	-	-	-	-	-	0.0
	8-9	-	-	-	-	-	-	-	-	0.0
	9-10	-	0.04	-	-	-	-	-	-	0.0
Total%		0.0	0.0	0.6	3.5	4.3	1.1	0.2	0.0	9.7
WSW 236.25 - 258.75	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.32	0.38	0.04	-	-	-	0.7
	3-4	-	-	0.10	1.24	1.62	0.14	-	-	3.1
	4-5	-	-	-	0.87	0.65	0.06	-	-	1.6
	5-6	-	-	-	0.04	0.12	-	-	-	0.2
	6-7	-	-	-	-	0.02	-	-	-	0.0
	7-8	-	-	-	-	0.04	-	-	-	0.0
	8-9	-	-	-	-	0.08	-	-	-	0.1
Total%		0.0	0.0	0.4	2.5	2.6	0.2	0.0	0.0	5.7
All %		0.1	0.2	6.2	25.2	35.8	22.1	9.4	0.8	100.0



Extreme Wave Height

The severe Kona storm of January 1980 is commonly used as a “design” Kona storm condition. The severity of this storm has been described as a “50-year” or even less frequent (i.e., more extreme) event. Hindcasts of the wave conditions by SEI following the storm indicated deepwater wave heights of 17 feet with a 9-second period approaching from 210°.

The report *Hurricanes in Hawaii* (Haraguchi, 1984) prepared for the USACE, Honolulu Engineer District (HED), presents hypothetical model and worst-case hurricane scenarios for the Hawaiian Islands. These scenario hurricanes have been used for detailed studies of hurricane storm wave inundation limits for the islands of Oahu and Kauai, prepared by Bretschneider and Noda (1985) and SEI (1986, 1993 and 2000) for the USACE-HED. The model hurricane is defined as the probable hurricane that will strike Hawaii in the future, based on the characteristics of storms previously approaching or striking the islands. The worst-case hurricane characteristics are based on subjective analysis of the data from 20 critical hurricanes in the Central Pacific and understanding of the basic atmospheric and oceanic conditions surrounding the Hawaiian Islands.

Bretschneider and Noda (1985) performed hurricane and wave modeling to determine the vulnerability of the south shore of Oahu to storm waves. Water level rise, wave runup elevation, and wave inundation limits were calculated at 71 locations between Koko Head and Barbers Point. The closest location to the project site is 6,000 feet to the east, near the boundary between Campbell Industrial Park and Barbers Point NAS. The findings of the report at that location are presented in Table 2 for southeast (SE) and southwest (SW) model and worst-case scenarios.

Table 2. Hurricane inundation at Barbers Point NAS

Hurricane		Still water level rise (feet)	Runup elevation (feet)	Inundation distance (feet)
SE	Model	7.1	9.6	151
	Worst	9.2	10.8	348
SW	Model	6.2	9.1	82
	Worst	9.0	10.8	342

*elevations relative to mean lower low water (MLLW)

The calculated still water level rise in Table 2 includes inverse barometric tide (storm surge), wind setup, and 1.9 feet astronomical tide. Since this location has similar exposure to the project shoreline, these results are believed to be generally applicable to the project site.

Sea Engineering (1993b) performed a similar study for Leeward Oahu. The closest profile location to the project site was 3,300 feet west of the project site on a southwest-facing shore. The still water rise for the model and worst case hurricanes were calculated to be 7.3 feet and 9.8 feet above MLLW.

Wave Transformation to Shore

As deepwater waves propagate toward shore, they begin to encounter and be transformed by the ocean bottom. In shallow water, the wave speed becomes related to the water depth. As waves slow down with decreasing depth, the process of *wave shoaling* generally steepens the wave and increases the wave height. *Wave breaking* occurs when the wave profile shape becomes too steep to be maintained. This typically occurs when the ratio of wave height to water depth is about 0.8, and is a mechanism for dissipating the wave energy. Wave energy is also dissipated due to bottom friction. The phenomenon of *wave refraction* is caused by differential wave speed along a wave crest, and will cause wave crests to converge or diverge and may locally increase or decrease wave heights. *Wave diffraction* is the lateral transmission of wave energy along the wave crest, and will cause the spreading of waves in a shadow zone, such as occurs behind a breakwater or other barrier.

The nearshore bathymetry offshore of the project site shows shallower water depths than offshore of the adjacent parcels. Waves approaching the shoreline typically break offshore, reform, and break again closer to shore. Wave heights nearshore are partially a function of the water depth, i.e., they are depth limited. The existence of the shallow nearshore water depth limits the nearshore breaking wave height. Maximum nearshore breaking wave conditions under prevailing (non-storm) conditions is estimated to be about 4 feet. Under storm conditions with elevated still water levels, maximum breaking wave height would be higher.

These shallower depths immediately offshore of the project site also produce wave refraction and wave energy convergence and higher energy at the project shoreline, increasing the likelihood of erosion and wave overtopping in certain locations.

Shoreline Description

The shoreline at the project site is fronted by a wide and shallow fringing reef, with water depths less than 10 feet extending over 1,500 feet from shore. The shallow nearshore water provides good natural protection from large storm waves; however, it also results in complex wave patterns as the incident waves propagate toward shore. The nearshore sea bottom is composed of calcareous limestone reef rock, with small and thin sand patches, coral rubble and cobbles, and reef rock outcrops. The existing shoreline is slightly concave and is composed primarily of calcareous sand, fossilized reef rock, and beach rock. The reef rock and beach rock are found along the full shoreline reach at the toe of the beach. The rock serves to dissipate wave energy approaching the beach and maintains the sand beach by stabilizing the beach toe.

The project shoreline is bordered on the west by a drainage canal between the project site and Barbers Point Beach Park. The canal terminates at a concrete box culvert that extends across the shoreline into the nearshore waters. Vertical concrete pipe sections have been added around the end of the culvert, apparently as protection from waves. The sediment transport pattern in the area appears to be mildly toward the east, as evidenced by sand buildup against the western side of the culvert and lack of sand on the east side. The shoreline east of the culvert (the western project shoreline) is primarily beach rock and reef rock and contains very little sand. The low backshore dune is populated with grass, pickleweed, and shrubs. Scarps in the dune are present and fill material is visible in the scarp. The dune vegetation changes to pickleweed and Beach Morning Glory, and then the dune and vegetation diminish about 400 feet from the western boundary. The beach gradually widens toward the central shoreline.

The 250-foot long central shoreline reach presently contains no vegetation. Satellite imagery from January 2000 shows a continuous line of vegetation along that reach; however, conditions similar to present were in existence as of the August 2004 satellite image. The cause of the vegetation loss at the top of the berm is unknown. The nearshore waters appear to be slightly deeper and the beach rock and reef rock along the central shoreline are lower, allowing more wave energy to pass relative to the adjacent shoreline reaches. The exposed berm allows waves to overtop and inundate the backshore during higher wave conditions.

This has resulted in the certified shoreline being set further inshore relative to the berm than along the adjacent reaches.

The 320-foot eastern shoreline reach curves slightly seaward, ending at a small point near the end of Hanua Street. There is more reef rock and beach rock than at the central shoreline reach and the nearshore water is shallower, as shown by waves refracting toward the point and breaking. A trench through the beach rock and reef rock contains buried pipelines that transport fuel onshore to the Tesoro refinery. The berm is vegetated with shrubs and grass. Scarps up to two feet high are found along the vegetation line and an ATV path through the vegetation has exposed sand that appears contain ash. Close to the Tesoro trench, the scarps show fill material. Coral boulders at the base of the scarps east of the trench appear to have been placed to combat erosion.

The shoreline east of the project site shows signs of erosion. A long, continuous scarp as high as six feet is located along the vegetation line. Coral boulders appear to have been placed to combat the erosion. The beach is composed of coral cobbles, gravel, and sand. Beach rock and reef rock are found at the toe of the beach. A groin composed of basalt boulders is found 500 feet east of the project site. The Oahu Coastal Atlas (AECOS, 1981) shows a pipeline extending seaward from the groin. The shoreline on the east side of the groin is sandy and appears stable.

Beach sand samples from three depths were obtained near the central part of the project shoreline. The median grain size of the surface sample sand was found to be 0.7 mm (medium to coarse grained), and the sample is considered poorly graded according to the Unified Soils Classification System. Less than 2% fine material (<0.074 mm) is present in the sand. Copies of the sieve analyses are included in Appendix F, Shoreline Characteristics Site Data.

Also along the central shoreline reach, a 200-foot long profile was measured from the backshore to the shoreline. The profile shows backshore elevations of +6 to +7.5 feet MLLW, berm crest elevation of 7.9 feet MLLW, and a beach foreshore slope of 1V:5.5H. Copies of the beach profiling field notes are included in Appendix F.

Shoreline Trends

A series of historical aerial photographs can be used to show shoreline trends. Sea Engineering (1988) produced a shoreline change atlas based on aerial photographs. The atlas included qualitative descriptions of beach change and quantitative measurements of vegetation line change over the observation period of 1958 to 1988. Three transects were located near the project site—on the west side of Barbers Point Beach Park, at the present site of the basalt groin, and 1,200 feet east of the basalt groin. An accretion of 22 feet was found at the center transect, attributable to the groin. No change was found at the adjacent transect locations.

The University of Hawaii Coastal Geology Group has undertaken historical analysis of Oahu's shoreline and is producing shoreline change maps based on aerial imagery from 1911 to 2005. Analyses for many portions of the east and south shores of Oahu have been completed.

While the project shoreline has not yet been analyzed, historical shoreline change for the shoreline east of the basalt groin was shown to be stable or slightly accreting over 3,400 foot shoreline reach.

Observations of the nearshore waters in the vicinity of the project site have shown that there is no significant sand source available to naturally feed the beach. Wave convergence patterns would suggest the potential for sand to build at the project site, with littoral drift along the shoreline from each direction being the dominant transport mechanism. Sediment transport, however, is interrupted by the box culvert on the west and the basalt groin on the east. Considering the lack of sand available in the nearshore waters, sand transport to the project shoreline is greatly limited and future accretion is unlikely. Additionally, the higher energy caused by the wave convergence introduces erosion potential at the shoreline. Photographs of the subject property, showing the typical shoreline characteristics, are included on Figure 10, Shoreline Area Photographs and Figure 11, Excavation and Nourishment Area Photographs.

Potential impacts and mitigation measures regarding the shoreline at the subject property are discussed in Section 5.2.6.

3.3 BIOLOGICAL ENVIRONMENT

3.3.1 Flora

The subject property has been in industrial and commercial use for at least 50 years. It consists of paved and unpaved areas largely devoid of vegetation. The shoreline along the southern portion of the property consists of a coralline sandy substrate. Vegetation along the shoreline includes shrubs of beach naupaka and low-lying mats of pickleweed and beach morning glory. Areas along the drainage canal include some kiawe and koa-haole.

A detailed botanical survey for the project was not undertaken and the existing vegetation at the subject property consists mainly of dune plants. The subject property is not located on the *Critical Habitat Area map for the General Locations of Units for 99 Species of Plants on Oahu* (USFWS, 2002). The subject property also does not lie in areas included within the *O'ahu Plant Cluster Recovery Plan* (USFWS, 1998). No rare, threatened or endangered plant species are known to occur on the subject property. Photographs of the subject property, showing the typical vegetation, are included on Figures 10 and 11.

In an effort to better identify the potential use of the site by aquatic and/or endangered species, a request was made to Bishop Museum staff to search their specimen collection database for species occurrences in the Barber's Point area. Two Federally listed endangered plant species were identified for the Barber's Point lighthouse area, which lies adjacent to the site (Ewa Hinahina and 'akoko.). No marine mammals or other fauna were identified as being observed or collected from the site area in Bishop Museum information (S. James, P.C., 2/23/2009).

Geographic Information System (GIS) data layers from the Environmentally Sensitivity Index Atlas (National Oceanic and Atmospheric Administration (NOAA), 2001) were recently downloaded for the site area. This map information indicates that there is a "habitat point" dwarf naupaka, a threatened plant specie. Additionally, GIS data layers available from the Hawaii Biodiversity and Mapping Program were viewed, but no additional information on aquatic habitats was found for the site. Figure 12, Coastal Resources, summarizes the biological and socio-economic resources for the site and surrounding area. Potential impacts and mitigation measures regarding flora at the subject property are discussed in Section 5.3.1.

3.3.2 Fauna

The subject property has been in industrial and commercial use for at least 50 years. It consists of paved and unpaved areas largely devoid of wildlife. No ponds, streams or wetlands are located within the project boundaries and no anchialine pond or wetland fauna is expected to be present at the subject property. Aquatic species in neighboring Drain A and immediately along the adjacent shoreline may include fresh water and marine fishes, fresh water and marine invertebrates, aquatic and terrestrial arthropods, marine mammals and marine reptiles. Wading birds may forage on the aquatic life present in sea water, sand, sediment and exposed coral shelves. Species or evidence of species noted during current and previous subject property visits include mammals (feral cat, mongoose), birds (common myna, java sparrow) and insects (dragon flies, butterflies).

Rare, threatened and endangered animal species potentially using areas at or near the subject property include the green sea turtle, hawksbill sea turtle, the Hawaiian monk seal, Hawaiian coot, Hawaiian duck, Hawaiian stilt and the Hawaiian moorhen. The four Hawaiian water birds listed as endangered species (Hawaiian coot, Hawaiian duck, Hawaiian stilt and the Hawaiian moorhen) do not yet have designated Critical Habitats. These water birds commonly utilize coastal wetland as their primary habitat. In lieu of designated Critical Habitats for these endangered species, the USFWS developed a list of Core wetlands and Supporting wetlands for these four water bird species and none of these wetlands are located at or near the subject property (USFWS, 2005).

Jeff Walters of the Division of Aquatic Resources (DAR) of the Department of Land and Natural Resources (DLNR) who oversees Hawaii's Statewide Aquatic Wildlife Conservation Strategy commented that it is difficult to predict what types of habitat and locations sea turtles (green and hawksbill) and monk seals will use. Mr. Walters stated that sea turtles have been observed in many types of near shore habitats, so all coastal waters should be considered potential habitats for sea turtles. He also stated that monk seals have been observed using many different types of near shore habitats, including rocky beaches as well as sandy beaches and would consider all near shore areas as potential habitats for monk seals (J. Walters, P.C., 2/18/2009).

In an effort to better identify the potential use of the site by aquatic and/or endangered species, a request was made to Bishop Museum staff to search their specimen collection database for species occurrences in the Barber's Point area. No marine mammals or other

fauna were identified as being observed or collected from the site area in Bishop Museum information (S. James, P.C., 2/23/2009).

GIS data layers from the Environmental Sensitivity Index Atlas (NOAA, 2001) were recently downloaded for the site area. This map information indicates that there is a “habitat point” for green sea turtles, humpback whales, monk seals, and sea urchins. Additionally, GIS data layers available from the Hawaii Biodiversity and Mapping Program were viewed, but no additional information on aquatic habitats was found for the site (Figure 12). Potential impacts and mitigation measures regarding fauna at the subject property are discussed in Section 5.3.2.

3.3.3 Aquatic Habitat

The Pacific Ocean near the subject property has been designated by DOH as Class A waters (DOH, 1993). According to Hawaii Administrative Rules §11-54-03, the objective of Class A waters is "...that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with criteria established for this class." Installation of a containment cap and barrier has been proposed to provide an overall benefit to marine waters by decreasing the potential for ash-impacted soil to erode into nearby marine waters.

Shoreline and shallow coral reef communities exist immediately south of the subject property (Figures 10, 11 & 12). Aquatic species expected in the canal and immediately along the coastline include fish (for example, wrasse, mullet, tilapia, mosquito fish and moray eels) and invertebrates (for example, crab, shrimp, polychaetes, and snails). Wading and pelagic birds (for example, Black-crowned night-heron, sanderling, Pacific golden plover, and Brown boobies) commonly forage on the aquatic life present in water, sand, sediment, and exposed coral shelves. The shoreline area south of the subject property has not been designated by DLNR as a Marine Protected Area or as a Marine Life Conservation District by the National Oceanic and Atmospheric Administration (NOAA). The adjacent marine area is not designated as a fishery management area, a fisheries replenishment area a wildlife sanctuary or a natural reserve area as designated by DLNR (NOAA, 2000).

An ecological screening assessment concluded that a potential risk could exist to the marine environment if ash deposits located near the beach were to erode and migrate to the near-shore beach sediment. Additionally, concentrations of cadmium, lead, mercury, and PCBs identified in soil samples collected from near shore eroding beach faces exceed both National Oceanic and Atmospheric Administration (NOAA) effects-range-low and effects-range-median screening levels. Potential impacts and mitigation measures regarding aquatic habitats at and near the subject property are discussed in Section 5.3.3.

3.4 SOCIO-ECONOMIC ENVIRONMENT

3.4.1 Population

The resident population of Oahu is estimated to be 909,863 persons in 2006 (U.S. Census Bureau, 2007) and of Kapolei is estimated to be 84,150 persons in 2005 (CCH, 2007). Potential impacts and mitigation measures regarding affects to population for the surrounding area are discussed in Section 5.4.1.

3.4.2 Existing Land Use

Approximately 41% of the land on Oahu is zoned as conservation land, partly because of the steep slopes and the need to preserve watersheds (OP, 2005). National parks and recreational preserves are included in this percentage. In 2005, agricultural uses utilized approximately 33% of Oahu's land. Urban uses, including residential, commercial, and industrial uses, comprised approximately 26%, including military use (residential and non-residential), which comprised approximately 17% of the total land use on Oahu (OP, 2005). The current State Land Use District classifications place the proposed subject property within an Urban District as shown on Figure 13, State Land Use Map.

The subject property is located in an industrial park and the area immediately surrounding the subject property is zoned as an intensive industrial district (I-2) (CCH, 2007). According to the LUO, the intent of an intensive industrial district is to "set aside areas for the full range of industrial uses necessary to support the city. It is intended for areas with necessary supporting public infrastructure, near major transportation systems and with other location characteristics necessary to support industrial centers. It shall be located in areas away from residential communities where certain heavy industrial uses would not be allowed." The City of Kapolei's *Long Range Master Plan Map* (Estate of James Campbell,

2000) indicates that current and future plans for the subject area are to be used for heavy industry/marine industry activities. There are several properties located west of the subject property, that support a mix of land uses, such as commercial, military, and recreational. Barber's Point Beach Park is located west of the subject property.

Existing land uses surrounding the site are primarily industrial. However, Barber's Point Beach Park is located west of the site directly across from Drain A and the Pacific Ocean directly abuts the subject property to the south. Industrial neighbors include the HMR facility, (CKA the Schnitzer Steel Hawaii Corporation), located immediately adjacent to the subject property to the north across Drain B, which recycles metal. Island Ready Mix's concrete production facility is located northeast of the site, while the directly easterly abutting property is vacant. It had just recently been used for large equipment and construction material storage. Directly north of the Island Ready Mix's facility is an Ameron Hawaii pre-cast concrete products facility. The subject property and surrounding areas are shown on Figure 3. Potential impacts of the proposed project on land use and proposed mitigation measures are discussed in Section 5.4.2.

3.4.3 Recreation

The area's principal recreational resource is the shoreline of the Pacific Ocean, which provides a range of recreational uses (fishing, swimming, diving) and other seaside activities. Because Barber's Point Beach Park is located west of the subject property, there is public use of the shoreline adjacent to the proposed project. Barber's Point Beach Park facilities include one restroom building with changing rooms, approximately ten (10) wooden picnic tables and a paved parking area. According to Darren Kimura, the Ewa Complex Supervisor of the Leeward District of the City and County of Honolulu's Department of Parks and Recreation stated that there are no park use statistics collected for Barber's Point Beach Park, and park use can only be gauged by the number of Park Use Permits issued for each park. Mr. Kimura stated that there have been very few Park Use Permits issued for Barber's Point Beach Park and that it is mostly used by fishermen and divers (D. Kimura, P.C., 2/18/2009). He is aware of park users utilizing the adjacent shoreline (subject property) to fish. MFA has commonly observed fishermen carrying fishing gear and ice chests from the park to the subject property and has also observed fishing at the site. Pictures of the general public using the site for recreational fishing on multiple dates have been included as Figure 14, Recreational Users.

GIS data layers from the Environmental Sensitivity Index Atlas (NOAA, 2001) were recently downloaded for the site area. This map information indicates that there is a “Recreation Area” for recreational, commercial and subsistence fishing, for subsistence collection, as a recreational beach area used for swimming, fishing and diving located at the park.

A human health risk characterization identified the contaminant of concern present at the site to be lead in soil. Ash-impacted soil contains lead within the EPA ELCR target range in various locations on-site for: current and future occupational workers; future construction workers; current and future juvenile recreational user; and current and future adult recreational user. If the ash-impacted soil is not contained and capped to eliminate human exposure to the concentrations of lead identified in the ash-impacted soil, there is a cancer risk to both current and future juvenile and adult recreational users of the beach. Potential impacts of the proposed project on recreational use of the shoreline and proposed mitigation measures are discussed in Section 5.4.3.

3.4.4 Scenic and Visual Resources

Visual resources are assessed to determine whether the proposed project would be compatible with the existing landscape and surrounding view sheds. The proposed project would change the view of the site from an unpaved vacant site with aboveground concrete structures to a paved vacant site with no aboveground concrete structures. The view from the adjacent park would change from a damaged concrete wall to a paved lot, once all the concrete features are removed from the site. The containment barrier will be subsurface when completed, so views of the Pacific Ocean from the site and surrounding properties would remain the same. The proposed project will not block scenic views of ocean or mountain resources. Surrounding properties are used for industrial purposes and views of these properties from the subject property are industrial in appearance. Current site visual resources are presented in the photographs contained in Figures 15, Scenic and Visual Resources: The Site and Figure 16, Scenic and Visual Resources: Adjacent Parcels. Potential impacts of the proposed project on scenic and visual resources and proposed mitigation measures are discussed in Section 5.4.4.

3.4.5 Archaeological and Historical Resources

A review of available archeological and historic files for the subject property area was conducted at the Hawaii State Historical Preservation Division (SHPD) office on May 9, 2007.

There has been extensive archeological work conducted in areas located north, Kapolei Business Park, and west, Barber's Point Harbor, of the subject property. None of the survey work above included areas directly near or at the subject property.

In 1978, the CCH, Department of Parks and Recreation conducted a reconnaissance survey of land planned for the expansion of Barbers Point Beach Park. This park lies directly west of the subject property across from Drain A and the survey was conducted at areas that are very close to the subject property. The report states, "The parcel is irregularly shaped, about 2 acres in size and located adjacent (southeast) to the developed park property. The purpose of the survey, conducted on December 22, 1978, was to determine whether significant archeological remains are present on the property. The survey area is situated on a fairly flat coastal plain consisting of coral and cemented calcareous sands within which are numerous sinkholes. Vegetation consists primarily of kiawe, morning glory and koa haole. The archeological staff walked over the area several times and found no surface cultural remains present. The bottoms of the sinkholes were inspected and were found to be void of cultural materials as well. It was noted that the area had been previously bulldozed. It is the conclusion of the archeological staff that no further archeological work is necessary or justified in this area." (Clark, 1979). A copy of this report is included in Appendix G, 1979 Clark Archeological Reconnaissance Survey.

Additionally, according to the National and State Register of Historic Places, there are no known registered historic sites located at or adjacent to the subject property (SHPD, 2007). According to available SHPD files, there are no known archeological and/or historic sites located at or adjacent to the subject property. Potential impacts of the proposed project on archeological or historic resources and proposed mitigation measures are discussed in Section 5.4.5.

3.4.6 Infrastructure

The main roadway in the area is Hanua Street, a paved two-lane road. Vehicular access to the subject property is currently provided by a series of paved two-lane County and privately-owned roads. Potable water is supplied by the CCH municipal water system. CCH does not have a sanitary sewer system within James Campbell Industrial Park and all properties are assumed to be serviced by private on-site septic systems. Telephone, electric power and cable television service are provided to the project area via underground and overhead utility lines. Natural gas service is not located on Hanua Street, but is available in

others areas of CIP (P. Ramos, Personal Communication, May 10, 2007). Existing utilities will be located, marked and avoided during grading and capping activities.

As note previously, an easement for underground pipelines lies on the eastern edge of the Site. The easement is listed in State of Hawaii Land Court documents as #664 for Hawaiian Independent Refinery, Inc. (c.k.a. Tesoro Corporation) underground pipelines located at Lot 1111, 9.572 acres, Map 122 of Land Court Application 1069 of the Trustees of the Estate of James Campbell and expires April 30, 2019.

There are 4 pipelines in this easement: one 20" Black Oil Pipeline; one 12" Diesel Pipeline; one 10" Jet Pipeline and a 10" Gasoline pipeline. They are located within 15 feet of the eastern property boundry and are at least 4 feet deep from the ground surface. During grading and any follow-on compaction work, there should be no problem with using a compactor roller over the pipeline. If the pipeline area is excavated to the pipeline line, Tesoro has a specific material, C33 sand, to be placed within 1 foot of pipeline. Otherwise normal fill outside the specified 1 foot surrounding pipeline is acceptable backfill material around the pipes. If needed, Tesoro has a compaction specification for fill over the pipelines.

Tesoro's easement states that it needs normal maintenance access to the pipelines. Should building or structure be proposed for construction, the land-owner will notify Tesoro for approvals. Tesoro requested to be on-Site during any excavation work that may take place over the pipelines, but none is planned. The potential impact and mitigating factors related to infrastructure are presented in Section 5.4.6.

3.4.7 Economic Considerations

The goal of this project is to construct a containment cap and barrier that protects human health and the environment. Some of the generalized economic considerations of this proposed project are listed below.

Economic considerations if the project is not completed:

- Loss of lease income to the property owner;
- Loss of jobs and associated income tax generated by having businesses on-subject property;
- Loss of income to local contractors for materials and labor to install the barrier cap;

- Loss of permit SVA and SMP fees to CCH; and
- Loss of income to utility companies for would-be tenants.

Economic considerations if the project is completed:

- Losses from above become gains;
- Continued use of 9.5 acres of industrial/commercial space; and
- Protecting coastal resources from lead contamination, thereby helping maintain a healthy marine habitat for recreational activities that generate local economic benefits.

The potential impact and mitigating factors related to the local and state economy are presented in Section 5.4.7.

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

4.1 OVERVIEW

This section discusses the various land use plans and policies pertaining to the proposed installation of a containment cap and barrier for the purposes of protecting human health and the environment. Other plans and regulations related to the proposed project are also discussed.

4.2 POLICY PLANS

4.2.1 Overview of Policy Plans

The State of Hawaii and the CCH have adopted general plans to guide the physical, social and economic development of the islands in general and Oahu and shoreline areas in particular. These general plans outline the objectives and policies that encourage the controlled development of resources (energy, economics, water, etc.). These policies also include a general framework for protecting human health and the environment.

4.2.2 Hawaii State Plan

On May 22, 1978, the Hawaii State Plan (Plan) was signed into law. The Plan serves "as a guide for the future long-range development of the State; identifies goals, objectives, policies, and priorities for the State. The Plan provides a basis for determining priorities and allocating limited resources, such as public funds, services, and human resources. It improves coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities. The Plan also establishes a system for plan formulation and program coordination to provide for an integration of all major state and county activities." (OP, 1996). Since this statute was signed into law, different state agencies have been directed to develop their own Functional Plans that detail specific ways in which the individual departments meet the objectives of the Plan. This may include the adoption of rules, or similar legal tools, that require specific actions, some of which are discussed in greater detail in this section of the report.

The Plan objectives and policies that pertain most directly to the proposed containment cap and barrier are contained in HRS, Chapter 226 Hawaii State Planning Act, Sections 226-11 and 226-13 of the Plan:

Section 226-11: Objective 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 Hawaii's land-based, shoreline, and marine resources.*
- (2) *Effective protection of Hawaii'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 Hawaii's natural resources.*
- (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.*
- (7) *Provide public incentives that encourage private actions to protect significant natural resources from degradation and unnecessary depletion.*

Section 226-13: Objective 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 Hawaii's land, air, and water resources.*
- (2) *Greater public awareness and appreciation of Hawaii's environmental resources.*

(b) *To achieve 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 Hawaii's limited environmental resources.*

- (2) *Promote proper management of Hawaii's land and water resources.*
- (3) *Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters.*
- (6) *Encourage design and construction practices that enhance the physical qualities of Hawaii'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 Hawaii's people, their cultures, and visitors.*

The proposed project responds to these objectives and policies by protecting human health and the environment, helping support state-wide social, economic, and physical environment objectives. Specifically, the proposed project reduces the potential for negative impacts to coastal water quality and marine resources from previous practices (i.e., auto wrecking and incineration) conducted at the subject property. The completed project will help provide for continued beneficial and multiple uses of the shoreline for the general public. The project has been designed in a manner that promotes prudent use of resources and will accommodate public concerns.

4.2.3 State Environmental Policy

Adopted in 1974 and patterned after the National Environmental Policy Act (NEPA) requirements, Hawaii's Environmental Impact Statement law (HRS 343) requires the preparation of EAs and EISs for many development projects. Although the proposed project is not a development, it does involve construction of a barrier structure within the shoreline setback and shoreline management area. The law requires that government give systematic consideration to the environmental, social and economic consequences of proposed development projects before granting permits and allowing construction to begin. The National Environmental Policy Act also assures the public right to participate in planning projects that may affect the community (OEQC, 1997).

An EA is required under HRS 343 for any program or project that proposes one or more of the following eight land uses or administrative acts:

1. *Use of state or county lands or funds other than for feasibility studies or the purchase of raw land,*
2. *Use of any land classified as Conservation District set by state law,*
3. *Use within the Shoreline Setback Area (usually 40 feet inland from the certified shoreline),*
4. *Use within any Historic Subject property or District as designated in the National or Hawaii Register of Historic Subject properties,*
5. *Use within the Waikiki Special District as designated by the county,*
6. *Any amendment to county general plans that would designate land as other than agriculture, conservation or preservation except comprehensive plan amendments initiated by the county,*
7. *Reclassification of State Conservation District lands, and*
8. *Construction or modification of helicopter facilities which may affect conservation land, the shoreline area, or historic properties.*

This EA was prepared to comply with the State's environmental policy and to give appropriate regard to environmental, economic, technical and community concerns. This EA has been prepared to address potential environmental concerns with the installation of the containment cap and barrier within the SSA.

4.2.4 Hawaii Administrative Rules

HAR Title 11, DOH and Title 13, DLNR, define the State required procedures for permitting and constructing the proposed containment cap and barrier project.

The HAR, Title 11, were developed and have been enforced by the DOH. As part of the DOH, the HEER is responsible for implementing the Hawai'i Environmental Response Law (HRS 128D) and the State Contingency Plan (HAR 11-451), as well as the Hawai'i Emergency Planning and Community Right-to-Know Act (HRS 128E). The State Contingency Plan was promulgated to implement the requirements of HRS 128D. HEER has prepared a draft *Technical Guidance Manual* for implementation of the State Contingency Plan that contains HEER's policies on investigating and cleaning up contamination from land use activities.

The subject property has been the focus of subsurface environmental investigations since 2003. Activities conducted at the subject property have followed numerous polices and requirements set forth in HAR Chapter 11-451.

A history of regulatory-related actions taken at the subject property, since contamination was reported for the subject property in 2003, can be found in reports submitted to DOH that are publicly available at their offices. The DOH states in an August 14, 2006 letter, “The Hawaii Department of Health Hazard Evaluation and Emergency Response Office has reviewed the Remedial Alternative Analysis (dated June 26, 2006) and considers that the document has adequately fulfilled the requirements for a remedial alternative analysis pursuant to HAR 11-451-15(g). The Department agrees with your preferred remedial alternative for the subject property.” Further discussion of the analysis of remedial alternatives for the subject property is presented in Section 6.0 of this report. A copy of the DOH letter referenced above is included as Appendix A, Department of Health Letter Regarding Remedial Alternative Selection. The proposed project will ensure that the subject property owner meets State Contingency Plan requirements for addressing contamination at the subject property.

The HAR, Title 13, were developed and have been enforced by the DNLR. The Coastal Lands program is part of the Office of Conservation and Coastal Lands (OCCL) within the DNLR. “The Coastal Lands Program is responsible for maintaining the delicate balance between preservation and responsible development of marine and coastal areas. The Coastal Lands Program is involved with initiating and developing innovative shoreline management techniques that will help with the long term goal of beach and coastal protection” (DLNR, 2007). The 2000 Hawaii Coastal Erosion Management Plan (COEMAP) and the currently Draft DLNR Shoreline Policy both discuss the overall general policy of the State. “It is the policy of the State of Hawaii under HRS Chapter 205A to discourage all shoreline hardening that may affect access to or the configuration of, our island beaches.” (COEMAP, 2000). The intent of the policies and COEMAP are to reduce human impacts that cause chronic erosion of coastal lands which eventually lead to a retreat of the shoreline and loss of coastal lands.

The primary goal of the proposed project is to prevent ash-impacted soil from negatively impacting human health and or the environment. The proposed project includes excavating ash-impacted soil, then capping all the ash-impacted soil with clean earthen

materials/pavement and then containing it on the subject property in the shoreline direction with a barrier that, when installed and finished, will be at grade. The proposed containment barrier is not considered a seawall, revetment, groin or other type of shoreline hardening structure because it is not designed to protect an eroding shoreline and will be substantially subsurface when complete. This project is designed and intended to prevent terrestrial contaminated land from eroding to marine waters and negatively impacting coastal resources. Containing and capping ash-impacted soil on the subject property is in the public interest because it reduces the potential for negative impacts to the marine environment and helps to maintain a non-contaminated shoreline for use by the general public.

4.2.5 General Plan of the City and County of Honolulu

In 1992 (updated 2006), the *General Plan of the CCH* (CCH Plan) was adopted as a “...comprehensive statement of objectives and policies, which set forth the long-range aspirations of Oahu’s residents and the strategies of actions to achieve them.” (DPP, 1992). In general, the CCH Plan speaks to eleven areas of concern, two of which are the Natural Environment and Culture and Recreation. The CCH Plan states, “...policies seek to protect and enhance our natural attributes by increasing public awareness and appreciation of them and by mitigating against the degradation of these assets.” The proposed project addresses the following specific objectives and policies relating to the Natural Environment and Culture and Recreation as listed in the updated CCH Plan.

Part III. Natural Environment, Objective A: To protect and preserve the natural environment.

Policy 2: Seek the restoration of environmentally damaged areas and natural resources.

Part X. Culture and Recreation, Objective D: To provide a wide range of recreational facilities and services that are readily available to all residents of Oahu.

Policy 12: Provide for safe and secure use of public parks, beaches and recreation facilities and

Policy 13: Encourage the safe use of Oahu’s ocean environments.

The proposed project meets the intent of these objectives and policies of the CCH Plan. The project has been proposed in order to protect human health and the environment. The project will protect nearby coastal resources and provide for safe recreational use of the shoreline by the general public.

4.2.6 Ewa Development Plan

The Ewa Development Plan (DP) adopted in 1997 (Ordinance 97-49) and revised in May 2000 (Ordinance 00-16) brings the development plan for Ewa into compliance with Section 5-408 of the Revised Charter of the City and County of Honolulu 1973, as amended in 1998, which set forth the requirement that, "...Development Plan shall consist of conceptual schemes for implementing and accomplishing the development objectives and policies of the General Plan within the City.". The Ewa DP is one in a series of DPs which provide conceptual, long-range visions and policies to guide land use and infrastructure decisions. The Ewa DP goals are to protect prime agricultural lands; support development of the Secondary Urban Center at Kapolei; establish a regional open space network; protect natural, historic, and cultural resources; promote master planned communities; and require provisions of adequate infrastructure to meet current and anticipated needs.

Creating an open space network and conserving natural resources are two Key Elements of the Ewa DP. One goal of the open space network is to enable residents of these communities easy access to the ocean through two major marinas, numerous beaches and a shoreline walkway from Ko Olina to Ewa Beach. Residents will be able to easily access beaches and swimming and surfing spots all along the entire Ewa coastline by road or a network of pedestrian paths and bikeways. Linear shoreline access will be provided along the coast from Ko Olina to Ewa Beach. The Ewa Development Plan provides a vision for preservation, conservation, and enhancement of community resources. Natural resources are intended to be conserved through retaining natural drainage ways, protecting valuable plant and wildlife habitats, and by conserving potable water through development of a non-potable water system for irrigation and industrial use and re-use of sewage effluent.

Chapter 2.2.3, Open Space and Greenways, This section of the DP includes a table listing areas that are components of the Ewa Open Space and Greenways Network, which includes the adjacent Barber's Point Beach Park. The Open Space Map identifies the shoreline of the site as a shoreline access area.

Chapter 2.2.8, Conservation of Natural Resources, Protecting valuable habitats for endangered water birds located in Batis Salt Marsh at Ewa Marina and in the West Loch of Pearl Harbor and for endangered plants located within Barbers Point Naval Air Station and elsewhere.

Chapter 3.7.3 Industrial Centers, Barbers Point Industrial Area includes Campbell Industrial Park, Barbers Point Deep Draft Harbor, Kenai Industrial Park, and Kapolei Business Park. It should continue to grow as one of Oahu and the State's most important industrial areas. It is the site of the State's largest heavy industrial area (Campbell Industrial Park) and an important industrial harbor and fuel transfer point.

The proposed project responds to these visions and policies of the Ewa DP by protecting the shoreline for safe (no exposure to lead in ash-impacted soil) recreational use of the shoreline by the general public; protecting valuable habitats for endangered plants; and by making contaminated land safely usable for future industrial use and potential site development. The Open Space Map in the Ewa DP Area is shown as Figure 17.

4.3 PROJECT PERMIT REQUIREMENTS

The following permits were reviewed as to applicability to the proposed project. Certain permits are discussed in detail in the following sections.

4.3.1 Federal Permits

Permit for Activities in Waterways

Not applicable. The proposed project will not cross or enter waterways.

Section 404, Clean Water Act for discharges into the waters of the U.S.

Because of the need to excavate ash-impacted soil from the beach, the proposed project has the potential to discharge ash-impacted soil to the waters of the U.S.. Permitting under the Nationwide Permit #38, Cleanup of Hazardous and Toxic Waste will be sought for this proposed project. All nationwide and regional conditions will be included as part of the overall BMPs for the proposed project. This permit will be needed for the proposed project.

Flood Determination in General Flood Plain District / Development Applications in Flood Hazard District / Flood Hazard Variance

According to the FEMA FIRM (15003C03115F, 2004) the subject property is located in flood hazard Zones A and AE. The entire property is designated as Zone A and approximately 60% of the property appears to be in Zone AE. The proposed project is not considered a development project and will not require a Federal Flood Hazard variance or a CCH Flood Hazard District permit (refer to Section 4.3.3).

4.3.2 State of Hawaii Permits

Conservation District Use Permit

Due to the proposed project's activities being located within a regulated area of the Office of Conservation and Coastal Lands (OCCL), a Departmental Permit from the Board of Land and Natural Resources (BLNR) typically processed as a Conservation District Use Application. However, the site is not located in a formally defined Conservation District.

Special Permit - State Land Use, Agricultural, and Rural Districts

Not applicable. The proposed project is not in an Agricultural or Rural District.

Historic Subject Property Review

Based on the information presented in Section 3.4.5 regarding the review of cultural and historic sites, there are no expected required historical permits for the proposed project.

In Stream Use of Water: Stream Channel Alteration

Not applicable. The proposed project does not involve altering any stream channel or using stream water.

Variation from Pollution Controls (Noise and Air Pollution)

Not Applicable.

Section 401, Water Quality Certification

Because of the need to excavate ash-impacted soil from the beach, the proposed project involves conducting work within the high tide line (State waters). A 401 Water Quality Certification permit will be needed for this project.

CZM Consistency Determination

The Hawaii Coastal Zone Management Program (HCZMP) was established to guide the development, protection, and use of the land and ocean resources within Hawaii's coastal zone. The objectives of the HCZMP are stated in Chapter 205A of the Hawaii Revised Statutes (HRS, 1998b). Any significant development activity within the coastal zone is

required by law to conform to the HCZMP objectives and policies. The objectives are listed below:

1. *Recreational resources; (A) Provide coastal recreational opportunities accessible to the public.*
2. *Historic resources; (A) Protect, preserve, and where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.*
3. *Scenic and open space resources; (A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.*
4. *Coastal ecosystems; (A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*
5. *Economic Uses; (A) Provide public or private facilities and improvements important to the State's economy in suitable locations.*
6. *Coastal hazards; (A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.*
7. *Managing development; (A) Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*
8. *Public participation; (A) Stimulate public awareness, education, and participation in coastal management.*
9. *Beach protection; (A) Protect beaches for public use and recreation.*
10. *Marine resources; (A) Implement the State's ocean resources management plan.*

A Coastal Zone Management (CZM) Federal Consistency determination will not be needed for the proposed project because it will be solely privately funded with no use of Federal, State or local public funds.

The HCZMP is expanded on the county level by the establishment of SMA that controls development along the shoreline. The proposed project is not a development project,

but an environmental enhancement project that will not encourage any further development than already exists. A SMP is required from the CCH Department of Planning and Permitting because of the proposed construction of a containment cap and barrier within the SMA.

Perform Work Affecting State Highway

The proposed project does not affect State highways.

Cross or Enter State Energy Corridor

The proposed project does not cross or enter any State Energy Corridors.

EA/EIS

In accordance with the provisions set forth in Chapter 343, Hawaii Revised Statutes, and the significance criteria of Chapter 200, Title 11, Hawaii Administrative Rules, this environmental assessment indicates that the proposed project will have no significant short-term or long-term negative impacts upon the environment and will not require an EIS.

The installation of the proposed barrier cap project requires construction work within the SSA and thereby requires an EA.

NPDES/Storm Water Discharge Permit

In 1972, the Federal Water Pollution Control Act (often referred to as the Clean Water Act) was amended to provide that the discharge of pollutants to waters of the United States from any point source is effectively prohibited, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Amendments to the CWA in 1987 added Section 402(p) to the Act and establishes a framework for regulating municipal and industrial discharges under the NPDES program.

Under the HRS, the DOH issues water pollution control permits which serve as NPDES permits. The NPDES General Permit Coverage is regulated primarily under Sections 11-55-34 to 34.12 and Appendices of HAR Chapter 11-55, Water Pollution Control. As part of the containment cap and barrier design, storm water from the subject property will be directed towards Drain A and Drain B. A NPDES permit, DOH CWB NOI Form C, for storm water discharge during construction will be obtained prior to the start of proposed site work.

Small-Scale Beach Nourishment Permit

A Category II small-scale beach nourishment permit for back-filling the excavated beach area will be needed for the proposed project.

