CONSERVATION DISTRICT USE APPLICATION (CDUA)

All permit applications shall be prepared pursuant to HAR 13-5-31

File No.:	
Acceptance Date:	180-Day Expiration Date:
Assigned Planner:	

for DLNR Use

PROJECT NAME: Halawa Groundwater Monitoring Wells, Sites H & L3

Conservation District Subzone: General

Identified Land Use: P-1 Data Collection (C-1) Basic data collection, research, education, and resource evaluation that involves a land use causing ground disturbance from installation of equipment (e.g., meteorological towers, radio towers, or test wells).
(Identified Land Uses are found in Hawai'i Administrative Rules (HAR) §13-5-22 through §13-5-25)

Project Address: 99-1300 Halawa Valley Street

'Aiea, Hawai'i 96701

Tax Map Key(s): (1)9-9-010:010

Ahupua'a: Halawa Ahupua'a

District: 'Ewa Moku

County: City and County of Honolulu

Island: O'ahu

Proposed Commencement Date: 11/2016

Proposed Completion Date: 11/2017

Estimated Project Cost: $500,000

TYPE OF PERMIT SOUGHT: ☐ **Board Permit** ☒ **Departmental Permit**

☐ Temporary Variance *(ref §13-5-36)*

☐ Site Plan Approval *(ref §13-5-38)*

Note: The two items on the left do not require that a full CDUA be filled out. Please complete the first four pages of this application and refer to the relevant HAR sections for the required documentation.

ATTACHMENTS *(where applicable)*

$ 250 Application Fee *(ref §13-5-32 through 34)*

$ 0 Public Hearing Fee *($250 plus publication costs; ref §13-5-40)*

☒ 20 copies of CDUA for Board and Departmental Permits (*5 hard + 15 hard or digital copies)*

☐ Management Plan *or* Comprehensive Management Plan (*ref §13-5-39 and Chapter 13-5 Exhibit 3)*

☐ Draft / Final Environmental Assessment *or* Draft / Final Environmental Impact Statement

☐ Special Management Area Determination *(ref Hawai'i Revised Statutes (HRS) 205A)*

☐ Shoreline Certification (*ref §13-5-31(a)(8))* if land use is subject to coastal hazards.

☐ Kuleana documentation (*ref §13-5-31(f))* if applying for a non-conforming kuleana use.

☐ Boundary Determination *(ref §13-5-17)* if land use lies within 50 feet of a subzone boundary.

REQUIRED SIGNATURES

Applicant

Name: Ernest Y.W. Lau, P.E.
Title; Agency: Manager and Chief Engineer, Honolulu Board of Water Supply
Mailing Address: 630 S. Beretania St.
Honolulu, Hawai'i 96843
Contact Person & Title: Erwin Kawata, Program Administrator, Water Quality Division
Phone: (808) 748-5080
Email: ekawata@hbws.org
Interest in Property: Proposing Agency

Signature: _____ **Date:** 10/05/16

Signed by an authorized officer if for a Corporation, Partnership, Agency or Organization

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Landowner (if different than the applicant)

Name: Leslie Y. Goya
Title; Agency: Vice President, Queen Emma Land Company
Mailing Address: 1301 Punchbowl Street
Honolulu, Hawai'i 96813
Phone: (808) 691-5935
Email: slau@queens.org

Signature: _____ **Date:** 10.9.16

Reviewed by Legal: Kaleen Miyasato

For State and public lands, the State of Hawai`i or government entity with management control over the parcel shall sign as landowner.

Agent

Agency: The Limtiaco Consulting Group
Contact Person & Title: Ian Arakaki, Principal
Mailing Address: 1622 Kanakanui Street
Honolulu, Hawai'i 96817
Phone: (808) 596-7790
Email: ian@tlcghawaii.com

Signature: _____ **Date:** 10/21/16

For DLNR Managed Lands

State of Hawai`i
Chairperson, Board of Land and Natural Resources
State of Hawai'i
Department of Land and Natural Resources
P.O. Box 621

Honolulu, Hawai'i 96809-0621

Signature: _____ **Date:** _____

PROPOSED USE

Total size/area of proposed use (indicate in acres or sq. ft.): 0.58 acres

Please provide a detailed description of the proposed land use(s) in its entirety. Information should describe what the proposed use is; the need and purpose for the proposed use; the size of the proposed use (provide dimensions and quantities of materials); and how the work for the proposed use will be done (methodology). If there are multiple components to a project, please answer the above for each component. Also include information regarding secondary improvements including, but not limited to, grading and grubbing, placement of accessory equipment, installation of utilities, roads, driveways, fences, landscaping, etc.

Attach any and all associated plans such as a location map, site plan, floor plan, elevations, and landscaping plans drawn to scale *(ref §13-5-31)*.

The Honolulu Board of Water Supply (BWS) proposes the drilling and construction of two groundwater monitoring wells at the specified locations, which is within the State of Hawai'i (State) Conservation land use district. The two monitoring wells are an important part of a larger BWS groundwater study being performed throughout the Halawa Valley area. The BWS Halawa Groundwater Study is intended to study groundwater quality and hydrogeologic properties of the basal aquifer across the north and south Halawa Valleys. These monitoring wells will not be connected to any utilities and will not be developed into production or supply wells. Water recovered from these monitoring wells will be prohibited (by permit) from being used for consumptive purposes.

Sites H and L3 are located within Tax Map Key (TMK) parcel (1) 9-9-010:010, which is owned by the Queen Emma Land Co. and leased by Hawaiian Cement. The BWS will obtain a right-of-entry from the Queen Emma Land Co. for construction of the proposed wells and obtaining samples from the wells. The parcel is located in Halawa, O'ahu (see Figure 1 enclosed). The majority of the parcel is used as part of Hawaiian Cement's Halawa Quarry. Sites H and L3 are located adjacent to an existing access road which is used by the BWS and the Hawaiian Electric Company (HECO) to access their reservoir and substation facilities within Halawa Valley, respectively. The access road is also used by Hawaiian Cement and the Queen Emma Land Co. Immediately to the north of Sites H and L3 is the Halawa Quarry. The Halawa Correctional Facility and the U.S. Navy's Red Hill Facilities are located south of Sites H and L3.

Sites H and L3 are located within the General subzone of the State Conservation land use district. Sites H and L3 will be located in or adjacent to an existing BWS/HECO access road. The access road is bordered by unimproved, densely vegetated land.

The monitoring wells at Sites H and L3 will be located along the southern Queen Emma property boundary, north of the Halawa Correctional Facility and the U.S. Navy's Red Hill Facility.

Site H will be located within the existing asphaltic-concrete (AC) paved access road. In order to maintain access for BWS and HECO personnel during monitoring well installation, a temporary bypass road will be installed and will remain in place for the duration of construction which is estimated to take several months. The temporary bypass road will be installed north of the access road, within 10 to 20 feet of the existing road. Construction of the bypass road will involve grubbing and minor grading (primarily fill) of approximately 4,000 square feet, and the temporary placement of subbase course (gravel) road. The gravel will be maintained as the road surface material and removed upon completion of construction activities. Grass or other permanent erosion control best management practices (BMPs) will be installed and maintained by the BWS or a BWS contractor until the area is sufficiently stabilized. The monitoring well will be approximately 2.5- to 4.0-in diameter and will be drilled to a depth of approximately 225 ft bgs. The monitoring well casing will consist of polyvinyl-chloride (PVC) pipe encased in cement. The proposed improvements are shown on the enclosed "Site H General Site Plan".

Site L3 will be located in a vegetated area adjacent to the existing AC-paved access road. Grubbing and minor grading (primarily fill) will be required for drill rig access, monitoring well installation, and staging and stockpiling areas. Fill will consist of imported earthen material. The area of grubbing and grading will be approximately 13,000 square feet. Fill will remain upon completion of construction and will be stabilized with grass or other permanent erosion control BMPs, which will be maintained by the BWS. The monitoring well will be approximately 2.5- to 4.0-in diameter and will be drilled to a depth of approximately 260 ft bgs. The monitoring well casing will consist of PVC pipe encased in cement. The proposed improvements are shown in the enclosed and "Site L3 General Site Plan".

Upon completion of well construction, the wells will be included in a groundwater monitoring and sampling program that will include periodic visits to the wells for collection of data and samples. The BWS will abandon the wells and will remove associated equipment prior to expiration of the right-of-entry agreement between the BWS and Queen Emma Land Co.

EXISTING CONDITIONS

Please describe the following, and attach maps, site plans, topo maps, colored photos, and biological or archaeological surveys as appropriate:

Existing access to site:

Sites H and L3 are located along an existing BWS/HECO access road on land owned by the Queen Emma Land Company. The access road runs along the property boundary between the Halawa Quarry and Halawa Correctional Facility (see "Location Map - Site H and L3"). The entrance to the access road is located off of a State-owned portion of Halawa Valley Street, which is a public road. Use of the access road is restricted to the Queen Emma Land Co., Hawaiian Cement, HECO, and BWS. The access road is secured by a locked gate to prevent unauthorized persons or the general public from entering.