4.3.3 City and County of Honolulu

Development Plan Public Facilities Map Amendment

Not Applicable. The proposed project is not a public facility.

Property Ownership

Work for the proposed project will be conducted on one individual piece of private property.

Conditional Use Permit, or any other relevant city Permit

Not Applicable. The proposed project is not a development requiring a Conditional Use Permit.

Special Management Area Use Permit (SMA), Major Project

The proposed project is considered a major project only because its construction costs exceed a total value of \$125,000. The proposed project is not a development, but an environmental remedial activity that provides an overall benefit to the general public and environment. This permit will be needed for the proposed project.

Street Usage Permit

Not Applicable.

Shoreline Setback Variance

A topographic and shoreline survey was conducted at the subject property in June 2007 and the shoreline survey was submitted to the DLNR for state certification (File No. OA-1175)

As part of the state shoreline certification process, staff from the Department of Land and Natural Resources (DLNR) visited the subject property in August 2007. Based on debris line observations made in the field by DLNR staff, the central portion of the subject property's shoreline location was revised from a previous 1997 certified shoreline survey. The revised shoreline was moved mauka of the original 1997 surveyed shoreline by a maximum of 63 feet and increased the amount of beach on the subject property by 0.17 acres (certified January 3, 2008).

Shoreline setback variances may be granted for activities that are clearly in the public interest. A shoreline setback variance is expected to be granted for this proposed project because of its overriding goal to protect public health and the environment. Pursuant to ROH, Section 23-1.8 (b)(2), this proposed project meets the criteria for granting a variance based on the Public Interest Standard. There is a benefit to the general public by completing this proposed project because it protects the shoreline for safe public recreational use and it protects the marine environment from contamination located at the subject property. This permit will be needed for the proposed project.

Special District Permit

Not applicable. The project is not located within a special district.

Subdivision Permit

Not applicable.

Permit to Discharge Effluent (Temporary)

Not applicable. Drain A is privately-owned, so no permit to discharge to a CCH-owned drainage system is applicable.

Grubbing, Grading, and Stockpiling Permit

This permit will be needed for the proposed project.

Permit to Excavate in Public Right-of-Way

Not applicable.

Permit to Develop in a Flood Hazard District

A Flood Hazard District permit is not required for the proposed project work in the subject property's floodway because the proposed remedial work is not for site development purposes and because buildings are not being proposed as part of this work (L. Furukawa, Personal Communication. 10/3/2007). .

5.0 SUMMARY OF PROBABLE IMPACTS OF THE PROPOSED ACTION AND PROPOSED MITIGATION MEASURES

5.1 OVERVIEW

This section discusses the probable impacts of the proposed project and proposed mitigation measures. Mitigation includes efforts to avoid, minimize, rectify, or reduce impacts from the proposed activities on the surrounding environment. Impacts can be either short- or long-term. Short-term impacts are usually construction related, while long-term impacts are usually related to the monitoring and maintenance of the proposed project.

5.2 PHYSICAL ENVIRONMENT

5.2.1 Air Quality and Noise Levels

Impacts on air quality and noise from excavating ash-impacted soil and the installation of the cap and barrier are anticipated to be minor. Some short-term deterioration of subject property air quality is anticipated during construction. This potential impact might primarily affect the construction workers and nearby recreational users of the shoreline and Barber's Pont Beach Park. These short-term effects will be intermittent and will not be sustained beyond construction.

Normal tradewind patterns along the subject property's shoreline area should disperse short-term pollutant emissions generated by construction activities. Construction management measures (i.e., dust control and BMPs) are expected to minimize these potential adverse effects. Construction activities must comply with provisions of HAR Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, Fugitive Dust, which states that:

The contractor should provide adequate measures to control dust from the road areas and during the various phases of construction. These measures include, but are not limited to:

- a. Planning the different phases of construction, focusing on minimizing the amount of dust generating materials and activities, centralizing subject property vehicular traffic routes, and locating potentially dusty equipment in areas of least impact;
- b. Providing an adequate water source for dust control prior to start up of construction activities;
- c. Landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;

- d. Controlling dust from access roads;
- e. Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
- f. Controlling of dust from debris being hauled away from subject property.

High noise levels currently exist in the project area due to intensive industrial land use directly north of the subject property. The existing ambient noise levels within the project area are dominated by heavy equipment operating at the abutting facility and from vehicular traffic and equipment operating at nearby industrial properties.

Heavy vehicles traveling to and from the subject property must comply with the provisions of the DOH's Administrative Rules, Chapter 11-46, "Community Noise Control" which states that:

- a. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the rules as stated in Section 11-46-6(a);
- b. Construction equipment and on-subject property vehicles requiring an exhaust of gas or air must be equipped with mufflers as stated in Section 11-46-6(b) (1)(A); and
- c. The contractor must comply with the requirements pertaining to construction activities as specified in the rules and the conditions issued with the permit as stated in Section 11-46-7(d) (4).

Positive long-term effects on air quality consist of eliminating the potential for lead-contaminated dust to drift to nearby recreational, terrestrial and/or aquatic environments. Negative long-term effects on air quality and noise are not anticipated.

5.2.2 Soils

The purpose of the proposed project is to cap and contain ash-impacted soil located on the subject property. The proposed project will involve excavating ash-impacted material from a portion of the beach, capping the subject property with pavement and installing an approximate 1,000-foot long subsurface containment barrier along the southern edge of the

subject property, mauka of the certified shoreline. The subject property will be minimally graded to direct storm water runoff into Drain A and Drain B.

There will be significant long-term positive impacts to the soils in the project area because ash-impacted soils will be removed from the beach and capped and contained mauka of the beach. These positive long-term effects consist of eliminating the potential for lead contaminated dust to drift to nearby terrestrial and/or aquatic environments and to reduce the potential for ash-impacted soil to erode to the shoreline and marine waters.

If the ash-impacted soil is not contained and capped to eliminate human exposure to the high concentrations of lead identified in the ash-impacted soil, there is a cancer risk to both current and future construction workers and juvenile and adult recreational users of the beach. If the ash-impacted soils on site are allowed to erode into the near shore beach sediment, a potentially complete exposure pathway could exist and an unacceptable risk posed where marine resources are present. These marine resources potentially include endangered sea turtles, endangered monk seals, endangered water birds and coral reefs.

The remedial alternative selected for the site must be a permanent solution. Lead is not expected to migrate from the site after installing a containment barrier and capping it with asphalt. Lead toxicity is not expected to diminish over time and the lead is expected to remain bound to site soils. A long-term monitoring plan will be required by HEER as part of the remedial work plan for the site. Environmental covenants will be placed on the parcel in perpetuity as part of the remedial solution. Covenants placed on the deed will ensure that the property owner is knowingly responsible for monitoring and maintaining the containment cap and barrier installed at the site.

There are no known negative long-term effects on subject property soils from conducting the proposed project. Paving may create a long-term effect on hydrology or drainage and those potential impacts are discussed further in Section 5.2.4 of this report.

5.2.3 Topography and Slopes

The subject property is relatively flat and minimal grading of the subject property will minimize ponding of water on the paved cap and help drain stormwater towards Drains A & B. During the limited excavation of ash-impacted soil and the construction of the containment barrier, the slopes of the shoreline will be affected. Some vegetation located along the

proposed containment barrier will need to be removed prior to excavation for construction of the barrier. Dual silt fences will be placed along the seaward side of the proposed barrier location to help prevent runoff from the construction area to marine waters. The shoreline area has been formally surveyed as part of work conducted to obtain a State-certified shoreline boundary for the subject property. This topographic survey information will be used to slope any disturbed shoreline to pre-construction conditions. Vegetation will be restored in areas where it had been removed.

Minimal grading will be conducted and shoreline areas will be re-stabilized with native plantings, therefore, there will be limited short-term and no anticipated long-term impacts to topography and slopes of the subject property.

5.2.4 Hydrology and Drainage

The subject property is located in a Flood Hazard District. Under flooded conditions, paving the subject property decreases the available surface area for flood waters to directly infiltrate into surface soils, increasing the amount of time for flood waters to drain from the subject property.

The subject property is fairly large (9.57 acres) and limited paving is present on abutting properties. Due to the presence of the adjacent drains, to which the final grade of the project will direct flow, paving is not expected to affect hydrology or drainage on adjacent properties in the short or long-term. However, paving most of the site will increase surface runoff and shorten concentration times, which have the potential to impact the hydrology and drainage of adjacent properties, but is unlikely due to the significant capacity of the drains.

Construction activities could provide a short-term adverse impact to the quality of stormwater draining from the subject property. Drainage and erosion control reports will be submitted to the City and County of Honolulu in order to obtain a grading permit for the proposed project.

The contractor will comply with permit conditions regarding stormwater control during construction. The contractor also will comply with required BMPs described in the grading, drainage and erosion control plans, which must be approved by the CCH.

Paving the subject property may have a long-term effect on hydrology and drainage, but only at the subject property. Grading the site to direct stormwater flow to drain towards Drains A & B will help minimize the impact from paving, and therefore, long-term adverse impacts on hydrology and drainage are not anticipated.

5.2.5 Groundwater Resources

The proposed project is located near the shoreline and will involve excavation. Trenches will be excavated to the coralline bedrock located approximately 4- 6 feet from the ground surface along the areas where the containment barrier is proposed for installation. Groundwater is located approximately 5-6 feet from the ground surface (MFA, 2005) in these areas and therefore no construction de-watering is anticipated during the installation of the containment barrier. The proposed project is not anticipated to have any adverse affect on the caprock or basal aquifer below.

Contractors working on this project will be required to have pollution prevention BMPs in place to prevent contamination of groundwater from construction activities performed on the subject property.

The barrier is designed to be approximately 4-5 feet in height; 10 inches thick; and is not expected to encounter groundwater when installed. This feature is relatively small when compared to the overall groundwater flow movement from uplands to the ocean.

The proposed project is not anticipated to have any adverse affect on the caprock or basal aquifer below because only the existing soil surface (top one to two feet) will be graded and compacted. Grading would only be conducted as needed to create a generally flat final grade, as necessary. Because this work is limited in nature, subsurface features will not be disturbed.

The barrier is designed to be approximately 4-5 feet in height; 10 inches thick; and is not expected to encounter groundwater when installed. This feature is relatively small when compared to the overall groundwater flow movement from uplands to the ocean.

The proposed project is not anticipated to have any adverse affect on the caprock or basal aquifer below because only the existing soil surface (top one to two feet) will be graded and compacted. Grading would only be conducted as needed to create a generally flat final

grade, as necessary. Because this work is limited in nature, subsurface features will not be disturbed.

The long-term impact to groundwater in the project area will be positive because it eliminates rainfall infiltration through the ash-impacted soil, thereby eliminating potential leaching of contaminants to the groundwater beneath it.

5.2.6 Oceanographic and Shoreline Characteristics

The proposed project is located near the shoreline and will involve excavation of the beach. Trenches will be excavated to the coralline bedrock where the containment barrier is proposed for installation. The proposed containment barrier is located two feet mauka of the certified shoreline survey. There is a potential for short-term negative impacts to the shoreline if there is a large storm event that erodes a significant amount of the ash-impacted soil into marine waters.

Contractors working on this project will be required to have pollution prevention BMPs in place to prevent contamination of the shoreline from construction activities performed on the subject property. During construction, dual silt fences will be placed along the makai side of the proposed barrier location. The silt fences will help prevent runoff from the construction area to the marine waters. If a large storm event is predicted during containment barrier construction, additional measures would be taken to minimize erosion of ash into marine waters. These additional steps may include covering the excavated shoreline areas with tarps and and/or stopping work. Additionally, construction of the containment barrier will be performed in a phased approach, reducing the amount of open excavation areas at any one time.

The long-term impact to the shoreline in the project area will be positive because it reduces the amount of ash-impacted soils eroding to the shoreline, thereby reducing ash-impacted soils from being discharged to the shoreline and marine waters.

5.3 BIOLOGICAL ENVIRONMENT

5.3.1 Flora

The majority of the subject property contains paved and unpaved areas devoid of significant vegetation. The subject property is not located on the *Critical Habitat Area map for the General Locations of Units for 99 Species of Plants on Oahu* (USFWS, 2002). No rare, threatened or endangered plant species are known to occur on the subject property.

Vegetation removal will be kept to a minimum, and the proposed project is not expected to have a significant negative effect on flora in the area. Vegetation will be restored in areas where it had been removed to construct the containment barrier. No long-term adverse affects are anticipated to the flora of the subject property.

5.3.2 Fauna

The majority of the subject property contains paved and unpaved areas devoid of wildlife. The subject property is not located within the critical habitats designated for the endangered O'ahu 'elepaio bird species (USFWS, 2002). However, rare, threatened and endangered animal species potentially using the areas at or near the subject property include the green sea turtle, hawksbill turtle, Hawaiian stilt and the Hawaiian monk seal (USFWS, 2002). Coral reef communities exist in the offshore areas.

There is a potential for short-term negative impacts to these animals if there is a large storm event that erodes a significant amount of the ash-impacted soil into marine waters. During construction, dual silt fences will be placed along the makai side of the proposed barrier location. The silt fences will help prevent runoff from the construction area to the marine waters. If a large storm event is predicted during containment barrier construction, additional measures would be taken to minimize erosion of ash into marine waters. These additional steps may include covering the excavated shoreline areas with tarps and and/or stopping work. Additionally, construction of the containment barrier will be performed in a phased approach, reducing the amount of open excavation areas at any one time.

The proposed project is expected to have significant long-term positive impact on fauna in the area because of its intrinsic environmental enhancement of the area. This qualitative assessment is based on the ecological risk screening performed using site-specific contamination data. There is a potential ecological risk to fauna present at or near the site from ingesting lead identified in ash-impacted soil on-site.

The proposed project is expected to have a significant long-term positive impact on nearby aquatic habitats because of its intrinsic environmental protection and enhancement of the area. This qualitative assessment is based on the ecological risk screening performed using site-specific contamination data. There is a potential ecological risk to marine resources present at or near the site from ingesting lead identified in ash-impacted soil on-site.

The proposed project is expected to have significant long-term positive impact on fauna in the area because of its intrinsic environmental enhancement of the area. The proposed project will not have a significant long-term negative impact on fauna in the area.

5.3.3 Aquatic Habitat

Impacts to the aquatic environment related to local soils, topography, hydrology, drainage, groundwater, flora and fauna have been discussed in the previous sections of this report. The positive long-term effects consist of eliminating the potential for ash-impacted dust to drift to nearby terrestrial and/or aquatic environments and to reduce the potential for ash-impacted soil to erode to the shoreline and marine waters. The proposed project is expected to have a significant long-term positive impact on nearby aquatic habitats because of its intrinsic environmental protection and enhancement of the area. The proposed project will not have a significant long-term negative impact on aquatic habitats of the area.

If the ash-impacted soils on site are allowed to erode into the near shore beach sediment, a potentially complete exposure pathway could exist and an unacceptable risk posed where marine resources are present. These marine resources potentially include endangered sea turtles, endangered monk seals, endangered water birds and coral reefs.

5.4 SOCIAL ENVIRONMENT

5.4.1 Population

The proposed project will not result in increased development nor an increase in the residential population. The proposed project will allow the property to be used as zoned.

5.4.2 Existing Land Use

The proposed project will not result in changes to current or planned future use of the subject property or nearby properties. The subject property will remain as an industrial property in perpetuity. An environmental covenant will be placed on the subject property as an institutional control and will be an important aspect of the remedial action. Containing ash-impacted soil on the subject property is an active form of environmental remediation. Restrictive covenants ensure that the future owners of the subject property understand the limitations placed on it due to ash-impacted soil remaining at the subject property.

5.4.3 Recreation

The area's principal recreational resource is the shoreline of the Pacific Ocean, which provides a range of recreational uses (fishing, swimming, diving) and other seaside activities. Because Barber's Point Beach Park is located west of the subject property, there is easy public access to the shoreline adjacent to the proposed project. The proposed project will not interfere with public access to the shoreline during or after construction. Users of the park could potentially be adversely impacted through dust blowing to the park during grading activities. Managing dust during grading work is discussed in Section 5.2.1. In general, construction management measures (i.e., dust control and BMPs) are expected to minimize these potential short-term adverse effects.

The positive long-term effects of the proposed project for local recreational users of the park and shoreline consist of eliminating the potential for contaminated dust to drift to the nearby park and to reduce the potential for ash-impacted soil to erode to the shoreline, contaminating coastal waters.

5.4.4 Scenic and Visual Resources

The proposed project will not block scenic views of ocean or mountain resources. The proposed project construction activities not will result in any short-term or long-term impacts on scenic and visual resources for subject or nearby properties.

5.4.5 Archaeological and Historical Resources

According to the SHPD files available and discussed in Section 3.4.5 of this report, there are no known archeological and/or historic sites located at or adjacent to the subject property. In the event that any human burials, artifacts, or other cultural remains or deposits are encountered during construction, the contractor will contact the SHPD. Work in the immediate area will be suspended until the SHPD is able to assess the impact and make further recommendations for mitigation, if warranted. There are no anticipated short term or long-term impacts to archeological and historic resources from the proposed project.

5.4.6 Infrastructure

There are no short term or long-term impacts to infrastructure or utility systems at the subject property. Planned future use of the subject property will primarily be for commercial purposes. Any future on-site septic system would be located in the northern portion of the subject property that does not contain ash-impacted soil. Existing utilities will be located, marked and avoided during grading and capping activities. Grading and paving work located over the fuel pipeline easement will be coordinated with Tesoro.

5.4.7 Economic Considerations

The proposed project will have a beneficial short-term impact on Hawaii's economy by increasing the demand for goods and services from the construction industry during construction of the proposed project. The proposed project will also have beneficial long-term economic impact on the subject property owner because paving it will allow for more effective use of space at the subject property. There are no anticipated short term or long-term adverse impacts to Hawaii's economy from the proposed project.

6.0 ALTERNATIVES TO THE PROPOSED ACTION

6.1 OVERVIEW OF ALTERNATIVES

The proposed project is a remedial action required by the DOH for the subject property. A RAA was produced as part of the on-going environmental work performed at the subject property. The RAA presented remedial action objectives, identified several possible remedial alternatives, developed preferred remedial alternatives, and evaluated them based on the DOH's criteria of effectiveness, implementability, and cost, including the alternative to take no action at the site.

In addition to the No Action alternative, three potential remediation alternatives were developed: 1) containment cap and barrier; 2) excavation and off-subject property disposal; and 3) soil stabilization. These three alternatives were deemed feasible and implementable for the subject property. Each would provide an effective long-term solution at the subject. Each of these technologies has a documented successful history at similar sites.

A containment cap and barrier was selected as the preferred alternative. This alternative can be readily implemented with local materials and services, and creates the least disturbance of the ash-impacted soil on the subject property. Due to its superior ability to be implemented, its proven effectiveness at similar local sites, and lowest costs, containment cap and barrier was identified in the RAA study as the preferred remedial alternative for the subject property. Excavating ash-impacted soil from the beach and placing it on the subject property for capping is a modification of the selected remedial alternative that does not detract from the selected alternative being the best permanent long-term remedial solution for the subject property.

The DOH agreed with the preferred alternative and a copy of this DOH letter documenting their concurrence with of the selected remedial alternative is included as Appendix H. The DOH HEER office was contacted about the subsequently revised shoreline survey and excavation of ash-impacted soil from the beach. DOH HEER concurred that the excavation work was a minor modification of the remedial alternative (S. Mow, Personal Communication, January 16, 2008). A revised draft RAM is now being prepared to address this modification.

6.2 NO ACTION

The “No Action” alternative is always considered when evaluating remedial alternatives for cleaning up contaminated property. The "No Action" alternative was determined to be unacceptable in the RAA. The "No Action" alternative means that no remedial action would be taken at the subject property. If the proposed project is not undertaken, there is a potential risk to humans and the potential degradation of the marine environment.

7.0 FINDINGS SUPPORTING THE ANTICIPATED DETERMINATION

To determine whether the proposed project may have a significant adverse impact on the environment, expected consequences, both short and long term have been evaluated. Based on the information evaluated, it is anticipated that the approving authority will issue a Finding of No Significant Impact (FONSI) as summarized in this section.

7.1 SIGNIFICANCE CRITERIA

Administrative Rules of the DOH, Title 11, Chapter 200 establishes “Significance Criteria” to be used as the basis for identifying whether significant adverse environmental impacts will occur. The relationship of the proposed project to these thirteen criteria is provided below.

1. Involves an Irrevocable Commitment to Loss or Destruction of any Natural or Cultural Resource;

No archeological features were identified within the proposed project area, therefore no irrevocable commitment to, loss, or destruction of cultural resources are anticipated with the implementation of the proposed action. No adverse impacts to geology and soils, air, water, or biological resources are anticipated with the implementation of the proposed action. Therefore, implementation of the proposed action is not anticipated to result in an irrevocable commitment to, loss, or destruction of natural resources.

Ecological risk screening indicates that there is risk to biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site’s ash-impacted soil. Construction of the proposed project will prevent possible negative environmental impacts to the marine environment. The construction of the proposed project will have the potential to positively affect the habitats for rare, threatened, or endangered species.

2. Curtails the Range of Beneficial Uses of the Environment;

The construction of the proposed project will not curtail the range of beneficial uses of the environment, nor will it adversely affect the environment of the surrounding area. The project is solely for environmental restoration purposes and will only keep the subject property useable as an industrial/commercial site, not changing the beneficial uses of the environment.

Human and ecological risk screening indicates that there is risk to human health and biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site's ash-impacted soil. Construction of the proposed project will prevent possible negative human health risks and environmental impacts to the marine environment. The construction of the proposed project will have the potential to positively affect the habitats for rare, threatened, or endangered species. The proposed project enhances the current and same future beneficial uses of the site by making the site safer for use by humans and biological resources.

3. Conflicts with the State's Long-term Environmental Policies or Goals and Guidelines as Expressed in Chapter 344, HRS, and Any Revisions Thereof and Amendments Thereto, Court Decisions or Executive Orders;

The proposed project does not conflict with long-term environmental policies, goals or guidelines of the State of Hawaii. The proposed project will not significantly adversely affect natural resources, and will prevent erosion of ash-impacted soil to the marine environment. The proposed action is consistent with the environmental policies established in Chapter 344, HRS and the National Environmental Policy Act.

Human and ecological risk screening indicates that there is risk to human health and biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site's ash-impacted soil. Construction of the proposed project will prevent possible negative human health risks and environmental impacts to the marine environment. The construction of the proposed project will have the potential to positively affect the habitats for rare, threatened, or endangered species. The proposed project supports the State's long-term environmental policies, goals and guidelines as expressed in Chapter 344.

4. Substantially Affects the Economic Welfare, Social Welfare, and Cultural Practices of the Community or State;

The economic and social welfare, and cultural practices of the community or State will not be adversely affected by the proposed project.

Human and ecological risk screening indicates that there is risk to human health and biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site's ash-impacted soil. The proposed project enhances the economic and social welfare of the community or State by preventing possible negative human health risks and environmental impacts to the marine environment.

5. Substantially Affects Public Health;

There are no adverse public health concerns relating to the proposed project. There are positive affects to public health by constructing the proposed project. There may be short-term negative affects to workers during the construction of this project, but will be minimized by use of BPMs and PPE.

Human risk screening indicates that there is risk to human health at the site from lead in the site's ash-impacted soil. Construction of the proposed project will prevent possible negative human health risks at the site and public beach located directly along the southern boundary of the site. The proposed project potentially improves public health by eliminating the contaminated ash-impacted exposure pathway.

6. Involves Substantial Secondary Impacts, Such as Population Changes or Effects on Public Facilities;

There are no anticipated secondary impacts from the installation of the proposed project. The proposed project will not result in increased development nor an increase in the residential population. The proposed project will allow the property to be used as zoned.

7. Involves a Substantial Degradation of Environmental Quality;

The proposed project does not degrade the quality of the subject property environment. Construction of the proposed project will prevent possible negative environmental impacts to the marine environment from the ash-impacted soils located at the subject property.

Ecological risk screening indicates that there is risk to biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site's ash-impacted soil. Construction of the proposed project will prevent possible negative environmental impacts to both the terrestrial and aquatic environments. The construction of the proposed project will have the potential to positively affect the habitats for rare, threatened, or endangered species. Improving environmental quality is one of the major effects of implementing the proposed project.

8. Is Individually Limited, but Cumulatively Has Considerable Effect Upon the Environment or Involves a Commitment for Larger Actions;

The construction of the proposed project will not curtail the range of beneficial uses of the environment, nor will it adversely affect the environment of the surrounding area. The

project is solely for environmental restoration purposes and will only keep the subject property useable as an industrial/commercial site, not changing future use of the subject property.

9. Substantially Affects Rare, Threatened, or Endangered Species, or Its Habitat;

The construction of the proposed project will not substantially affect rare, threatened, or endangered species, or their habitats.

Ecological risk screening indicates that there is risk to biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site's ash-impacted soil. Construction of the proposed project will prevent possible negative environmental impacts to both the terrestrial and aquatic environments. The construction of the proposed project will have the potential to positively affect the habitats for rare, threatened, or endangered species.

10. Detrimentially Affects Air or Water Quality or Ambient Noise Levels;

The construction of the proposed project will not detrimentally affect air or water quality or ambient noise levels.

Positive long-term benefits to water quality are expected after the proposed project is completed. The proposed project will prevent contaminated material from eroding to near shore sediments and coastal waters. This will provide an overall water quality benefit.

11. Affects or Is Likely to Suffer Damage by Being Located in an Environmentally Sensitive Area Such as a Flood Plain, Tsunami Zone, Beach Erosion Prone Area, Geologically Hazardous Land, Estuary, Fresh Water, or Coastal Waters;

The construction of the proposed project will not affect or is likely to suffer significant damage by being located in an environmentally sensitive area. Grading will help surface storm water drain towards Drains A & B. The containment cap and barrier are proposed to be constructed mauka of the certified shoreline. Because the certified shoreline generally represents the furthest wash of the highest wave, both the barrier and cap will not be subject to wave action on a regular basis. The site-specific Exposure Monitoring and Reporting Plan and deed restrictions will help ensure monitoring and associated long-term maintenance of the cap and barrier.

12. Substantially Affects Scenic Vistas and View Planes Identified in County or State Plans or Studies;

The proposed project will remove all concrete walls/structures on site, pave the site surface and install a barrier that will be subsurface when complete. View planes north of the site include heavily industrialized properties that dominate the scenic vistas and view planes of the industrial park area. The site will become more visible from the adjacent Barber's Point Beach Park after the installation of the proposed project due to the planned removal of damaged fence, but will not change the overall view sheds of the site area. The construction of the proposed project will not affect scenic vistas and view planes identified in County or State plans or studies.

13. Requires Substantial Energy Consumption;

The proposed project will not require substantial energy consumption during or after its installation.

7.2 ANTICIPATED DETERMINATION

On the basis of the above criteria and the discussion of impacts and mitigative measures contained in this document, the findings of this EA indicate that the proposed project will not have a significant adverse environmental impact. Potential short-term construction impacts can be mitigated through construction management practices and by complying with all appropriate governmental permit requirements.

Long-term benefits to the general public and environment of the proposed project include:

- 1.) Reducing the potential for ash-impacted soil to erode to the shoreline and marine environment;
- 2.) Eliminating potential groundwater contamination by capping ash-impacted soil;
- 3.) Protecting the shoreline and marine environment for safe recreational use; and
- 4.) Eliminating the potential for contaminated dust to drift to Barber's Point Beach Park.

It is anticipated that the approving authority, City and County of Honolulu, Planning and Permitting, Land Use Division, will issue a FONSI for this proposed project.

8.0 AGENCY AND ORGANIZATION CONSULTATION AND REVIEW

8.1 PRELIMINARY CONSULTATION ACTIVITIES

The following agencies and organizations were sent a pre-consultation letter during preparation of the Draft EA. As part of pre-consultation activities, several individuals also were contacted in person or via telephone and those individuals are denoted with “PC” for Personal Communication. A sample of the pre-assessment letter and preliminary correspondence received are included as Appendix B, Pre-Assessment Consultation Letter and Comments Received.

CITY AND COUNTY OF HONOLULU AGENCIES

Department of Planning and Permitting

PC: Steve Tagawa, Land Use Permits Division, pre-consult meeting, 4/20/2007

PC: Dawn Kimura, Engineering Department, 5/15/2007

PC: Len Furukawa, Engineering Department, 10/3/2007

STATE OF HAWAII AGENCIES

Department of Business, Economic Development & Tourism:

Office of Planning

Hawaii Coastal Zone Management

Land Use Division

PC: Mary Ellen Evans, 5/9/2007

Department of Health:

Clean Water Branch

P.C.: Ann Teruya, Government Records, 5/29/2007

Environmental Management Division

Hazard Evaluation and Emergency Response

P.C. Steve Mow, Remedial Project Manager for Site, 1/16/2008

Office of Environmental Quality Control

PC: Les Segundo, 4/18/2007

Department of Land & Natural Resources:

Land Use Division

State Historic Preservation Division

Office of Conservation and Coastal Lands

▪ PC: Dolan Eversoll, 5/1/2007

▪ Meeting with Samuel Lemmo, Chris Conger and Land Survey Division, 11/27/2007

Department of Accounting and General Services
Land Survey Division
Meeting with OCCL and State Surveyor, Reid Siarot, 11/27/2207
University of Hawaii, Sea Grant College

FEDERAL AGENCIES

Department of the Interior:
U.S. Fish and Wildlife Service

U.S. Army
Corps of Engineers, Honolulu District
PC: Farley Watanabe, 6/19/2007
PC: Peter Galloway, 1/24/2008

OTHER ORGANIZATIONS

Campbell Industrial Park, pre-consult letter to be published in Campbell Local
Emergency Action Network (CLEAN) newsletter

PC: Mary Emerson, 5/16/2007

The Gas Company

PC: Primo Ramos, 5/17/2007

Tesoro Petroleum Corporation

P.C: Loie V. Tamoria, 5/29/2008

Sierra Club, Hawaii Chapter

8.2 DRAFT ENVIRONMENTAL ASSESSMENT REVIEW

The following agencies were sent a copy of the Draft EA for their review. Copies of
Agency comment letters and MFA response letters are included as Appendix A.

CITY AND COUNTY OF HONOLULU AGENCIES

Department of Planning and Permitting
Department of Design and Construction
Board of Water Supply
Department of Parks and Recreation

STATE OF HAWAII AGENCIES

Department of Business, Economic Development & Tourism:

Office of Planning
Hawaii Coastal Zone Management
Land Use Division

Department of Health:
Office of Environmental Quality Control
Clean Water Branch
Environmental Management Division
Hazard Evaluation and Emergency Response

Department of Land & Natural Resources:
Aquatic Resources Division
Office of Conservation and Coastal Lands
State Historic Preservation Division
Land Division
Water Resource Management Division

Kapolei Public Library

FEDERAL AGENCIES

Department of the Interior:
U.S. Fish and Wildlife Service

U.S. Army
Corps of Engineers, Honolulu District

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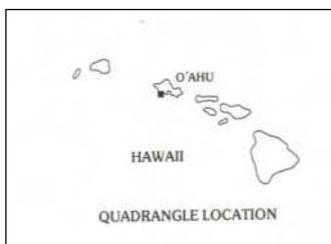
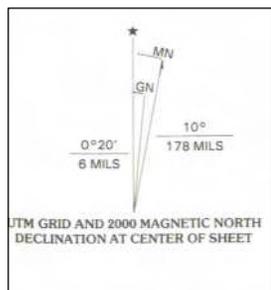
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FIGURES



Project:
05404-015

Approved: DRD
Drawn: LJB

Date:
August 2008

Scale:
1:24,000

Figure 1 Project Location Map

91-008 Hanua Street
TMK 9-1-026: Parcel 026
Kapolei, Hawaii

MASA FUJIOKA & ASSOCIATES
ENVIRONMENTAL ■ GEOTECHNICAL ■ HYDROGEOLOGICAL CONSULTANTS

Source: USGS 7.5' Series Topographic: Ewa Quadrangle, 1998

Figure 2, Site and Surrounding Area Aerial Photograph

91-008 Hanua Street, Kapolei, Oahu

Photographed November 9, 2007



Figure 3, Site Aerial Photograph

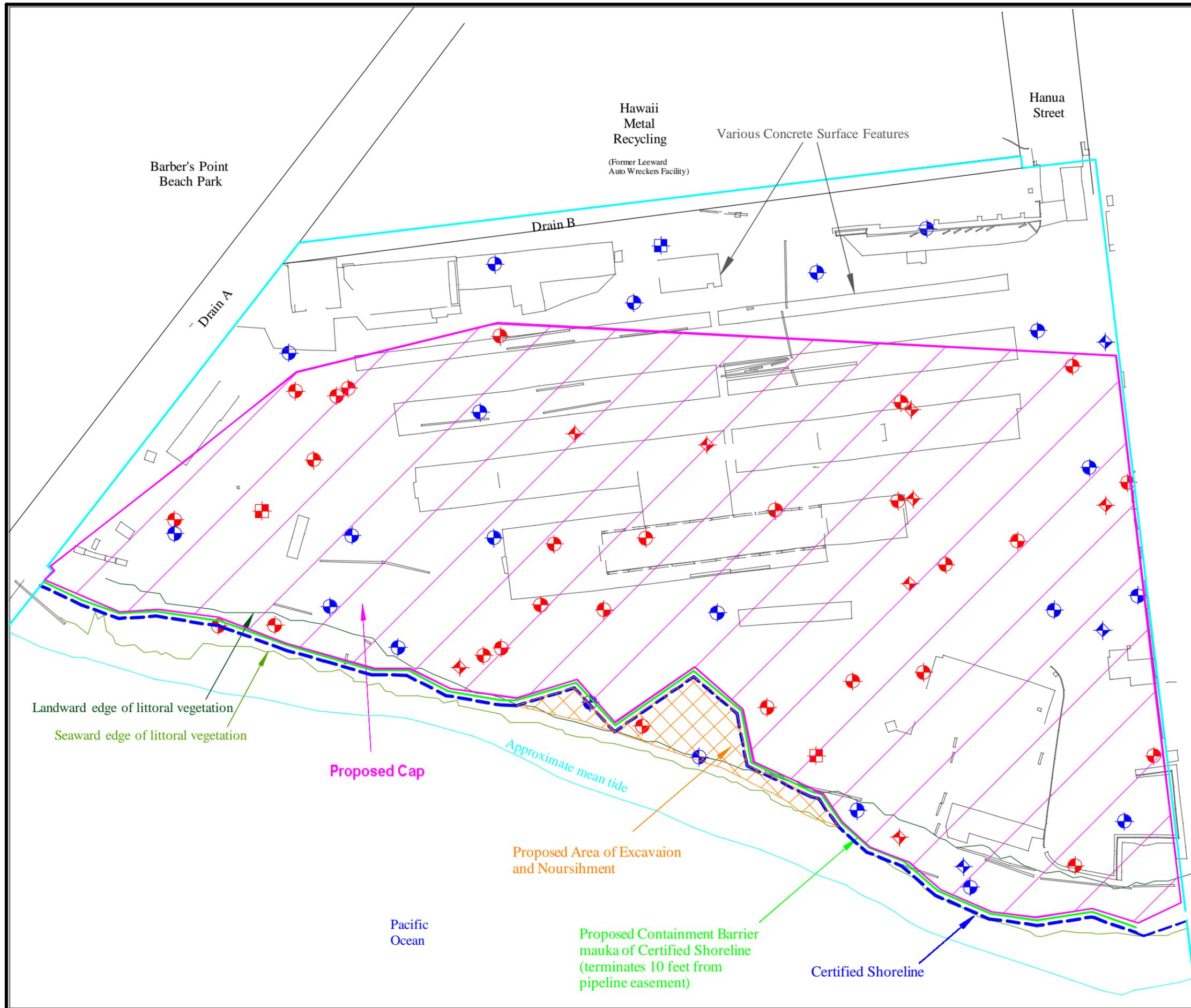
91-008 Hanua Street, Kapolei, Oahu

Photographed November 9, 2007



91-008 Hanua Street
Kapolei, Oahu
TMK:(1)9-1-026:026

November 9, 2007



LEGEND:

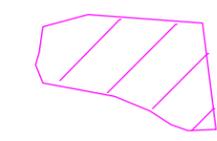
Red Sample location requires capping due to either concentration of lead in soil or presence of ash layer .

Blue sample location indicates that concentration of lead in soil was less than the EPA PRG and no ash layer was detected.

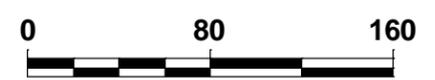
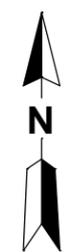
 Proposed Containment Barrier at Certified Shoreline

 Proposed Containment Barrier

 Subject Property Boundary

 Extent of proposed cap

 Proposed Area of Excavaion and Noursihment



Scale In Feet

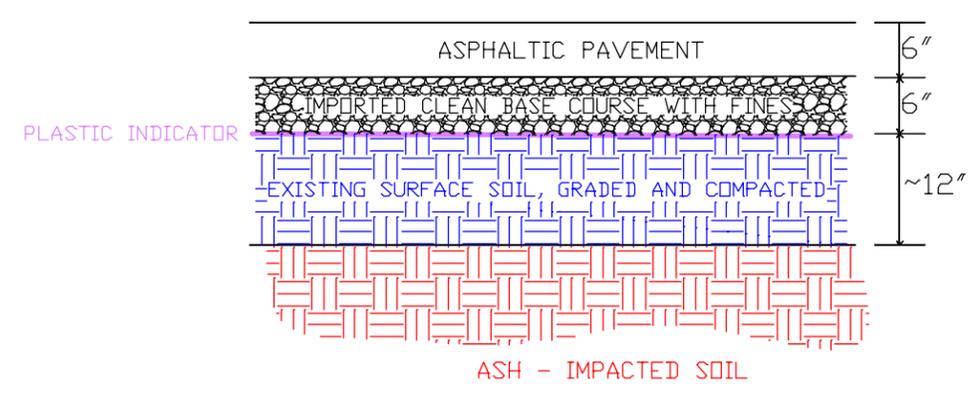
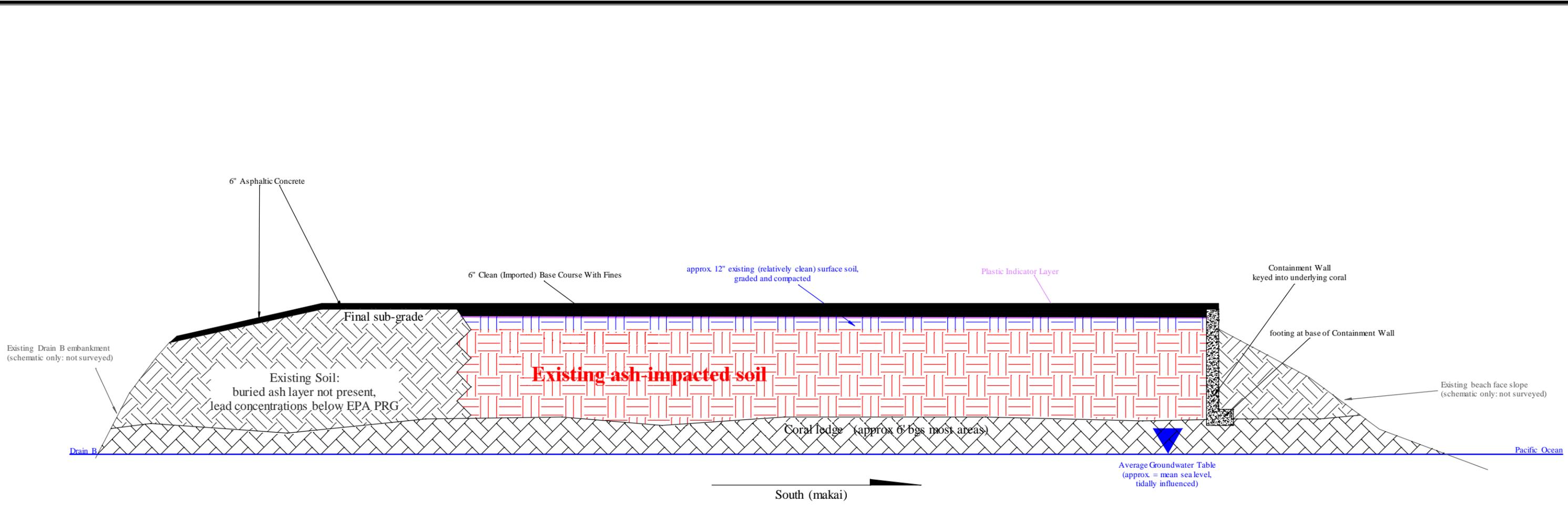
Boundaries, features, and dimensions are approximate
Source: Adapted from CH2M Hill, 2004.