Existing buildings/structures:

There are no buildings or structures within the vicinity of the work area for Sites H and L3. No buildings or structures will be impacted by the proposed project.

Existing utilities (electrical, communication, gas, drainage, water & wastewater):

Sites H and L3 currently do not have any utility service. As-builts indicate that a 16-in waterline runs along the existing access road. Surface inspections of the project site also identified high-voltage HECO powerlines that run parallel to portions of the access road adjacent to Site L3. The well at Site L3 will be located at a sufficient distance from the overhead powerlines; therefore, the powerlines will not be affected. Utilities will not be affected by the proposed project.

Physiography (geology, topography, & soils):

The NRCS Web Soil Survey indicates that Sites H and L3 consist of Ka'ena stony clay from 2 to 6 percent slopes. The NRCS gives this soil type the designation of "KaeB". The Ka'ena series consist of deep, poorly drained soils found in alluvial fans and talus slopes of O'ahu and Kaua'i. KaeB soils are characterized by slow runoff and slight erosion hazard.

Topography at Sites H and L3 is relatively flat; these locations were chosen in part with the intention to minimize the amount of grading required for monitoring well development. The areas immediately north of Sites H and L3 slope up toward Halawa Quarry.

Hydrology (surface water, groundwater, coastal waters, & wetlands):

According to the State Commission on Water Resource Management (CWRM), Sites H and L3 are located over the Waimalu Aquifer System Area of the Pearl Harbor Aquifer Sector Area. The project site is located mauka of the Underground Injection Control Line. As such, the portion of the groundwater aquifer underlying the project site serves as a source of potable drinking water. The purpose of the proposed monitoring wells is to study groundwater quality and hydrogeologic properties of the basal aquifer in the Halawa Valley area.

Sites H and L3 are located in the vicinity of the south fork of Halawa Stream, which is ephemeral in the vicinity of Sites H and L3. City and County of Honolulu GIS data indicates that Site H is located approximately 500 ft from the stream and Site L3 is located approximately 200 ft from the stream. South Halawa Stream is unchannelized in the areas mauka of the Halawa Correctional Facility, and enters a concrete drainage channel as it passes south of the correctional facility.

Neither site is located near any coastal waters or wetlands.

Flora & fauna (indicate if rare or endangered plants and/or animals are present):

Sites H and L3 are located along the wooded slopes in Halawa Valley. Although no trained biologist was present during surface inspections at the project site, flora species believed to be observed were haole koa, morning glory, sansevieria trifasciata, buffalo grass, and lion's ear. Haole koa makes up the majority of the flora at the project sites. Faunal species observed were feral pigs and mongooses. No native avian species were observed.

The State Division of Forestry and Wildlife (DoFAW) was consulted regarding the proposed monitoring wells. Correspondence with DoFAW performed to date is enclosed for reference.

Natural hazards (erosion, flooding, tsunami, seismic, etc.):

Both sites are located within areas of undetermined flood zone (Flood Zone D). However, both sites are adjacent to areas within Flood Zone X (areas outside the 500-year floodplain). As such, the risk of flooding at all sites is considered to be minimal.

Both sites are located outside of tsunami evacuation and extreme tsunami evacuation zone according to maps prepared by the City and County of Honolulu, Department of Emergency Management.

Sites H and L3 are located adjacent to the toe of a minor slope. Surface investigations at the site indicate that the slope is comprised primary of basalt and appears stable. Established vegetation along the slope show no indication of recent rockslides. Grading required for development of the proposed monitoring wells involves primarily fill, and should not increase the risk of slope erosion.

Historic & cultural resources:

Extensive archaeological surveys have previously been performed within Halawa Valley. However, no archaeological sites were identified directly within any site. Research of previous studies is summarized in the enclosed correspondence with the State Historic Preservation Division (SHPD).

The BWS will contact native Hawaiian organizations prior to proceeding with monitoring well construction.

EVALUATION CRITERIA

The Department or Board will evaluate the merits of a proposed land use based upon the following eight criteria *(ref §13-5-30(c))*

1. The purpose of the Conservation District is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. *(ref §13-5-1)* How is the proposed land use consistent with the purpose of the conservation district?

   Development of the proposed groundwater monitoring wells will allow the BWS to evaluate the quality of the groundwater aquifer in the Halawa area, which serves as an important source of potable water for the island of O'ahu.

2. How is the proposed use consistent with the objectives of the subzone of the land on which the land use will occur? *(ref §13-5-11 through §13-5-15)*

   Sites H and L3 are located in the General subzone, the objective of which is "to designate open space where specific conservation uses may not be defined, but where urban use would be premature" (HAR, 13-5-14). The proposed sites are located on private property along a BWS/HECO access road. Access to the site is currently restricted to BWS, HECO, Hawaiian Cement, and Queen Emma Land Co. personnel. Development of the proposed monitoring wells will not promote additional development or increased use at Sites H and L3.

3. Describe how the proposed land use complies with the provisions and guidelines contained in chapter 205A, HRS, entitled "Coastal Zone Management" *(see 205A objectives on p. 9).*

   The sites are located approximately 2 miles away from the nearest coastal area: Pearl Harbor East Loch. As such, the project will not result in impacts to coastal recreational opportunities, coastal ecosystems, coastal hazards, coastal management, beach protection, or marine resources.
   The BWS will coordinate with SHPD and native Hawaiian organizations to ensure that the proposed project does not adversely impact historic resources.
   Sites H and L3 are located within a restricted area. As such, no scenic or open space resources will be impacted by monitoring well development at these sites.
   The proposed monitoring wells are important for the BWS mission of providing residents and businesses with safe and dependable water service.

4. Describe how the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.

   The proposed monitoring wells are minimal in surface area, and will not result in major surface land disturbances. Although construction of the temporary bypass road at Site H and site preparation at Site L3 will involve grading and grubbing activities, no significant environmental resources were identified within those areas. The graded and grubbed areas will be stabilized with permanent erosion control BMPs (e.g., grassing) at the end of construction, which the BWS or the BWS contractor will maintain until the area is sufficiently stabilized. Installation of the proposed monitoring wells will not result in increased urban usage or increased use of natural resources.

5. Describe how the proposed land use, including buildings, structures and facilities, is

compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.

Sites H and L3 are located along an existing BWS/HECO access road. The monitoring well at Site H will be installed at-grade and will not impede access for BWS, HECO, Hawaiian Cement, and Queen Emma Land Co. personnel. The monitoring well at Site L3 will be installed adjacent to the access road and will also not impede access.

6. Describe how the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon.

   The proposed monitoring wells will have a minimal footprint. Sites H and L3 are located in a restricted-access area and will not affect public space.

7. If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.

   No subdivision is proposed.

8. Describe how the proposed land use will not be materially detrimental to the public health, safety and welfare.

   The proposed use is intended to enhance public safety by allowing the BWS to monitor the water quality of an important potable water source.

CULTURAL IMPACTS

Articles IX and XII of the State Constitution, other state laws, and the courts of the State, require government agencies to promote and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups.

Please provide the identity and scope of cultural, historical, and natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

No cultural resources were identified within the proposed sites. However, several archaeological sites are located mauka of sites H and L3, including Heiau.

Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.

The sites will not be directly affected by installation of the proposed monitoring wells. Makai to mauka access will be maintained along the access road throughout the duration of construction. The BWS is coordinating with the SHPD and Office of Hawaiian Affairs to mitigate any potential effects to cultural resources. The BWS will contact native Hawaiian organizations prior to construction.

What feasible action, if any, could be taken by the Board of Land and Natural Resources in regards to your application to reasonably protect Native Hawai'i rights?

Inform the BWS if it knows of any native Hawaiian organizations or lineal descendants whose kuleana includes Sites H and L3.

OTHER IMPACTS

Does the proposed land use have an effect (positive/negative) on public access to and along the shoreline or along any public trail?

No. There are no shorelines or public trailheads at both sites.

Does the proposed use have an effect (positive/negative) on beach processes?

No. The sites are not located near the shoreline.

Will the proposed use cause increased sedimentation?

Grading and grubbing at Sites H and L3 has the potential to increase sedimentation due to stormwater runoff. A storm water pollution prevention plan (SWPPP) will be prepared for drilling activities. Construction BMPs will be used to mitigate the potential for sediment transport in stormwater runoff. Disturbed areas will be stabilized with permanent erosion control upon completion of construction.

Will the proposed use cause any visual impact on any individual or community?

No. The proposed monitoring wells will have minimal footprints. Sites H and L3 are located in an area of restricted access.

Please describe any sustainable design elements that will be incorporated into the proposed land use (*e.g. the use of efficient ventilation and cooling systems; renewable energy generation; sustainable building materials; permeable paving materials; efficient energy and water systems; efficient waste management systems; etc.).*

N/A. Monitoring wells do not provide an opportunity for sustainable design elements.