Project: 05404-015
Approved: DRD
Drawn: FC
Date: August 2008
Scale: 1"=80'

Figure 4
Site Map Showing Proposed Containment Cap, Barrier, and Excavation and Nourishment Areas

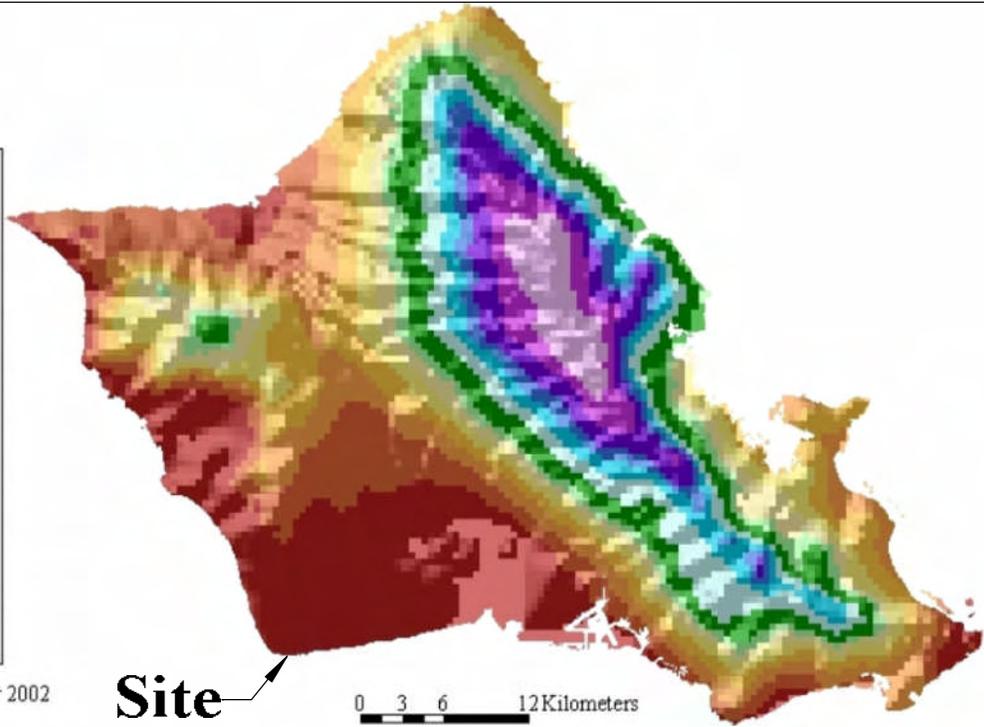
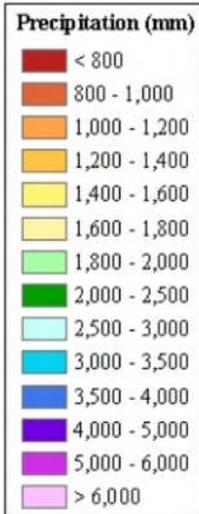
91-008 Hanua Street
TMK 9-1-026: Parcel 026
Kapolei, Hawaii

M-F-A MASA FUJIOKA & ASSOCIATES
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS



TYPICAL CAP DETAIL

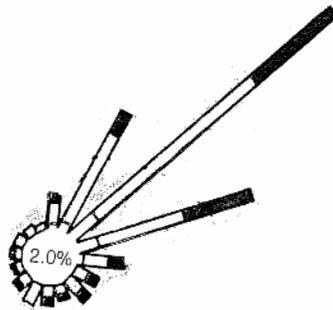
Project: 05404-015	Figure 5 Proposed Containment Cap and Barrier Conceptual Model 91-008 Hanua Street TMK 9-1-026: Parcel 026 Kapolei, Hawaii
Approved: DRD Drawn: FC	
Date: Dec. 2005	
Scale: schematic	MASA FUJIOKA & ASSOCIATES ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS



Map Created: November 2002

Site

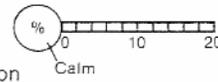
0 3 6 12 Kilometers



SURFACE WIND



Wind direction



Percent frequency of wind direction (length of bar)
 Wind speed in miles per hour for all stations recording 25 or more mph
 13-24
 4-12
 Less than 3

Windfield, trade wind conditions. Mean trade wind flow in knots. (One knot equals 1.15 miles per hour)

Streamlines, trade wind conditions. Mean trade wind flow.



Source: National Weather Service, Pacific Region

1972

Notes:

Parameter-elevation Regression on Independent Slopes Model
 Created by Spatial Climate Analysis Service at Oregon State University in 2000.

Sources:

Surface Wind Map
 Atlas of Hawaii, University of Hawaii Press. 1983
 Mean Annual Precipitation Map for Oahu, 1961-1990
 Climate Source, Inc. 2002



Project:

05404-015

Approved: DRD

Drawn: LJB

Date:

August 2008

Scale:

Not to scale

Figure 6
Median Annual Rainfall and Surface Wind Map

91-008 Hanua Street
 TMK 9-1-026: Parcel 026
 Kapolei, Hawaii

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Legend:

CR Coralline Rock

BS Beach Sand



Project:

05404-015

Approved: DRD

Drawn: LJB

Date:

August 2008

Scale:

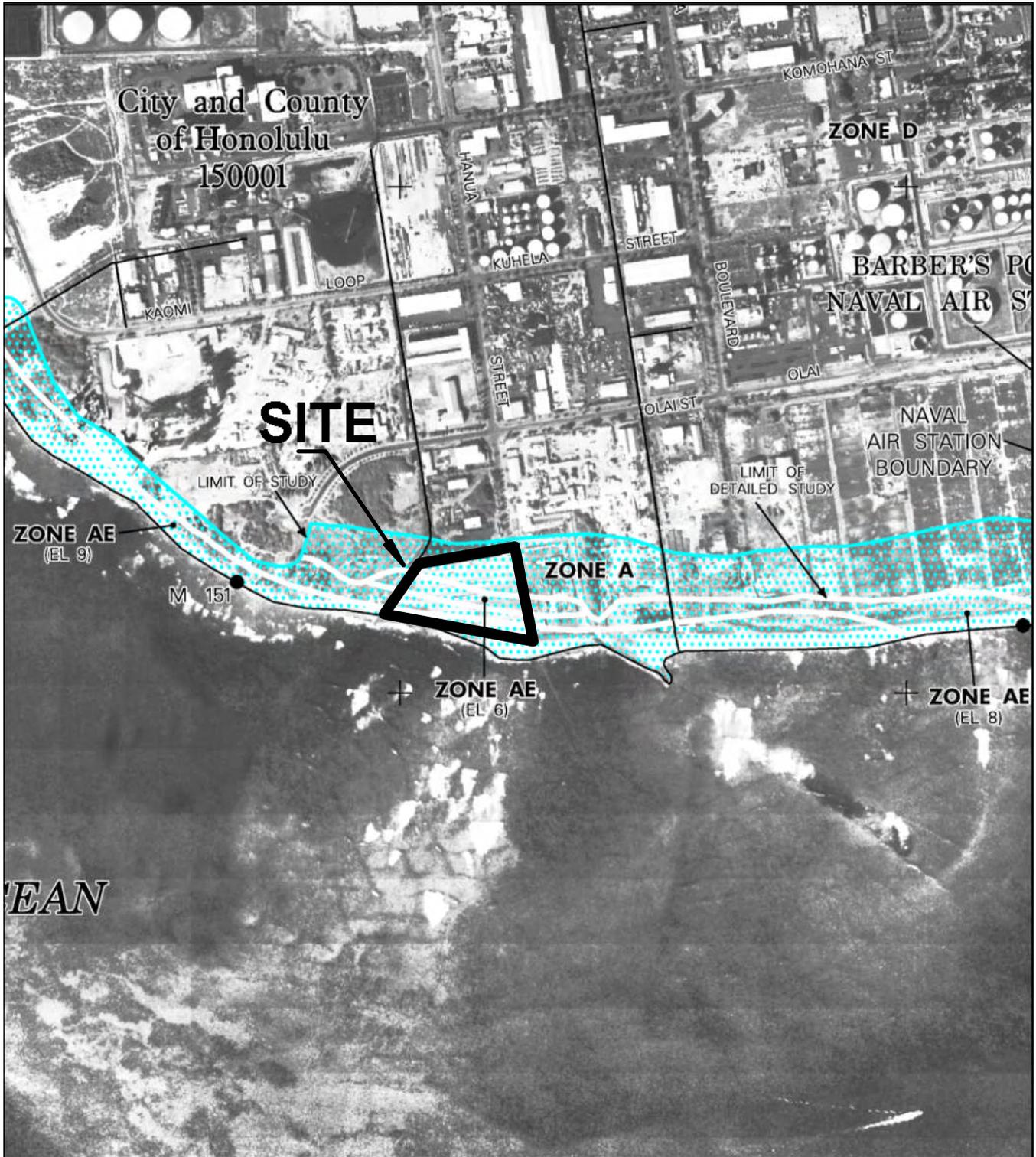
Not to scale

**Figure 7
Soils Map**

**91-008 Hanua Street
TMK 9-1-026: Parcel 026
Kapolei, Hawaii**

Source: USDA Soil Conservation Service, Soil Survey of Island of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii. 1972

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Zones A and AE: High risk areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage

Source: FEMA FIRM City and County of Honolulu, Hawaii, Map Number 15003C0315F, September 30, 2004

Project:
05404-015

Approved: DRD
Drawn: LJB

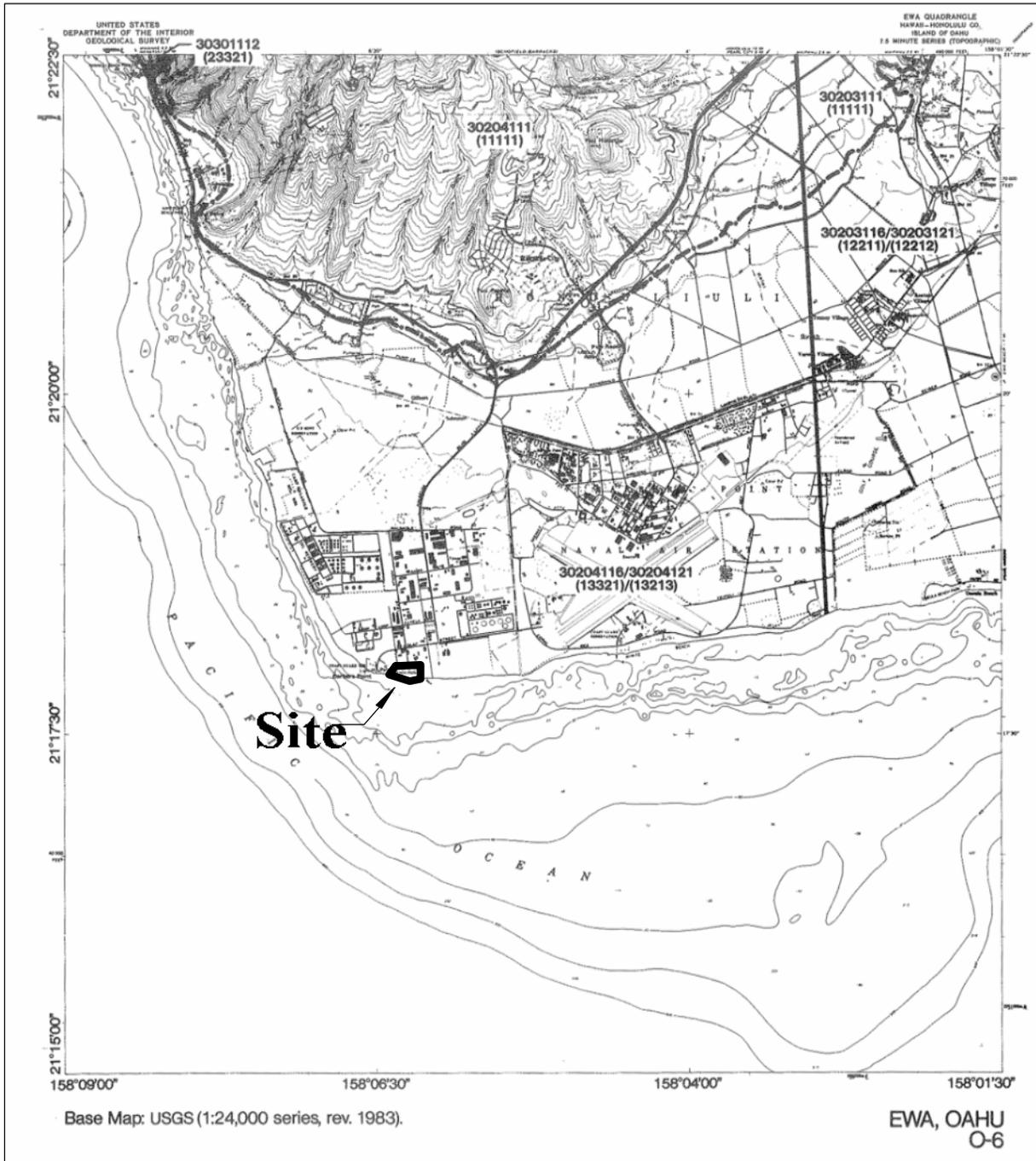
Date:
August 2008

Scale:
1" = 1000'

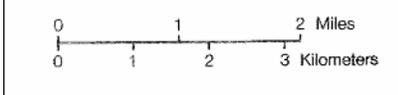
Figure 8 FEMA Flood Map

91-008 Hanua Street
TMK 9-1-026: Parcel 026
Kapolei, Hawaii

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Base Map: USGS (1:24,000 series, rev. 1983).



Legend:

	Sector
	Aquifer System
	Aquifer Type
30104111	Aquifer Code
(11111)	Status Code



Project:	05404-015
Approved:	DRD
Drawn:	LJB
Date:	August 2008
Scale:	as shown

Figure 9
Aquifer Identification
Map

91-008 Hanua Street
 TMK 9-1-026: Parcel 026
 Kapolei, Hawaii

Source: Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii, UH Water Resources Research Center. 1990

Figure 10, Shoreline Area Photographs

91-008 Hanua Street, Kapolei, Oahu



Central shoreline area-facing East 5/2007



Central shoreline area-facing West 5/2007



Western shoreline area-facing East 10/2007



Eastern shoreline area-facing East 5/2007

Figure 11, Excavation and Nourishment Area Photographs

91-008 Hanua Street, Kapolei, Oahu



5/2007

Central shoreline area-facing East

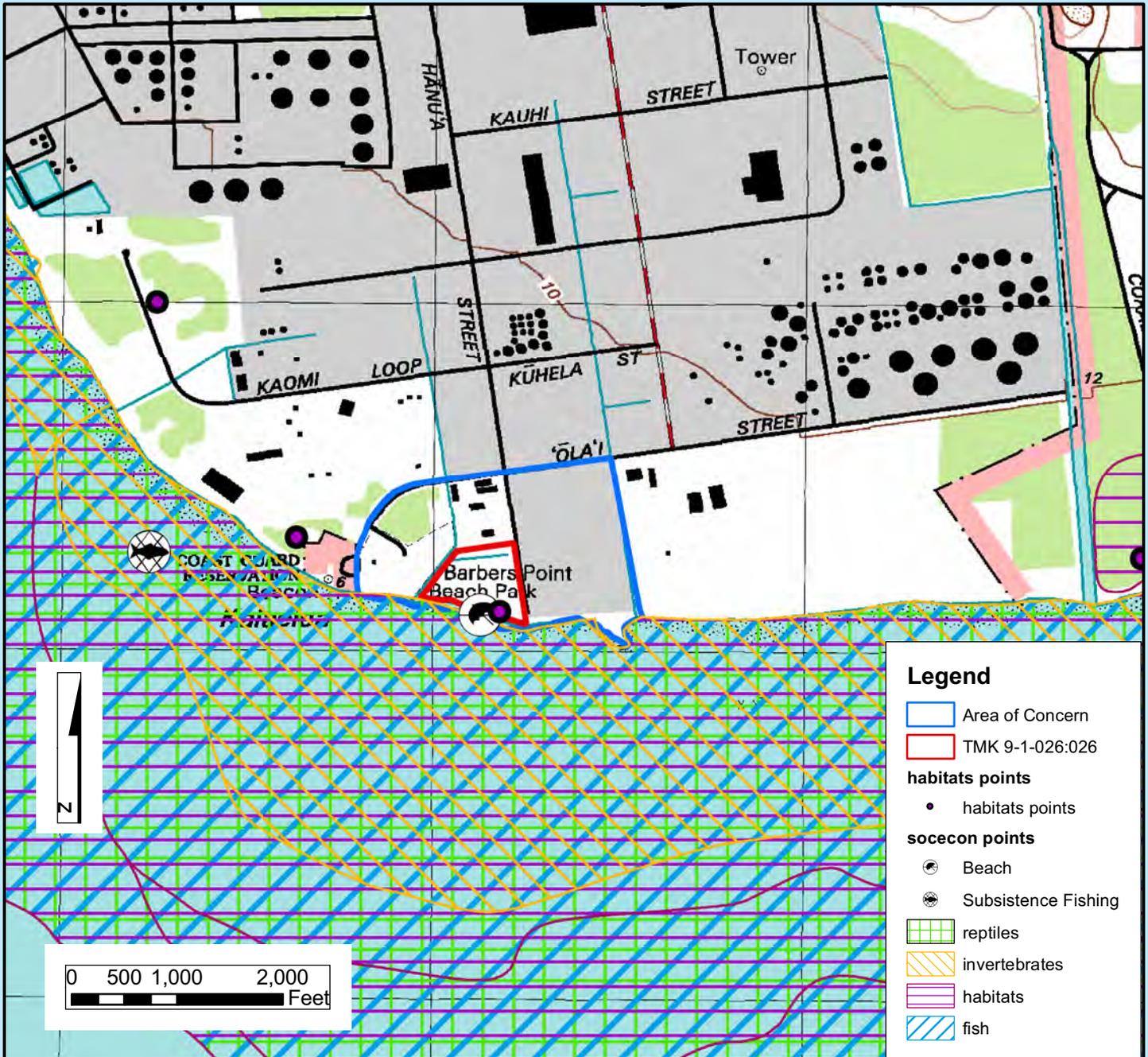


5/2007

Central shoreline area-facing West

Circled areas show evidence of ash-impacted soil

**Final Environmental Assessment
91-008 Hanua Street, Kapolei, Hawaii**



Project Location



Project: 05404-015

Approved: DRD

Drawn: ECL

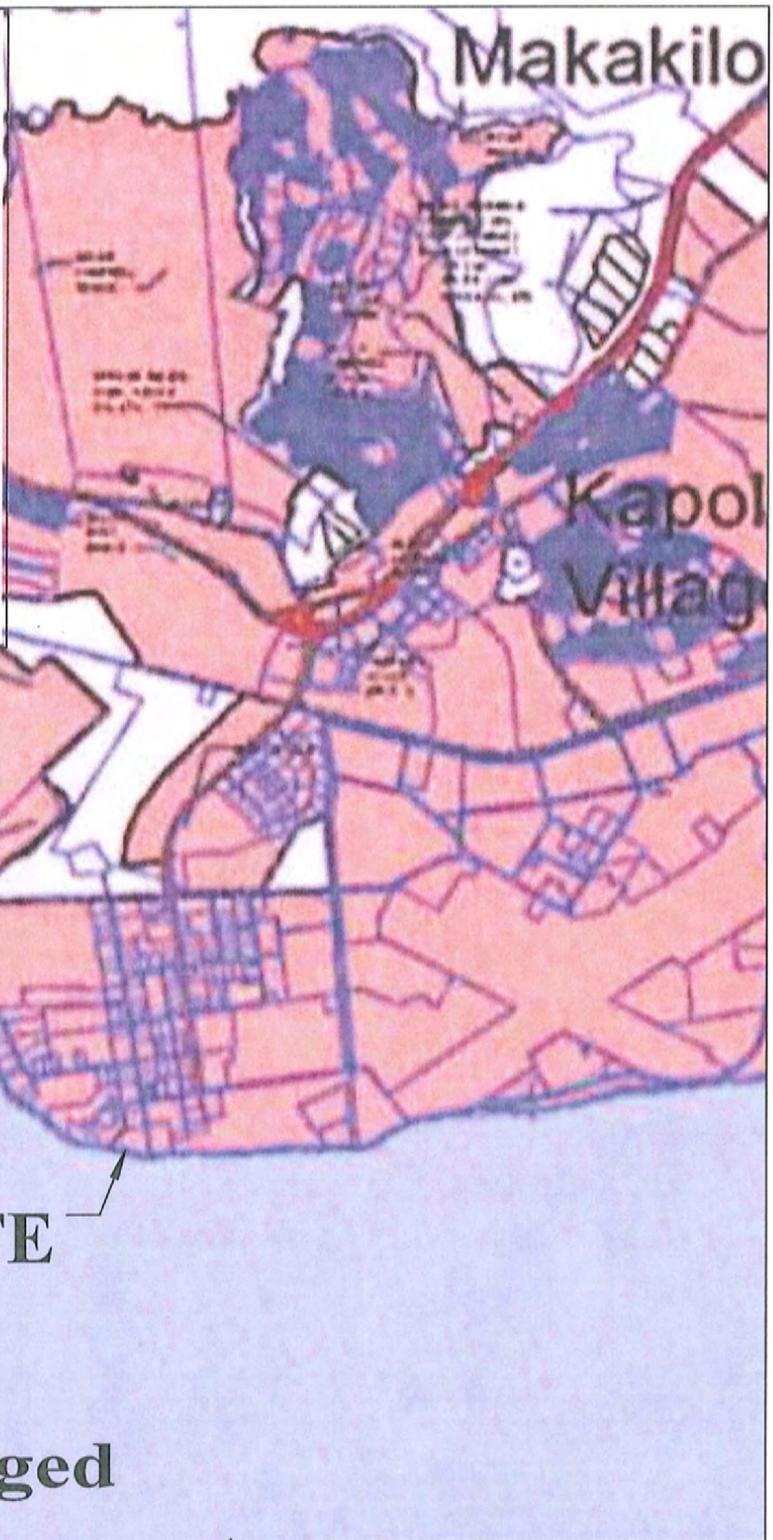
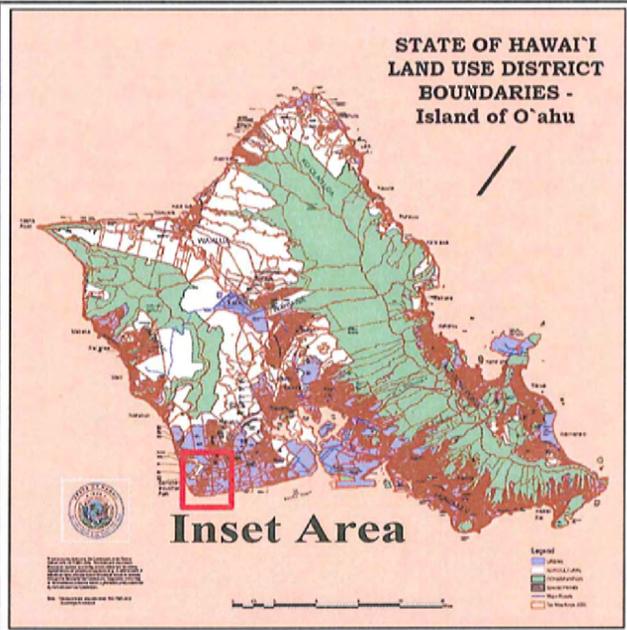
Date: Feb. 27, 2009

Source: National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Hazardous Materials Response Division (HAZMAT), 2001. Hawaii Environmental Sensitivity Index (ESI) Atlas

**Figure 12
Coastal Resources**

**91-008 Hanua Street
TMK 9-1-026: Parcel 026
Kapolei, Hawaii**

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Inset Area Enlarged

Legend:

- Urban Land Use
- Shoreline Management Area



Project:
05404-015

Approved: DRD
Drawn: LJB

Date:
August 2008

Scale:
not to scale

**Figure 13
State Land
Use Map**

91-008 Hanua Street
TMK 9-1-026: Parcel 026
Kapolei, Hawaii

MASA FUJIOKA & ASSOCIATES
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS

Figure 14, Recreational Users
91-008 Hanua Street, Kapolei, Oahu



Eastern shoreline area-facing Southeast 5/2007



**Western shoreline site boundary-
facing South 8/2007**



Western shoreline area-facing East 2/2008

Figure 15, Scenic and Visual Resources

The Site

91-008 Hanua Street, Kapolei, Oahu

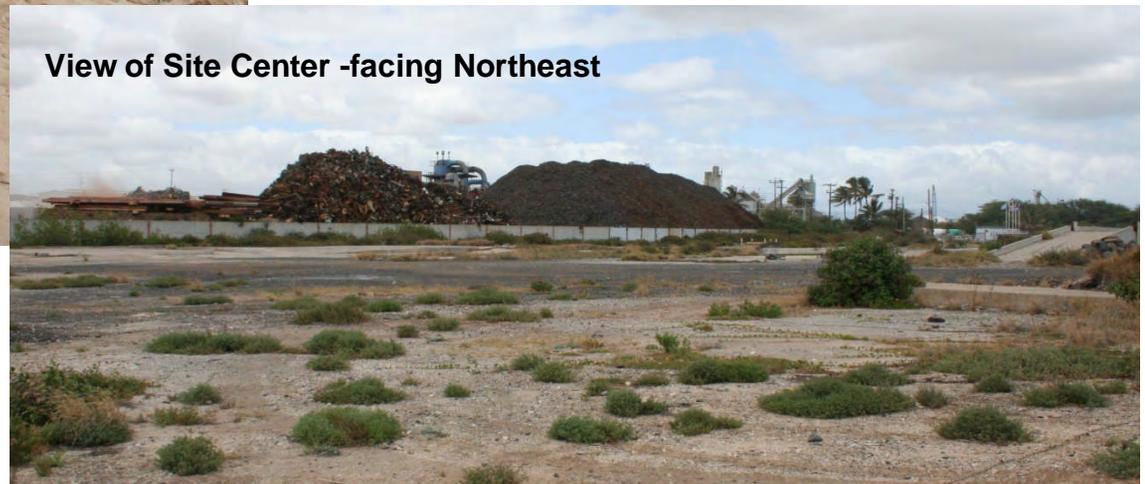
Photographed 5-02-2007



View of Site Beach-facing West



View of Site Beach-facing East



View of Site Center -facing Northeast

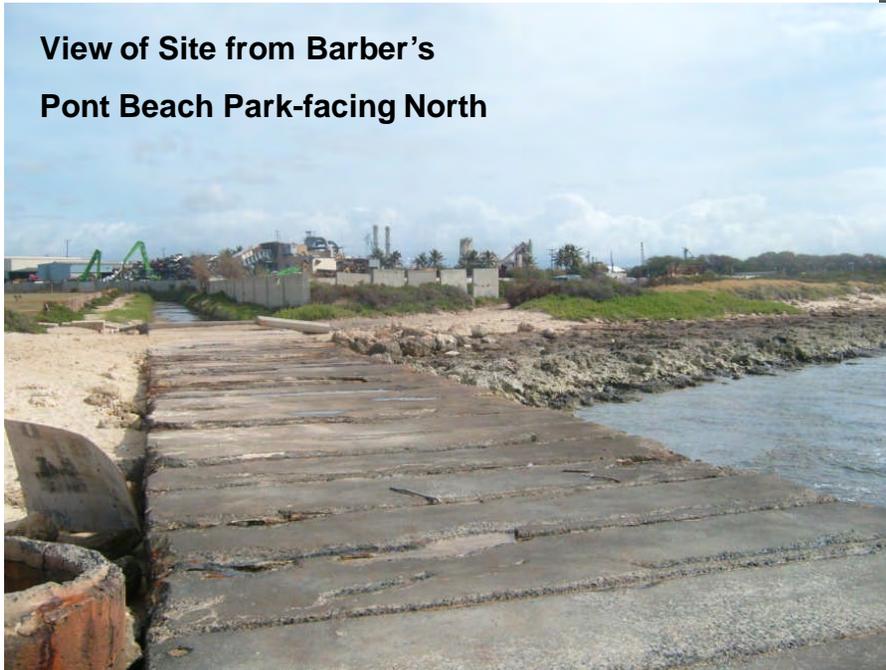
**Figure 16, Scenic and Visual Resources
Adjacent Parcels**

91-008 Hanua Street, Kapolei, Oahu
Photographed 2-19-2009

**View of Site from Barber's
Pont Beach Park-facing Northeast**

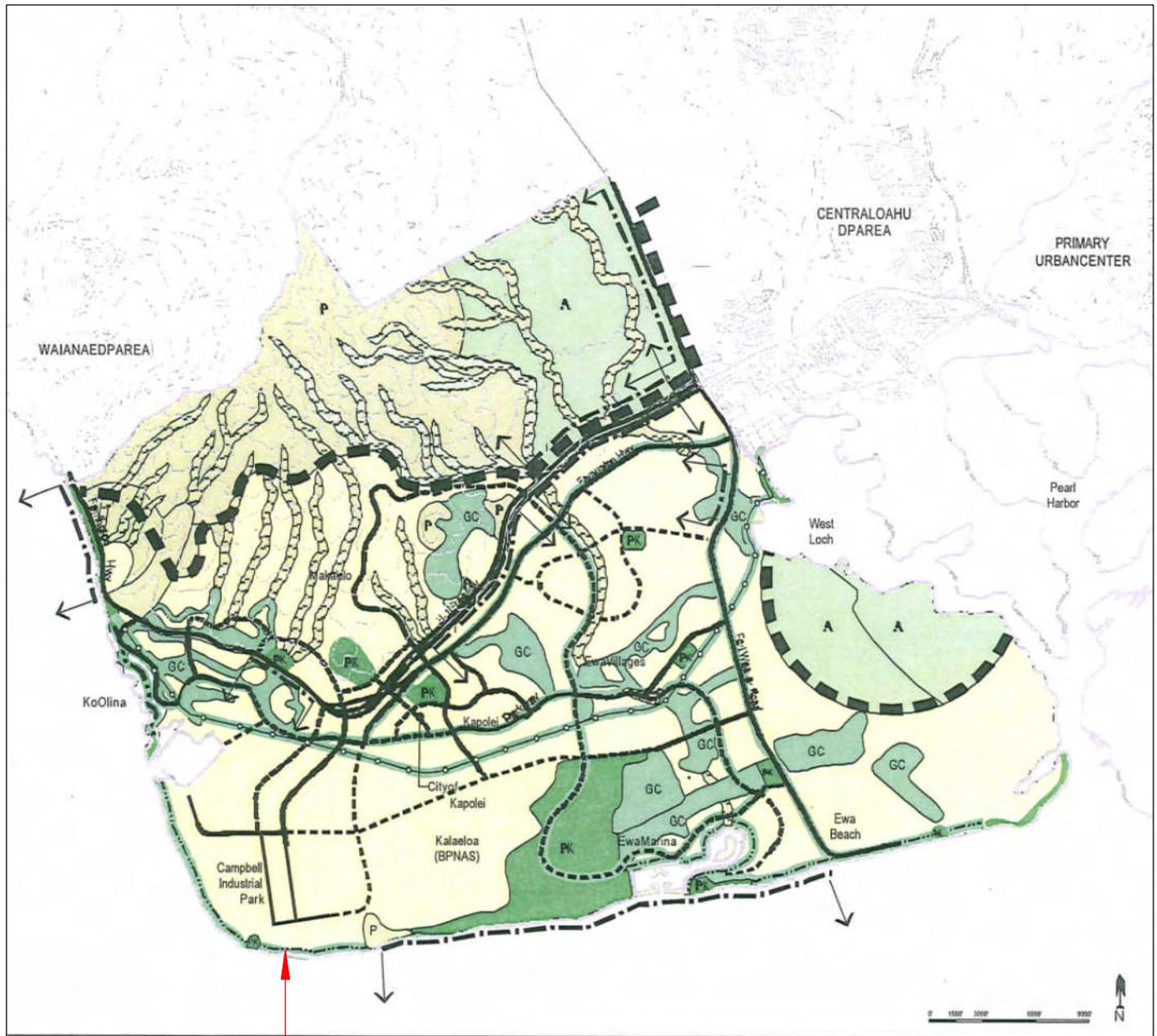


**View of Site from Barber's
Pont Beach Park-facing North**



Entrance to Site-facing South





Site

Legend:

	Preservation Areas		Historic Railway/Bikeway Corridor	
	Agricultural Areas		Shoreline Access	
	Regional, District, Shoreline and Nature Parks		Urban Areas	
	Golf Courses		Urban Growth Boundary	
	Natural Drainageways/Gulches	EXISTING	FUTURE	
	Panoramic Views			Highways, Arterial and Major Collector Streets
				Landscaped Boulevard/ Greenway

Project:
05404-015

Approved: DRD
Drawn: LJB

Date:
May 2009

Scale:
Not to Scale

Figure 17
Ewa Developmet Plan
Open Space Map

91-008 Hanua Street
TMK 9-1-026: Parcel 026
Kapolei, Hawaii

M-F MASA FUJIOKA & ASSOCIATES
ENVIRONMENTAL ■ GEOTECHNICAL ■ HYDROGEOLOGICAL CONSULTANTS

APPENDIX A

AGENCY COMMENTS ON THE DRAFT EA AND RESPONSE LETTERS

M_FA Masa Fujioka & Associates
Geotechnical • Environmental • Hydrogeological Consulting

98-021 Kamehameha Highway, Suite 337, Aiea, Hawaii 96701
Telephone: 808.484.5366 Facsimile: 808.484.0007

May 20, 2009



Mr. Clyde Namu'o, Administrator
State of Hawaii
Office of Hawaiian Affairs
Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment Review
Hanua Street Containment Cap and Barrier
TMK: (1) 9-1-026:026

Dear Mr. Namu'o:

Thank you for reviewing and providing comments on the Draft Environmental Assessment (DEA) for the above referenced site. We were just provided a copy of your comments from the City & County of Honolulu's Department of Planning and Permitting and are providing responses to OHA comments with this letter.

1. *Your Comment:* OHA expresses concern over the possible leaching of contaminants into areas that are heavily used and relied upon by our beneficiaries practicing their constitutionally protected rights. We see that some contaminants have been found that exceed federal levels. Therefore, we urge that the Exposure Monitoring and Reporting Plan mentioned on page 2-6 of the DEA be elaborated on. In particular, we are interested in knowing how long the proposed monitoring will be for, specifically how it will be done, and who will be doing it. Inspection schedules and reporting should also be included.

Our response is presented below.

Environmental assessment work performed for the subject property in 2003 identified multiple contaminants. Response to the presence of the contaminants is in compliance with Section 128D HRS, Hawaii's Environmental Response Law and the State Contingency Plan (SCP), HAR Chapter 11-451-6. The proposed project is a remedial action required by the Department of Health (DOH) for the subject property following rules outlined in the SCP, HAR Chapter 11-451-8, Hazardous Substance Response and each step of the work is approved by DOH.

The remedial alternative selected for the site must be a permanent solution. Lead is not expected to migrate from the site after installing a containment barrier and capping it with clean earthen materials and asphaltic concrete. Lead toxicity is not expected to diminish over time and the lead is expected to remain bound to site soils. A Exposure Monitoring and Reporting Plan will be required by HEER as part of the remedial work plan for the site. Institutional Controls will be placed on the parcel in perpetuity as part of the remedial solution. Institutional Controls placed on the deed will ensure that the property owner is knowingly responsible for monitoring and maintaining the containment cap and barrier installed at the site. Details for the plan requested in OHA's DEA comment letter will be addressed and elaborated on in the Exposure Monitoring and Reporting Plan.

M_FA Masa Fujioka & Associates
Geotechnical • Environmental • Hydrogeological Consulting

Additionally, the following text was added to paragraphs at end of Section 3.2.8 of the Final EA to address leaching of lead to groundwater.

Testing of both soil and groundwater samples collected from the site was conducted to assess for potential groundwater contamination. Groundwater collected from the site has been tested by multiple environmental consultants during several environmental assessments and investigations performed for the site. Groundwater samples were tested for a variety of constituent groups, including total petroleum hydrocarbons (TPH), total and dissolved concentrations of eight Resource Conservation and Recovery Act (RCRA) regulated metals, and volatile organic compounds (VOCs). Groundwater results indicated no contaminants above regulatory limits in groundwater samples collected from wells on the subject property. No dissolved lead was identified in groundwater. Constituents present in groundwater at the site do not pose a significant risk to potential human receptors and do not exceed screening levels for ecological receptors.

The following information was taken directly from Section 6.2.5 of CH2M HILL's 2004 Investigation Report regarding an assessment of lead leaching potential.

"The potential for lead present in the impacted unit to become mobile through dissolution and aqueous transport of lead is low. As presented in Table H-4 in Appendix H, the results of the synthetic precipitation leaching procedures (SPLP) analysis (which stimulates the leaching process under natural conditions) on samples of burned debris demonstrated to contain the most elevated concentrations of lead present at the site indicate that the potential for leaching is low. This is also supported by the non-detectable concentrations of lead and the low concentrations of arsenic in groundwater samples collected from the two wells located within the burned debris area.

As previously suggested by LFR, the geochemical environment in the local limestone aquifer is neutral to alkaline and probably highly buffered, conditions which reduce the solubility of metals. Since the unit containing the elevated concentrations of lead and other metal compounds occurs within the unsaturated zone in the subsurface and is closely associated with alkaline materials (coralline sands, gravels, and limestone) that may both reduce the solubility of metal compounds and promote the precipitation of any metals that may be mobilized by the infiltration of slightly acidic rain water, the mobilization potential of lead or other materials is reduced."

A copy of CH2M HILL's Table H-4 has been included in the Final EA.

2. *Your Comment:* Since this action is near the coast, we also ask about the probability of the project reaching the water table and how that will be handled. Additionally, we ask if the applicant has considered the effects of sea level rise.

Our response: Dewatering is expected at some portions of the planned containment barrier with discharge to the ground surface at northern portions of the site. Standard construction dewatering practices which utilize best management practices (BMPs) at the site, including working during low tide periods to minimize the amount of dewatering needed, will be employed. Sea level rise has been considered during the remedial alternative selection process and during the design of the containment barrier. The containment barrier is expected to be completed at an elevation of approximately 7 feet above mean sea level (MSL). We therefore do not anticipate any impact to the containment barrier from sea level rise.

M_{FA} Masa Fujioka & Associates
Geotechnical • Environmental • Hydrogeological Consulting

Additionally, the following text was added to paragraphs at end of Section 3.2.8 of the Final EA to address groundwater.

Groundwater flowing towards the ocean does not contain dissolved lead or contaminants at concentrations requiring remedial action or causing human or ecological health risks. Lead in site soil has been tested to determine if it will leach from the soil to groundwater beneath it. The potential for lead to leach from on-site soils to the groundwater beneath it is low. The potential for lead to leach from the local limestone aquifer is low. Groundwater from the site is not considered contaminated and is not expected to adversely affect the near shore environment.

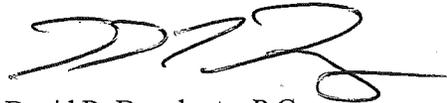
3. *Your Comment:* OHA also notes that the Army Corp of Engineers (COE) has not issued any permits for this action and we ask if they have been consulted with.

Our response: As stated in Section 8.1 of the DEA, the COE has been consulted on this project during the initial consultation stage and for guidance on utilizing the COE Nationwide Permits for Hazardous Waste Cleanup Actions. As stated in Section 4.3.1 of the DEA, once a FONSI has been issued for the proposed project, a Section 404, Clean Water Act permit will be sought from the COE.

Please do not hesitate to contact Lana Brodziak with any questions or comments at 484-5366.

Respectfully submitted,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership



David R. Daugherty, P.G.
Principal

Attachments:

1. Office of Hawaiian Affairs DEA Comment Letter

CC:

Steve Tagawa, City & County of Honolulu's Department of Planning and Permitting
Leah Young, Reit Management & Research, LLC

Attachment 1

Office of Hawaiian Affairs DEA Comment Letter

PHONE (808) 594-1888



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

FAX (808) 594-1865

'09 FEB 11 P2:06

OFFICE OF PLANNING
AND PERMITTING
CITY & COUNTY OF HONOLULU

HRD09/4136

February 4, 2009

David Tanoue
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

**RE: Request for comments on the draft environmental assessment (DEA), Hanua Street
containment cap for contaminated soils, Kapolei, O'ahu, TMK: 9-1-26:26.**

Aloha e David Tanoue,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated January 6, 2008. OHA has reviewed the project and offers the following comments.

OHA expresses concern over the possible leaching of contaminants into areas that are heavily used and relied upon by our beneficiaries practicing their constitutionally protected rights. We see that some contaminants have been found that exceed federal levels. Therefore, we urge that the Exposure Monitoring and Reporting Plan mentioned on page 2-6 of the DEA be elaborated on.

In particular, we are interested in knowing how long the proposed monitoring will be for, specifically how it will be done and who will be doing it. Inspection schedules and reporting should also be included.

Since this action is so near the coast, we also ask about the probability of the project reaching the water table and how that will be handled. Additionally, we ask if the applicant has considered the effects of sea level rise.

OHA also notes that the Army Corps of Engineers has not issued any permits for this action and we ask if they have been consulted with.

David Tanoue
February 4, 2009
Page 2

Thank you for the opportunity to comment. If you have further questions, please contact Grant Arnold by phone at (808) 594-0263 or e-mail him at granta@oha.org.

'O wau iho nō me ka 'oia'i'o,

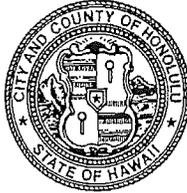


Clyde W. Nāmu'o
Administrator

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.honolulu.gov • CITY WEB SITE: www.honolulu.gov

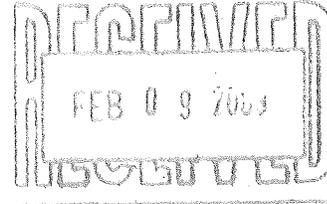
MUFI HANNEMANN
MAYOR



DAVID K. TANOUE
ACTING DIRECTOR

ROBERT M. SUMITOMO
DEPUTY DIRECTOR
2008/ED-13(ST)

February 6, 2009



Mr. David R. Daugherty, P.G., Principal
Masa Fujioka & Associates
98-021 Kamehameha Highway, Suite 337
Aiea, Hawaii 96701

Attention: Ms. Lana Brodziak:

Dear Mr. Daugherty:

Subject: Draft Environmental Assessment
Hanua Street Soil Remediation and Containment Project
91-008 Hanua Street - Honouliuli (Ewa)
Tax Map Key 9-1-26: 26

We have the following comments on the Draft Environmental Assessment (EA) for the above project:

Section 2.1 Project Overview

This section should be revised and expanded to explain in simple terms: the nature of the soil contamination problem; the significance of the levels of contamination detected (i.e., the potential risks to human and ecological health); and why is the project being proposed (i.e., the regulatory consequences if it is not conducted). We note that Section 6.1 Overview of Alternative indicates that the proposed remedial action is being required by the State Department of Health.

Section 2.2 Project Background

A more detailed description of the incinerator operated by Leeward Auto Wreckers (LAW) should be provided (i.e., clarify whether incineration occurred within an enclosed structure or if open burning was done). In addition, the site history should include the period after LAW vacated it in 1989, but before its current use as a lumber storage and distribution operation. Our records indicate that the site previously was used as a concrete manufacturing and storage facility for pre-cast, pre-stressed concrete products (e.g., concrete pipes, girders, etc.). Although that use no longer exists, we note that a Special Management Area (SMA) Use Permit (No. 89/SMA-61) was granted to Con-Fab Corporation by the City Council on September 12, 1990 (Resolution No. 90-219, CD-1). That SMA permit approval allowed the construction of a two-story office building, a quality control building, an air compressor boiler structure, driveway, and parking.

3 Section 2.3 Project Description

A section drawing detailing the construction of the proposed containment barrier should be provided. (Note: plans stamped by a licensed professional engineer are required for the shoreline setback variance application.) The Final EA should clarify whether the various remnant concrete structures will be retained, and disclose how the site will be used following the completion of the soil containment project. Any post-remediation improvements (i.e., fences, walls, buildings, landscaping, drainage systems, etc.), need to be disclosed and their potential impacts evaluated. If subsequent uses are not addressed, a supplemental EA may be required to evaluate the future use of this site.

A project schedule should be provided, including the anticipated duration of construction, from the start to completion (e.g., 24 months, etc.).