If the project involves landscaping, please describe how the landscaping is appropriate to the Conservation District (*e.g. use of indigenous and endemic species; xeriscaping in dry areas; minimizing ground disturbance; maintenance or restoration of the canopy; removal of invasive species; habitat preservation and restoration; etc.)*

The project does not involve landscaping. Disturbed areas at Sites H and L3 will be permanently stabilized upon completion of construction.

Please describe Best Management Practices that will be used during construction and implementation of the proposed land use.

Appropriate erosion control BMPs will be used to mitigate the migration of sediment during construction. The BWS will maintain permanent erosion control BMPs during construction and after construction until the area is sufficiently stabilized.

Please describe the measures that will be taken to mitigate the proposed land use's environmental and cultural impacts.

Access will be maintained to culturally significant resources located mauka of Sites H and L3.

SINGLE FAMILY RESIDENTIAL STANDARDS

Single Family Residences must comply with the standards outlined in HAR Chapter 13-5, Exhibit 4. Please provide preliminary architectural renderings (e.g. building foot print, exterior plan view, elevation drawings; floor plan, etc.) drawn to scale.

SIZE OF LOT

	Existing	Proposed	Total
Proposed building footprint			
Paved areas/ impermeable surfaces			
Landscaped areas			
Unimproved areas			

SETBACKS Front: Side: Back:

SHORELINE PROPERTIES

Average Lot Depth (ALD): Average annual coastal erosion rate:

Minimum shoreline setback based on Exhibit 4:

Actual shoreline setback or proposed structure:

MAXIMUM DEVELOPABLE AREA

The Maximum Developable Area includes all floor areas under roof, including first, second, and third stories, decks, pools, saunas, garage or carport, and other above ground structures.

Maximum Developable Area based on Exhibit 4:

Actual Developable Area of proposed residence:

Actual height of the proposed building envelope as defined in Exhibit 4:

COMPATIBILITY

Provide justification for any propose deviation from the established residential standards.

How is the design of the residence compatible with the surrounding area?

If grading is proposed, include a grading plan which provides the amount of cut and fill. Has grading or contouring been kept to a minimum?

CHAPTER 205A – COASTAL ZONE MANAGEMENT

Land uses are required to comply with the provisions and guidelines contained in Chapter 205A, Hawai'i Revised Statutes (HRS), entitled "Coastal Zone Management," as described below:

- **Recreational resources:** Provide coastal recreational opportunities accessible to the public.
- **Historic resources:** 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.
- **Scenic and open space resources:** Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.
- **Coastal ecosystems:** Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.
- **Economic uses:** Provide public or private facilities and improvements important to the State's economy in suitable locations.
- **Coastal hazards:** Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.
- **Managing development:** Improve the development review process, communication, and public participation in the management of coastal resources and hazards.
- **Public participation:** Stimulate public awareness, education, and participation in coastal management.
- **Beach protection:** Protect beaches for public use and recreation.
- **Marine resources:** Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

MANAGEMENT PLAN REQUIREMENTS

Certain land uses require that a Management Plan be approved by the Board of Land and Natural resources. The Management Plan can be processed concurrently with the Conservation District Use Application and must be consistent with HAR Chapter 13-5, Exhibit 3. Please attach the proposed Management Plan as a separate document.

Pursuant to the above, Management Plans must include:

- General description of the proposed use (e.g. forestry, fishpond, astronomy, aquaculture, agriculture)
- Project location (e.g. island maps, location map, site plan (drawn to scale))
- Natural resource assessment, including descriptive information about the natural resources in the project vicinity such as biological, archaeological, cultural, geological, coastal, recreational, and scenic resources, where applicable. The presence of any threatened or endangered species shall be disclosed.
- A description of best management practices used during project construction and implementation (e.g. mitigation measures).
- A description of the best management practices to be used during the lifetime of the project (e.g. mitigation measures)
- A description of the conservation methods as applications to be used in the short term and long term (e.g. mitigation measures)
- Description of existing uses and facilities, if any.
- Description of proposed facilities and uses, including phases, if applicable.
- Project schedule including description of project sequencing from project construction to project completion and on-going maintenance plans, including a description and timing of natural resource monitoring and maintenance plans.
- A description of the annual reporting requirements.
- Any other information or data, as required by the department.

CERTIFICATION

I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application and all attachments and exhibits is complete and correct. I understand that the failure to provide any requested information or misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, or for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the Land Board.

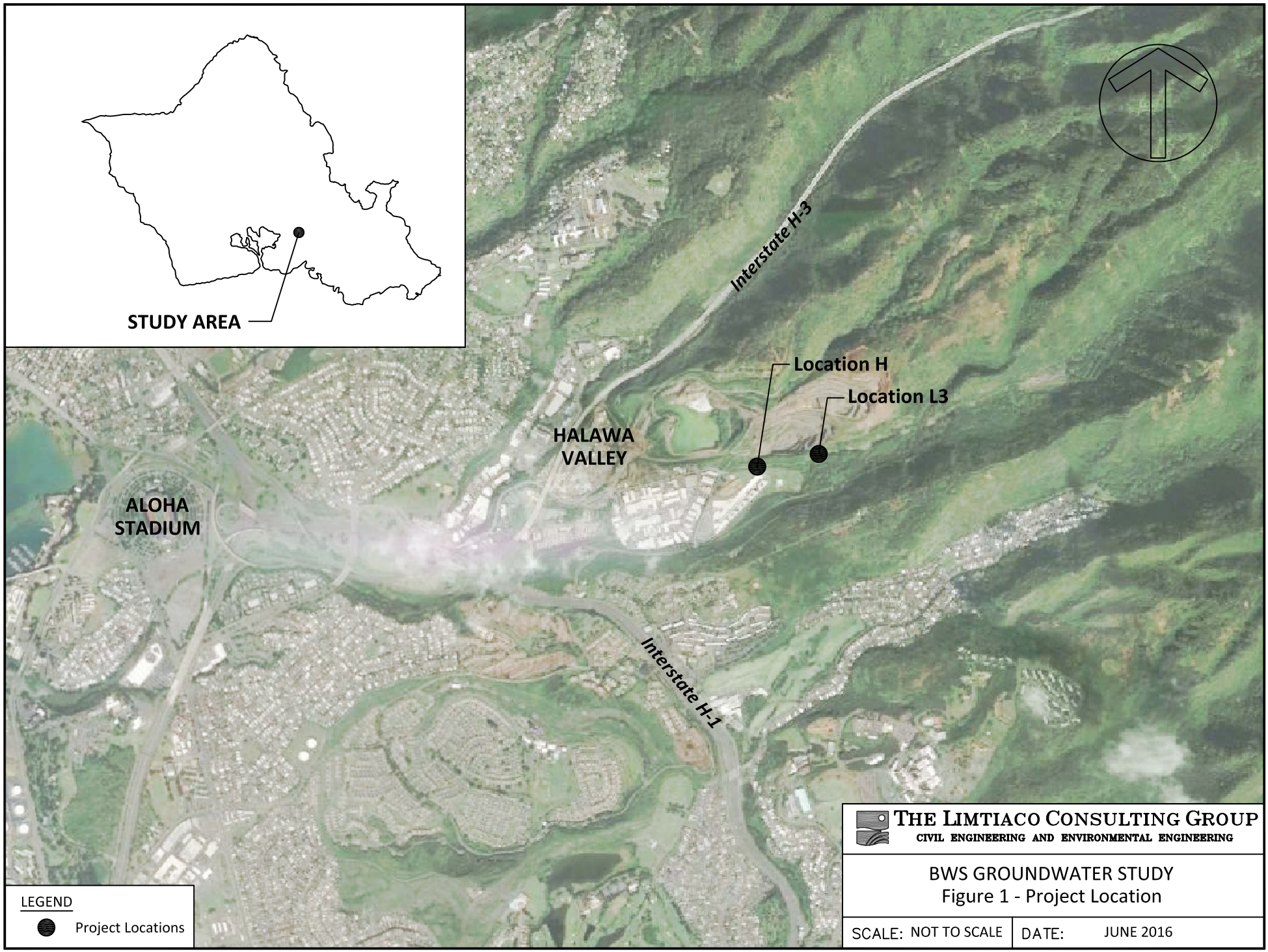
I hereby authorize representatives of the Department of Land and Natural Resources to conduct site inspections on my property. Unless arranged otherwise, these site inspections shall take place between the hours of 8:00 a.m. and 4:30 p.m.