4 Section 3.2.1 General Setting

A more detailed description of the existing lumber storage operation and its improvements should be provided. Exhibits that show the existing facility should be included. The Final EA should also clarify whether this facility received any approvals pursuant to the SMA regulations, Chapter 25, Revised Ordinances of Honolulu.

This section should include the description (as found in Section 3.4.6.) of the petroleum pipeline easement that runs along the east boundary of the site. We note that the Zoning Board of Appeals (ZBA) granted Hawaiian Independent Refinery a variance on May 6, 1971, for two (2) submerged 16-inch pipelines to cross the shoreline setback. These pipelines transport petroleum from an off-shore mooring located 10,700 feet from the shoreline, to the refinery located in Campbell Industrial Park.

5 Section 3.2.6 Topography and Slopes

A copy of the certified shoreline survey should be attached to the Final EA. (Note: the certified shoreline determines the location of the shoreline setback, which would then identify the portion of the project that is subject to a shoreline setback variance.)

6 Section 3.2.7 Hydrology and Drainage

This section should be revised to clearly describe whether groundwater, located just below the surface, flows into the adjacent shoreline and nearshore areas. Although reference is made in Section 2.2 to an analytical test conducted by consultants in 2004, that document is not attached for review. Please attach this evaluation as an appendix in the Final EA, and clearly explain how the assessment was made that contaminated groundwater was not leaching into the nearby off-shore areas (i.e., does "analytical tests of leachate potential" mean that water quality sampling was conducted).

7 Section 3.3.3 Aquatic Habitat

This section should be expanded to describe the non-endangered species which use the area as habitat, and explain whether any of the listed endangered species actually frequent this shoreline (e.g., green and hawksbill sea turtles feeding nearshore and Hawaiian monk seals basking on the beach, etc.). The Final EA should explain the actual or potential impact of the contamination found at this site. Without this information, the benefit(s) of the proposed project are not clear.

8 Section 3.4.2 Existing Land Use

This section should be expanded to better describe the actual land uses surrounding the site.

9 Section 3.4.3 Recreation

This section should be expanded to describe the amenities available at the adjacent Barbers Point Beach Park and to discuss the demand for those recreational amenities (i.e., is the park heavily used, do park users frequent the adjacent shoreline fronting the site, etc.). The Final EA should discuss the potential impact of the contamination found at the site (at the levels detected) on recreational activities. In the absence of this information, the benefit of the proposal is difficult to determine.

10 Section 3.4.4 Scenic and Visual Resources

The section should describe the existing scenic and visual resources and conditions that are found at this site (e.g., views from adjacent streets, from the adjacent Barbers Point Beach Park, along the shoreline, etc.). Exhibits which show the site from these vantage points should be included.

11 Section 4.3.3 City and County of Honolulu

This section should be expanded to briefly discuss how the proposed remediation project is consistent with applicable objectives and policies of the City and County of Honolulu General Plan and the Ewa Development Plan.

12 Section 5.2.2 Soils

Due to the lack of information regarding the impact of the contamination found at this site, it is difficult to determine the proposal's positive impacts (e.g., does the toxicity of contaminants found diminish over time, and is so, is the life expectancy of the containment barrier an issue, etc.).

13 Section 5.2.4 Hydrology and Drainage

The statement that the project "is not expected to affect hydrology or drainage on adjacent properties" is not accurate. Paving most of this large site will increase surface runoff to the existing Drains A and B. The shortened concentration times will increase volumes which may impact surrounding properties. We note that drainage and erosion control reports will be required for this project.

14 Section 5.2.5 Groundwater Resources

The Final EA should explain how the proposed project, which involves disturbing the existing soil, will not adversely affect groundwater resources found at this site. It should clarify how the mobilization of earth moving equipment (i.e. bull dozers, compaction machines, etc.) will not disrupt the low-permeability of the caprock aquifer described in Section 3.2.8., and how the proposed containment barrier need not interrupt the flow of groundwater which flows from mauka areas toward the shoreline.

15 Section 5.3.2 Fauna and 5.3.3. Aquatic

This section should explain how it was determined that the project would have a significant long-term positive impact, based on the intrinsic environmental enhancement of the area. The Final EA needs to clarify/quantify what is the negative impact, which is averted by proposed project.

16 Section 7.0 Significant Impact on the Environment

The discussion regarding each of the 13 significance criteria pursuant to Title 11, Chapter 200, Hawaii Administrative Rules, should be expanded and/or rephrased to more completely describe the positive effects of the proposed project:

17 Comment Letters

We are forwarding a copy of the one (1) comment letter received so far for the proposed project. In accordance with the procedural provisions of EIS regulations, all comment letters received during the 30-day comment period, which began with the initial publication of a notice of availability of the DEA in The Environmental Notice on December 23, 2008, require a response addressed directly to the commenter. The final EA must include all comment letters and responses to the letters, as well as appropriately revised text.

If you have any questions, please contact Steve Tagawa of our staff at 768-8024.

Very truly yours,

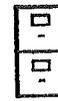

David K. Tanoue, Acting Director
Department of Planning and Permitting

DKT:nt

Encls.

cc: OEQC

G:\Steve\TEDs\DEAREIT.com



FILE COPY

M_FA Masa Fujioka & Associates
Geotechnical • Environmental • Hydrogeological Consulting

98-021 Kamehameha Highway, Suite 337, Aiea, Hawaii 96701
Telephone: 808.484.5366 Facsimile: 808.484.0007

March 24, 2009

Mr. David K. Tanoue, Acting Director
Department of Planning and Permitting
City and County Of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Attention: Steve Tagawa

Subject: Draft Environmental Assessment Review
Hanua Street Containment Cap and Barrier
TMK: (1) 9-1-026:026

Dear Mr. Tanoue:

Thank you for reviewing our Draft Environmental Assessment (DEA) for the above referenced site. We are providing responses to your comments with this letter and once we receive concurrence from you with our responses, we will produce a Final EA incorporating all agency comments and accepted responses generated during the DEA.

1. *Your Comment:* Section 2.1 Project Overview. This section should be revised and expanded to explain in simple terms: the nature of the soil contamination problem; the significance of the levels of contamination detected (i.e., the potential risks to humans and ecological health); and why is the project being proposed (the regulatory consequences if it is not conducted). We note that Section 6.1 Overview of Alternatives indicates that the proposed remedial action is being required by the State Department of Health.

Our response: Section 2.1 has been revised and is presented below.

The proposed project will contain ash-impacted soil on the subject property. A human health risk characterization identified the contaminant of concern present at the site to be lead in soil. Lead, a component of the ash, was found in soil to be within the U.S. Environmental Protection Agency's (EPA's) estimated lifetime cancer risk (ELCR) target range in various locations on-site for: current and future occupational workers; future construction workers; current and future juvenile recreational user; and current and future adult recreational user. Other constituents identified on-site were not characterized as posing a risk to human health.

An ecological screening assessment concluded that a potential risk could exist to the marine environment if ash-impacted soil located near the beach were to erode and migrate to the near-shore beach sediment. Concentrations of cadmium, lead, mercury, and poly-chlorinated biphenols (PCBs) identified in soil samples collected from near shore eroding beach faces exceed both National Oceanic and Atmospheric Administration (NOAA) effects-range-low and effects-range-median screening levels.

The proposed remedial action consists of capping the affected soil and constructing a subsurface containment barrier near the shoreline to prevent migration of ash-impacted soil to the coastal environment. Preventing the migration of the ash-impacted soil to the coastal environment will eliminate the potential exposure pathway of lead being ingested by humans or

fauna using terrestrial and aquatic ecosystems at and near the site. Eliminating exposure pathways, eliminates potential health risks to humans and the marine and shoreline fauna from lead at the site.

A portion of the subject property, lying makai of the certified shoreline, contains ash-impacted soil that will need to be excavated from the beach. The excavated area will then be back-filled following State-regulated beach nourishment guidelines. The excavated ash-impacted soil will be placed on the subject property, mauka of the certified shoreline, and capped along with the entire subject property. This EA has been prepared to meet the HRS Chapter 343 requirements for a project constructed within the SSA. The project will begin once appropriate permits are obtained (anticipated July 2009) and will take approximately two months to complete.

Environmental assessment work performed for the subject property in 2003 identified multiple contaminant concentrations requiring the Notification of a Release as required by Section 128D HRS, Hawaii's Environmental Response Law and the State Contingency Plan (SCP), HAR Chapter 11-451-6. The proposed project is a remedial action required by the DOH for the subject property following rules outlined in the SCP, HAR Chapter 11-451-8, Hazardous Substance Response. A remedial action is required for the site because physical and analytical data demonstrate that a release mechanism and potential exposure pathway (human and ecological) for contaminants (primarily lead) exists. The owner of the subject property is liable for the required response as stated under Section 128D-5 HRS. According to Steven Mow of the DOH Hazardous Evaluation and Emergency Response (HEER) Office, if a remedial action is not taken at the site, the DOH HEER can conduct the cleanup and require remedial costs be recovered from the property owner. (S. Mow, P.C., 3/11/2009).

A copy of more detailed risk information from the Executive Summary of CH2M HILL's 2004 environmental investigation and risk assessment report for the site has been included with this comment response letter and a copy will be included as a separate Appendix, Supporting Documents in the Final EA.

2. *Your Comment:* Section 2.2 Project Background. A more detailed description of the incinerator operated by Leeward Auto Wreckers (LAW) should be provided (i.e., clarify whether incineration occurred within an enclosed structure or if open burning was done). In addition, the site history should include the period after LAW vacated it on 1989, but before its current use as a lumber storage and distribution operation. Our records indicate that the site previously was used as a concrete manufacturing and storage facility for pre-cast, pre-stressed concrete products (e/g., concrete pipes, girders, etc.). Although that use no longer exists, we note that a Special Management Area (SMA) Use Permit (No. 89/SMA-61) was granted to Con-Fab Corporation by the City Council on September 12, 1990 (Resolution No. 90-219, CD-1). That SMA permit approval allowed the construction of a two-story office building, a quality control building, an air compressor boiler structure, driveway and parking.

Our response: The following text will be added to Section 2.2 Project Background.

No additional information regarding an incinerator at the site was found. Historical aerial images obtained for the site do not provide further information related to incineration or burning activities. The only information identified during several environment assessments performed for the site from 2003 to 2005, indicates that a facility map found in DOH files identifies that a furnace utilized by LAW, was located on the subject property, south of the Hawaii Metal Recycling (HMR) facility.

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LAW conducted operations on the subject property until 1989, and the subject property has remained in light industrial use by a variety of businesses since that time. Aerial photographs show that by 1991, the entire lot was cleared and several buildings were located along the perimeter of the site. Building permits were issued to Con-Fab Corporation (Con-Fab) in 1989, 1991, and 1992 for small improvements, although a SMA permit had been issued for the construction of multiple structures. Con-Fab used the site for concrete manufacturing and as a storage facility for pre-cast and pre-stressed concrete products. Chemical inventory forms for Con-Fab from 1996 and 1997 are the last records identified related to Con-Fab's use of the site. Uses of the site during 1998 through 2004 are not known.

In 2004 the following tenants occupied the site: Giordano's Painting; Kalaka Nui; Finishing Edge Curb & Sidewalk; and Island Ready Mix Concrete, Inc.. In 2005, the same tenants were on-site in addition to Worldwide Moving and Storage, Inc. The site was vacant during 2006 and 2007.

The Site is currently vacant, although some concrete structures remain from former tenants. During 2008 and early portions of 2009, the subject property was occupied by Mendocino Forest Products, LLC, a lumber distributor who used the site for lumber storage. One small trailer, used for office space, and lumber was stored on northeast portions of the subject property.

A copy of more detailed historical information from MFA's 2005 environmental investigation report for the site has been included with this comment response letter and a copy will be included as a separate Appendix, Supporting Documents in the Final EA.

We greatly appreciate the information forwarded about a previous SMA application and permit issued for the site. Unfortunately, a search of the Office of Environmental Quality Control's (OEQC's) archived *Environmental Notices* did not identify a copy of the Environmental Assessment performed for the SMA permit application.

3. *Your Comment:* A section drawing detailing the construction of the proposed containment barrier should be provided. (Note: plans stamped by a licensed profession engineer are required for the shoreline setback variance application.) The Final EA should clarify whether the various remnant concrete structures will be retained, and disclose how the site will be used following the completion of the soil containment project. Any post-remediation improvements (i.e, fences, walls buildings, landscaping, drainage systems, etc.), need to be disclosed and their potential impacts evaluated. If subsequent uses are not addressed, a supplemental EA may be required to evaluate the future use of the site.

A project schedule should be provided, including the anticipated duration of construction, from the start to completion (e.g. 24 months, etc.)

Our response: A copy of the draft designed barrier drawing has been included with this comment response letter and a copy will be included as a separate Appendix in the Final EA. This plan was prepared and stamped by a professional structural engineer, Myron Okubo, P.E. of Wilson Okamoto, Corporation. A detailed project schedule will be developed once all appropriate permits have been obtained. We anticipate a short duration of construction, approximately 6 to 8 weeks, including demolition and grading work.

The following text will be added to Section 2.3 Project Description, as the last paragraph under Site Preparation.

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All concrete structures located on site are planned to be demolished so that the site slope can be graded towards Drains A & B. Demolished concrete, dilapidated fencing (remaining from previous tenants), and other miscellaneous site debris will be removed from the site or crushed and reused, if feasible.

The following text will be added to Section 2.3 Project Description, as the last paragraph of this Section.

When the remedial project has been completed, use of the subject property is assumed to be for commercial and/or industrial purposes as currently zoned. The remedial project consists only of the installation of a containment cap and barrier. No other site improvements are included as part of this DEA and related permitting processes. The subject property owner is currently working to obtain a Lessee for the site, but none has been secured. No information regarding future site improvements can be provided, because it is currently unknown.

The subject property owner is aware that this EA and related permit applications solely address the installation of the remedial containment cap and barrier. Any future site improvements would need to follow all applicable Federal, State and local laws and regulations relating to development work at the site.

4. *Your Comment:* Section 3.2.1 General Setting. A more detailed description of the existing lumber storage operation and its improvements should be provided. Exhibits that show the existing facility should be included. The Final EA should also clarify whether this facility received any approvals pursuant to the SMA regulations, Chapter 25, Revised Ordinances of Honolulu.

This section should include a description (as found in Section 3.4.6) of the petroleum pipeline easement that runs along the east boundary of the site. We note that the Zoning Board of Appeals (ZBA) granted Hawaiian Independent Refinery a variance on May 6, 1971 for two (2) submerged 16-inch pipelines to cross the shoreline setback. These pipelines transport petroleum from an off-shore mooring located 10,700 feet from the shoreline, to the refinery located in Campbell Industrial Park.

Our response: Mendocino Forest Products, LLC (MFP) no longer occupies the site and the site is currently vacant. According to Dave Kimball of MFP he intended to be on-site temporarily until his new facility was constructed elsewhere, so no site improvements were made. Operations were confined to the mauka portion of the subject property and according to Mr. Kimball, no permits were obtained for MFP's site use.

The same text found in Section 3.4.6 describing the pipeline easement will be added to Section 3.2.1.

5. *Your Comment:* Section 3.2.6 Topography and Slopes. A copy of the certified Shoreline survey should be attached to the Final EA. (Note: the certified shoreline determines the location of the shoreline setback, which would then identify the portion of the project that is subject to a shoreline setback variance.)

Our response: A copy of the January 3, 2008, certified shoreline map has been included with this comment response letter and a copy will be included as a separate Appendix in the Final EA. The location of the 1/3/2008 certified shoreline is shown on Figure 4 of the DEA.

6. *Your Comment:* Section 3.2.7 Hydrology and Drainage. This section should be revised to clearly describe whether groundwater, located just below the surface, flows into the adjacent shoreline and near shore areas. Although reference is made in Section 2.2 to an analytical test conducted by consultants in 2004, that document is not attached for review. Please attach this evaluation as an appendix in the Final EA, and clearly explain how the assessment was made that contaminated groundwater was not leaching into the nearby off-shore areas (i.e, does “analytical tests of leachate potential” mean that water quality sampling was conducted).

Our response: Portions of Section 3.2.8 Groundwater Resources have been revised as follows.

Revised paragraphs: The Hawaiian Islands typically have groundwater flow directions that follow topographic gradients (USGS, 1999). Surface topography can be indicative of groundwater flow because it often mimics the gradients of underlying, relatively impervious surfaces of horizontal volcanic flows, along which the hydraulic conductivity is much greater parallel to the horizontal directions of the layers and least conductive in the direction perpendicular to stratigraphic sections (USGS, 1999).

Regional groundwater flow direction at the subject property would be expected to be generally seaward (to the south). However, the subject property’s proximity to the ocean and the adjacent drains likely results in tidal influence over the groundwater gradient. Water levels in the adjacent drains have been observed to vary greatly. These observations suggest that at low tides, groundwater discharges to the near shore environment and at high tides, groundwater is recharged by the near shore environment. Nonetheless, groundwater regionally is governed by the dominating hydrologic cycle, forcing flow of groundwater towards an open-water, ocean environment.

Additional paragraphs at end of Section 3.2.8:

Testing of both soil and groundwater samples collected from the site was conducted to assess for potential groundwater contamination. Groundwater collected from the site has been tested by multiple environmental consultants during several environmental assessments and investigations performed for the site. Groundwater samples were tested for a variety of constituent groups, including total petroleum hydrocarbons (TPH), total and dissolved concentrations of eight Resource Conservation and Recovery Act (RCRA) regulated metals, and volatile organic compounds (VOCs). Groundwater results indicated no contaminants above regulatory limits in groundwater samples collected from wells on the subject property. No dissolved lead was identified in groundwater. Constituents present in groundwater at the site do not pose a significant risk to potential human receptors and do not exceed screening levels for ecological receptors.

The following information was taken directly from Section 6.2.5 of CH2M HILL’s 2004 Investigation Report regarding an assessment of lead leaching potential.

“The potential for lead present in the impacted unit to become mobile through dissolution and aqueous transport of lead is low. As presented in Table H-4 in Appendix H, the results of the synthetic precipitation leaching procedures (SPLP) analysis (which stimulates the leaching process under natural conditions) on samples of burned debris demonstrated to contain the most elevated concentrations of lead present at the site indicate that the potential for leaching is low. This is also supported by the non-detectable concentrations of lead and the low concentrations of arsenic in groundwater samples collected from the two wells located within the burned debris area.

As previously suggested by LFR, the geochemical environment in the local limestone aquifer is neutral to alkaline and probably highly buffered, conditions which reduce the solubility of metals. Since the unit containing the elevated concentrations of lead and other metal compounds occurs within the unsaturated zone in the subsurface and is closely associated with alkaline materials (coralline sands, gravels, and limestone) that may both reduce the solubility of metal compounds and promote the precipitation of any metals that may be mobilized by the infiltration of slightly acidic rain water, the mobilization potential of lead or other materials is reduced.”

Groundwater flowing towards the ocean does not contain: dissolved lead; or contaminants at concentrations requiring remedial action or causing human or ecological health risks. Lead in site soil has been tested to determine if it will leach from the soil to groundwater beneath it. The potential for lead to leach from on-site soils to the groundwater beneath it is low. The potential for lead to leach from the local limestone aquifer is low. Groundwater from the site is not considered contaminated and is not expected to adversely affect the near shore environment.

A copy of CH2M HILL’s Table H-4 has been included with this comment response letter and a copy will be included in an Appendix, Supporting Documents of the Final EA.

7. *Your Comment:* Section 3.3.3 Aquatic Habitat. This section should be expanded to describe the non-endangered species which use the area as habitat, and explain whether any of the listed endangered species actually frequent this shoreline (e.g., green and hawksbill sea turtles feeding nearshore and Hawaiian monk seals basking on the beach, etc.) The Final EA should explain the actual or potential impact of the contamination found at the site. Without this information, the benefit(s) of the proposed project are not clear.

Our response: Portions of Section 3.3.3 Aquatic Habitat have been revised with the following additional paragraphs. In addition, information contained in this section related to flora will be added to Section 3.3.1 Flora. A newly created map, Figure 13, Coastal Resources has been included with this comment response letter and a copy will be included in the Final EA.

In an effort to better identify the potential use of the site by aquatic and/or endangered species, a request was made to Bishop Museum staff to search their specimen collection database for species occurrences in the Barber’s Point area. Two Federally listed endangered plant species were identified for the Barber’s Point lighthouse area, which lies adjacent to the site (Ewa Hinahina and ‘akoko.). No marine mammals or other fauna were identified as being observed or collected from the site area in Bishop Museum information (S. James, P.C., 2/23/2009).

Jeff Walters of the Division of Aquatic Resources (DAR) of the Department of Land and Natural Resources (DLNR) who oversees Hawaii’s Statewide Aquatic Wildlife Conservation Strategy commented that it is difficult to predict what types of habitat and locations sea turtles (green and hawksbill) and monk seals will use. Mr. Walters stated that sea turtles have been observed in many types of near shore habitats, so all coastal waters should be considered potential habitats for sea turtles. He also stated that monk seals have been observed using many different types of near shore habitats, including rocky beaches as well as sandy beaches and would consider all near shore areas as potential habitats for monk seals (J. Walters, P.C., 2/18/2009).

Geographic Information System (GIS) data layers from the Environmentally Sensitivity Index Atlas (National Oceanic and Atmospheric Administration (NOAA), 2001) were recently downloaded for the site area. This map information indicates that there is a “habitat point” for green sea turtles, humpback whales, monk seals, sea urchins, and dwarf naupaka, a threatened plant specie. Additionally, GIS data layers available from the Hawaii Biodiversity and Mapping Program were viewed, but no additional information on aquatic habitats was found for the site. A newly created map, Figure 13, Coastal Resources, summarizes the biological and socio-economic resources for the site and surrounding area.

In general, the near shore areas contain shallow coral reef communities. Aquatic species expected in the canal and immediately along the coastline include fish (for example, wrasse, mullet, tilapia, mosquito fish and moray eels) and invertebrates (for example, crab, shrimp, polychaetes, and snails). Wading and pelagic birds (for example, Black-crowned night-heron, sanderling, Pacific golden plover, and Brown boobies) commonly forage on the aquatic life present in water, sand, sediment, and exposed coral shelves.

An ecological screening assessment concluded that a potential risk could exist to the marine environment if ash deposits located near the beach were to erode and migrate to the near-shore beach sediment. Additionally, concentrations of cadmium, lead, mercury, and PCBs identified in soil samples collected from near shore eroding beach faces exceed both National Oceanic and Atmospheric Administration (NOAA) effects-range-low and effects-range-median screening levels.

If the ash-impacted soils on site are allowed to erode into the near shore beach sediment, a potentially complete exposure pathway could exist and an unacceptable risk posed where marine resources are present. These marine resources potentially include endangered sea turtles, endangered monk seals, endangered water birds and coral reefs.

8. *Your Comment:* Section 3.4.2 Existing Land Use. This section should be expanded to describe the actual land uses surrounding the site.

Our response: Section 3.4.2 Existing Land Use has been revised with the following additional paragraph.

Existing land uses surrounding the site are primarily industrial. However, Barber’s Point Beach Park is located west of the site directly across from Drain A and the Pacific Ocean directly abuts the subject property to the south. Industrial neighbors include the HMR facility, (CKA the Schnitzer Steel Hawaii Corporation), located immediately adjacent to the subject property to the north across Drain B, which recycles metal. Island Ready Mix’s concrete production facility is located northeast of the site, while the directly easterly abutting property is vacant. It had just recently been used for large equipment and construction material storage. Directly north of the Island Ready Mix’s facility is an Ameron Hawaii pre-cast concrete products facility. The subject property and surrounding areas are shown on DEA Figure 3, Site Aerial photograph.

9. *Your Comment:* Section 3.4.3 Recreation. This section should be expanded to describe the amenities available at the adjacent Barber’s Point Beach Park and to discuss the demand for those recreational amenities (i.e., is the park heavily used, do park users frequent the adjacent shoreline fronting the site, etc.). The Final EA should discuss the potential impact of the contamination found at the site (at the levels detected) on recreational activities. In the absence of this information, the benefit of the proposal is difficult to determine.

Our response: Section 3.4.3 Recreation has been revised with the following additional paragraphs. A new Figure 14, Recreational Users has been included with this comment response letter and a copy will be included in the Final EA.

Barber's Point Beach Park facilities include one restroom building with changing rooms, approximately ten (10) wooden picnic tables and a paved parking area. According to Darren Kimura, the Ewa Complex Supervisor of the Leeward District of the City and County of Honolulu's Department of Parks and Recreation stated that there are no park use statistics collected for Barber's Point Beach Park, and park use can only be gauged by the number of Park Use Permits issued for each park. Mr. Kimura stated that there have been very few Park Use Permits issued for Barber's Point Beach Park and that it is mostly used by fishermen and divers (D. Kimura, P.C., 2/18/2009). He is aware of park users utilizing the adjacent shoreline (subject property) to fish. MFA has commonly observed fishermen carrying fishing gear and ice chests from the park to the subject property and has also observed fishing at the site. Pictures of the general public using the site for recreational fishing on multiple dates have been included as Figure 14, Recreational Users.

GIS data layers from the Environmental Sensitivity Index Atlas (NOAA, 2001) were recently downloaded for the site area. This map information indicates that there is a "Recreation Area" for recreational, commercial and subsistence fishing, for subsistence collection, as a recreational beach area used for swimming, fishing and diving located at the park.

A human health risk characterization identified the contaminant of concern present at the site to be lead in soil. Ash-impacted soil contains lead within the EPA ELCR target range in various locations on-site for: current and future occupational workers; future construction workers; current and future juvenile recreational user; and current and future adult recreational user. If the ash-impacted soil is not contained and capped to eliminate human exposure to the concentrations of lead identified in the ash-impacted soil, there is a cancer risk to both current and future juvenile and adult recreational users of the beach.

10. *Your Comment:* Section 3.4.4 Scenic and Visual Resources. The section should describe the existing scenic and visual resources and conditions that are found at the site (e.g., views from the adjacent streets, from the adjacent Barber's Beach Point Park, along the shoreline, etc.). Exhibits which show the site from these vantage points should be included.

Our response: Additional figures, Figures 15, Scenic and Visual Resources, The Site and Figure 16, Scenic and Visual Resources, Adjacent Parcels, have been included with this comment response letter and copies will be included in the Final EA. Section 3.4.4 Scenic and Visual Resources has been revised with the following additional paragraph.

Visual resources are assessed to determine whether the proposed project would be compatible with the existing landscape and surrounding view sheds. The proposed project would change the view of the site from an unpaved vacant site with aboveground concrete structures to a paved vacant site with no aboveground concrete structures. The view from the adjacent park would change from a damaged concrete wall to a paved lot, once all the concrete features are removed from the site. The containment barrier will be subsurface when completed, so views of the Pacific Ocean from the site and surrounding properties would remain the same. Surrounding properties are used for industrial purposes and views of these properties from the subject property are industrial in appearance. Current site visual resources are presented in the photographs contained in Figures 15, Scenic and Visual Resources, The Site and Figure 16, Scenic and Visual Resources, Adjacent Parcels.

11. *Your Comment:* Section 4.3.3 City and County of Honolulu. This section should be expended to briefly discuss how the proposed remediation project is consistent with applicable objectives and policies of the City and County of Honolulu General Plan and the Ewa Development Plan.

Our response: Section 4.2 of the DEA discusses the Policy Plans where there is a brief discussion in Section 4.2.3 of how the proposed remediation project is consistent with applicable objectives and policies of the City and County of Honolulu General Plan. The subsection numbering of Section 4.2 will be revised so that the City and County policy information is presented after State policy information.

An additional subsection will be added which describes how the proposed remediation project is consistent with applicable objectives and policies of the Ewa Development Plan and will contain the following additional paragraphs.

The Ewa Development Plan (DP) adopted in 1997 (Ordinance 97-49) and revised in May 2000 (Ordinance 00-16) brings the development plan for Ewa into compliance with Section 5-408 of the Revised Charter of the City and County of Honolulu 1973, as amended in 1998, which set forth the requirement that, "...Development Plan shall consist of conceptual schemes for implementing and accomplishing the development objectives and policies of the General Plan within the City." The Ewa DP is one in a series of DPs which provide conceptual, long-range visions and policies to guide land use and infrastructure decisions. The Ewa DP goals are to protect prime agricultural lands; supports development of the Secondary Urban Center at Kapolei; establishes a regional open space network; protects natural, historic, and cultural resources; promotes master planned communities; and requires provisions of adequate infrastructure to meet current and anticipated needs.

Creating an open space network and conserving natural resources are two Key Elements of the Ewa DP. One goal of the open space network is to enable residents of these communities easy access to the ocean through two major marinas, numerous beaches and a shoreline walkway from Ko Olina to Ewa Beach. Residents will be able to easily access beaches and swimming and surfing spots all along the entire Ewa coastline by road or a network of pedestrian paths and bikeways. Linear shoreline access will be provided along the coast from Ko Olina to Ewa Beach. The Ewa Development Plan provides a vision for preservation, conservation, and enhancement of community resources. Natural resources are intended to be conserved through retaining natural drainage ways, protecting valuable plant and wildlife habitats, and by conserving potable water through development of a non-potable water system for irrigation and industrial use and re-use of sewage effluent.

Chapter 2.2.3, Open Space and Greenways, This section of the DP includes a table listing areas that are components of the Ewa Open Space and Greenways Network, which includes the adjacent Barber's Point Beach Park. The Open Space Map identifies the shoreline of the site as a shoreline access area.

Chapter 2.2.8, Conservation of Natural Resources, Protecting valuable habitats for endangered water birds located in Batis Salt Marsh at Ewa Marina and in the West Loch of Pearl Harbor and for endangered plants located within Barbers Point Naval Air Station and elsewhere.

Chapter 3.7.3 Industrial Centers, Barbers Point Industrial Area includes Campbell Industrial Park, Barbers Point Deep Draft Harbor, Kenai Industrial Park, and Kapolei Business Park. It should continue to grow as one of Oahu and the State's most important

industrial areas. It is the site of the State's largest heavy industrial area (Campbell Industrial Park) and an important industrial harbor and fuel transfer point.

The proposed project responds to these visions and policies of the Ewa DP by protecting the shoreline for safe (no exposure to lead in ash-impacted soil) recreational use of the shoreline by the general public; protecting valuable habitats for endangered plants; and by making contaminated land safely usable for future industrial use and potential site development.

The Open Space Map in the Ewa DP Area has been included with this comment response letter and a copy will be included in Appendix, Supporting Documents of the Final EA.

12. *Your Comment:* Section 5.2.2 Soils. Due to the lack of information regarding the impact of contamination found at the site, it is difficult to determine the proposal's positive impacts (e.g., does the toxicity of the contaminants found diminish over time, and if so, is the life expectancy of the containment barrier an issue, etc.)

Our response: More detailed human and ecological risk information has been provided above for previous comments. More information on the marine resources potentially using the site area has been provided above for previous comments. The following paragraph will be added to Section 5.2.2 Soils.

If the ash-impacted soil is not contained and capped to eliminate human exposure to the high concentrations of lead identified in the ash-impacted soil, there is a cancer risk to both current and future construction workers and juvenile and adult recreational users of the beach. If the ash-impacted soils on site are allowed to erode into the near shore beach sediment, a potentially complete exposure pathway could exist and an unacceptable risk posed where marine resources are present. These marine resources potentially include endangered sea turtles, endangered monk seals, endangered water birds and coral reefs.

The remedial alternative selected for the site must be a permanent solution. Lead is not expected to migrate from the site after installing a containment barrier and capping it with asphalt. Lead toxicity is not expected to diminish over time and the lead is expected to remain bound to site soils. A long-term monitoring plan will be required by HEER as part of the remedial work plan for the site. Environmental covenants will be placed on the parcel in perpetuity as part of the remedial solution. Covenants placed on the deed will ensure that the property owner is knowingly responsible for monitoring and maintaining the containment cap and barrier installed at the site.

13. *Your Comment:* Section 5.2.4 Hydrology and Drainage. The statement that the project “is not expected to affect hydrology or drainage on adjacent properties” is not accurate. Paving most of this large site will increase surface runoff to the existing Drains A and B. The shortened concentration times will increase volumes which may impact surrounding properties. We note that drainage and erosion control reports will be required for this project.

Our response: Predicting changes in hydrology are subjective. The original statement was based on calculations for changes in drainage performed in order to obtain a grading permit for the proposed remedial work. The original statement was also based on the fact that the surrounding properties are unpaved and both Drains A & B have significant volume capacities for discharging storm water. The statement will be revised as follows.

The subject property is fairly large (9.57 acres) and limited paving is present on abutting properties. Due to the presence of the adjacent drains, to which the final grade of the project will direct flow, paving is not expected to affect hydrology or drainage on adjacent properties in the short or long-term. However, paving most of the site will increase surface runoff and shorten concentration times, which has the potential to impact the hydrology and drainage of adjacent properties, but is unlikely due to the significant capacity of the drains.

Drainage and erosion control reports will be submitted to the City and County of Honolulu in order to obtain a grading permit for the proposed project.

14. *Your Comment:* Section 5.2.5 Groundwater Resources. The Final EA should explain how the proposed project, which involves disturbing the existing soil, will not adversely affect groundwater resources found at this site. It should clearly clarify how the mobilization of earth moving equipment (i.e., bull dozers, compaction machines, etc.) will not disrupt the low-permeability of the caprock aquifer described in Section 3.2.8, and how the proposed containment barrier need not interrupt the flow of groundwater which flows from mauka areas towards the shoreline.

Our response: Section 5.2.5 Groundwater Resources has been revised with the following additional paragraphs.

The barrier is designed to be approximately 4-5 feet in height; 10 inches thick; and is not expected to encounter groundwater when installed. This feature is relatively small when compared to the overall groundwater flow movement from uplands to the ocean.

The proposed project is not anticipated to have any adverse affect on the caprock or basal aquifer below because only the existing soil surface (top one to two feet) will be graded and compacted. Grading would only be conducted as needed to create a generally flat final grade, as necessary. Because this work is limited in nature, subsurface features will not be disturbed.

15. *Your Comment:* Section 5.3.2 Fauna and 5.3.3 Aquatic Habitat. This section should explain how it was determined that the project would have a significant long-term positive impact, based on the environmental enhancement of the area. The Final EA needs to clarify /quantify what is the negative impact, which is averted by the proposed project.

Our response: Section 5.3.2 Fauna and Section 5.3.3 Aquatic Habitat have been revised with the following revised paragraphs.

The proposed project is expected to a have significant long-term positive impact on fauna in the area because of its intrinsic environmental enhancement of the area. This qualitative assessment is based on the ecological risk screening performed using site-specific contamination data. There is a potential ecological risk to fauna present at or near the site from ingesting lead indentified in ash-impacted soil on-site.

The proposed project is expected to have a significant long-term positive impact on nearby aquatic habitats because of its intrinsic environmental protection and enhancement of the area. This qualitative assessment is based on the ecological risk screening performed using site-specific contamination data. There is a potential ecological risk to marine resources present at or near the site from ingesting lead indentified in ash-impacted soil on-site.

16. *Your Comment:* Section 7.0 Significant Impact on the Environment. The discussion regarding each of the 14 significance criteria pursuant to Title 11, Chapter 200, Hawaii Administrative Rules, should be expanded and/or re-phrased to more completely describe the positive effects of the proposed project.

Our response: Section 7.1 Significance Criteria has been revised as follows.

7.1 SIGNIFICANCE CRITERIA

Administrative Rules of the DOH, Title 11, Chapter 200 establishes “Significance Criteria” to be used as the basis for identifying whether significant adverse environmental impacts will occur. The relationship of the proposed project to these thirteen criteria is provided below.

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

No archeological features were identified within the proposed project area, therefore no irrevocable commitment to, loss, or destruction of cultural resources are anticipated with the implementation of the proposed action. No adverse impacts to geology and soils, air, water, or biological resources are anticipated with the implementation of the proposed action. Therefore, implementation of the proposed action is not anticipated to result in an irrevocable commitment to, loss, or destruction of natural resources.

Ecological risk screening indicates that there is risk to biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site’s ash-impacted soil. Construction of the proposed project will prevent possible negative environmental impacts to the marine environment. The construction of the proposed project will have the potential to positively affect the habitats for rare, threatened, or endangered species.

2. Curtails the range of beneficial uses of the environment;

The construction of the proposed project will not curtail the range of beneficial uses of the environment, nor will it adversely affect the environment of the surrounding area. The project is solely for environmental restoration purposes and will only keep the subject property useable as an industrial/commercial site, not changing the beneficial uses of the environment.

Human and ecological risk screening indicates that there is risk to human health and biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site’s ash-impacted soil. Construction of the proposed project will prevent possible negative human health risks and environmental impacts to the marine environment. The construction of the proposed project will have the potential to positively affect the habitats for rare, threatened, or endangered species. The proposed project enhances the current and same future beneficial uses of the site by making the site safer for use by humans and biological resources.

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

The proposed project does not conflict with long-term environmental policies, goals or guidelines of the State of Hawaii. The proposed project will not significantly adversely affect natural resources, and will prevent erosion of ash-impacted soil to the

marine environment. The proposed action is consistent with the environmental policies established in Chapter 344, HRS and the National Environmental Policy Act.

Human and ecological risk screening indicates that there is risk to human health and biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site's ash-impacted soil. Construction of the proposed project will prevent possible negative human health risks and environmental impacts to the marine environment. The construction of the proposed project will have the potential to positively affect the habitats for rare, threatened, or endangered species. The proposed project supports the State's long-term environmental policies, goals and guidelines as expressed in Chapter 344.

4. Substantially affects the economic welfare, social welfare, and cultural practices of the community or State;

The economic and social welfare, and cultural practices of the community or State will not be adversely affected by the proposed project.

Human and ecological risk screening indicates that there is risk to human health and biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site's ash-impacted soil. The proposed project enhances the economic and social welfare of the community or State by preventing possible negative human health risks and environmental impacts to the marine environment.

5. Substantially affects public health;

There are no adverse public health concerns relating to the proposed project. There are positive affects to public health by constructing the proposed project. There may be short-term negative affects to workers during the construction of this project, but will be minimized by use of BPMs and PPE.

Human risk screening indicates that there is risk to human health at the site from lead in the site's ash-impacted soil. Construction of the proposed project will prevent possible negative human health risks at the site and public beach located directly along the southern boundary of the site. The proposed project potentially improves public health by eliminating the contaminated ash-impacted exposure pathway.

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

There are no anticipated secondary impacts from the installation of the proposed project. The proposed project will not result in increased development nor an increase in the residential population. The proposed project will allow the property to be used as zoned.

7. Involves a substantial degradation of environmental quality;

The proposed project does not degrade the quality of the subject property environment. Construction of the proposed project will prevent possible negative environmental impacts to the marine environment from the ash-impacted soils located at the subject property.

Ecological risk screening indicates that there is risk to biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site's ash-impacted soil. Construction of the proposed project will prevent possible negative environmental impacts to both the terrestrial and aquatic environments. The construction of the proposed project will have the potential to positively affect the habitats for rare, threatened, or

endangered species. Improving environmental quality is one of the major effects of implementing the proposed project.

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

The construction of the proposed project will not curtail the range of beneficial uses of the environment, nor will it adversely affect the environment of the surrounding area. The project is solely for environmental restoration purposes and will only keep the subject property useable as an industrial/commercial site, not changing future use of the subject property.

9. Substantially affects rare, threatened, or endangered species, or its habitat;

The construction of the proposed project will not substantially affect rare, threatened, or endangered species, or their habitats.

Ecological risk screening indicates that there is risk to biological resources found at the site and surrounding terrestrial and aquatic ecosystems from lead in the site's ash-impacted soil. Construction of the proposed project will prevent possible negative environmental impacts to both the terrestrial and aquatic environments. The construction of the proposed project will have the potential to positively affect the habitats for rare, threatened, or endangered species.

10. Detrimentially affects air or water quality or ambient noise levels;

The construction of the proposed project will not detrimentally affect air or water quality or ambient noise levels.

Positive long-term benefits to water quality are expected after the proposed project is completed. The proposed project will prevent contaminated material and burned debris from eroding to near shore sediments and coastal waters. This will provide an overall water quality benefit.

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

The construction of the proposed project will not affect or is likely to suffer significant damage by being located in an environmentally sensitive area. Grading will help surface storm water drain towards Drains A & B. The containment cap and barrier are proposed to be constructed mauka of the certified shoreline. Because the certified shoreline generally represents the furthest wash of the highest wave, both the barrier and cap will not be subject to wave action on a regular basis. The site-specific Exposure Monitoring and Reporting Plan and deed restrictions will help ensure monitoring and associated long-term maintenance of the cap and barrier.

12. Substantially affects scenic vistas and view planes identified in County or State plans or studies;

The proposed project will remove all concrete walls/structures on site, pave the site surface and install a barrier that will be subsurface when complete. View planes north of the site include heavily industrialized properties that dominate the scenic vistas and view planes of the industrial park area. Views of the Pacific Ocean from the site will be more expansive after the installation of the proposed project because of the western concrete wall being removed. The site will become more visible from the adjacent Barber's Point Beach Park

after the installation of the proposed project, but will not change the overall view sheds of the site area. The construction of the proposed project will not affect scenic vistas and view planes identified in County or State plans or studies.

13. Requires substantial energy consumption;

The proposed project will not require substantial energy consumption during or after its installation.

17. *Your Comment:* Comment Letters. We are forwarding a copy of one (1) comment letter received so far for the proposed project. In accordance with the procedural provisions of EIS regulations, all comment letters received during the 30-day comment period, which began with the initial publication of a notice of availability of the DEA in The Environmental Notice on December 23, 2008, require a response addressed directly to the commenter. The Final EA must include all comment letters and responses to letters, as well as appropriately revised text.

Our response: Copies of two (2) comment letters received for the site and our response letters are included with this comment response letter and also will be included in the Final EA as a separate Appendix. The text of Section 8.0 will be revised to include a reference to the comments letters as well as an accurate list of recipients of the DEA.

Additional resources were utilized for developing these responses. The sources of this additional information will be added to the revised Section 9, References of the Final EA.

Please do not hesitate to contact Lana Brodziak with any questions or comments at 484-5366.