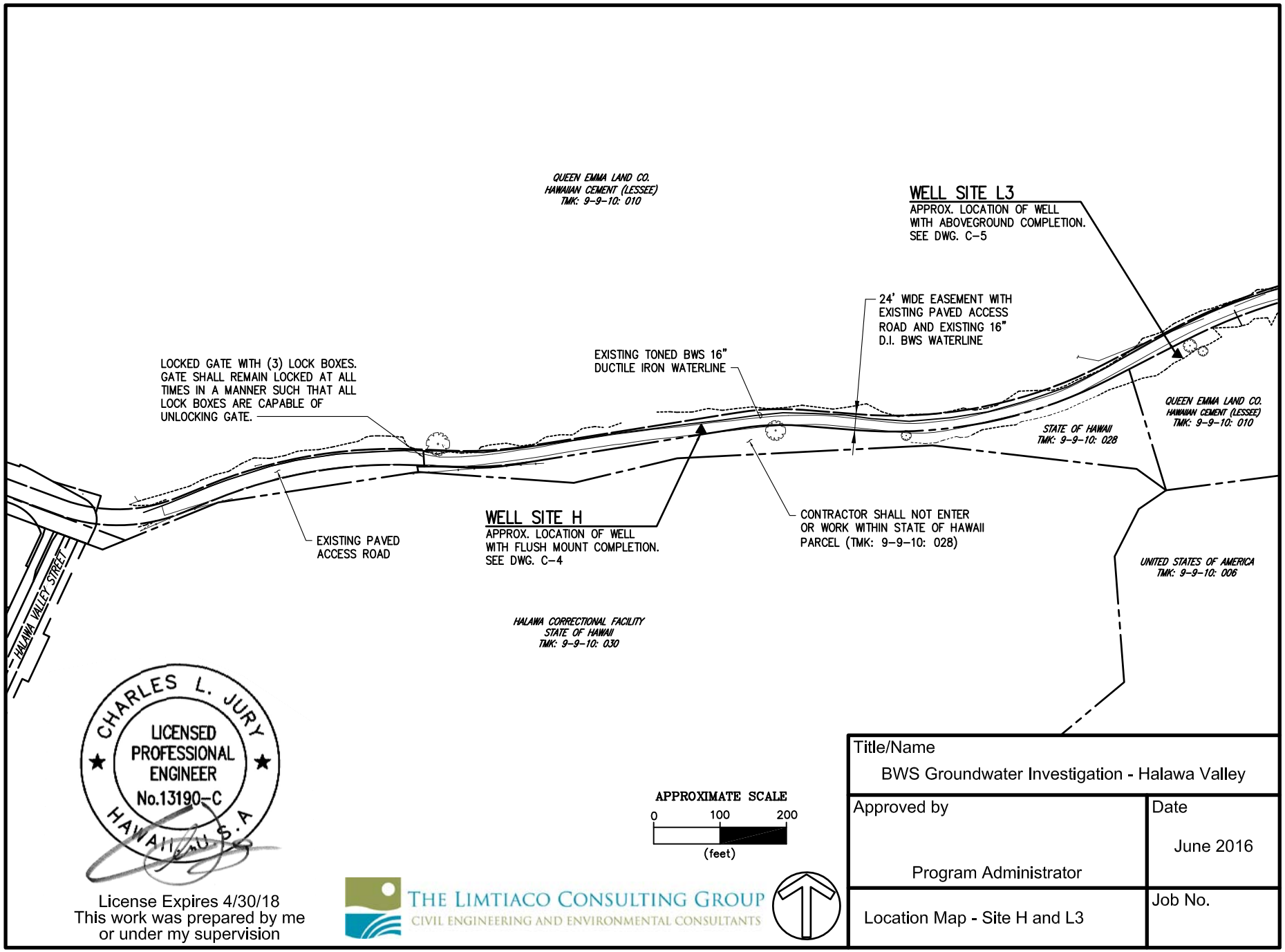
Signature of authorized agent(s) or if no agent, signature of applicant

AUTHORIZATION OF AGENT

I hereby authorize Ian Arakaki to act as my representative and to bind me in all matters concerning this application.

Signature of applicant(s)


STUDY AREA
Interstate H-3
Location H
Location L3
HALAWA
VALLEY
ALOHA
STADIUM
Interstate H-1
LEGEND
Project Locations
THE LIMTIACO CONSULTING GROUP
CIVIL ENGINEERING AND ENVIRONMENTAL ENGINEERING
BWS GROUNDWATER STUDY
Figure 1 - Project Location
SCALE: NOT TO SCALE
DATE: JUNE 2016



CHARLES L. JURY
LICENSED PROFESSIONAL ENGINEER
No.13190-C
HAWAII, U.S.A.