Respectfully submitted,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership



David R. Daugherty, P.G.
Principal

Attachments:

1. Executive Summary of CH2M HILL's 2004 Environmental Investigation and Risk Assessment Report
2. MFA 2005 Environmental Investigation Report
3. Draft Containment Barrier Design
4. January 3, 2008 Certified Shoreline Survey
5. CH2M HILL's Table H-4,
6. Figure 13, Coastal Resources
7. Figure 14. Recreational Users
8. Figure 15, Scenic and Visual Resources, Exhibit 1
9. Figure 16, Scenic and Visual Resources, Exhibit 2
10. Ewa Development Plan Open Space Map

CC:

Leah Young, Reit Management & Research, LLC- without attachments

LINDA LINGLE
GOVERNOR OF HAWAII



RECEIVED

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

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

'09 JAN 27 P2:22

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Office of Conservation and Coastal Lands

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

DEPT. OF PLANNING
AND PERMITTING
CITY & COUNTY OF HONOLULU

DLNR:OCCL.: DE
January 23, 2009

Correspondence: OA-09-133

JAN 26 2009

Henry Eng, Director
City and County of Honolulu
Department of Planning and Permitting
650 South King St. 7th Floor
Honolulu, HI 96813

SUBJECT: Draft Environmental Assessment (DEA) Hanua Street Containment Cap and Barrier. Kapolei, Oahu TMK(1) 9-1-26:026

The Department of Land and Natural Resources' (DLNR), Office of Conservation and Coastal Lands (OCCL) is in receipt of the September, 2008 Draft Environmental Assessment (DEA) for the proposed Hanua Street Containment cap and barrier. The proposal calls for remedial action to address ash-impacted soil on the property including a portion of the property makai of the certified shoreline. Impacted soils seaward of the shoreline (~7,350 ft²) are to be excavated from the back-beach area and consist of approximately 1200 yd³ of material and are to be backfilled with clean sand from an approved off-site source.

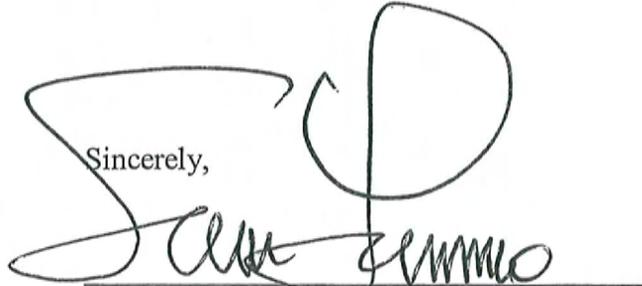
The OCCL is supportive of the effort to remediate the shoreline area and has no major objections to the proposed activities in the DEA. Based on the information provided, the OCCL offers the following comments and recommendations.

1. The DEA should include a copy of the January 3, 2008, certified shoreline map for reference.
2. Sections 3.2 *Affected Environment* and Section 5.2 *Physical Environment* should include a brief description of the beach and marine area. Typically these sections would describe the beach type, primary littoral processes, wave environment and potential or interpreted sediment transport mechanisms.
3. The OCCL regulates land uses seaward of the shoreline and would therefore be responsible for regulating some of the proposed activities in this area. Based on the information provided it appears the proposed activities seaward of the shoreline (excavation and backfill) requires a *Departmental Permit* from the Board of Land and Natural Resources (BLNR) typically processed as a Conservation District Use Application (CDUA) from the DLNR.

4. The CDUA should provide more detailed description of the proposed Best Management Practices (BMPs), excavation and barrier trenching plan and the proposed sediment source and characteristics for backfilling.

Thank you for the opportunity to comment on this DEA. Should you have any questions, please contact Dolan Eversole of the Office of Conservation and Coastal Lands, at (808) 587-0377.

Sincerely,



Samuel J. Lemmo, ADMINISTRATOR
Office of Conservation and Coastal Lands

CC: Chairperson
Oahu Board Member
DOH- Clean Water Branch
Masa Fujioka & Associates 98-021 Kamehameha Hwy Suite 337 Aiea, Hawaii 96701
REIT Management and Research, LLC 733 Bishop St. Makai Tower suite 1820
Honolulu, Hi 96813



March 24, 2009

Mr. Samuel J. Lemmo, Director
Office of Conservation and Coastal Lands
State of Hawaii
Department of Land and Natural Resources
Post Office Box 621
Honolulu, Hawaii 96809

Attention: Dolan Eversole

Subject: Draft Environmental Assessment Review
Response to Comments
Hanua Street Containment Cap and Barrier
TMK: (1) 9-1-026:026

Dear Mr. Lemmo:

Thank you for reviewing our Draft Environmental Assessment (DEA) for the above referenced site. We are providing responses to your comments directly as requested by the City and County of Honolulu's (CHH) Department of Planning and Permitting.

1. *Your Comment:* The DEA should include a copy of the January 3, 2008, certified shoreline map for reference.

Our response: A copy of the January 3, 2008, certified shoreline map has been included with this comment response letter and a copy will be included as a separate Appendix in the Final EA.

2. *Your Comment:* Sections 3.2 *Affected Environment* and Section 5.2, *Physical Environment* should include a brief description of the beach and marine area. Typically, these sections would describe beach type, primary littoral processes, wave environment, and potential or interpreted sediment transport mechanisms.

Our response: The following information was provided for the Site by David A. Smith, Ph.D., P.E., Coastal Engineer with Sea Engineering, Inc. (SEI) of Waimanalo, Hawaii.

Oceanographic and Shoreline Characteristics

Waves

Prevailing waves

The wave climate in Hawaii is typically characterized by four general wave types. These include northeast tradewind waves, southern swell, North Pacific swell, and Kona wind waves. Tropical storms and hurricanes also generate waves that can approach the islands from virtually any direction. Unlike winds, any and all of these wave conditions may occur at the same time.

Tradewind waves occur throughout the year and are the most persistent April through September when they usually dominate the local wave climate. They result from the strong and steady tradewinds blowing from the northeast quadrant over long fetches of open ocean. Tradewind deepwater waves are typically between 3 to 8 feet high with periods of 5 to 10 seconds, depending upon the strength of the tradewinds and how far the fetch extends east of the Hawaiian Islands. The direction of approach, like the tradewinds themselves, varies between north-northeast and east-southeast and is centered on the east-northeast direction. The project site is well sheltered from the direct approach of tradewind waves by the island itself, and only a small portion of the tradewind wave energy refracting and diffracting around the southeast end of the island reaches the Barbers Point area.

Southern swell is generated by storms in the southern hemisphere and is most prevalent during the summer months of April through September. Traveling distances of up to 5,000 miles, these waves arrive with relatively low deepwater wave heights of 1 to 4 feet and periods of 14 to 20 seconds. Depending on the positions and tracks of the southern hemisphere storms, southern swells approach between the southeasterly and southwesterly directions. The project site is directly exposed to swell from the southerly direction and these waves represent the greatest source of wave energy reaching the project site.

During the winter months in the northern hemisphere, strong storms are frequent in the North Pacific in the mid latitudes and near the Aleutian Islands. These storms generate large North Pacific swells that range in direction from west-northwest to northeast and arrive at the northern Hawaiian shores with little attenuation of wave energy. These are the waves that have made surfing beaches on the north shores of Oahu and Maui famous. Deepwater wave heights often reach 15 feet and in extreme cases can reach 30 feet. Periods vary between 12 and 20 seconds, depending on the location of the storm. The project site is sheltered from swell approach from the north and northwest; however, North Pacific swell approaching from the west will refract and diffract around Barbers Point and affect the site.

Kona storm waves also directly approach the project site; however these waves are fairly infrequent, occurring only about 10 percent of the time during a typical year. Kona waves typically range in period from 6 to 10 seconds with heights of 5 to 10 feet, and approach from the southwest. Deepwater wave heights during the severe Kona storm of January 1980 were about 17 feet. Deepwater wave heights during the severe Kona storm of January 1980 were about 17 feet. These waves had a significant impact on the south and west shores of Oahu.

Severe tropical storms and hurricanes obviously have the potential to generate extremely large waves, which in turn could potentially result in large waves at the project site. Recent hurricanes impacting the Hawaiian Islands include Hurricane Iwa in 1982 and Hurricane Iniki in 1992. Iniki directly hit the island of Kauai and resulted in large waves along the southern shores of all the Hawaiian islands. Damage from these hurricanes was extensive. Although not a frequent or even likely event, they should be considered in the project design, particularly with regard to beach nourishment and structure design.

Prevailing Deepwater Wave Climate

Wave information is available in the form of hindcast data sets provided by the U.S. Army Corps of Engineers' Wave Information Studies (WIS). WIS results are generated by numerical simulation of past wind and wave conditions. WIS information produces records of wave conditions based on historical wind and wave conditions at numerous stations around the

Hawaiian Islands. These hourly records of wave conditions are available for the years 1981 through 2004.

WIS Station 114, located 65 miles southwest of Maui, was chosen as being representative, since it was exposed to the same waves that would affect the south shore of Oahu (e.g., exposed to southern swell and sheltered from prevailing tradewind waves by the island). Table 1 shows the frequency of occurrence of wave height and period for the WIS data. To make the data representative of wave conditions at the project site, this data has been filtered into 22.5-degree bins for directions southeast clockwise through west-southwest, as waves from other directions are blocked by the island of Oahu. The wave height and wave period distributions for the full WIS 114 data set are presented as roses in Figures 1 and 2. Since the WIS station is located far from shore, the wave roses show the north swell, south swell, and tradewind waves.

The wave direction roses for WIS station 114 (shown previously in Figures 1 and 2) show that greater than 23% of all waves at that station are from the south-southwest direction. The filtered data shows that nearly 54% of the waves approaching the project site are from the south-southwest direction. Within that direction band, nearly all of the significant wave heights are between 2 and 6 ft with periods of primarily 12 to 15 sec. Based on this information, the most frequently occurring deepwater wave that can affect the project site is $Dir = SSW (202.5^\circ)$, $H_s = 4$ ft, $T_p = 14$ sec.

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Geotechnical • Environmental • Hydrogeological Consulting

Table 1 WIS Station 114 Distribution Table of Direction, Height, and Period, filtered for directions SE through WSW.

Dir (*TN)	Hs\Tp	<6	6-8	8-10	10-12	12-14	14-16	16-18	>=18	Total%
SE 123.75 - 146.25	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.97	0.08	-	-	-	-	1.0
	3-4	-	-	0.85	0.14	-	-	-	-	1.0
	4-5	-	-	0.10	0.02	-	-	-	-	0.1
	5-6	0.06	-	-	-	-	-	-	-	0.1
	Total%		0.1	0.0	1.9	0.2	0.0	0.0	0.0	0.0
SSE 146.25 - 168.75	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.83	0.75	-	-	-	-	1.6
	3-4	-	-	0.24	1.80	-	-	-	-	2.0
	4-5	-	-	0.45	0.28	-	-	-	-	0.7
	5-6	-	-	-	0.12	-	-	-	-	0.1
	Total%		0.0	0.0	1.5	2.9	0.0	0.0	0.0	0.0
S 168.75 - 191.25	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.99	2.07	0.32	0.22	0.14	-	3.7
	3-4	-	-	0.14	5.75	5.14	1.88	0.63	-	13.5
	4-5	-	-	-	1.09	3.02	2.01	0.41	-	6.5
	5-6	-	-	-	0.08	-	-	0.02	-	0.1
	6-7	-	-	-	-	-	-	-	-	0.0
	7-8	0.06	-	-	-	-	-	-	-	0.1
	8-9	-	0.18	-	-	-	-	-	-	0.2
Total%		0.1	0.2	1.1	9.0	8.5	4.1	1.2	0.0	24.1
SSW 191.25 - 213.75	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.30	1.96	3.42	2.19	1.24	0.24	9.3
	3-4	-	-	0.36	3.73	11.63	7.53	3.79	0.36	27.4
	4-5	-	-	-	1.28	4.98	4.62	1.84	0.08	12.8
	5-6	-	-	-	0.04	0.41	1.96	0.59	0.16	3.2
	6-7	-	-	-	-	0.04	0.40	0.55	-	1.0
	7-8	-	-	-	-	-	-	-	-	0.0
	8-9	-	0.06	-	-	-	-	-	-	0.1
	9-10	-	0.02	-	-	-	-	-	-	0.0
Total%		0.0	0.1	0.7	7.0	20.5	16.7	8.0	0.8	53.7
SW 213.75 - 236.25	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	0.02	-	-	-	-	0.0
	2-3	-	-	0.41	1.19	0.93	0.18	-	-	2.7
	3-4	-	-	0.18	1.66	2.05	0.75	0.16	-	4.8
	4-5	-	-	-	0.63	1.07	0.14	0.02	-	1.9
	5-6	-	-	-	0.02	0.24	-	-	-	0.3
	6-7	-	-	-	-	0.04	-	-	-	0.0
	7-8	-	-	-	-	-	-	-	-	0.0
	8-9	-	-	-	-	-	-	-	-	0.0
	9-10	-	0.04	-	-	-	-	-	-	0.0
Total%		0.0	0.0	0.6	3.5	4.3	1.1	0.2	0.0	9.7
WSW 236.25 - 258.75	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.32	0.38	0.04	-	-	-	0.7
	3-4	-	-	0.10	1.24	1.62	0.14	-	-	3.1
	4-5	-	-	-	0.87	0.65	0.06	-	-	1.6
	5-6	-	-	-	0.04	0.12	-	-	-	0.2
	6-7	-	-	-	-	0.02	-	-	-	0.0
	7-8	-	-	-	-	0.04	-	-	-	0.0
	8-9	-	-	-	-	0.08	-	-	-	0.1
	Total%		0.0	0.0	0.4	2.5	2.6	0.2	0.0	0.0
All %		0.1	0.2	6.2	25.2	35.8	22.1	9.4	0.8	100.0

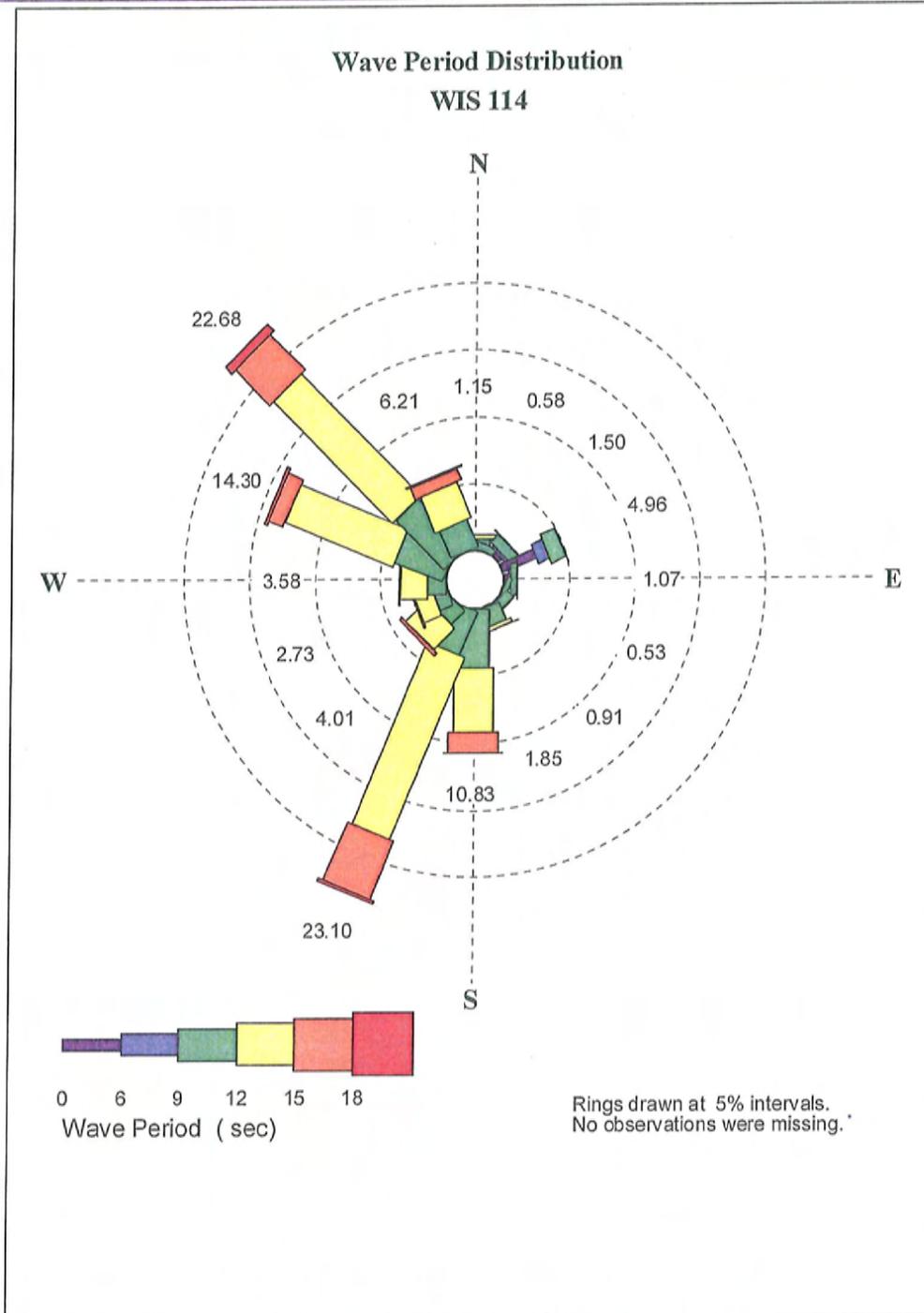


Figure 2 Wave Period Distribution: WIS Station 114

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Table 2 WIS 114 Deepwater waves, 1981-2004, filtered to directions SE to WSW. Percent frequency of occurrence: significant wave height H_s (ft) vs. peak period T_p (sec)

Dir (°TN)	Hs\Tp	<6	6-8	8-10	10-12	12-14	14-16	16-18	>=18	Total%
SE 123.75 - 146.25	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.97	0.08	-	-	-	-	1.0
	3-4	-	-	0.85	0.14	-	-	-	-	1.0
	4-5	-	-	0.10	0.02	-	-	-	-	0.1
	5-6	0.06	-	-	-	-	-	-	-	0.1
	Total%		0.1	0.0	1.9	0.2	0.0	0.0	0.0	0.0
SSE 146.25 - 168.75	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.83	0.75	-	-	-	-	1.6
	3-4	-	-	0.24	1.80	-	-	-	-	2.0
	4-5	-	-	0.45	0.28	-	-	-	-	0.7
	5-6	-	-	-	0.12	-	-	-	-	0.1
	Total%		0.0	0.0	1.5	2.9	0.0	0.0	0.0	0.0
S 168.75 - 191.25	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.99	2.07	0.32	0.22	0.14	-	3.7
	3-4	-	-	0.14	5.75	5.14	1.88	0.63	-	13.5
	4-5	-	-	-	1.09	3.02	2.01	0.41	-	6.5
	5-6	-	-	-	0.08	-	-	0.02	-	0.1
	6-7	-	-	-	-	-	-	-	-	0.0
	7-8	0.06	-	-	-	-	-	-	-	0.1
	8-9	-	0.18	-	-	-	-	-	-	0.2
Total%		0.1	0.2	1.1	9.0	8.5	4.1	1.2	0.0	24.1
SSW 191.25 - 213.75	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.30	1.96	3.42	2.19	1.24	0.24	9.3
	3-4	-	-	0.36	3.73	11.63	7.53	3.79	0.36	27.4
	4-5	-	-	-	1.28	4.98	4.62	1.84	0.08	12.8
	5-6	-	-	-	0.04	0.41	1.96	0.59	0.16	3.2
	6-7	-	-	-	-	0.04	0.40	0.55	-	1.0
	7-8	-	-	-	-	-	-	-	-	0.0
	8-9	-	0.06	-	-	-	-	-	-	0.1
	9-10	-	0.02	-	-	-	-	-	-	0.0
Total%		0.0	0.1	0.7	7.0	20.5	16.7	8.0	0.8	53.7
SW 213.75 - 236.25	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	0.02	-	-	-	-	0.0
	2-3	-	-	0.41	1.19	0.93	0.18	-	-	2.7
	3-4	-	-	0.18	1.66	2.05	0.75	0.16	-	4.8
	4-5	-	-	-	0.63	1.07	0.14	0.02	-	1.9
	5-6	-	-	-	0.02	0.24	-	-	-	0.3
	6-7	-	-	-	-	0.04	-	-	-	0.0
	7-8	-	-	-	-	-	-	-	-	0.0
	8-9	-	-	-	-	-	-	-	-	0.0
	9-10	-	0.04	-	-	-	-	-	-	0.0
Total%		0.0	0.0	0.6	3.5	4.3	1.1	0.2	0.0	9.7
WSW 236.25 - 258.75	<1	-	-	-	-	-	-	-	-	0.0
	1-2	-	-	-	-	-	-	-	-	0.0
	2-3	-	-	0.32	0.38	0.04	-	-	-	0.7
	3-4	-	-	0.10	1.24	1.62	0.14	-	-	3.1
	4-5	-	-	-	0.87	0.65	0.06	-	-	1.6
	5-6	-	-	-	0.04	0.12	-	-	-	0.2
	6-7	-	-	-	-	0.02	-	-	-	0.0
	7-8	-	-	-	-	0.04	-	-	-	0.0
	8-9	-	-	-	-	0.08	-	-	-	0.1
Total%		0.0	0.0	0.4	2.5	2.6	0.2	0.0	0.0	5.7
All %		0.1	0.2	6.2	25.2	35.8	22.1	9.4	0.8	100.0

Extreme Wave Height

The severe kona storm of January 1980 is commonly used as a “design” Kona storm condition. The severity of this storm has been described as a “50-year” or even less frequent (i.e., more extreme) event. Hindcasts of the wave conditions by SEI following the storm indicated deepwater wave heights of 17 feet with a 9-second period approaching from 210°.

The report *Hurricanes in Hawaii* (Haraguchi, 1984) prepared for the USACE, Honolulu Engineer District (HED), presents hypothetical model and worst-case hurricane scenarios for the Hawaiian Islands. These scenario hurricanes have been used for detailed studies of hurricane storm wave inundation limits for the islands of Oahu and Kauai, prepared by Bretschneider and Noda (1985) and SEI (1986, 1993 and 2000) for the USACE-HED. The model hurricane is defined as the probable hurricane that will strike Hawaii in the future, based on the characteristics of storms previously approaching or striking the islands. The worst-case hurricane characteristics are based on subjective analysis of the data from 20 critical hurricanes in the Central Pacific and understanding of the basic atmospheric and oceanic conditions surrounding the Hawaiian Islands.

Bretschneider and Noda (1985) performed hurricane and wave modeling to determine the vulnerability of the south shore of Oahu to storm waves. Water level rise, wave runup elevation, and wave inundation limits were calculated at 71 locations between Koko Head and Barbers Point. The closest location to the project site is 6,000 feet to the east, near the boundary between Campbell Industrial Park and Barbers Point NAS. The findings of the report at that location are presented in Table 1 for southeast (SE) and southwest (SW) model and worst-case scenarios.

Table 1. Hurricane inundation at Barbers Point NAS

Hurricane		Still water level rise (feet)	Runup elevation (feet)	Inundation distance (feet)
SE	Model	7.1	9.6	151
	Worst	9.2	10.8	348
SW	Model	6.2	9.1	82
	Worst	9.0	10.8	342

*elevations relative to mean lower low water (MLLW)

The calculated still water level rise in Table 1 includes inverse barometric tide (storm surge), wind setup, and 1.9 feet astronomical tide. Since this location has similar exposure to the project shoreline, these results are believed to be generally applicable to the project site.

Sea Engineering (1995) performed a similar study for Leeward Oahu. The closest profile location to the project site was 3,300 feet west of the project site on a southwest-facing shore. The still water rise for the model and worst case hurricanes were calculated to be 7.3 feet and 9.8 feet above MLLW.

Wave Transformation to Shore

As deepwater waves propagate toward shore, they begin to encounter and be transformed by the ocean bottom. In shallow water, the wave speed becomes related to the water depth. As

waves slow down with decreasing depth, the process of *wave shoaling* generally steepens the wave and increases the wave height. *Wave breaking* occurs when the wave profile shape becomes too steep to be maintained. This typically occurs when the ratio of wave height to water depth is about 0.8, and is a mechanism for dissipating the wave energy. Wave energy is also dissipated due to bottom friction. The phenomenon of *wave refraction* is caused by differential wave speed along a wave crest, and will cause wave crests to converge or diverge and may locally increase or decrease wave heights. *Wave diffraction* is the lateral transmission of wave energy along the wave crest, and will cause the spreading of waves in a shadow zone, such as occurs behind a breakwater or other barrier.

The nearshore bathymetry offshore of the project site shows shallower water depths than offshore of the adjacent parcels. Waves approaching the shoreline typically break offshore, reform, and break again closer to shore. Wave heights nearshore are partially a function of the water depth, i.e., they are depth limited. The existence of the shallow nearshore water depth limits the nearshore breaking wave height. Maximum nearshore breaking wave conditions under prevailing (non-storm) conditions is estimated to be about 4 feet. Under storm conditions with elevated still water levels, maximum breaking wave height would be higher.

These shallower depths immediately offshore of the project site also produce wave refraction and wave energy convergence and higher energy at the project shoreline, increasing the likelihood of erosion and wave overtopping in certain locations.

Shoreline Description

The shoreline at the project site is fronted by a wide and shallow fringing reef, with water depths less than 10 feet extending over 1,500 feet from shore. The shallow nearshore water provides good natural protection from large storm waves; however, it also results in complex wave patterns as the incident waves propagate toward shore. The nearshore sea bottom is composed of calcareous limestone reef rock, with small and thin sand patches, coral rubble and cobbles, and reef rock outcrops. The existing shoreline is slightly concave and is composed primarily of calcareous sand, fossilized reef rock, and beach rock. The reef rock and beach rock are found along the full shoreline reach at the toe of the beach. The rock serves to dissipate wave energy approaching the beach and maintains the sand beach by stabilizing the beach toe.

The project shoreline is bordered on the west by a drainage canal between the project site and Barbers Point Beach Park. The canal terminates at a concrete box culvert that extends across the shoreline into the nearshore waters. Vertical concrete pipe sections have been added around the end of the culvert, apparently as protection from waves. The sediment transport pattern in the area appears to be mildly toward the east, as evidenced by sand buildup against the western side of the culvert and lack of sand on the east side. The shoreline east of the culvert (the western project shoreline) is primarily beach rock and reef rock and contains very little sand. The low backshore dune is populated with grass, pickleweed, and shrubs. Scarps in the dune are present and fill material is visible in the scarp. The dune vegetation changes to pickleweed and Beach Morning Glory, and then the dune and vegetation diminish about 400 feet from the western boundary. The beach gradually widens toward the central shoreline.

The 250-foot long central shoreline reach presently contains no vegetation. Satellite imagery from January 2000 shows a continuous line of vegetation along that reach; however, conditions similar to present were in existence as of the August 2004 satellite image. The cause of the vegetation loss at the top of the berm is unknown. The nearshore waters appear to be slightly deeper and the beach rock and reef rock along the central shoreline are lower, allowing

more wave energy to pass relative to the adjacent shoreline reaches. The exposed berm allows waves to overtop and inundate the backshore during higher wave conditions. This has resulted in the certified shoreline being set further inshore relative to the berm than along the adjacent reaches.

The 320-foot eastern shoreline reach curves slightly seaward, ending at a small point near the end of Hanua Street. There is more reef rock and beach rock than at the central shoreline reach and the nearshore water is shallower, as shown by waves refracting toward the point and breaking. A trench through the beach rock and reef rock contains buried pipelines that transport fuel onshore to the Tesoro refinery. The berm is vegetated with shrubs and grass. Scarps up to two feet high are found along the vegetation line and an ATV path through the vegetation has exposed sand that appears contain ash. Close to the Tesoro trench, the scarps show fill material. Coral boulders at the base of the scarps east of the trench appear to have been placed to combat erosion.

The shoreline east of the project site shows signs of erosion. A long, continuous scarp as high as six feet is located along the vegetation line. Coral boulders appear to have been placed to combat the erosion. The beach is composed of coral cobbles, gravel, and sand. Beach rock and reef rock are found at the toe of the beach. A groin composed of basalt boulders is found 500 feet east of the project site. The Oahu Coastal Atlas (AECOS, 1981) shows a pipeline extending seaward from the groin. The shoreline on the east side of the groin is sandy and appears stable.

Beach sand samples from three depths were obtained near the central part of the project shoreline. The median grain size of the surface sample sand was found to be 0.7 mm (medium to coarse grained), and the sample is considered poorly graded according to the Unified Soils Classification System. Less than 2% fine material (<0.074 mm) is present in the sand. Copies of the sieve analyses are included as Attachment 2.

Also along the central shoreline reach, a 200-foot long profile was measured from the backshore to the shoreline. The profile shows backshore elevations of +6 to +7.5 feet MLLW, berm crest elevation of 7.9 feet MLLW, and a beach foreshore slope of 1V:5.5H. Copies of the beach profiling field notes are included as Attachment 3.

Shoreline Trends

A series of historical aerial photographs can be used to show shoreline trends. Sea Engineering (1988) produced a shoreline change atlas based on aerial photographs. The atlas included qualitative descriptions of beach change and quantitative measurements of vegetation line change over the observation period of 1958 to 1988. Three transects were located near the project site—on the west side of Barbers Point Beach Park, at the present site of the basalt groin, and 1,200 feet east of the basalt groin. An accretion of 22 feet was found at the center transect, attributable to the groin. No change was found at the adjacent transect locations.

The University of Hawaii Coastal Geology Group (CGG) has undertaken historical analysis of Oahu's shoreline and is producing shoreline change maps based on aerial imagery from 1911 to 2005. Analyses for many portions of the east and south shores of Oahu have been completed.

While the project shoreline has not yet been analyzed, historical shoreline change for the shoreline east of the basalt groin was shown to be stable or slightly accreting over 3,400 foot shoreline reach.

M_FA Masa Fujioka & Associates
Geotechnical • Environmental • Hydrogeological Consulting

Observations of the nearshore waters in the vicinity of the project site have shown that there is no significant sand source available to naturally feed the beach. Wave convergence patterns would suggest the potential for sand to build at the project site, with littoral drift along the shoreline from each direction being the dominant transport mechanism. Sediment transport, however, is interrupted by the box culvert on the west and the basalt groin on the east. Considering the lack of sand available in the nearshore waters, sand transport to the project shoreline is greatly limited and future accretion is unlikely. Additionally, the higher energy caused by the wave convergence introduces erosion potential at the shoreline.

3. *Your Comment:* The Office of Conservation and Coastal Lands (OCCL) regulates and land uses seaward of the shoreline and would therefore be responsible for regulating some of the proposed activities in this area. Based on the information provided it appears the proposed activities seaward of the shoreline (excavation and backfill) requires a Departmental Permit from the Board of Land and Natural Resources (BLNR) typically processed as a Conservation District Use Application (CDUA) from the DLNR.

Our response: A CDUA will be submitted to the BLNR after the DEA has been finalized. Section 4.3.2 of the DEA will be amended to add the requirement for a CDUA from BLNR in the Final EA.

4. *Your Comment:* The CDUA should provide more detailed description of the proposed Best Management Practices (BMPs), excavation and barrier trenching plan and the proposed sediment source and characteristics for backfilling.

Our response: A detailed BMP plan is being developed for the multiple permits required for this proposed project with the help of SEI. The BPM plan will provide descriptions of planned excavation and trenching. Information about the proposed sediment source and characteristics of the fill for backfilling will be submitted as part of the CDUA and small-scale beach nourishment permit application.

Please do not hesitate to contact Lana Brodziak with any questions or comments at 484-5366.

Respectfully submitted,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership



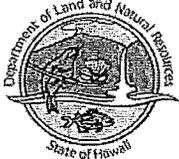
David R. Daugherty, P.G.
Principal

Attachments:

1. January 3, 2008 Certified Shoreline Survey
2. Beach profiling field notes
3. Beach sand sieve analyses

CC: Steve Tagawa, City and County of Honolulu, Department of Planning and Permitting
Leah Young, Reit Management & Research, LLC, without attachments file

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

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

January 29, 2009

Mr. David Tanoue
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

LOG NO: 2009.0380
DOC NO: 0901WT32
Archaeology

Dear Mr. Tanoue:

**SUBJECT: Chapter 6E-8 Historic Preservation Review—
DRAFT Environmental Assessment--
Special Management Area (SMA) Use Permit and Shoreline Setback Variance
Chapters 23 and 25, Revised Ordinances of Honolulu, Hanua Street Containment
Cap and Barrier at James Campbell Industrial Park, 91-008 Hanua Street, Kapolei,
O'ahu, Hawai'i
TMK: (1)9-1-026:026**

Thank you for the opportunity to review the aforementioned permit application with the Draft Environmental Assessment (DEA) which we received on January 9, 2009. The proposed project is a remedial action to address ash impacted soil at the subject parcel in response to a Hazard Evaluation and Emergency Response (HEER) by capping the affected soil and constructing a containment barrier to prevent migration of material into the coastal environment.

Section 3.4.5, paragraph 2, refers to a survey performed by the State Historic Preservation Division (SHPD) in 1978, referencing Clark 1979, where it was determined that there were no historic sites present on the parcel. In Section 3.4.5, paragraph 3 you reference a search performed to determine if any sites on the Historic Register were present referencing SHPD 2007.

The project area abuts the shoreline, which consists of coralline sands and karst, with sinkholes. The possibility of human burials exists within these soil matrices is high, as they have been found in this environment in previous projects. Please provide a copy of the survey report cited in 3.4.5 paragraph 2, and include it as an Appendix in the FINAL Environmental Assessment (FEA), plus a complete reference for the search for registered sites, and any other history of consultation with this office regarding that parcel, such that we can make a determination that no other archaeological work needs to be undertaken.

Mr. David Tanoue
Page 2

Please contact Wendy Tolleson at (808) 692-8024 if you have any questions or concerns regarding this letter.

Aloha,



Nancy A. McMahon (Deputy SHPO)
State Historic Preservation Officer

~~Cc:~~

Masa Fujioka & Associates
98-021 Kamehameha Highway, Suite 337
Aiea, Hawai'i 96701

REIT Management & Research, LLC
733 Bishop Street
Makai Tower, Suite 1820
Honolulu, Hawai'i 96813



FILE COPY

March 24, 2009

Ms. Nancy A. McMahon
State Historic Preservation Officer
State of Hawaii
Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

Attention: Wendy Tolleson

Subject: Historic Preservation Review
Hanua Street Containment Cap and Barrier
TMK: (1) 9-1-026:026

Dear Ms. McMahon:

Thank you for reviewing our Draft Environmental Assessment (DEA) for the above referenced site. We are providing responses to your comments directly as requested by the City and County of Honolulu's (CHH) Department of Planning and Permitting.

Please find a copy of the 1979 Clark report conducted for the CHH Department of Parks and Recreation for the abutting property, Barber's Point Beach Park attached to this letter. The project site was not listed on the National and State Register of Historic Places information found on the State Historic Preservation District (SHPD) website, accessed April 2007. The reference for this document can be found in Section 9, References, of the Draft EA and a copy of the reference page has been included with this letter. These documents will be included as a separate Appendix in the Final EA for the Site. A file review was performed for the site with the help of Tereasa Devan at the SHPD Office on May 9, 2007 and no files, reports or surveys were found for the site.

Please contact Lana Brodziak with any questions or comments at 808-484-5366, extension 14.

Respectfully submitted,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

David R. Daugherty, P.G.
Principal

Attachments:

1. Archeological Reconnaissance Survey for Barber's point Beach Park Improvements, S. Clark, 1979
2. Page 9-3 of Draft EA Reference section

CC:

Steve Tagawa, City and County of Honolulu, Department of Planning and Permitting
Leah Young, Reit Management & Research, LLC

APPENDIX B

CH2M HILL ENVIRONMENTAL INFORMATION

Privileged and Confidential

**Environmental Site Investigation and
Risk Evaluation
at the Hanua Street Site
Kapolei, O'ahu, Hawai'i**

HDOH Release Identification Number: 200306271145

Prepared for
CAMPBELL HAWAI'I INVESTOR LLC

Prepared by



CH2MHILL

Honolulu, HI 96814
(808) 943-7135

June 7, 2004

Executive Summary

This Environmental Site Investigation and Risk Evaluation report documents the findings of an environmental site investigation conducted at the parcel located at the southern terminus of Hanua Street (the "Property"), in the James Campbell Industrial Park [TMK: 1-9-1-26] (Figure ES-1). This Environmental Site Investigation and Risk Evaluation was conducted by CH2M HILL Inc. on behalf of Campbell Hawai'i Investor LLC (hereinafter referred to as "CHILL") to further evaluate the environmental condition of the property identified in response to previous site assessment activities.

The previous environmental site assessments were conducted by LFR Inc. (LFR), and identified several chemicals of potential concern (COPCs) in the shallow subsurface soils at the Property. The results of the investigations suggested that, based on the nature and extent of the COPCs, historical auto-wrecking operations at the Property were likely responsible for the environmental concerns identified.

Environmental Site Investigation and Risk Assessment Objective

The primary objective of the Environmental Site Investigation and Risk Evaluation focused on whether the elevated concentrations of lead identified during the earlier investigations was associated with burned debris and whether the elevated concentrations of lead and other contaminants present in the burned layer or other site media may pose a current or future unacceptable threat to human health or the environment.

The additional site data collected during the execution of this project were intended to supplement the existing site data set to attain a sufficient degree of statistical representation to support a screening level risk assessment in order to evaluate reasonable risk exposure pathways and receptors.

It is anticipated that if a decision to conduct a corrective action is made, additional property assessment may be appropriate, and an evaluation of risk reduction alternatives will be documented in a Remedial Alternative Analysis Report and Response Action Memorandum (RAM), in accordance with the requirements of the Hawai'i State Contingency Plan and State of Hawai'i Department of Health (HDOH) guidance.

Field Investigation Activities

The scope of this investigation was to perform further evaluation of suspected significant environmental conditions associated with onsite media. This investigation included the collection of additional surface soil, subsurface soil, and groundwater samples at the Property. These media were analyzed to determine whether they contained contaminants at concentrations that posed an unacceptable threat to human health or the environment.

Soil Sampling and Analysis

The field sampling and analysis program for this investigation consisted of sampling and analysis for the following media:

- **Surface Soil**

Surface soil samples were collected for analysis from eight locations along the southern edge of the Property, in two transects. Samples were analyzed for eight Resource Conservation and Recovery Act (RCRA) regulated metals, polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and dioxins and furans.

- **Shallow Subsurface Soil (12 to 18 inches)**

Collected 12 additional soil samples from the 12 to 18 inch below ground surface (bgs) subsurface soil interval based on the results of LFR's investigation that indicated the majority of the COPCs were present at this level in the subsurface. Spacing selection of soil sample locations was based on their proximity to previous sampling locations performed during LFR's initial investigation, with the specific objective of further delineating the areal extent of the lead and PCBs in the soil. Subsurface soil samples were analyzed for metals and PCBs.

- **Deeper Subsurface Soil (2 to 7 feet)**

Collected 11 deeper subsurface soil samples, eight of which were collected from approximately 30-inches to 36-inches bgs, co-located with the shallow surface soil sampling locations. Selection of the 30 to 36 inches bgs subsurface soil interval was based on the observation that in the earlier investigation, concentrations of COPCs at this level were sporadically present; however, in the majority of instances where COPCs were encountered, the concentrations were below the screening levels. Three soil samples were collected from deeper sampling intervals to further delineate the vertical distribution of COPCs at the Property. Subsurface soil samples were analyzed for metals and PCBs.

- **Soil at Elevated Lead Concentration Locations**

Two subsurface soil sampling locations were selected to be immediately adjacent to locations previously sampled by LFR. These two locations were significant because they contained the most elevated concentrations of lead found in LFR's investigation. The purpose of resampling at these locations was as follows:

- To examine the characteristics of the soil and confirm the link between elevated COPC concentrations and burned debris.
- To collect samples of this material for dioxin analysis, if it was found that burned debris occurred at the same location where LFR had collected their samples.
- To assess the potential lead mobility in material demonstrated to contain the most elevated concentrations of lead by conducting leach test analysis on this material.

- To evaluate whether native material below the most elevated concentrations of lead had been affected (that is, had lead migrated into native subsurface soils).

Geotechnical Sampling for Burned Layer Thickness Evaluation

Thirteen geotechnical samples were collected at the site to evaluate the thickness and distribution of the burned debris layer that had been identified in the previous LFR report.

Groundwater Sampling

Groundwater samples were collected for volatile organic compounds (VOCs) from three existing onsite wells installed during LFR's investigation.

Summary of Results

Nature of Burned Debris

A distinct layer of gray to black material was encountered in the eroding beach face on the ground surface and in subsurface soil examined via the borings advanced at the Property. Melted glass, metal automobile parts, small gauge wire, and other materials are consistent with the suspected and/or known historical land uses at the Property.

Based on the results of observations made during site visits and drilling activities, the area containing evidence of burned debris encompasses approximately 4 acres.

The vertical extent of burned debris at the Property occurs beneath a layer of sandy soil or gravel cover soil that ranges in thickness between zero and 2 feet, with cover soil being thin or absent in the southern property boundary. The burned debris materials are present at varying depths from zero to approximately 5.5 feet bgs (primarily distributed in the 1.5 to 3.0 feet bgs range), with the thicker sequence of debris materials located near the middle of the shoreward edge of the property.

Based on the lateral and vertical extent of the burned materials described above, the volume of these materials at the Property is estimated to be approximately 18,000 cubic yards.*

An evaluation conducted during this investigation of the leaching potential of the elevated concentrations of lead indicate that the potential for mobility of lead is low, and the native material below the areas impacted by burned debris has not been significantly impacted.

Human Health Risk Characterization

This section summarizes the risk assessment for the Property. Data from the soil and groundwater data collected from surface locations, DPS borings, and monitoring wells during LFR's and CH2M HILL's field investigations following sampling events were considered usable for the baseline risk assessment.

* This volume estimate is based on an approximate area of 4 acres and an average depth of 2.5 feet.

Human Health Risk Characterization Results

The primary COPCs that were responsible for contributing to human health risk were arsenic, dioxins, and lead. The human health risk characterization results for current/future occupational workers, future construction/excavation workers, and recreational users/trespassers are summarized as follows:

Current and Future Occupational Workers. The potential hazard index (HI) for noncancer effects is 0.36, which is below the target threshold value of 1.0. The potential cumulative estimated lifetime cancer risk (ELCR) from all carcinogenic COPCs is 7.6×10^{-5} , which is within the United States Environmental Protection Agency (EPA) target risk range of 1×10^{-6} to 1×10^{-4} (EPA 1991).

Future Construction Worker. The potential HI for noncancer effects is 0.04, which is below the target threshold value of 1.0. The potential cumulative ELCR from all carcinogenic COPCs is 3.9×10^{-6} , which is within the EPA target risk range of 1×10^{-6} to 1×10^{-4} (EPA 1991).

Current/Future Juvenile Recreational User/Trespasser

- **Soil.** The potential HI for noncancer effects is 0.51, which is below the target threshold value of 1.0. The potential cumulative ELCR from all carcinogenic COPCs is 2.7×10^{-5} , which is within the EPA target risk range of 1×10^{-6} to 1×10^{-4} .
- **Groundwater.** The potential HI for noncancer effects is 0.02, which is below the target threshold value of 1.0. The potential cumulative ELCR from all carcinogenic COPCs is 3.6×10^{-7} , which is well below the EPA target risk range of 1×10^{-6} to 1×10^{-4} .

Current/Future Adult Recreational User/Trespasser

- **Soil.** The potential HI for noncancer effects is 0.24, which is below the target threshold value of 1.0. The potential cumulative ELCR from all carcinogenic COPCs is 6.7×10^{-5} , which is within the EPA target risk range of 1×10^{-6} to 1×10^{-4} .
- **Groundwater.** The potential HI for noncancer effects is 0.01, which is below the target threshold value of 1.0. The potential cumulative ELCR from all carcinogenic COPCs is 1.4×10^{-6} , which is within the EPA target risk range of 1×10^{-6} to 1×10^{-4} .

Lead Evaluation Results

The EPC for lead in surface soil is 775 mg/kg, which is greater than the EPA preliminary remediation goal (PRG) of 750 mg/kg for industrial properties. Of the 47 subsurface soil samples where lead was detected, 18 were reported with lead concentrations above the industrial criterion of 750 mg/kg. The maximum lead in subsurface soil is 39,100 mg/kg. Because lead was detected above the action level in surface and subsurface soil, lead is identified as a COC and recommended for further evaluation. Dissolved lead was not detected in groundwater. Therefore, lead is not considered a COC in groundwater.

Ecological Screening Assessment Results

Constituent concentrations do not exceed ecological screening levels for any of the groundwater samples collected. Therefore, no COCs are identified for constituents in groundwater originating from the Hanua Street property and potentially discharging to offsite surface water where estuarine resources are present.

Constituent concentrations in the soil samples from the near shore eroding beach face exceed the National Oceanic and Atmospheric Administration (NOAA) effects-range-low (ERL) screening levels for arsenic, cadmium, chromium, lead, mercury, and PCBs, and exceed the NOAA effects-range-median screening levels for cadmium, lead, mercury, and PCBs in at least one beach face location.

These screening results indicate that, if these soils erode in the future and migrate to near-shore beach sediment at these concentrations, a potentially complete exposure pathway could exist where marine resources are present.

Findings

Approximately 18,000 cubic yards of potentially contaminated ash, soil and debris is buried beneath a thin (and sometimes absent) soil cover at the Property. These materials have also been observed to be present in the beach face. Physical and analytical data demonstrate that a release mechanism and potential exposure pathway for these constituents exists.

The results of the risk assessment for human health indicate that risks potentially posed to current/future occupational workers, future construction/excavation workers, and recreational user/trespassers are within the EPA's acceptable levels with the exception of lead. Lead has been identified as the primary COC, since the Exposure Point Concentration for lead in surface soil exceeds the industrial PRG. Arsenic and dioxins are only slightly elevated above what might be considered background levels in this heavily industrialized area of Oahu.

Ecological screening results indicate, based on a comparison of the COPC concentrations in the near-shore sediments to the NOAA ERL screening values, that a potentially complete exposure pathway could exist and potential unacceptable risk be posed if the beach face were to erode and migrate into near-shore beach sediment at these concentrations.

In conclusion, with respect to human health risks, the remedial investigation phase for this property is complete. The path forward to address any remaining environmental concerns will be determined based on discussions with HDOH.

TABLE H-4
 Soil Data - SPLP, CH2M Hill, Inc.
 Hanua Street, Kapolei, Hawaii

Sample ID	Location ID	Date Sampled	Depth (feet)	HS-NS-009-B14-4.0	HS-NS-010-B15-7.5	HS-SS-009-B14-1.5	HS-SS-109-B14-1.5-FD	HS-SS-010-B15-1.5	
	NS-009	9/24/2003	4		NS-010	SS-009	SS-009	SS-101	
				9/24/2003	9/24/2003	9/24/2003	9/24/2003	9/24/2003	
				7.5	1.5	1.5	1.5	1.5	
Chemical Group	Analyte	Units	TCLP Limit*						
METAL	Lead-SPLP	mg/L	5	0.0020	U	0.0020	U	0.0020	U
				0.0020	U	0.0020	U	0.0020	U

Notes:

Highlighted and bold values indicate exceedance of a screening level.

Data Qualifiers

U = The analyte was analyzed for, but not detected. The associated numerical value is at or below the sample-specific MDL.

Abbreviations

- FD = field duplicate
- mg/L = milligrams per liter
- MDL = method detection limit
- SPLP = synthetic precipitation leaching procedures

Screening Criteria

TCLP = toxicity characterization leaching procedures

APPENDIX C

2005 MFA ENVIRONMENTAL SITE INVESTIGATION REPORT



MASA FUJIOKA & ASSOCIATES

A PROFESSIONAL PARTNERSHIP

ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS

99-1205 Halawa Valley Street, Suite 302 • Aiea, Hawaii 96701-3281

Phone 808 484-5366 • Fax 808 484-0007

February 8, 2005

REIT Management & Research, LLC
400 Centre Street
Newton, MA 02458-2076

Attention: Mr. Don Carli

Subject: Report, Environmental Services and Consultation
Various Campbell Industrial Park Properties

Masa Fujioka & Associates (MFA) is pleased to present this report that documents the findings of our environmental investigations conducted as part of the due diligence for potential acquisition of approximately 198 acres of property located in the Campbell Industrial Park development of Kapolei, Oahu, Hawaii.

The scope of our work has generally complied with the respective scopes detailed in our five proposals to REIT Management & Research, LLC dated December 29, 2004, and January 5, 6, 7, 11, of 2005.

Thank you for the opportunity to assist you with this project. Please contact us at (808) 484-5366 should you have questions.

Sincerely,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

David R. Daugherty, PG
Principal

1.0 INTRODUCTION

Masa Fujioka & Associates was engaged by REIT Management & Research, LLC (REIT) on December 29, 2004 to provide environmental services and consultation during the due diligence period for acquisition of 55 parcels of land located in the Campbell Industrial Park region of Oahu, Hawaii (Figure 1.1). The parcels comprise approximately 198 acres and include developed plots with structures and tenants, as well as vacant parcels, roads and drainage ways. Various industrial and commercial tenants have occupied the plots both presently and historically. Past and current tenant activities have caused many of the properties to be identified by others as having recognized environmental conditions. Potential environmental liability is, therefore, associated with various parcels. Assessing the potential magnitude of these environmental liabilities, within the narrow timeframe of the due diligence period, was the central goal of our work. Table 1.1 includes Plot information.

2.0 PURPOSE AND SCOPE

The purpose of this work is to add to the understanding of environmental conditions associated with these properties, and to aid in assessing the potential environmental liability.

Our conducted the following scope of work:

- We reviewed the Phase 1 environmental reports prepared by Tetra-Tech EM, Inc. (TT) for the 55 subject parcels. We have noted readily apparent deficiencies in these reports, if any, and have highlighted findings that indicate significant environmental liability.
- We visited the sites to note the presence of hazardous material or wastes.
- We examined readily available documents such as insurance maps, topographic maps, and aerial photographs. We supplemented documents provided with readily available information from public archives and interviews with personnel representing Campbell Estate and others as warranted.
- We selectively reviewed Campbell Estate environmental files and environmental documents provided to Campbell Estate by tenants.
- We visited 11 sites that were selected due to known environmental conditions with the potential for greatest environmental liability and/or identified as warranting additional investigation. Tenant interviews were conducted as part of the site visits for the purpose of gathering additional information to assist in evaluating environmental conditions. We noted visual signs of chemical contamination and specifically looked for releases from hazardous materials, storage tanks, disposal areas, and maintenance areas. We did not assess geotechnical conditions, wetlands, endangered species, archaeological conditions, air quality, mold, regulatory compliance, lead-based paint, asbestos, radon, methane, or electromagnetic radiation.
- We reviewed Department of Health (DOH) environmental case files for 20 selected parcels.
- We reviewed Phase II and Phase III environmental assessment documents prepared by others for Hanua Street Plot 14, Leeward Auto Wreckers Plot 33, and Leeward Auto Recyclers Plot 39.
- We reviewed a spreadsheet developed by the URS Corporation that lists environmental concerns for each parcel and provides estimates for potential

environmental liability. We provided comments and recommendations for revisions to these estimates, as appropriate in our view.

- We conducted limited soil, sediment, and groundwater testing on samples collected from Plots 14, 33, 39 and drainage way plots comprising Drain A, Drain C, and Komohana Drain.
- We provided this report summarizing our findings and including our comments regarding the potential environmental liability associated with the parcels, including potential remediation costs based on consideration of probable remedial alternatives.

3.0 BACKGROUND

3.1 Physical Setting

The James Campbell Industrial Park is located on the Ewa coastal plain on the Island of Oahu, Hawaii. This leeward coast setting is supported by a broad and relatively flat coral reef elevated many feet above sea-level in modern time, but formed during a higher stand of the sea in the past. Much of the region has been graded to fill depressions and sinkholes for commercial and industrial development purposes. Scrub vegetation and low trees grow on undeveloped and vacant portions of the Park. The Pacific Ocean lies both to the south and west of the Park as the coastline curves towards the northwest from east to west across the Park's southern and western extent. Beach areas bordering the Park are generally sandy.

3.2 History of the Vicinity

Readily available historical documents were examined for topographic, cultural, and land use changes that may have affected the environmental condition of the subject property. Resources included topographic maps, aerial photographs, Sanborn fire insurance maps (for select locations within Campbell Industrial Park (CIP)), tax maps, and online historical resources for historical review of the CIP vicinity, and City and County of Honolulu (C&C) online building permits, previous environmental reports, and lease documents for select plots.

Aerial photographs are useful resources for identifying structures, signs of construction, roadways, vegetation, and other features. The RM Towill Corporation provided 14 photographs covering most of the CIP vicinity, with image resolution ranging from fair (somewhat difficult to identify smaller structures) to good (some small details such as tanks are discernable) quality.

Topographic maps (at 1:24,000 scale and contour intervals of 40 feet) depict roads, individual buildings and built up areas, forests, trails, waterways, and other features of interest. The 1940s era United States Army Corps of Engineers (USACE) maps are particularly useful for researching military features, and they tend to show more geographical detail at 1:20,000 scale. Older maps (at 1:18,000, 1:60,000 and 1:360,000 scales) show fishponds, roads, trails, railway lines, sugar mill camps, etc., and sometimes ownership of post-contact land divisions. The 1909-1913 map has no legend available, and was at reproduced at reduced resolution.

Sanborn Maps provide historic details of land use changes, structure-types occupying subject property and adjoining parcels, and (potentially) specifically identify sites of environmental concern, such as those having boiler tanks, underground storage tanks (USTs), "gas and oil" dispensers, compressors, hoists, etc. Sanborn maps have highly variable resolution (because they are generally black and white photocopies of colored, hand drawn originals). Sanborn maps were available for only portions of CIP.

Building permits and zoning information from the C&C Department of Planning and Permitting (DPP) for individual parcels typically indicates structure build dates, usage (occupancy categories), occupant ownership, and business activities.

An online search for local historical records often yields helpful information. Documents can include oral histories of current or former inhabitants of the site area, published scholarly articles about neighborhood features or issues, old photographs of the site area, newspaper articles, etc.

Topographic maps, aerial photographs, and Sanborn maps are included in Appendix A-1, A-2, and A-3, respectively. Table 1 of Appendix A lists image resources used for this study, including references, years and locations covered, and quality of information.

An overview of CIP historical use is presented in the following text. Details of observed changes for individual plots of interest are presented in Section 4 for each plot. Many of the mapped and photographed features discussed in this section are indicated on Appendix A images.

Archaeological studies in the vicinity of the subject site area (at and nearby the former Naval Air Station immediately east of the site) indicate that Hawaiian settlements were likely scattered about the Ewa Plain around 1800. A prominent heiau located on the former military base indicates that the area was occupied by Hawaiians over a longer period of pre-contact time. Post-contact history of the vicinity includes ranching, sisal cultivation, and military use (PM, 1995), in addition to past industrial activities at CIP.

Topographic maps indicate that Kalaeloa (Barber's Point) was undeveloped from 1881 through at least 1913, except for minor roads and trails along the shoreline and crossing the coral plain from the Point and Plot 2 areas to the Oahu Railway line and Ewa Plantation. Fenced sugar cane (and scrubby or wooded) lots were located near the present CIP north boundary.

The lighthouse at Kalaeloa was present by at least 1917. Three structures were clustered about it (immediately west of Plot 5) until at least 1943. By 1927, a tank was located at the lighthouse within a couple hundred feet of Plot 5. A pipeline from the tank extended eastward along the shoreline, crossing Plots 5, 14, and the drainage Plot 30. The black and white map reproduction does not indicate if the pipeline was for water or for fuel; however, by 1938, a water pipeline was present along or nearby the previously mapped "Pipe Line." The previously mapped tank is not discernable from the three structures at the lighthouse indicated on the 1938 map. By 1943, the tank is still indicated, but pipeline is not visible on the poorly reproduced image. By 1962, the tank and two of the buildings were no longer indicated on the lighthouse property.

An increased number of unimproved roads were mapped across the CIP area from the Gilbert railway community and the Kapolei area to the lighthouse on the 1927-1930 map. Fencing extended from the Ewa Plantation community to the shore, crossing Plot 2. By

1938, improved roads extended along the present Malakole Road and Lighthouse Road/Olai Street alignments, and along the canal bordering the east side of CIP.

Military use of the adjacent (east) Naval Station began in the 1930s, when the Campbell Estate leased about 200 acres to the Navy for use as a dirigible mooring. The lease expired in 1939 or 1940, upon which time the Navy acquired over 3,000 acres from Campbell Estate for the purpose of building a landing strip (at the former mooring mast location) as part of an auxiliary air station to the Ford Island facility. The air strip was completed by 1941. The acreage was also to be used by two aircraft carrier groups for their land-based operations. Over two hundred buildings were constructed on the base between 1941 and 1944, with the vast majority completed between 1943 and 1944 (PM, 1995). The US Coast Guard moved to the base (from Kaneohe) in 1949. The base was decommissioned by 1999, when 2,150 acres were turned over to the State of Hawaii (an area now designated the Kalaeloa Community Development District). The Navy retained 1,100 acres for military family housing and support, and the Coast Guard continued to occupy a portion of the former base after closure (GSO, 2001).

A Naval Reservation (USC&GS Observatory) was mapped within CIP in 1953 at a location immediately north of Olai Street (Plot 32). The approximately 25 acre, fenced area was occupied by cluster of structures at its southwest corner. The boundary of the reservation is recognizable in an early 1950s aerial photograph. By 1968, the reservation was no longer mapped, and it appears to have been abandoned by 1969 (when the photographed area was overgrown with few structures visible).

By 1940, the 251s Coast Artillery (anti-aircraft) regiments developed Camp Malakole (Honouliuli Military Reservation) "from the ground up" (Robertson, 2002) along the shoreline north of CIP. The reservation included both fixed and mobile guns (USARPAC, 2001). The military camp is mapped at the northern termination of Plot 3, between Malakole Road and the ocean beach, by 1943. More unimproved roads extending from the lighthouse to Malakole Road were mapped at this time. Most of the site area was otherwise mapped as forested land in 1943. The military camp layout is visible in a 1958 photo, but by then the area was partially overgrown and apparently little used. It was mapped as "Camp Malakole Military Reservation" in 1962, but only one improved road and one unimproved road was featured, and no structures were indicated. Few details of the camp were still mapped by 1983, and traces of the former camp roads are visible in photographs as late as 1991. By 1994, the Kenai Industrial Park had been built on the former campsite.

By 1950, an aerial photo shows that most of the CIP area was vegetated. Several changes in road alignments are visible, relative to the 1943 map, including geometric zig-zags from the lighthouse area northward to the previously mapped military camp. Two prominently straight roads branched at acute angles from Lighthouse Road/Olai Street. An excavated area is visible at the intersection of one straight road and Lighthouse Road. By 1953, Lighthouse/Olai Road was improved, and a Civil Aeronautical Administration (CAA) marker was located on the excavated intersection. The Komohana drain portion bounding CIP and Navy land had been developed by 1953. The CAA marker-excavated area is still

visible in a 1958 photograph, when Hanua Street was developed from it to Malakole Road. By 1963, the two acutely branching roads and the excavated area are no longer visible, and all of the CIP roads were developed, except at a portion of the park's northeast corner.

Signs of industrial development first appear in a 1958 photo, when a grid pattern of narrow excavations was present along Hanua Street. Features parallel to and on either side of Hanua Street match present-day Drains A (Plots 23 and 30) and C (Plots 35-37 and 48). Most of the area was still wooded, and individual structures are difficult to discern from trees. Major industrial complexes were apparently not yet under development. The first occupants of CIP reportedly began operating in 1959 (EHI, 1993).

By 1962, several large industrial complexes were mapped within CIP. The (current Chevron) oil refinery-(including dozens of tanks and a shore side oil sump) was present immediately south of Malakole Road, extending from the shoreline nearly to Hanua Street (adjoining Plots 1, 2, 3, and 11). A cement plant on Kaomi Loop had developed interior roads, tanks, and about a dozen buildings. A warehouse complex was developed between Drain A, Kaomi Loop, and Hanua Street at Plots 8 and 9, site of one of the first CIP occupants, Hawaii Western Steel (HWS), a steel mill operation (EHI, 2003). A tank farm was mapped in 1962 at the present-day Texaco parcel. A dozen or so individual structures were built along Hanua Street and other CIP roads. A Coast Guard Reservation was located at the lighthouse (adjoining Plot 5).

A second tank farm is visible at the Ameron parcel (adjoining Plot 35/Drain C) in a 1963 photograph. Although the east third of CIP was heavily wooded, another narrow grid system had been excavated east of Kalaeloa Boulevard and the BHP parcel (Plot 38). BHP appears to have been under construction at the time.

Few changes within CIP are indicated on a 1968 map, or are visible on 1969 and 1970 photographs. By 1968, several new buildings were constructed immediately north of the cement plant on Kaomi Loop, and others were scattered about Kalaeloa and Hanua roads and Drain C. A large area along the north side of Kaomi Loop was excavated. The photograph also indicates the development of the meat packing plant at the southwest shoreline, where a large number of elongate features (likely stock pens) and several buildings had been constructed (adjoining the south side of Plot 32/Olai Street).

By 1974, aerial photography indicates that CIP was developed to its eastern boundary at Komohana Drain Plot 61. A large tank farm was built adjoining the middle-west side of Plot 61. Most of the park was occupied by buildings or excavated, especially within the northeast quadrant of the general site area. The few significant parcels of vegetated (vacant) land still present included acreages north and south of the new tank farm along Komohana Drain; between the Chevron tank farm, Malakole Road/Plot 3 and Plot 1; adjoining the north side of Malakole Road/Plot 3; south of BHP/Plot 38; and north of Kaomi Loop (on the previously excavated area).

By 1982, an aerial photograph shows that the cement plant was developed over a slightly wider area, and that more construction had occurred at parcels near the center of CIP,

mostly along and east of Kalaeloa Boulevard. Land adjoining the north side of Malakole Road/Plot 3 was partially excavated and had dirt roads through it. The remainder of CIP was essentially unchanged.

The 1983 map indicates additional structures immediately north of Kaomi Loop. Most of the Komohana Drain system (Plots 55 and 61) was developed, although the Plot 61 portion was laid out differently than the present day configuration.

By 1984, the partially excavated parcel north of Malakole Road/Plot 3 (indicated as mostly forested on the 1983 map) had expanded excavation. The Plot 1 area was developed.

By 1991, land between Kaomi Loop and the Chevron refinery had very little vegetation left, along with the addition of several large warehouses. A relatively small tank farm was built on land adjoining the west side of Plot 45/BHP. The north lateral of Komohana Drain/Plot 61 was present.

By 1994, the stockyard pens were enlarged on the property south of Plot 32/Olai Street. The steel mill furnace on Plots 8 and 9 was no longer visible in 1995; however, the rolling mill warehouse and two other structures were still present. No further significant changes were observed on the 1998 topographic map.

4.0 THE PLOTS

4.1 Plot 1: TMK 9-1-014:022, 91-300 Hanua Street, Tenant: Dietrich Industries, Inc.

4.1.1 Physical Description

According to the Phase I Environmental Site Assessment (ESA) Report prepared by TetraTech (TT, 2004a), the site is occupied by Dietrich Metal Framing, a producer of steel framing and finishing products. The site contains one warehouse and an adjoining office, both metal-walled and roofed, and concrete-floored.

4.1.2 Significant Findings From Historical Review

Topographic maps: indicate that **above ground storage tanks** (ASTs) were located on the Chevron tank farm complex adjoining the southwest corner of Plot 1 since at least 1962. The site and north, northwest, and south-adjoining lands were vegetated and vacant until at least 1968. By 1983, a structure was developed immediately south of the site, but north and northwest-adjoining land was still vacant and vegetated. By 1998, all but the northwest-adjoining land was indicated to be "built-up," including the subject plot.

Aerial photographs: indicate the site was cleared by 1984 and that a warehouse occupied the site by 1994.

Sanborn maps: were not available for this site.

Building permits: Permit for a new warehouse and office building were issued to A.P. in 1990. Dietrich Industries had an application for electrical work cancelled in 2001.

4.1.3 Significant Findings From Campbell Estate File Review.

Phase I Environmental Site Assessment (TT, 2004a)

Based on their Phase I Environmental Site Assessment conducted in May 2004, TT considered the only Recognized Environmental Concern (REC) at Plot 1 to be Easement 7545 for fuel or oil pipelines. Known subsurface contamination at the adjacent Chevron facility, and the possibility of contamination migrating to the Plot 1, is noted in the TT report.

During their site reconnaissance, TT observed machine oil and solvent stored in drums on rubber pallets in the warehouse. They also observed seven drums of waste oil stored outside on wood pallets, but without secondary containment. TT reported no signs of release(s) from these drums, and stated that the oil storage did not constitute a REC.

4.1.4 Significant Findings From DOH File Review

This plot was not selected for additional DOH file review.

4.1.5 Synopsis of Site Reconnaissance

This plot was not selected for site reconnaissance during this investigation.

4.1.6 Hazardous Materials and Waste Inventory

The survey for hazardous material and wastes follows. This survey was completed by our subcontractor, Pacific Environmental Corporation, a local hazardous material handling and waste broker. In addition to conducting the survey, we asked Pacific Environmental Corporation to estimate costs for disposal of the hazardous material and wastes they noted during their survey.

The estimate for hazardous material and waste disposal at Plot 1 is approximately \$3k.

4.1.7 Synopsis of Media Sampling and Testing

This plot was not selected for additional media sampling and testing.

4.14 Plot 14: TMK 9-1-026:026, 91-008 Hanua Street; Tenant: Licencees 91-008 Hanua (multi-tenant)

4.14.1 Physical Description

MFA conducted a reconnaissance of this property in January 2005. The subject property is relatively flat and currently supports five tenants – Giordano's Painting, Kalaka Nui, Finishing Edge, Island Ready Mix, and Worldwide Moving & Storage, Inc. Further details of tenant operations and structures on the property are discussed in Section 4.14.5.

4.14.2 Significant Findings From Historical Review

Topographic maps: By 1927, a dirt road and a **pipeline** (possibly for water) extended eastward from an **AST** at the lighthouse, crossing the south end of Lot 14. (A water pipe or aquaduct is indicated within the same area by 1938.) By 1953, only the dirt road (not the pipeline) was indicated. By 1962, no roads were mapped on the plot. Hanua Street terminated at the northeast corner of the plot, **Drain A (Plot 30)** bounded the west side of Plot 14, and a lateral from Drain A bounded the north side of the plot. Several buildings and an **AST** were mapped on northeast-adjointing land (at the present Ameron site). By 1968, a park had been designated immediately west of the site, and a new structure was built on the park land. By 1983, Barbers Point Beach Park was indicated to include Plot 14. By 1998, the entire east-adjointing area was designated as "built up."

Aerial Photographs: The 1950 photo shows a feature on or near the north boundary of Lot 14 that could be a fenced area, a rough trail, or an irrigation system. By 1958, Hanua Street was developed to the northeast corner of the subject plot. By 1963, the shoreline trail was still visible across Plot 14. A rectangular patch of earth had been recently cleared at the north edge of the site. Either a rough trail extended from Hanua Street to the ocean, or Drain C had a rudimentary extension along Plot 14's east boundary. The **auto-wrecker's yard** was developed immediately north of the site by 1963. (Numerous parked cars are visible.) By 1963, several small, rectangular-shaped excavations (and/or freight containers or buildings) were under development near the northwest corner of the plot, along the north site boundary. The two sets of three rectangles are visible until 1982. A cleared patch along the north end of the east site boundary is visible in 1970. A structure was located at the south end of the excavation, in a location aligned with Hanua Street. By 1991, the entire lot was cleared and several buildings were located along the perimeter of the site, including at least one **AST** at the southeast corner. A building had been constructed on north-adjointing land in the area of the former auto storage area. A new excavation was present on the east-adjointing property. By 1994, **ASTs** were visible near the mid-eastern site boundary. By 1995, the site appeared to have been freshly graded.

Sanborn Maps covered only the property adjointing the north side of Lot 14.

Building Permits: Issued to Confab Corp in 1989 for a fence; 1991 for electrical work; 1992 for a new **boiler**.

Site tenant and previous environmental reports indicate Leeward Auto Wreckers (LAW) was located on the subject property, to the south of the HMR facility. LAW may have **burned cars** on the subject property. Several **contaminants** of concern have been documented to be associated with the possible car burning activities. Previous environmental documentation indicates **subsurface contamination** and layer of burnt material; lack of surface contamination indicates **cap** of clean soil was placed on top of burnt material.

4.14.3 Significant Findings From Campbell Estate File Review

Phase I ESA (LFR, 2003a)

A Phase I ESA was prepared for Campbell Hawaii Investors, LLC by LFR in January 2003. According to the LFR Phase I ESA, a facility map in the DOH records indicates that a furnace utilized by LAW, was located on the subject property, south of the Hawaii Metal Recycling (HMR) facility. A review of a 1970 aerial photograph showed minor staining apparent in the northeast corner of the subject property. A 1982 photograph indicated staining throughout the site. According to the LFR Phase I ESA, a Preliminary Assessment (PA) of environmental issues associated with properties in the vicinity of the subject property indicated that from 1966 to 1968 the adjacent and current HMR property was leased to Flynn Learner who subleased it to LAW. LAW operated an auto salvage yard. According to the assessment, LAW stacked and burned vehicles on the adjoining HMR property. Ash from the vehicle burning was disposed at the adjoining HMR facility, the subject property, or hauled to the Makakilo Landfill. An estimated 2,480 tons of ash was disposed between 1975 and 1981. In 1989, HMR assumed the lease of the current HMR property.

In 1991, fugitive dust from the HMR site was reported along Drain A (Figure 1.1). An aerial photo review indicated the presence of approximately 500 drums at the HMR site and staining extending from the drum storage area to the drain.

Sandblast grit was observed outside near the Giordano's Painting facility. Giordano's Painting is a tenant of the subject property. Eleven "super sacks" of used sandblast grit, paint, and bucket solvents, mastic, and lacquer were observed in the Giordano's Painting warehouses. Minor staining was observed at several locations on the Giordano's Painting property. Several drums were observed utilizing secondary containment. In the Kalaka Nui Trucking, Co. (Kalaka Nui) facility, heavy staining was observed in a shipping container used to store 55-gallon drums of oil.

LFR's recommendations arising from their Phase I ESA findings included a focused "hot spot" Phase II Investigation, a review of current tenant work practices, and a removal of waste materials from the subject property (LFR, 2003b).

Phase II Environmental Site Assessment (LFR, 2003c)

A subsequent Phase II Environmental Site Assessment was prepared for Campbell Hawaii Investors, LLC (LFR, 2003c). The Phase II investigation consisted of collection of surface soil samples at eight locations, installation of 16 soil borings and installation and sampling of three groundwater monitoring wells. Lead, arsenic, PAHs, and PCBs were found at concentrations exceeding DOH Soil Action Levels (SALs) in subsurface soils from 1.5 to 3.5 ft bgs. No elevated concentrations were reported in surface soil samples.

LFR determined that groundwater migration of contaminants had not occurred. LFR stated that the types of elevated contaminants, and the evidence of black burnt debris in the east and south central portions of the site, were consistent with the reported former use of the site by LAW, and the potential presence of incinerator product on the site. LFR also concluded that the surface soil present during auto dismantling, car burning, and incinerator operation is now covered by 1.5 to 2 feet of clean fill.

Environmental Site Assessment and Risk Assessment (CH2M Hill, 2004)

An Environmental Site Assessment and Risk Assessment was prepared for Campbell Hawaii Investors, LLC (CH2M Hill, 2004). The purpose of the Environmental Site Assessment and Risk Assessment was to determine whether the elevated concentrations of lead identified during the earlier LFR report was associated with burned debris and whether the elevated concentrations of lead and other contaminants present in the burned layer or other site media may pose a current or future unacceptable threat to human health or the environment. The CH2M Hill report built upon earlier work done by LFR and noted that contamination near some of the beach areas was not covered by fill, thus allowing direct exposure and possible off-site migration. The CH2M Hill report also quantified the subsurface contamination at 18,000 cubic yards.

As part of the investigation, surface soil, subsurface soil, and groundwater samples were collected and analyzed for contaminants of concern. CH2M Hill also evaluated risk exposure pathways and receptors. The report indicated that a distinct layer of gray to black material was encountered in the eroding beach face on the ground surface and in subsurface soil examined via the borings advanced at the subject property. According to CH2M Hill, the area containing evidence of burned debris encompasses approximately 4 acres. The report stated that the potential of lead mobilization was low. Arsenic, dioxin, and lead were encountered. Of the 47⁷ subsurface soil samples where lead was detected, 18 were reported with lead concentrations above the industrial criterion of 750 mg/kg. The maximum lead measured in a subsurface soil sample was 39,100 mg/kg. Arsenic and dioxins were reported to be only slightly elevated above what might be considered background levels in this heavily industrialized area of Oahu. CH2M Hill indicated that a potentially complete exposure pathway could exist and potential unacceptable risk be posed if the beach face were to erode and migrate into near-shore beach sediment at these concentrations.

Phase I ESA Report (TT, 2004)

The Ameron HC&D Concrete & Pipe Plant and HMR sites, located to the northeast and north of the subject property, respectively, have numerous outstanding environmental issues and are considered by TT to be RECs to the subject property.

The subject property is encumbered by Easement 664, which provides access to place and maintain underground fuel or oil pipelines. TT considered this easement to constitute a REC at the subject property, due to its potential as a source of subsurface contamination.

TT's regulatory database search found that the subject property was identified as "Con-Fab" and listed on the SPILLS and FINDS databases. TT implied that Environmental Data Resources (EDR) had misidentified the site, but a 1989 Environmental Assessment (EA) to obtain a Special Management Use (SMU) Permit was prepared for Con-Fab Corporation.

A review of the aerial photographs identified RECs related to prior use, with tanks in the east central portion of the site. These are considered RECs.

During their site reconnaissance, TT observed the following potential environmental concerns:

- Giordano's Painting
 - Sand blast media on the ground near the paint booth;
 - three discarded car batteries;
 - two mixed debris stockpiles;
 - one 55-gallon waste oil drum;
 - one 55-gallon corrosive drum;
 - two ASTs;
 - various other paint and oil vessels; and
 - a possible groundwater monitoring well in the southwest corner of the site.
- Kalaka Nui
 - Motor oil drum between two SeaVans; and
 - mechanical room with electric warning sign (may contain transformer).
- Finishing Edge
 - Four 55-gallon drums of motor oil;
 - twelve 55-gallon drums used for scrap metal storage; and
 - two unmarked drums at the northwest corner of FE.
- Island Ready Mix
 - Possible abandoned (historical) wash rack at northwest corner;
 - a supersack of used blast media; and

- a green-tinted aggregate stockpile.

TT stated that none of the drums or ASTs appeared to be leaking, but that there was a possibility that heavy metals may be associated with the used blast media, which is a REC at the subject property. TT also considered the potentially PCB-containing transformer is located within the mechanical room west of the Kalaka Nui office to be a REC at the subject property.

CHILL Correspondence Files

Correspondence from CHILL to the tenant discusses findings of LFR sampling, and states that the contamination does not present an imminent risk to health. The letter requests that the tenants not conduct excavations at the property without notifying the owner, so that the owner can assess the location and discuss appropriate precautions to prevent exposure to workers.

4.14.4 Significant Findings From DOH File Review

This plot was selected for additional DOH file review. Most of the documents described in section 4.14.3 were on file at the DOH. Following are additional findings from the DOH file review.

Incident Reported 6/6/96 (DOH HEER, 1996)

The HEER office reported a release ID for the site (200306271145), but the only record of a response incident was in 1996 when HEER responded to an anonymous complaint that there was a "nauseating odor" coming from the site. HEER staff referred the case to the CAB (and no further information was on file).

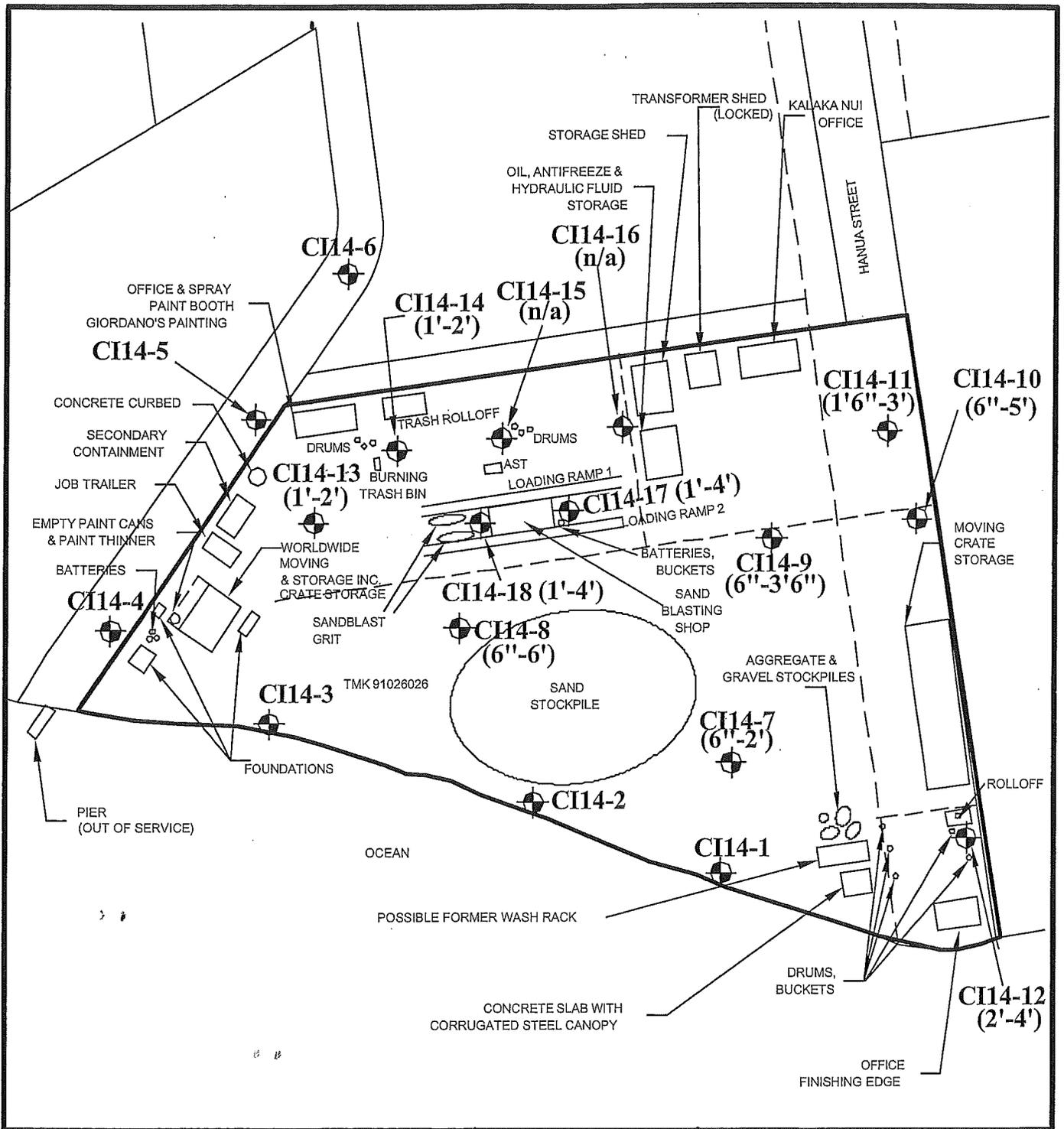
Chemical Inventory Form (Con-Fab, 1996 & 1997)

Several Tier II Chemical Inventory Forms are on record at the HEER office for the former Con-Fab Hawaii Corp. Chemicals onsite reportedly included fuels, mineral spirits, lubricants, rust preventative, solvents, grease, brake fluid, and heating oil.

4.14.5 Synopsis of Site Reconnaissance

MFA staff performed site reconnaissance on January 13, 2005, escorted by Ms Mary Emerson of CHILL. Figure 4.14.5.1 displays a schematic of the plot and Plates 4.14.5.1 and 4.14.5.2 contain pictures taken at the site during site reconnaissance.

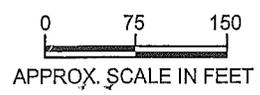
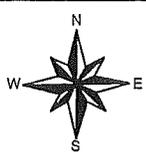
Five tenants reportedly occupy the site: Finishing Edge Curb & Sidewalk (FE), Giordano's Painting (GP), Island Ready Mix Concrete, Inc. (IRM), Kalaka Nui, Inc. (KN), and Worldwide Moving and Storage, Inc. (WWM). With the exception of FE (which is



LEGEND

- LOT LINE
- - - SITE BOUNDARY
- - - SET BACK LINE
- FEE LINE
- ⊙ NEW SOIL BORING BY MFA (ASH LAYER START AND END DEPTH, BGS)

Source: Modified from Tetra Tech, 2004. Schematic only, not to scale.

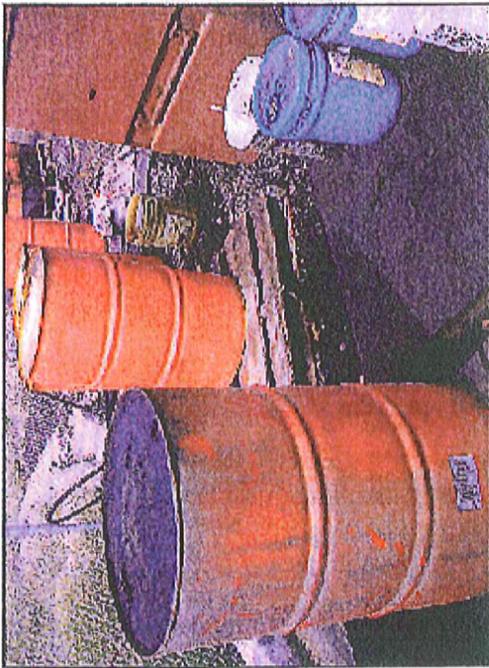


Project:	04404-005
Approved:	DRD
Drawn:	FC
Date:	Jan. 2005
Scale:	1" = 150' (approx.)

Figure 4.14.5.1
Site Plan - Plot 14

91-008 HANUA STREET
JAMES CAMPBELL INDUSTRIAL PARK
TMK 91026026

M F A
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1. Drums and buckets with no secondary containment and stained unpaved soil below.



2. Various debris over stained unpaved soil, possibly by form oil.



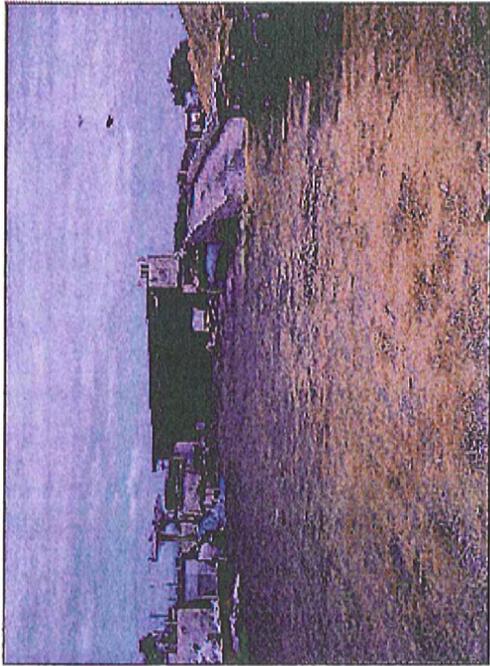
3. Looking west at IRM's sand stockpile and shoreline.



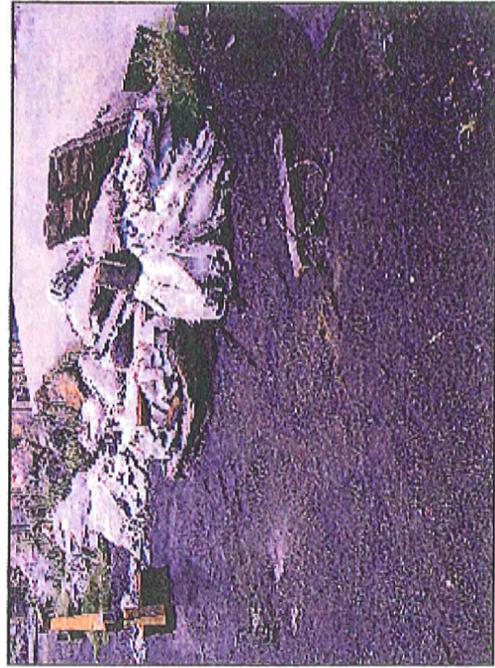
4. Drain A in the foreground; HMR's metal stockpile and Drain B (with overgrown vegetation) in the background.

PLATE 4.14.5.1

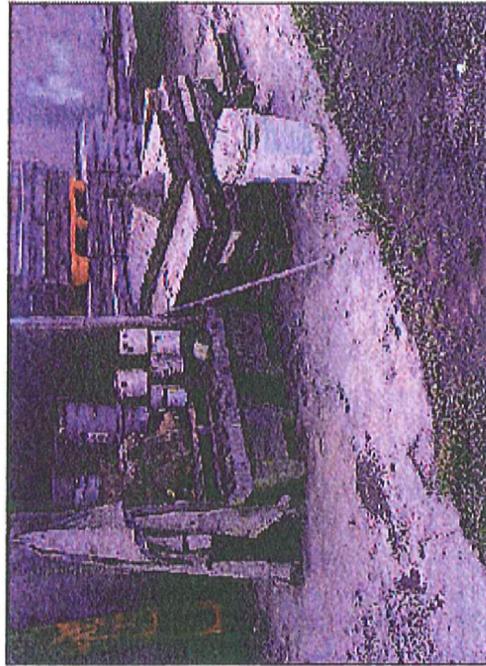
M.F. **MASA FUJOKA & ASSOCIATES**
—FA—
ENVIRONMENTAL • BIOLOGICAL • GEOLOGICAL CONSULTANTS



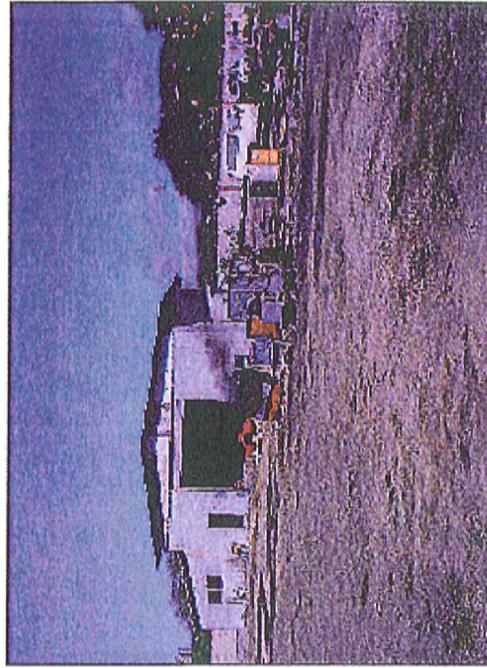
5. Looking east at GP's sandblast booth. Used sandblast grit and stained soil in the foreground.



6. Used sandblast grit spills out onto the unpaved ground.



7. Cans of paint and related materials in the north/center of the site.



8. Looking north towards trash bin used for burning miscellaneous materials. GP's spray painting booth in back left.

PLATE 4.14.5.2

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fenced off), there are no demarcations between the various tenants' portions of the plot, and it is therefore difficult in many situations to determine ownership of materials observed at the site. The plot extends to the shoreline, and is generally unpaved, aside from the concrete structures and buildings.

FE occupies the southeast corner of the plot, within its fenced boundaries. FE is a contractor and uses their portion of the plot primarily as a storage yard. Structures include a mobile office building located in the southeast corner, and a covered workspace with slab floor in the western portion of FE's space, which has a sink draining onto the ground surface (staining was not observed near the drain outlet). Several 55-gallon drums, 1- and 5-gallon buckets, batteries, and other potentially hazardous materials were observed, as detailed in Section 4.14.6 (Plate 4.14.5.1, Picture 1). Stained soil was noted in a couple of areas (Figure 4.14.5.1), including a suspected form oil stain near the northeast section of their operations (Plate 4.14.5.1, Picture 2). Conex boxes and wooden moving crates were used to store equipment. A trailer-mounted diesel AST was parked on the western portion of their area, with no staining visible on the ground below.

KN occupies the northeastern portion of the lot, where they primarily store, maintain, and wash their small fleet of trucks. Structures in the vicinity of their operations include a temporary office building, conex boxes, and a concrete pad upon which they wash their trucks. There was also a mechanical room, probably containing electrical equipment, which was not accessible. Signage at the site entry (and research by previous consultants) seemed to indicate that the underground petroleum pipeline that runs north to south along Hanua Street enters the site and runs along the eastern portion of the site; however, its presence onsite could not be confirmed. Several drums and cans, some labeled, were located in this area without secondary containment, as detailed in section 4.14.6 (Plate 4.14.5.2, Picture 7). A previously existing groundwater monitoring well was observed on the north edge of the site in this area.

IRM uses the south-central portion of the plot for sand stockpile storage (Plate 4.14.5.1, Picture 3). There were also 2 unidentified, apparently empty ASTs with military camouflage paint on the southern edge of the site in this area. Most of the ground in this area was obscured by the sand stockpiles.

WWM stores wooden moving containers on the southwestern portion of the plot. Most of the boxes appeared to be empty, and they were packed tightly together, concealing the ground below. There are no structures associated with WWM's operations at the subject property.

GP occupies the central and northwestern portions of the plot. The central portion of the site contained GP's sandblasting operations (Plate 4.14.5.2, Picture 5). A closed sandblasting shop was nestled between two concrete ramps, which were reportedly left over

from a previous lessee. The interior of the sandblast shop was in use and inaccessible. Many containers (primarily bags and 55-gallon drums) of used sandblast grit were located to the west of the shop and south of the southern ramp. A number of the bags and drums had leaked onto the ground, and some of the leaked grit had a pinkish hue (Plate 4.14.5.2, Picture 6). A wooden pallet containing automobile batteries was located east of the sandblast shop, between the ramps, as were several drums and buckets (see section 4.14.6). Also east of the sandblast shop were two apparently empty ASTs.

Miscellaneous debris and equipment was stored on the concrete pads north of the concrete ramps, including several drums and buckets (see section 4.14.6). In the middle of this area was what appeared to be a homemade boiler serving a homemade shower, with dark black surface staining on the unpaved ground in the vicinity. At the western edge of this area was a trash dumpster containing unidentified materials that were being burned, creating a dark black smoke that traveled east across the plot (Plate 4.14.5.2, Picture 8). The bin was observed to be burning on at least 3 different days in January 2005.

In the northwest corner of the plot was GP's metal-framed spray paint shop, as well as a mobile office structure. Some surface soil staining was observed at the entry to the spray shop.

Drain B was located adjacent to the plot on the north. This drain was full of vegetation, and appeared to be somewhat stagnant. Hawaii Metal Recycling had large piles of scrap metal, etc. to the north of the drain. This drain may have received runoff from plot 14 and/or HMR. Drain A was located adjacent to the plot on the west. The water in this drain appeared to be flowing south towards the shore, although it was not very deep, even though there had been recent rains (i.e., it may stagnate sometimes). The shoreline was adjacent to the site to the south (Plate 4.14.5.1, Picture 4).

4.14.6 Hazardous Materials and Waste Inventory

The survey for hazardous material and wastes follows. This survey was completed by our subcontractor, Pacific Environmental Corporation, a local hazardous material handling and waste broker. In addition to conducting the survey, we asked Pacific Environmental Corporation to estimate costs for disposal of the hazardous material and wastes they noted during their survey.

The estimate for hazardous material and waste disposal at Plot 14 is approximately \$29k.

Plot #:	14
TMK #:	91026026
Address:	91-008 Hanua St
Tenant:	Kalaka Nui, Inc
Site Contact:	Shelaine
Photo #s:	Plot 14(1)A through Plot 14(1)K (11 photos)
Site Visit Date:	12-Jan-05

PENCO performed a site inspection on the above-referenced property for the purpose of identifying hazardous materials (hazmat) and hazardous wastes under the authority of the Estate of James Campbell. Additionally identified, are petroleum products as well as solid wastes which would present a disposal liability beyond standard trash removal or recycling for monetary value. Identification of all materials/wastes are either visual and/or confirmed as such by the tenant. Positive identification is not verified by field testing or laboratory analytical. A Rough Order of Magnitude (ROM) is provided for most petroleum products as well as materials and wastes without known and immediate reuse or recycling value. Site photos follow the inspection and ROM data.
Teal K. Cross, Pacific Environmental Corporation.

Quantity:	Description	Disposal ROM
1 ea	5-gal can of solvent	\$275.00
11 ea	55-gal drums of motor oils	\$4,950.00
Est 30 ea	Tires	\$300.00
1 ea	3 ea 55-gal drums, 1 ea 30-gal drum, 2 ea 5-gal pail of used oil	\$400.00
1 ea	30-gal drums of used oil	\$75.00
2 ea	5-gal pail of used oil	\$50.00
3 ea	Empty 55-gal drums	\$30.00
1 ea	30-gal drum of grease	\$125.00
2 ea	55-gal drums of sodium hydroxide	\$1,150.00
2 ea	Oxygen cylinder	\$250.00
2 ea	Acetylene cylinder	\$500.00
1 ea	5-gal pail of rust remover (comb liq)	\$175.00

Photos on following pages



Plot 14(1)A



Plot 14(1)B



Plot 14(1)C



Plot 14(1)D



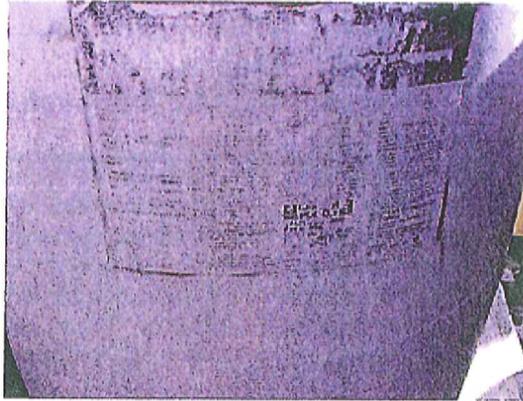
Plot 14(1)E



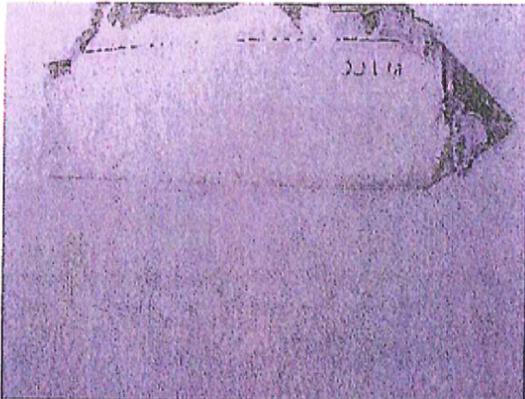
Plot 14(1)F



Plot 14(1)G



Plot 14(1)H



Plot 14(1)I



Plot 14(1)J

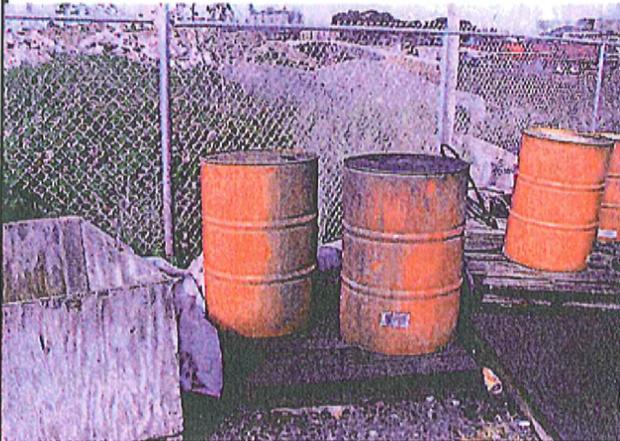


Plot 14(1)K

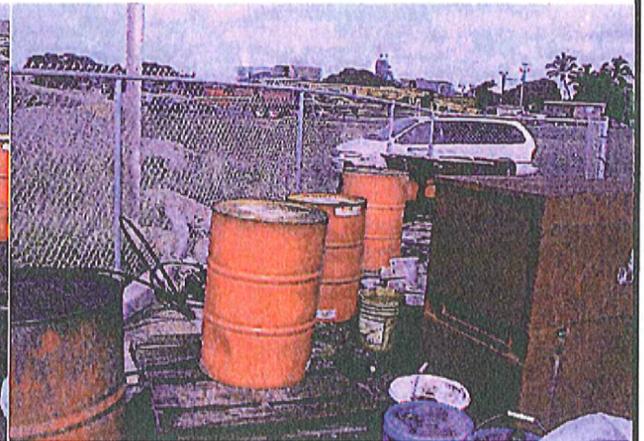
Plot #:	14
TMK #:	91026026
Address:	91-008 Hanua St
Tenant:	Finishing Edge Curb & Sidewalk
Site Contact:	None
Photo #s:	Plot 14(2)A through Plot 14(2) (4 photos)
Site Visit Date:	12-Jan-05

PENCO performed a site inspection on the above-referenced property for the purpose of identifying hazardous materials (hazmat) and hazardous wastes under the authority of the Estate of James Campbell. Additionally identified, are petroleum products as well as solid wastes which would present a disposal liability beyond standard trash removal or recycling for monetary value. Identification of all materials/wastes are either visual and/or confirmed as such by the tenant. Positive identification is not verified by field testing or laboratory analytical. A Rough Order of Magnitude (ROM) is provided for most petroleum products as well as materials and wastes without known and immediate reuse or recycling value. Site photos follow the inspection and ROM data.
Teal K. Cross, Pacific Environmental Corporation.

Quantity:	Description	Disposal ROM
2 ea	55-gal drums of used oil	\$200.00
1 ea	5-gal pail of lube oil	\$50.00
4 ea	Empty 55-gal drums	\$100.00



Plot 14(2)A



Plot 14(2)B



Plot 14(2)C



Plot 14(2)D

Plot #:	14
TMK #:	91026026
Address:	91-008 Hanua St
Tenant:	Island Ready Mix Concrete, Inc
Site Contact:	None
Photo #s:	Plot 14(3)A and Plot 14(3)B (2 photos)
Site Visit Date:	12-Jan-05

PENCO performed a site inspection on the above-referenced property for the purpose of identifying hazardous materials (hazmat) and hazardous wastes under the authority of the Estate of James Campbell. Additionally identified, are petroleum products as well as solid wastes which would present a disposal liability beyond standard trash removal or recycling for monetary value. Identification of all materials/wastes are either visual and/or confirmed as such by the tenant. Positive identification is not verified by field testing or laboratory analytical. A Rough Order of Magnitude (ROM) is provided for most petroleums as well as materials and wastes without known and immediate reuse or recycling value. Site photos follow the inspection and ROM data.
Teal K. Cross, Pacific Environmental Corporation.

Quantity:	Description	Disposal ROM
-----------	-------------	--------------

No hazmat noted



Plot 14(3)A



Plot 14(3)B

Plot #:	14
TMK #:	91026026
Address:	91-008 Hanua St
Tenant:	Giordano's Painting
Site Contact:	None
Photo #s:	Plot 14(4)A through Plot 14(4)R (18 photos)
Site Visit Date:	12-Jan-05

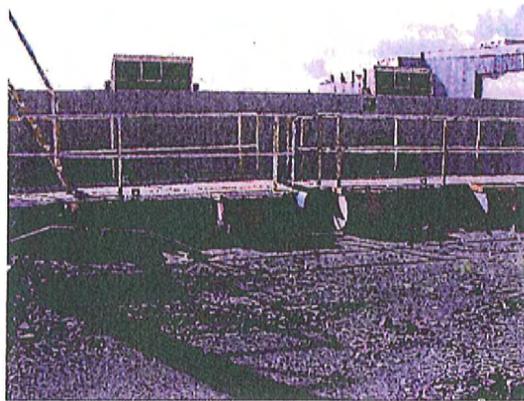
PENCO performed a site inspection on the above-referenced property for the purpose of identifying hazardous materials (hazmat) and hazardous wastes under the authority of the Estate of James Campbell. Additionally identified, are petroleum products as well as solid wastes which would present a disposal liability beyond standard trash removal or recycling for monetary value. Identification of all materials/wastes are either visual and/or confirmed as such by the tenant. Positive identification is not verified by field testing or laboratory analytical. A Rough Order of Magnitude (ROM) is provided for most petroleum products as well as materials and wastes without known and immediate reuse or recycling value. Site photos follow the inspection and ROM data.
Teal K. Cross, Pacific Environmental Corporation.

Quantity:	Description	Disposal ROM
1 ea	5-gal pail of rust remover (combustible liq)	\$50.00
1 ea	250-gal portable tank of diesel fuel	N/C
12 ea	Supersacks of spent sandblast grit	\$1,950.00
33 ea	55-gal drums of spent sandblast grit	\$2,100.00
Est 75 ea	5-gal pails of paint	\$6,500.00
Est 275 ea	1-gal cans of paint	\$4,200.00
1	1-qt cans of paint	\$25.00
39 ea	Empty 55-gal drums	\$390.00
4 ea	55-gal drums of oily water	\$400.00
1 ea	55-gal drum marked as Class 8 (last contained)	\$575.00
1 ea	Skid mounted tank (Est 1,000-gal) diesel fuel	\$250.00
1 ea	Oxygen cylinder	\$125.00
1 ea	Acetylene cylinder	\$250.00
2 ea	55-gal drums of antifreeze	\$175.00
1 ea	5-gal pail of used oil	\$50.00
Est 30 ea	Batteries	\$75.00
1 ea	55-gal pail of used oil	\$100.00
3 ea	55-gal drums (unknown)	\$3,000.00

Photos on following pages



Plot 14(4)A



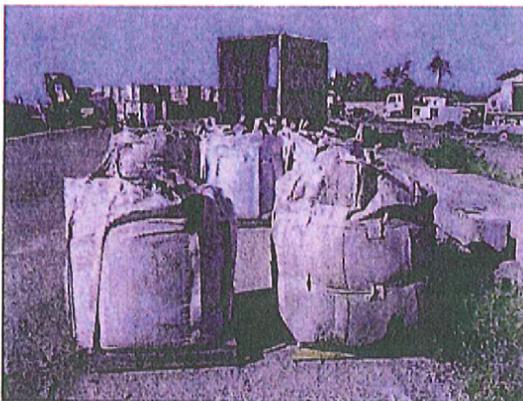
Plot 14(4)B



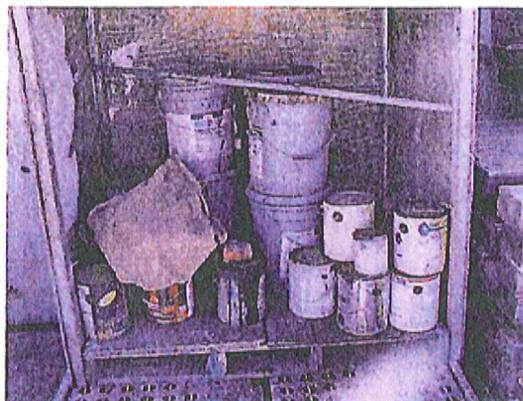
Plot 14(4)C



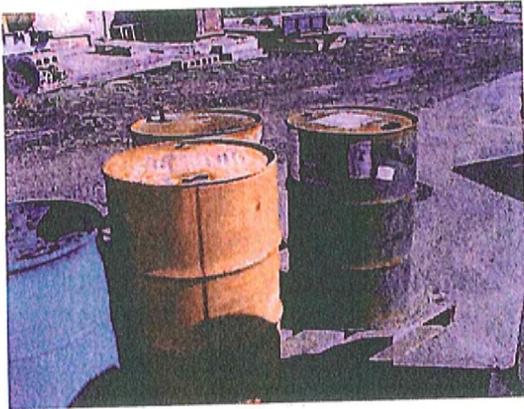
Plot 14(4)D



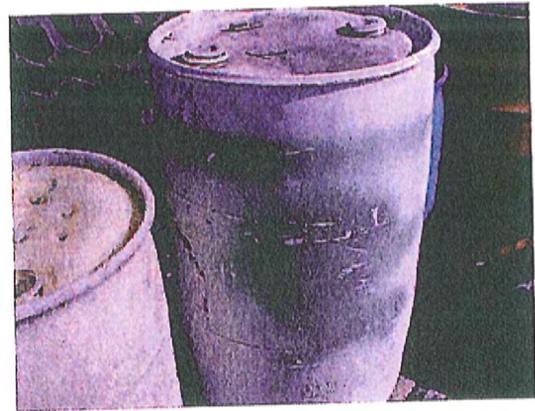
Plot 14(4)E



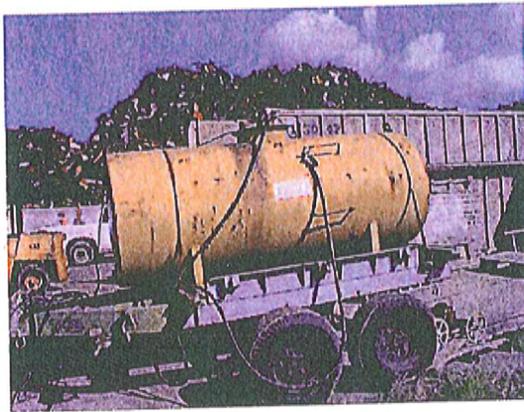
Plot 14(4)F



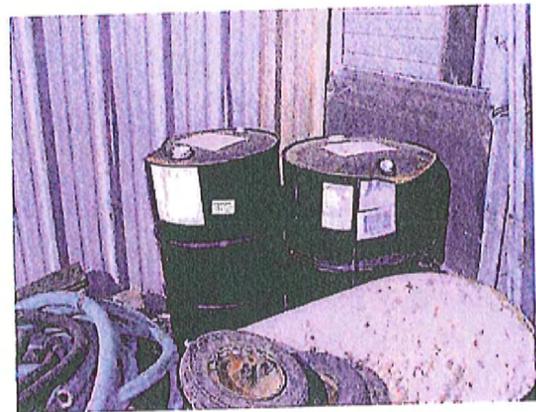
Plot 14(4)G.



Plot 14(4)H



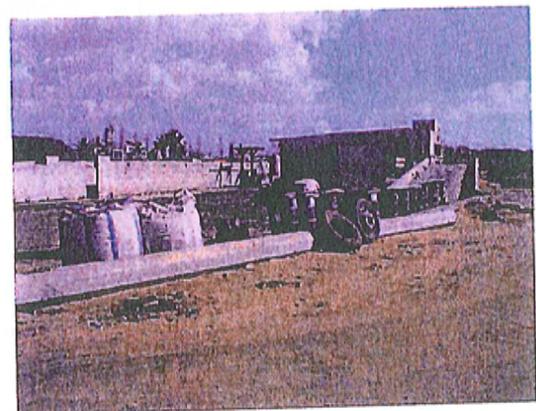
Plot 14(4)I



Plot 14(4)J



Plot 14(4)K



Plot 14(4)L



Plot 14(4)M



Plot 14(4)N



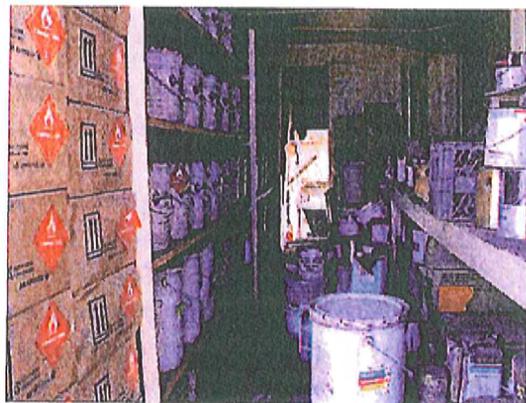
Plot 14(4)O



Plot 14(4)P



Plot 14(4)Q



Plot 14(4)R

Plot #:	14
TMK #:	91026026
Address:	91-008 Hanua St
Tenant:	Worldwide Moving & Storage, Inc
Site Contact:	None
Photo #s:	Plot 14(5)A and Plot 14(5)B (2 photos)
Site Visit Date:	12-Jan-05

PENCO performed a site inspection on the above-referenced property for the purpose of identifying hazardous materials (hazmat) and hazardous wastes under the authority of the Estate of James Campbell. Additionally identified, are petroleum products as well as solid wastes which would present a disposal liability beyond standard trash removal or recycling for monetary value. Identification of all materials/wastes are either visual and/or confirmed as such by the tenant. Positive identification is not verified by field testing or laboratory analytical. A Rough Order of Magnitude (ROM) is provided for most petroleums as well as materials and wastes without known and immediate reuse or recycling value. Site photos follow the inspection and ROM data.
Teal K. Cross, Pacific Environmental Corporation.

Quantity:	Description	Disposal ROM
-----------	-------------	--------------

No hazmat noted



Plot 14(5)A



Plot 14(5)B

4.14.7 Synopsis of Media Sampling and Testing

On January 7 and 12, 2005, MFA drilled eleven borings at various locations on the site and collected three surface samples from the high tide line along the beach fronting lot #14 (Figure 4.14.5.1). Drilling/sampling procedures were conducted as described in *Appendix B, Sampling and Testing Procedures*. The total depth of each boring, the sample depth, ash thickness, soil types, depth to water, and other details are included in the attached boring logs in *Appendix C*.

The purpose of the subsurface investigation (borings) at Plot 14 was primarily to collect samples of the ash layer that is presently buried beneath the surface and to further investigate the extent of this material. The eleven samples of the ash collected were submitted for total lead analysis. Four of the eleven samples collected of the ash layer were also submitted for TCLP lead analysis.

Samples obtained from the eleven borings were collected at various depths. When the ash layer was encountered during drilling operations, sampling was initiated. After collecting the sample, the boring was advanced in order to record the total thickness of the ash layer and also to determine the nature of the underlying material (hard coral).

The thickness of the ash deposit ranged from 0-feet to 6-feet with the thickest areas located along the middle east-west axis of the property and thinnest along the north and south sides of the property. Buried ash layer thicknesses are also depicted on Figure 4.14.7. A layer of ash along the beach side (south side) of the property was also observed in outcrops beneath the littoral vegetation along its seaward edge.

Table 4.14.7.1 and Table 4.14.7.2 summarizes the laboratory's analysis of the soil/sediment samples. The full laboratory reports, including analysis methods, QA/QC data, and chain of custody forms, are included in *Appendix D* of this report.

The three surface samples collected from the beach (high tide line) were all non-detect for total lead.

Three samples from the soil borings had measurable concentrations of lead (CI14-12-2.5', CI14-16-4.5' and CI14-17-1.5'), but at levels (maximum concentration of 230 mg/kg) well below the EPA PRG (800 mg/kg). Eight samples from the soil borings had measurable concentrations of lead in excess of the DOH Tier 1 Action Levels and also exceeded the Environmental Protection Agency's Preliminary Remediation Goals for industrial soils (EPA PRG) (800 mg/kg). The concentrations ranged from 470 mg/kg to 9100 mg/kg. One sample also (CI14-8-1.5') had measurable concentrations in excess of the TCLP limit for lead (5.0 mg/l) with a concentration of 19 mg/l. The other three samples (CI14-7-2.5', CI14-10-2.5' and CI14-13-1.5') had measurable levels of TCLP lead but were well below the TCLP limit.

Table 4.14.7.1

Plot 14: Soil Analytical Data

Campbell Industrial Park, Oahu, Hawaii

Sample ID (ID-Depth/bgs)	Analyte Concentration (mg/kg)					
	TPH as Gas	TPH as Diesel	TPH as Oil	PAHs	VOCs	
C114-16 4.5'	< 1.00	< 50	< 100	<0.20	tB = 0.120 sB = 0.054	(various)
T1 ALs	2,000	5,000	5,000	(various)	tB = 390 sB = 220	
EPA PRGs						

Notes:

- 1) < # = Not detected at or above listed laboratory reporting limit.
- 2) T1 ALs = DOH Tier 1 Action Levels for soil in areas where rainfall is less than 200 cm/year, where a drinking water source is not threatened.
- 3) TPH as x = Total Petroleum Hydrocarbons detected as x.
- 4) "-" Indicates test was not performed for sample shown.
- 5) PAHs = Polycyclic Aromatic Hydrocarbons (EPA 8100; see attached laboratory report for full analyte list).
- 6) VOCs = Volatile Organic Compounds ("tB" = tert-Butylbenzene, "sB" = sec-Butylbenzene)
(EPA 8260B; see attached laboratory report for full analyte list).
- 7) EPA PRG = Environmental Protection Agency Preliminary Remediation Goals for industrial soils (mg/kg).

Table 4.14.7.2

Plot 14: Soil Analytical Data (Metals)
Campbell Industrial Park, Oahu, Hawaii

Sample ID (DD-Depth/bgs)	Analyte Concentration (mg/kg)	
	Total Lead	TCLP Lead (mg/L)
CI14-1	< 4.0	-
CI14-2	< 4.0	-
CI14-3	< 4.0	-
CI14-7 2.5'	1300	3.7
CI14-8 1.5'	9100	19
CI14-9 1.5'	560	0.28
CI14-10 2.5'	2000	-
CI14-11 2.0'	1900	-
CI14-12 2.5'	220	-
CI14-13 1.5'	1300	2.4
CI14-14 1.5'	470	-
CI14-16 4.5'	44	-
CI14-17 1.5'	230	-
CI14-18 2.0'	2100	-
T1 ALs	400	-
EPA PRGs	800	5.0 ^α

Notes:

- 1) < # = Not detected at or above listed laboratory reporting limit.
- 2) T1 ALs = DOH Tier 1 Action Levels for soil in areas where rainfall is less than 200 cm/year, where a drinking water source is not threatened.
- 3) EPA PRG = Environmental Protection Agency Preliminary Remediation Goals for industrial soils (mg/kg).
- 4) "-" Indicates test was not performed for sample shown.
- 5) TCLP = Toxicity Characteristic Leaching Procedure
- 6) Concentrations in **bold** exceed T1 ALs or EPA PRGs.
- 7) * PRG level for Chromium III
- 8) α = TCLP action level (mg/L).

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 mfa@lava.net

BORING/WELL LOG: CI14-7

Environmental Services & Consultation
 Campbell Industrial Park
 Lot #14

Page 1

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates

Drilling

Date:

Time:

Drill Method: 4" solid stem auger

Started:

January 7, 2005

Sample Method: 2" split spoon w/ 140 lb. hammer

Finished:

January 7, 2005

Borehole Diameter: 4"

Water Level : N/A

Logged By: Liz Ross

Checked By: DRD

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-7	0		13	0	SP Tan sand, dry, no odor, no stain.	
				0.5	SW Light tan gravelly sand, dry, no odor, no stain.	
				2	FL Ash with scrap metal and glass fragments.	
				3	RX Hard coral. Refusal at 3'. No groundwater encountered.	
				4		
				5		
				6		
				7		

Masa Fujioka & Associates

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(808)484-5366
mfa@lava.net

BORING/WELL LOG: CI14-8

Environmental Services & Consultation
Campbell Industrial Park
Lot #14

Page 2

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates	Drilling	Date:	Time:
Drill Method: 4" solid stem auger	Started:	January 7, 2005	
Sample Method: 2" split spoon w/ 140 lb. hammer	Finished:	January 7, 2005	
Borehole Diameter: 4"	Water Level : N/A	Logged By: Liz Ross	Checked By: DRD

SuperLog V2.8 CiviTech Software, USA www.civitech.com File: \\P2\mydocs\p3\docs\201&higher\404-006 REIT Campbell Lot.14 boring logs.log Date: 1/15/2005

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-8	0		14	0	SP Tan sand, dry, no odor, no stain.	
				1	FL Ash with scrap metal and glass fragments.	
				6	END Hard coral. Refusal at 6'. No groundwater encountered.	

Masa Fujioka & Associates

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mfa@lava.net

BORING/WELL LOG: CI14-9

Environmental Services & Consultation
Campbell Industrial Park
Lot #14

Page 3

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates

Drilling

Date:

Time:

Drill Method: 4" solid stem auger

Started:

January 7, 2005

Sample Method: 2" split spoon w/ 140 lb. hammer

Finished:

January 7, 2005

Borehole Diameter: 4"

Water Level : N/A

Logged By: Liz Ross

Checked By: DRD

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-9	0		15	0	SP Tan silty sand with coral gravel, dry, no odor, no stain.	
				1	FL Ash with scrap metal and glass fragments.	
				3.5	END Hard coral. Refusal at 3.5'. No groundwater encountered.	
				4		
				5		
				6		
				7		

Masa Fujioka & Associates

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BORING/WELL LOG: CI14-10

Environmental Services & Consultation
Campbell Industrial Park
Lot #14

Page 4

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates

Drilling

Date:

Time:

Drill Method: 4" solid stem auger

Started:

January 7, 2005

Sample Method: 2" split spoon w/ 140 lb. hammer

Finished:

January 7, 2005

Borehole Diameter: 4"

Water Level : 6'

Logged By: Liz Ross

Checked By: DRD

SuperLog V2.8 CivilTech Software, USA www.civiltech.com File: \\P2\mydocs\p3\docs\201&higher\404-006 REIT Campbell Lot 14 boring logs.log Date: 1/15/2005

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-10	0		11	0	SP Tan sand with coral gravel, dry, no odor, no stain.	
				1	FL Ash with scrap metal and glass fragments.	
				5	SC Gray clayey sand with coral fragments.	
				6	END Hard coral. Refusal at 6.5'. Groundwater encountered at 6'.	

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Aiea, Hawaii
 (808)484-5366
 mfa@lava.net

BORING/WELL LOG: CI14-11

Environmental Services & Consultation
 Campbell Industrial Park
 Lot #14

Page 5

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates

Drilling

Date:

Time:

Drill Method: 4" solid stem auger

Started:

January 7, 2005

Sample Method: 2" split spoon w/ 140 lb. hammer

Finished:

January 7, 2005

Borehole Diameter: 4"

Water Level : N/A

Logged By: Liz Ross

Checked By: DRD

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-11	0		13	0	SP Brown silty sand with coral gravel, moist, no odor, no stain.	
				1		
				2	FL Ash with scrap metal and glass fragments.	
				3	SC Gray clayey sand with coral fragments.	
				4	END Hard coral. Refusal at 4'. No groundwater encountered.	
				5		
				6		
				7		

Masa Fujioka & Associates

Aiea, Hawaii
(808)484-5366
mfa@lava.net

BORING/WELL LOG: CI14-12

Environmental Services & Consultation
Campbell Industrial Park
Lot #14

Page 6

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates

Drilling

Date:

Time:

Drill Method: 4" solid stem auger

Started:

January 7, 2005

Sample Method: 2" split spoon w/ 140 lb. hammer

Finished:

January 7, 2005

Borehole Diameter: 4"

Water Level : N/A

Logged By: Liz Ross

Checked By: DRD

SuperLog V2.8 CivilTech Software, USA www.civiltech.com File: \\P2\mydocsp2\p3docs\201&higher\404-006 REIT Campbell Lot 14 boring logs.log Date: 1/15/2005

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-12	0		22	0	GP Basecourse gravel	
				0-1	SC Brown clayey sand, fill.	
				2	FL Ash with scrap metal and glass fragments.	
				4	END Hard coral. Refusal at 4'. No groundwater encountered.	
				1		
				2		
				3		
				4		
				5		
				6		
				7		

Masa Fujioka & Associates

Aiea, Hawaii
 (808)484-5366
 mfa@lava.net

BORING/WELL LOG: CI14-13

Environmental Services & Consultation
 Campbell Industrial Park
 Lot #14

Page 7

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates

Drilling

Date:

Time:

Drill Method: 4" solid stem auger

Started:

January 7, 2005

Sample Method: 2" split spoon w/ 140 lb. hammer

Finished:

January 7, 2005

Borehole Diameter: 4"

Water Level : N/A

Logged By: Liz Ross

Checked By: DRD

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-13	0		34	0	SW Tan silty sand with gravel.	
					SP Tan sand with coral gravel.	
				1	FL Ash with scrap metal and glass fragments.	
				2	RX Hard coral.	
				3	END Refusal at 3'. No groundwater encountered.	
				4		
				5		
				6		
				7		

Masa Fujioka & Associates

Aiea, Hawaii
(808)484-5366
mfa@lava.net

BORING/WELL LOG: CI14-14

Environmental Services & Consultation
Campbell Industrial Park
Lot #14

Page 8

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates	Drilling	Date:	Time:
Drill Method: 4" solid stem auger	Started:	January 7, 2005	
Sample Method: 2" split spoon w/ 140 lb. hammer	Finished:	January 7, 2005	
Borehole Diameter: 4"	Water Level : N/A	Logged By: Liz Ross	Checked By: DRD

SuperLog V2.8 CivilTech Software, USA www.civiltech.com File: \\P2\mydocs\2\p3docs\201&higher\404-006 REIT Campbell Lot 14 boring logs.log Date: 1/15/2005

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-14	0		13/6"	0	SW Tan silty sand with gravel.	
					SP Light gray sand with coral gravel.	
				1	FL Ash with scrap metal and glass fragments.	
				2	END Hard coral. Refusal at 2'. No groundwater encountered.	
				3		
				4		
				5		
				6		
				7		

Masa Fujioka & Associates

Aiea, Hawaii
(808)484-5366
mfa@lava.net

BORING/WELL LOG: CI14-15

Environmental Services & Consultation
Campbell Industrial Park
Lot #14

Page 9

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates

Drilling

Date:

Time:

Drill Method: 4" solid stem auger

Started:

January 12, 2005

Sample Method: 2" split spoon w/ 140 lb. hammer

Finished:

January 12, 2005

Borehole Diameter: 4"

Water Level : 5'

Logged By: Liz Ross

Checked By: DRD

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
NA	0		35+0"	0	SW Tan sand with gravel.	
				1	Colors dark brown.	
NA	0	▽	35+0"	2	RX Hard coral.	
				3		
				4		
NA	0	▽	35+0"	5	END Refusal at 5'. Groundwater encountered at 5'.	
				6		
				7		

Masa Fujioka & Associates

Aiea, Hawaii
(808)484-5366
mfa@lava.net

BORING/WELL LOG: CI14-16

Environmental Services & Consultation
Campbell Industrial Park
Lot #14

Page 10

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates

Drilling

Date:

Time:

Drill Method: 4" solid stem auger

Started:

January 12, 2005

Sample Method: 2" split spoon w/ 140 lb. hammer

Finished:

January 12, 2005

Borehole Diameter: 4"

Water Level : 5'

Logged By: Liz Ross

Checked By: DRD

SuperLog V2.8 CivilTech Software, USA www.civiltch.com File: \\P2\mydocs\p2\docs\201&higher\404-006 REIT Campbell Lot 14 boring logs.log Date: 1/15/2005

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-16	0		20/6"	0	GP Tan sand with basecourse gravel.	
				1	RX Coral, weakly cemented.	
				2	Becomes hard.	
				5	END Refusal at 5'. Groundwater encountered at 5'.	
				6		
				7		

Masa Fujioka & Associates

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(808)484-5366
mfa@lava.net

BORING/WELL LOG: CI14-17

Environmental Services & Consultation
Campbell Industrial Park
Lot #14

Page 11

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates

Drilling

Date:

Time:

Drill Method: 4" solid stem auger

Started:

January 12, 2005

Sample Method: 2" split spoon w/ 140 lb. hammer

Finished:

January 12, 2005

Borehole Diameter: 4"

Water Level : N/A

Logged By: Liz Ross

Checked By: DRD

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-17	0		28	0	GP Basecourse gravel.	
				1	FL Ash with scrap metal and glass fragments.	
				4	END Hard coral. Refusal at 4'. No groundwater encountered.	
				2		
				3		
				4		
				5		
				6		
				7		

Masa Fujioka & Associates

Aiea, Hawaii
(808)484-5366
mfa@lava.net

BORING/WELL LOG: CI14-18

Environmental Services & Consultation
Campbell Industrial Park
Lot #14

Page 12

Job Number: 05404-006

Elevation:

Driller: Masa Fujioka & Associates

Drilling

Date:

Time:

Drill Method: 4" solid stem auger

Started:

January 12, 2005

Sample Method: 2" split spoon w/ 140 lb. hammer

Finished:

January 12, 2005

Borehole Diameter: 4"

Water Level : N/A

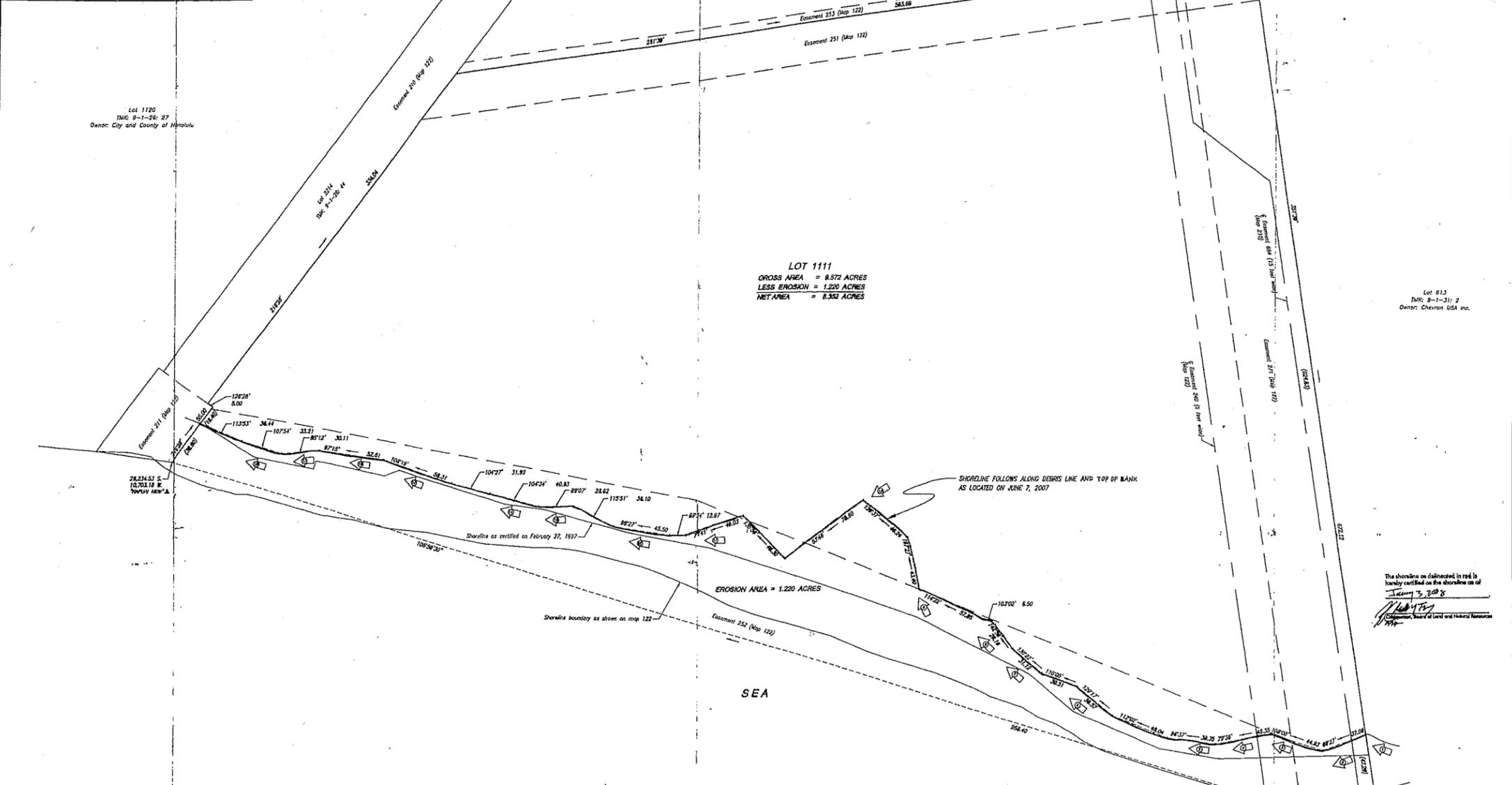
Logged By: Liz Ross

Checked By: DRD

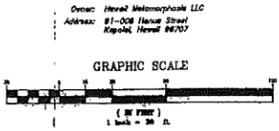
SuperLog V2.8 CivilTech Software, USA www.civiltech.com File: \\P2\mydocsp2\p3\docs\201&higher\404-006 REIT Campbell Lot 14 boring logs.log Date: 1/15/2005

Sample No. and Depth (ft)	PID (ppm)	Sample Type	Blows / Foot	Depth (Ft)	Materials Description	Well Construction
CI14-18	0		33	0	SM Dark brownish gray silty sand with gravel.	
				1	FL Ash with scrap metal and glass fragments.	
				4	END Hard coral. Refusal at 4'. No groundwater encountered.	
				2		
				3		
				4		
				5		
				6		
				7		

APPENDIX D
CERTIFIED SHORELINE SURVEY



Shoreline Certification
of Lot 1111
as shown on
Land Court Application 1089 (Map 122)
At Honoaliuli, Ewa, Oahu, Hawaii
Tax/Map Key: (1) 9-1-026: 026



- Notes:**
1. All points and coordinates are referred to Government Survey Triangulation Station 700' (M) N.P.A.
 2. Owners and addresses shown on map were taken from Department of Permitting and Planning, City & County of Honolulu Records.
 3. [Symbol] Denotes approximate position and direction of oblique photographs.

The shoreline as delineated in this is hereby certified as the shoreline as of
January 7, 2008
[Signature]



This work was prepared by me or under my direct supervision.
[Signature]
Robert K.S. Lee
Licensed Professional Land Surveyor
Certificate Number 5075

JUNE 12, 2007
3181 K. HANO STREET
SUITE 202
HONOLULU, HAWAII 96818

TRINITY SURVEYING & APPRAISAL, INC.
3181 K. HANO STREET
SUITE 202
HONOLULU, HAWAII 96818

APPENDIX E

DRAFT CONTAINMENT BARRIER DESIGN

GENERAL STRUCTURAL NOTES

MATERIALS:

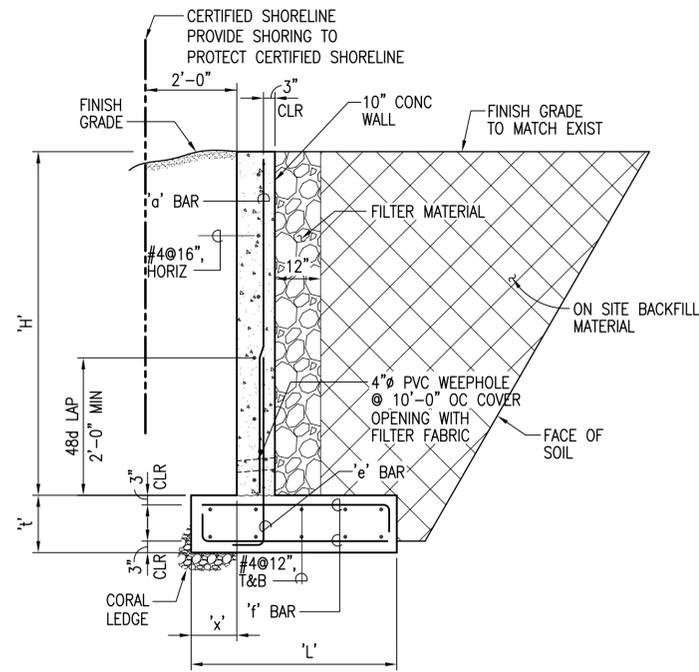
REINFORCED CONCRETE: $f'_c = 4000$ psi. WATER CEMENT RATIO 0.45 MAX.
 REINFORCING STEEL: ASTM A615, GRADE 60

REINFORCEMENT:

1. THE MINIMUM CLEAR COVER, MEASURED FROM THE SURFACE OF THE CONCRETE TO ANY REINFORCING BAR, SHALL BE AS FOLLOWS, EXCEPT AS OTHERWISE NOTED:
 - A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH. 3"
 - B. CONCRETE EXPOSED TO EARTH OR WEATHER. 2"
2. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST EDITIONS OF CRSI "PLACING REINFORCING BARS" AND ACI "MANUAL OF STANDARD PRACTICE" AND THE "DETAILING MANUAL", UNLESS NOTED OTHERWISE.
3. ALL DIMENSIONS RELATING TO REINFORCING (E.G. SPACING OF BARS) ARE TO CENTER OF BARS, UNLESS NOTED OTHERWISE.

FOUNDATION

1. AN ALLOWABLE BEARING PRESSURE OF 2000 PSF IS USED FOR DESIGN OF FOOTING BEARING ON THE HARD CORAL LEDGE.
2. THE BOTTOM OF THE FOOTING EXCAVATIONS SHALL BE COMPACTED TO A MINIMUM OF 90 PERCENT RELATIVE COMPACTION, PRIOR TO THE PLACEMENT OF STEEL AND/OR CONCRETE.
3. SOFT SPOTS ENCOUNTERED IN THE FOOTING EXCAVATIONS SHALL BE REMOVED DOWN TO THE HARD CORAL LEDGE, AND THE RESULTING DEPRESSION BACKFILLED WITH SELECT GRANULAR FILL COMPACTED TO A MINIMUM OF 90 PERCENT RELATIVE COMPACTION.
4. AT LEAST 12 INCHES OF PERMEABLE MATERIAL SUCH AS NO. 3B FINE GRAVEL (ASTM C33, NO.67) SHALL BE PLACED ALONG THE BACKSIDE OF RETAINING WALLS.
5. CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO PROVIDE ADEQUATE SHORING, SHEETING, LAGGING, BRACING, ETC., AS REQUIRED TO PROTECT EXCAVATIONS CERTIFIED SHORELINE, AND PERSONNEL AT THE SITE.
6. NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE FOR REVIEW AND OBSERVATION OF EXCAVATIONS AND CONCRETE POURS.



'H'	'x'	't'	'L'	'a' BAR	'f' BAR	'e' BAR
2'-0"	0'-6"	1'-0"	1'-9"	#4@12"	#4@12"	#4@12"
4'-0"	0'-6"	1'-0"	2'-0"	#4@12"	#4@12"	#4@12"
6'-0"	0'-6"	1'-0"	3'-0"	#4@12"	#4@12"	#4@12"
8'-0"	1'-0"	1'-2"	4'-3"	#4@10"	#4@12"	#4@10"
10'-0"	1'-0"	1'-2"	6'-0"	#5@12"	#5@12"	#5@12"
12'-0"	1'-0"	1'-4"	9'-0"	#5@6"	#5@12"	#5@6"

1 SUBSURFACE BARRIER WALL SECTION
 S-1 SCALE: 1/2"=1'-0"

NOTE: SPLICE MAY BE OMITTED AT CONTRACTORS OPTION.



Myron Okubo
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
 EXPIRATION DATE: 04/30/10

APPROVED (FOR SITE GRADING ONLY):

DIRECTOR, DEPARTMENT OF PLANNING AND PERMITTING, CITY & COUNTY OF HONOLULU _____ DATE _____

M - F A MASA FUJIOKA & ASSOCIATES
 ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS

LOT 14, CAMPBELL INDUSTRIAL PARK
 KAPOLEI, OAHU, HAWAII

STRUCTURAL NOTES AND WALL SECTION

JOB NO. 7825-01	DWG NO. S-1
DESIGNED BY: XL	DRAWN BY: CM
DATE 2/25/2008	SHEET 1
SCALE: AS SHOWN	OF 1 SHTS

APPENDIX F

SITE SHORELINE CHARACTERISTIC FIELD DATA

Profile Name LOT 14, 91-008 HANVA ST, CAMPBELL INDA CITY
 (north, south, central; beach location) MEASURED FROM MAUIKA END, WAVE
WASHOVER PAN (AS MARKED BY SURVEY TAPE ON GROUND MAP)

Point Name	Distance between poles	Total Distance	Elevation reading on Seaward Pole	Total Elevation	Notes
MAUIKA BEACH SURVEY POINT	Starting point Distance = 0 feet	0 feet	Starting point Elevation = feet	0 feet	Fresh/sand accumulation, active Vegetation
2	+5	5	+0.5"	75.76"	+ 6.32'
3	+5	10	+0.8"	76.28"	+ 6.36'
4	+5	15	+0.9"	77.08"	+ 6.42'
5	+5	20	+1.25"	77.98"	+ 6.50'
6	+5	25	+1.5"	79.23"	+ 6.60'
7	+5	30	+1.5"	80.73"	+ 6.73'
8	+5	35	+1.75"	82.23"	+ 6.85'
9	+5	40	+1.75"	83.98"	+ 7.00'
10	+5	45	+1.5"	85.73"	+ 7.15'
11	+5	50	+2.0"	87.23"	+ 7.27'
12	+5	55	+2.5"	89.23"	+ 7.44'
13	+5	60	+2.0"	91.73"	+ 7.64'
14	+5	65	-2.25"	93.72"	+ 7.82'
15	+5	70	-6.25"	91.48"	+ 7.62'
16	+5	75	-11.75"	83.23"	+ 6.94'
17	+5	80	-11.25"	71.48"	+ 5.96'
18	+5	85	-13.6"	60.23"	+ 5.02'
19	+5	90	-11.8"	46.63"	+ 3.89'
20	+5	95	-10.75"	34.83"	+ 2.90'
21	+5	100	-7.75"	24.08"	+ 2.00'

FT. ABOVE MLLW

CREST

CREST 1.95" + 7.92' ABOVE MLLW

LOCATION PROFILED: SITE OF

DATE: 02/21/08 WEATHER CONDITIONS: SUNNY, 10-15 MPH WIND

TIME OF DAY: 1:30 PM TIDAL STAGE: 56% ENCL. NOAA TIDE CHART 113APM

DATA COLLECTORS (name): B. ANDERSON, B. TESCHIMA, J. MITSUDA

22	+5	105	-8.25"	+16.35"	+1.36'
23	+5	110	-2.20"	+8.08"	+0.67'
24	(North, 100% ABOVE TO MLLW)		-5.88"	+5.88"	+0.49'

O MLLW

LINE 2

Profile Name LAT 14.91-108 HONUA ST, CAMPBELL INA, HAWAII
(north, south, central; beach location)

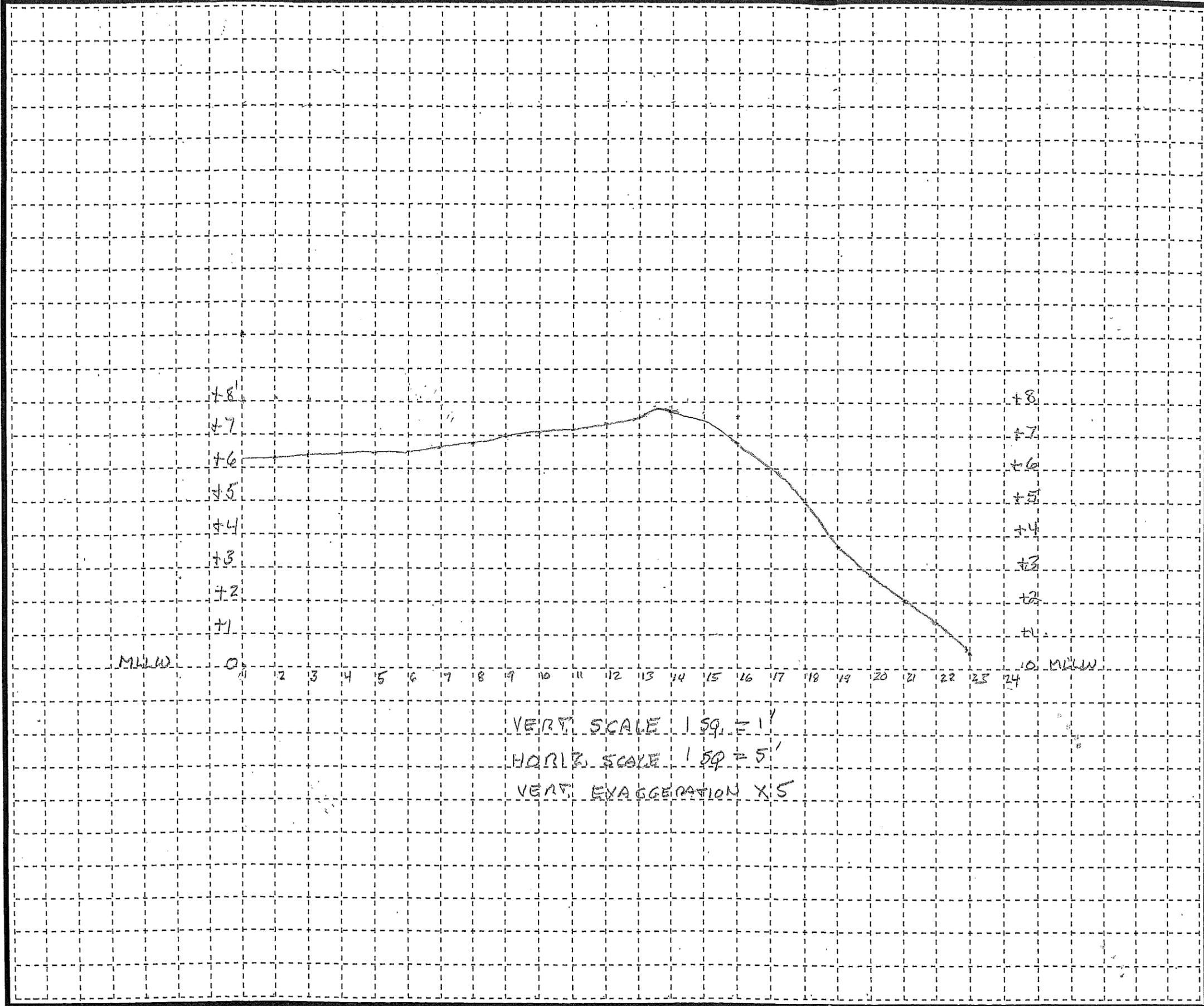
Point Name	Distance between poles	Total Distance	Elevation reading on Seaward Pole	Total Elevation	Notes
	Starting point Distance = 0 feet	0 feet	Starting point Elevation = feet	0 feet	Fresh sand accumulation, active vegetation
2		+5'	+0.75"		
3		+5'	+0.5"		
4		+5'	+0.80"		
5		+5'	+1.75"		
6		+5'	+1.5"		
7		+5'	- 1/8"		
8		+5'	- 1.9"		
9		+5'	- 5.8"		
10			- 9.5"		
11			- 12 1/4"		
12			- 13 1/4"		
13			- 12 1/2"		
14			- 11"		
15			- 4 1/2"		Beach rock
16			- 13 1/2"		1/2
17			END OF PROFILE AT END OF LINE		
18					
19					
20					

LOCATION PROFILED: _____

DATE: FEB. 21, 2008 WEATHER CONDITIONS: SUNNY, 210-15 MPH BREEZE

TIME OF DAY: 2:15 PM TIDAL STAGE: _____

DATA COLLECTORS (name): B. ANDERSON, B. TESCHIMA, JAYSON



Project: LOT 14, 91-008 HANUA ST, Sheet No. 1

MFA MASA FUJIOKA & ASSOCIATES

Project No. 05404-015

By: B. O. ANDERSON Date: FEB, 27, 08

Subject:

Beach sand sieve analyses

Masa Fujioka & Associates

98-021 Kameahmeha Highway # 33
Aiea, Hawaii
(808) 484-5366

Test Pit Log: TP-3

Lot 14, 91-008 Hanua St.
Campbell Ind. Park, Oahu

Figure

Job Number: 05404-015

Elevation:

Driller: MFA	Drilling	Date: Feb. 23, 2008
Drill Method: shovel	Started:	~ 9:30 AM
Sample Method: Bulk	Finished:	~ 9:40 AM
Borehole Diameter: ~ 1 1/2"	Water Level: ~ 5 ft below	Logged By: JSO
		Checked By:

Sample #	Sample Type	Recovery	Blows / Foot	Depth (Ft)	Material Description	Test Results
				0	USCS	
				0.5	Tan coarsening SAND, log 50, dry to damp to saturated	
				0.5	End of composite sample @ 0.5 ft. on 022308	
				1	(4 subsamples) at overwash fan, beach berm (crest), beach face, No groundwater encountered	
				2		
				3		
				4		
				5		
				6		
				7		

MASA FUJIOKA AND ASSOCIATES
SIEVE TEST ANALYSIS

SAMPLE #: TP 1

Project: Campbell Lot 14 Job #: 07404-015
 Location: Campbell Ind. Park Depth: 1'
 Soil Desc.: Poorly graded sand Tested By: BT
 USCS: SP Test Date: 2.25.08

Weight of Sample+Tare (g): 515.3
 Weight Tare (g): 15.3
 Weight of Water (g): 15.7
 Percent Water: 3%
 Total Dry Sample Weight (g): 499.6

Screen Size #	1 1/2	3/4	4	10	40	60	100	200
in mm	37.5	19	4.75	2	0.425	0.25	0.15	0.075
Sieve Weight (g)	508	497.8	471.6	426.6	352.4	320.7	309	297.1
Wt. Sieve + Soil (g)	508	497.8	471.9	427.9	707.7	438.8	309.5	297.8
Soil on Sieve (g)	0	0	0.3	1.3	355.3	118.1	0.5	0.7
% Stopped at Filter	0	0	0.06195	0.26843	73.3636	24.3857	0.103242	0.14454
% Passing Filter	100	100	99.9381	99.6696	26.306	1.9203	1.817056	1.67252

GRAIN SIZE ANALYSIS

Project: Campbell Lot 14

Sample: TP 1

Job No.: 07404-015

Depth: 3'

Soil Classification: Poorly Graded Sand

UCSC: SP

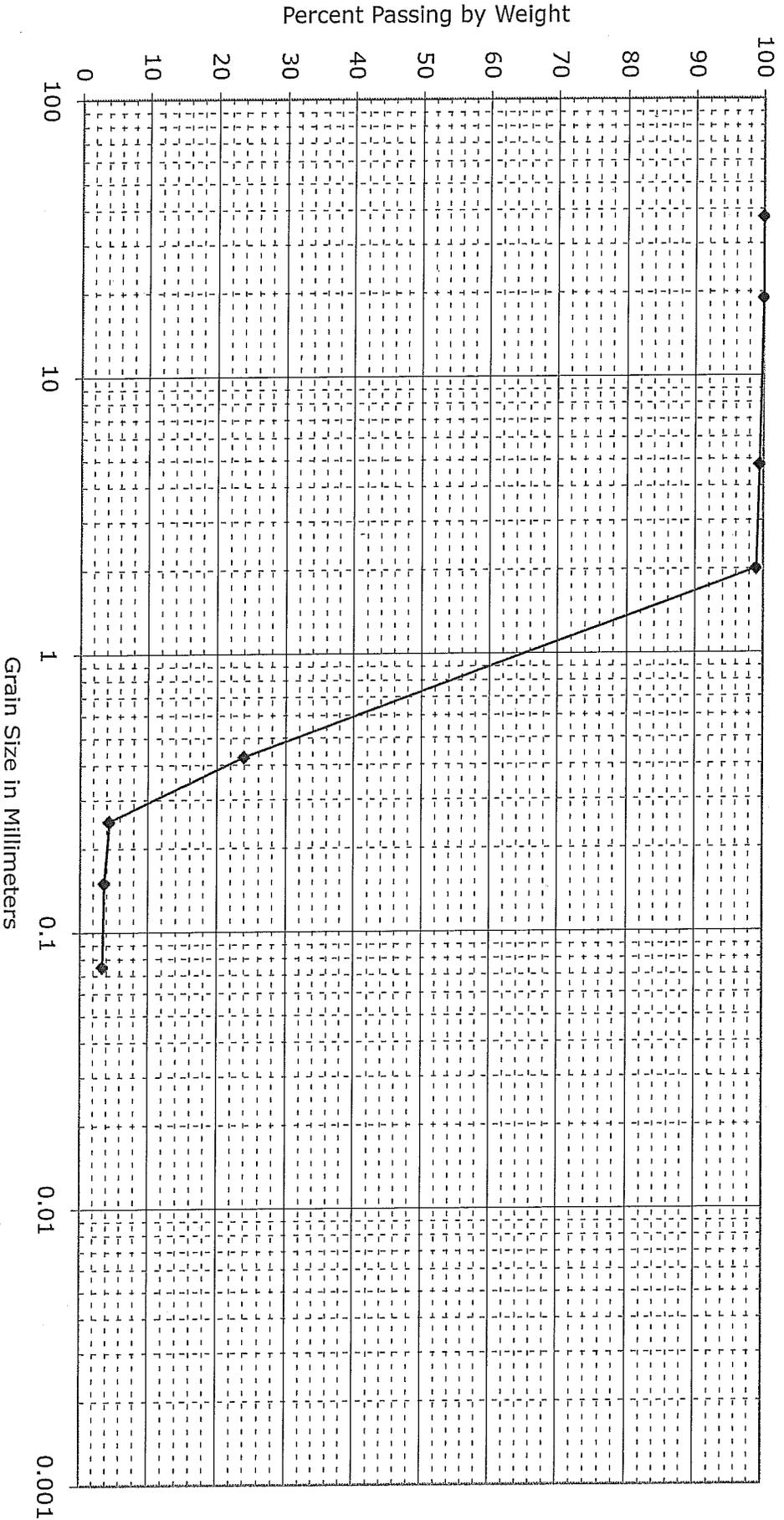


Figure:

MASA FUJIOKA AND ASSOCIATES
SIEVE TEST ANALYSIS

SAMPLE #: TP 1

Project: Campbell Lot 14
 Location: Campbell Ind. Park
 Soil Desc.: Poorly graded sand
 USCS: SP

Job #: 07404-015
 Depth: 3'
 Tested By: BT
 Test Date: 2.25.08

Weight of Sample+Tare (g): 601
 Weight Tare (g): 14.1
 Weight of Water (g): 28.2
 Percent Water: 5%
 Total Dry Sample Weight (g): 572.8

Screen Size #	1 1/2	3/4	4	10	40	60	100	200
in mm	37.5	19	4.75	2	0.425	0.25	0.15	0.075
Sieve Weight (g)	508	497.8	471.6	426.6	352.4	320.7	309	297.1
Wt. Sieve + Soil (g)	508	497.8	474.8	429.1	771.9	430.4	312.5	298.5*
Soil on Sieve (g)	0	0	3.2	2.5	419.5	109.7	3.5	1.4
% Stopped at Filter	0	0	0.57276	0.44747	75.085	19.6349	0.626454	0.25058
% Passing Filter	100	100	99.4272	98.9798	23.8948	4.25989	3.633435	3.38285

MASA FUJIOKA AND ASSOCIATES
SIEVE TEST ANALYSIS

SAMPLE #: TP 1

Project: Campbell Lot 14
 Location: Campbell Ind. Park
 Soil Desc.: Poorly graded sand w/ silt
 USCS: SP

Job #: 07404-015
 Depth: 5.5'
 Tested By: BT
 Test Date: 2.25.08

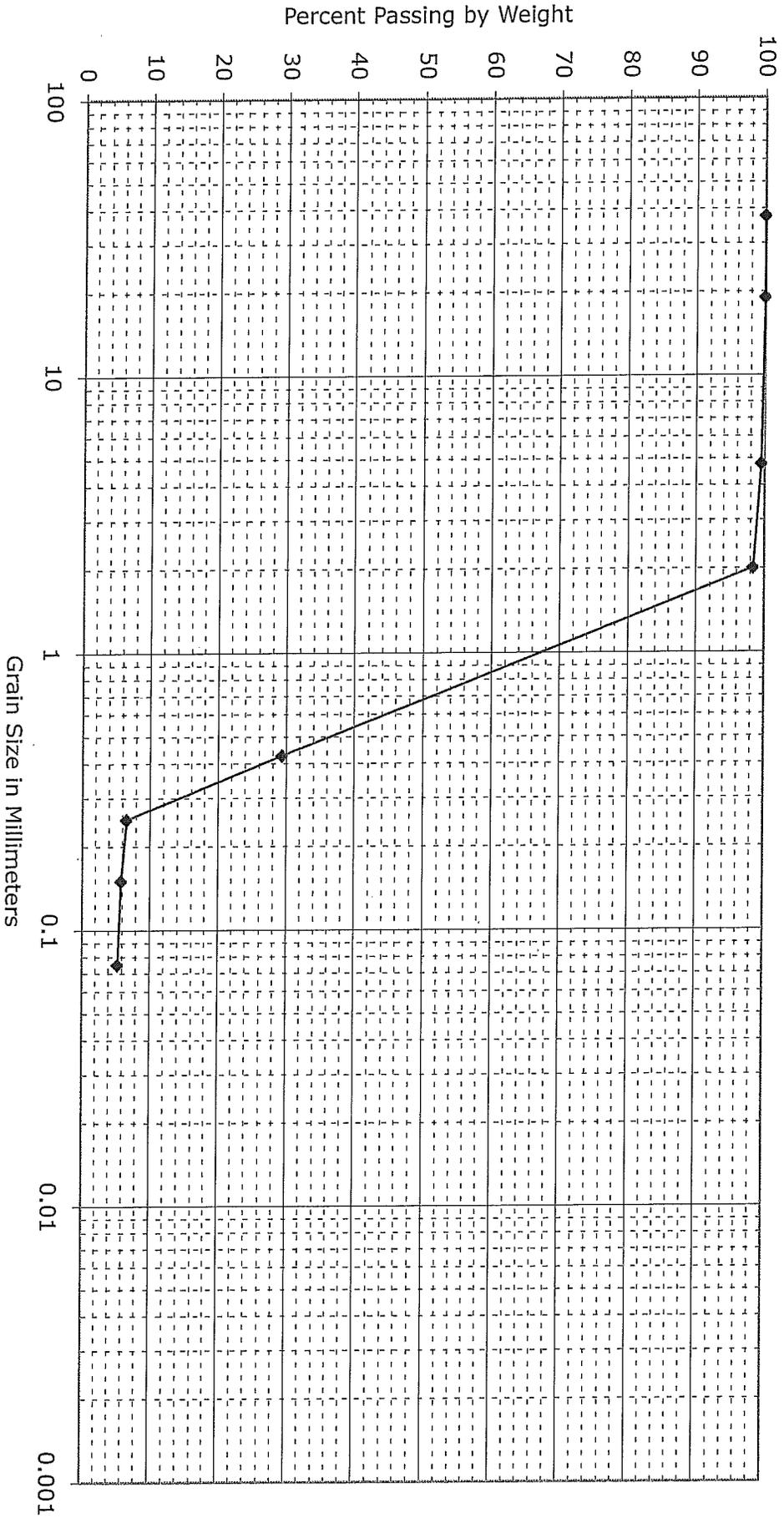
Weight of Sample+Tare (g): 507.1
 Weight Tare (g): 14.1
 Weight of Water (g): 28.4
 Percent Water: 6%
 Total Dry Sample Weight (g): 478.7

Screen Size #	1 1/2	3/4	4	10	40	60	100	200
in mm	37.5	19	4.75	2	0.425	0.25	0.15	0.075
Sieve Weight (g)	508	497.8	471.6	426.6	352.4	320.7	309	297.1
Wt. Sieve + Soil (g)	508	497.8	473.9	431.8	673.1	426.8	312.7	299.2
Soil on Sieve (g)	0	0	2.3	5.2	320.7	106.1	3.7	2.1
% Stopped at Filter	0	0	0.49505	1.11924	69.0271	22.8368	0.796384	0.452
% Passing Filter	100	100	99.505	98.3857	29.3586	6.52174	5.725355	5.27335

GRAIN SIZE ANALYSIS

Project: Campbell Lot 14
Sample: TP 1
Job No.: 07404-015
Depth: 5.5'

Soil Classification: Poorly Graded Sand with Silt
UCSC: SP-SM



MASA FUJIOKA AND ASSOCIATES
SIEVE TEST ANALYSIS

SAMPLE #: composite

Project: Campbell Lot 14
 Location: Campbell Ind. Park
 Soil Desc.: Poorly graded sand
 USCS: SP

Job #: 07404-015
 Depth: n/a
 Tested By: BT
 Test Date: 2.25.08

Weight of Sample+Tare (g): 548.1
 Weight Tare (g): 15
 Weight of Water (g): 28.1
 Percent Water: 5%
 Total Dry Sample Weight (g): 520

Screen Size #	1 1/2	3/4	4	10	40	60	100	200
in mm	37.5	19	4.75	2	0.425	0.25	0.15	0.075
Sieve Weight (g)	508	497.8	471.6	426.6	352.4	320.7	309	297.1
Wt. Sieve + Soil (g)	508	497.8	476.1	431.1	773.2	382.8	314.8	298.2
Soil on Sieve (g)	0	0	4.5	4.5	420.8	62.1	5.8	1.1
% Stopped at Filter	0	0	0.89109	0.89109	83.3267	12.297	1.148515	0.21782
% Passing Filter	100	100	99.1089	98.2178	14.8911	2.59406	1.445545	1.22772

GRAIN SIZE ANALYSIS

Project: Campbell Lot 14
Sample: TP 1
Job No.: 07404-015
Depth: n/a

Soil Classification: Poorly Graded Sand
UCSC: SP

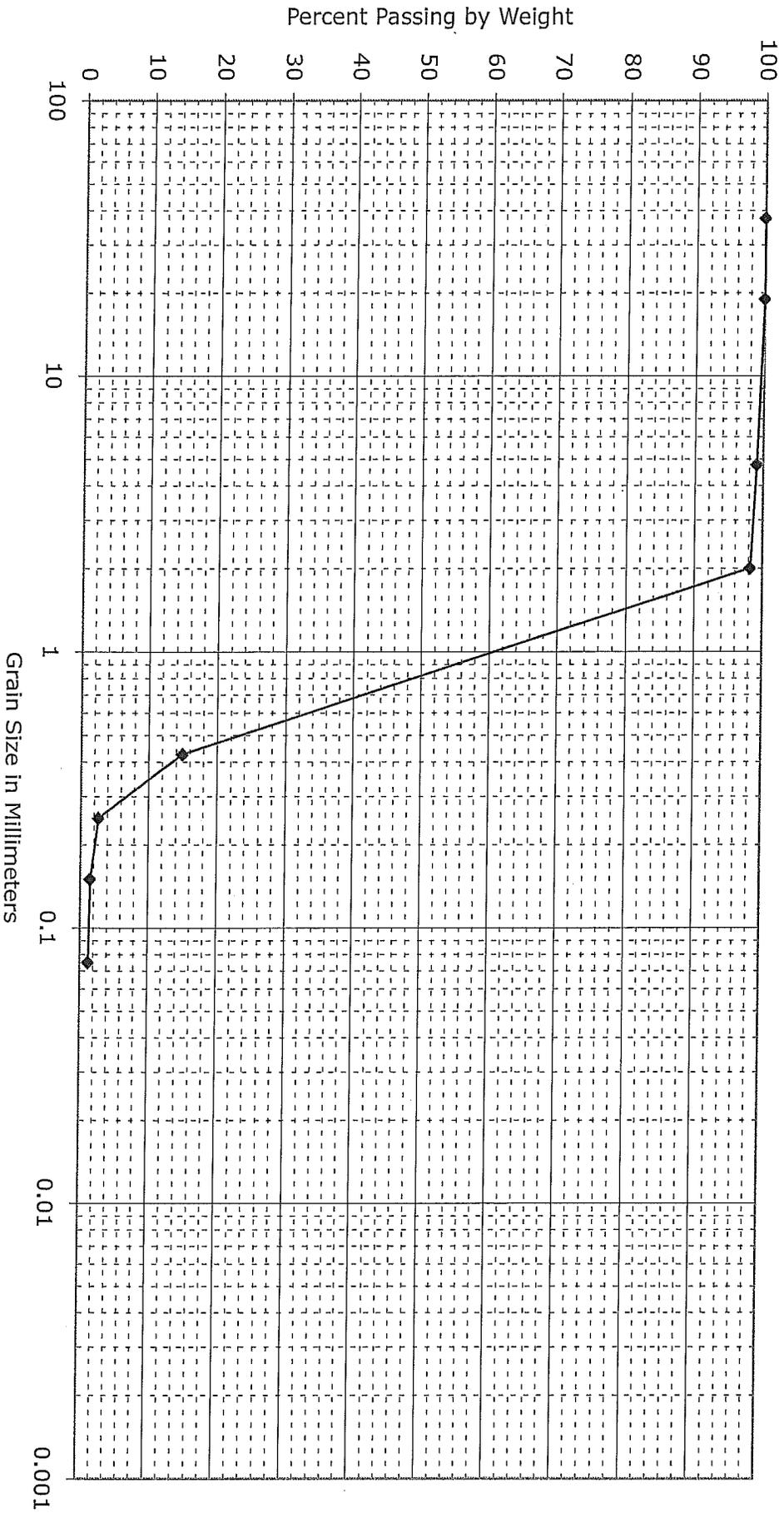


Figure:

APPENDIX G

1979 CLARK ARCHEOLOGICAL RECONNAISSANCE SURVEY

Jan. 25, 1979

(216)

9-1-26:27

ARCHAEOLOGICAL RECONNAISSANCE SURVEY FOR
BARBERS POINT BEACH PARK IMPROVEMENTS
EWA, ISLAND OF OAHU

Prepared by

STEPHAN D. CLARK
KUALOA ARCHAEOLOGICAL RESEARCH PROJECT
DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

for

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

January 5, 1979

The City and County of Honolulu, Department of Parks and Recreation, requested that the Kualoa archaeological research staff conduct a reconnaissance survey on a land parcel planned for the expansion of Barbers Point Beach Park, Ewa, Oahu. The parcel is irregularly shaped, about 2 acres in size, and is located adjacent (southeast) to the developed park property. The purpose of the survey, conducted on December 22, 1978, was to determine whether significant archaeological remains are present on the property.

The survey area is situated on a fairly flat coastal plain consisting of coral and cemented calcareous sands within which are numerous sinkholes. Vegetation consists primarily of kiawe, morning-glory, and koa haole.

The archaeological staff walked over the area several times and found no surface cultural remains present. The bottoms of the sinkholes were inspected and were found to be void of cultural materials as well. It was noted that the area had been previously bulldozed.

It is the conclusion of the archaeological staff that no further archaeological work is necessary or justified in this area.

APPENDIX H
DEPARTMENT OF HEALTH LETTER REGARDING
REMEDIAL ALTERNATIVE SELECTION

LINDA LINGLE
GOVERNOR OF HAWAII



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

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

In reply, please refer to:
File: EHAJHEER Office
2006-498-SPM

August 14, 2006

Leah B. Young (S), RPA, CCIM, CPM
Senior Property Manager
Reit Management & Research LLC - Hawaii
Property Management Division
Davies Pacific Center
841 Bishop Street, Suite 700
Honolulu, Hawaii 96813

Subject: James Campbell Industrial Park Lot 14, 91-008 Hanua Street

Dear Ms. Young:

The Hawaii Department of Health Hazard Evaluation and Emergency Response Office has reviewed the Remedial Alternatives Analysis (dated June 26, 2006) and considers that the document has adequately fulfilled the requirements for a remedial alternatives analysis pursuant to HAR 11-451-15(g). The Department agrees with your preferred remedial alternative for the site, which consists of:

- A barrier cap over the affected soil to prevent direct exposure, and
- A containment wall near the shoreline to prevent erosion and migration of ash material into the ocean,

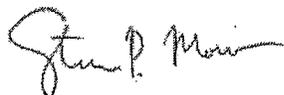
as described in the above-stated analysis. In light of the fact that land-use controls are the selected remedy for this site, you will be required by the Department to register an environmental covenant per the recently enacted Uniform Environmental Covenants law (refer to HB1706) with the Bureau of Conveyances and the Department of Health.

The Department will now prepare a draft response action memorandum (RAM), pursuant to HAR 11-451-15(h), describing the proposed remedy. The draft RAM will be presented to the public for comment. After receipt and consideration of public comments, the Department will make a final remedy selection decision for the site and direct you to implement the selected remedy.

At your option, you may prepare a preliminary draft RAM as a base document from which the Department will develop the official draft RAM. If you wish to do so, please notify our office as your earliest convenience.

Should there be any questions, please do not hesitate to contact me at 586-4251. Thank you very much for your time and consideration in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven P. Mow". The signature is fluid and cursive, with the first name "Steven" being the most prominent.

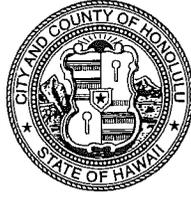
Steven P. Mow
Remedial Project Manager
Hazard Evaluation and Emergency Response Office

APPENDIX I

PRE-ASSESSMENT CONSULTATION LETTER AND COMMENTS RECEIVED

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 768-8000 • FAX: (808) 527-6743
INTERNET: www.honolulu.gov • DEPT. WEB SITE: www.honolulu.dpp.org



MUFI HANNEMANN
MAYOR

HENRY ENG, FAICP
DIRECTOR

DAVID K. TANOUE
DEPUTY DIRECTOR

2007/ELOG-1405(ST)

July 12, 2007

Ms. Lana Brodziak
Masa Fujioka & Associates
98-021 Kamehameha Highway, #337
Aiea, Hawaii 96701-4914

Dear Ms. Brodziak:

Subject: Early Consultation for a Draft Environmental Assessment
Proposed Barrier Cap and Containment Wall Installation
91-008 Hanua Street - Campbell Industrial Park (Lot 14) - Kapolei
Tax Map Key 9-1-26: 26

This is to acknowledge receipt of your letter dated May 15, 2007, regarding the preparation of an environmental assessment (EA) for the above-referenced project. As you clarified with our staff on May 22, 2007, the State Department of Health has not issued an approval for the proposed containment/barrier project, but it has agreed to the method of containment that would be acceptable to them.

We confirm that the proposed lead-contaminated ash containment project will require the approval of a Special Management Area Use Permit and a Shoreline Setback Variance (SV) from the Honolulu City Council, pursuant to Chapters 25 and 23, Revised Ordinances of Honolulu, respectively. We note that a certified shoreline survey is required for the SV application. We also suggest that a complete description of the beach fronting the site (i.e., type and width) is included in the Draft EA, including the recreational resources provided by this area (i.e., fishing, camping, diving, surfing, etc.).

If you have any questions, please contact Steve Tagawa of our staff at 768-8024.

Very truly yours,

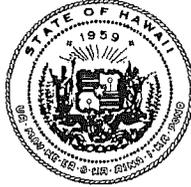
A handwritten signature in black ink, appearing to read "Henry Eng".

for Henry Eng, FAICP, Director
Department of Planning and Permitting

HE:cs

G:\Steve\IDEACampbellCap.pre

LINDA LINGLE
GOVERNOR OF HAWAII



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



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

In reply, please refer to:
EMD / CWB

06020PKP.07

June 6, 2007

Ms. Lana Brodziak
Soil Scientist
Masa Fujioka & Associates
98-021 Kamehameha Highway, #337
Aiea, Hawaii 96701-4914

Dear Ms. Brodziak:

Subject: Proposed Barrier Cap Installation at James Campbell Industrial Park, Lot 14

The Department of Health, Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your project. Please note that our review is based solely on the information provided in the subject document and its compliance with 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://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.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. Please call the Army Corps of Engineers at (808) 438-9258 to see if this project requires a Department of the Army (DA) permit. Permits may be required for work performed in, over, and under navigable waters of the United States. Projects requiring a DA permit also require a Section 401 Water Quality Certification (WQC) from our office.

3. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

- a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi).
- b. Storm water associated with construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the start of the construction activities.**
- c. Treated effluent from leaking underground storage tank remedial activities.
- d. Construction dewatering effluent.

You must submit a separate NOI form for each type of discharge at least 30 days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at:

<http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>.

4. For types of wastewater not listed in Item 3 above or wastewater discharging into Class 1 or Class AA waters, you must obtain an NPDES individual permit. An application for an NPDES individual permit must be submitted at least 180 days before the commencement of the discharge. The NPDES application forms may be picked up at our office or downloaded from our website at

<http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html>.

5. You must also submit a copy of the NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the CWB that SHPD has or is in the process of evaluating your project. Please submit a copy of your request for review by SHPD or SHPD's determination letter for the project along with your NOI or NPDES permit application, as applicable.

Ms. Lana Brodziak

June 6, 2007

Page 3

6. 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.

If you have any questions, please visit our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/index.html>, or contact the Engineering Section, CWB, at 586-4309.

Sincerely,

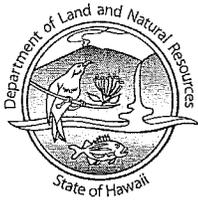
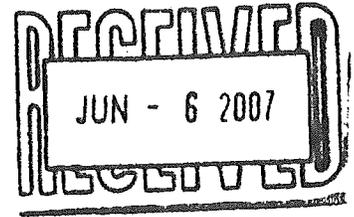

ALEC WONG, P.E., CHIEF
Clean Water Branch

KP:np

LINDA LINGLE
GOVERNOR OF HAWAII



ALLAN A. SMITH
INTERIM 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 4, 2007

Masa Fujioka & Associates
98-021 Kamehameha Highway #337
Aiea, Hawaii 96701-4914

Attention: Ms. Lana Brodziak

Gentlemen:

Subject: Pre-Consultation for Draft Environmental Assessment for proposed barrier cap installation, Kapolei, Oahu, Tax Map Key: (1) 9-1-26:26

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 comment.

Other than the comments from Land Division – Oahu District, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

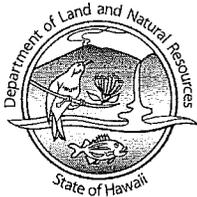
A handwritten signature in black ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Administrator

LINDA LINGLE
GOVERNOR OF HAWAII



ALLAN A. SMITH
INTERIM 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

May 18, 2007

MEMORANDUM

From: ~~TO:~~

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Oahu District

To:

~~FROM:~~ Russell Y. Tsuji
SUBJECT: Pre-Consultation for Draft Environmental Assessment for proposed barrier cap installation
LOCATION: Kapolei, Oahu, Tax Map Key: (1) 9-1-26:26
APPLICANT: Masa Fujioka & Associates

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by June 1, 2007.

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 my office at 587-0433. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: *[Signature]*
 Date: 5/23/07