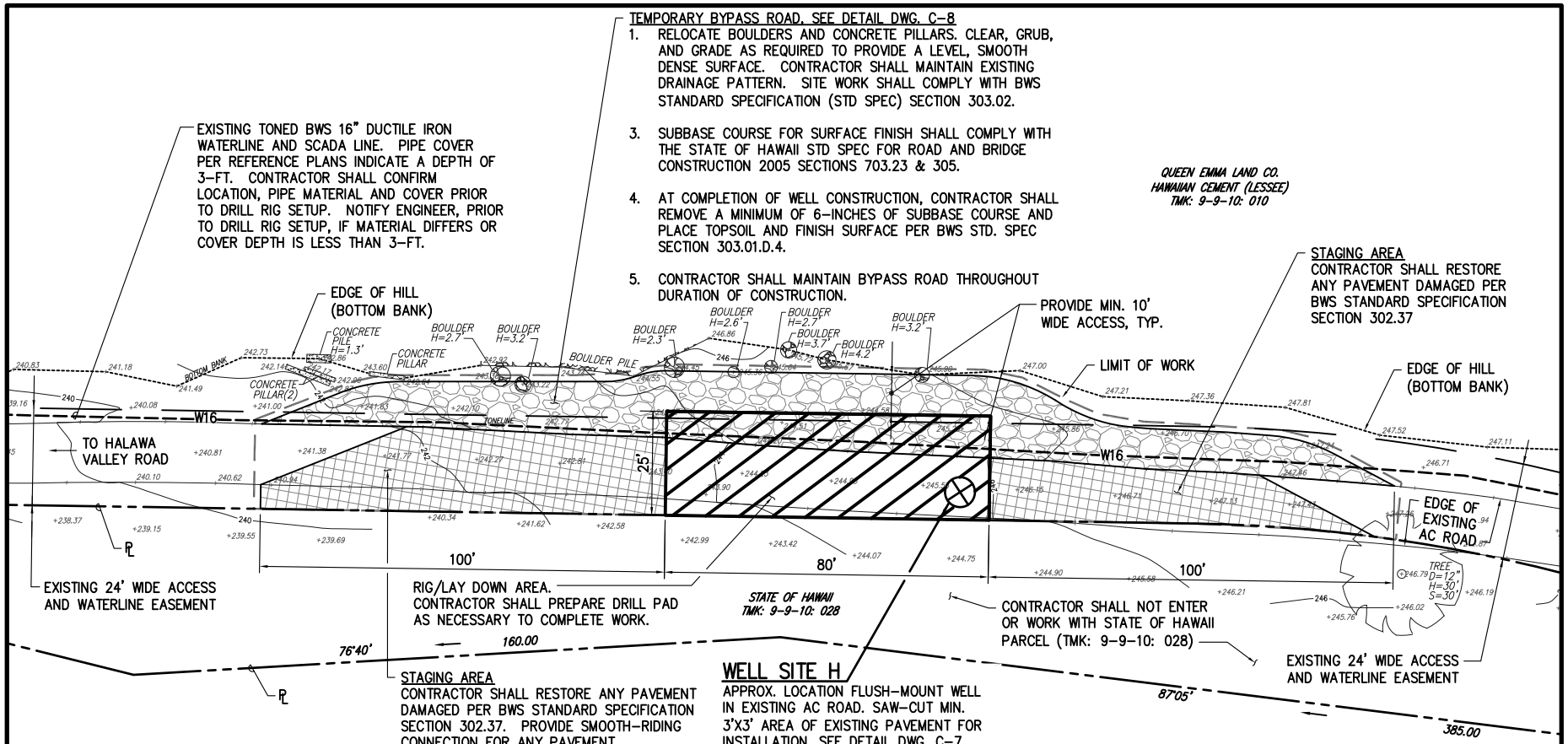
License Expires 4/30/18
This work was prepared by me
or under my supervision

THE LIMTIACO CONSULTING GROUP
CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS

Title/Name: BWS Groundwater Investigation - Halawa Valley	
Approved by: Program Administrator	Date: June 2016
Location Map - Site H and L3	Job No.

L:\1. PROJECTS\88 - Intera\Drawings\GEN SITE H L3.dwg

DWG. C-3



NOTES:

1. PLAN IS SCHEMATIC, FINAL LOCATIONS OF ALL IMPROVEMENTS SHALL BE DETERMINED IN FIELD BY BWS REPRESENTATIVE.
2. CONTRACTOR SHALL PROVIDE A MINIMUM 10-FT WIDE VEHICLE ACCESS AT ALL TIMES.
3. CONTRACTOR SHALL DEVELOP, MAINTAIN AND INSTALL BEST MANAGEMENT PRACTICES (BMP'S) AND COMPLY WITH ALL APPLICABLE REGULATIONS.
4. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE BWS & DPW STD SPECIFICATIONS.
5. CONTRACTOR SHALL OBTAIN GRADING AND/OR GRUBBING PERMIT IF REQUIRED.

GRAPHIC SCALE
0 20 40
(feet)

CHARLES L. JURY
LICENSED PROFESSIONAL ENGINEER
No.13190-C
HAWAII, U.S.A.

License Expires 4/30/18
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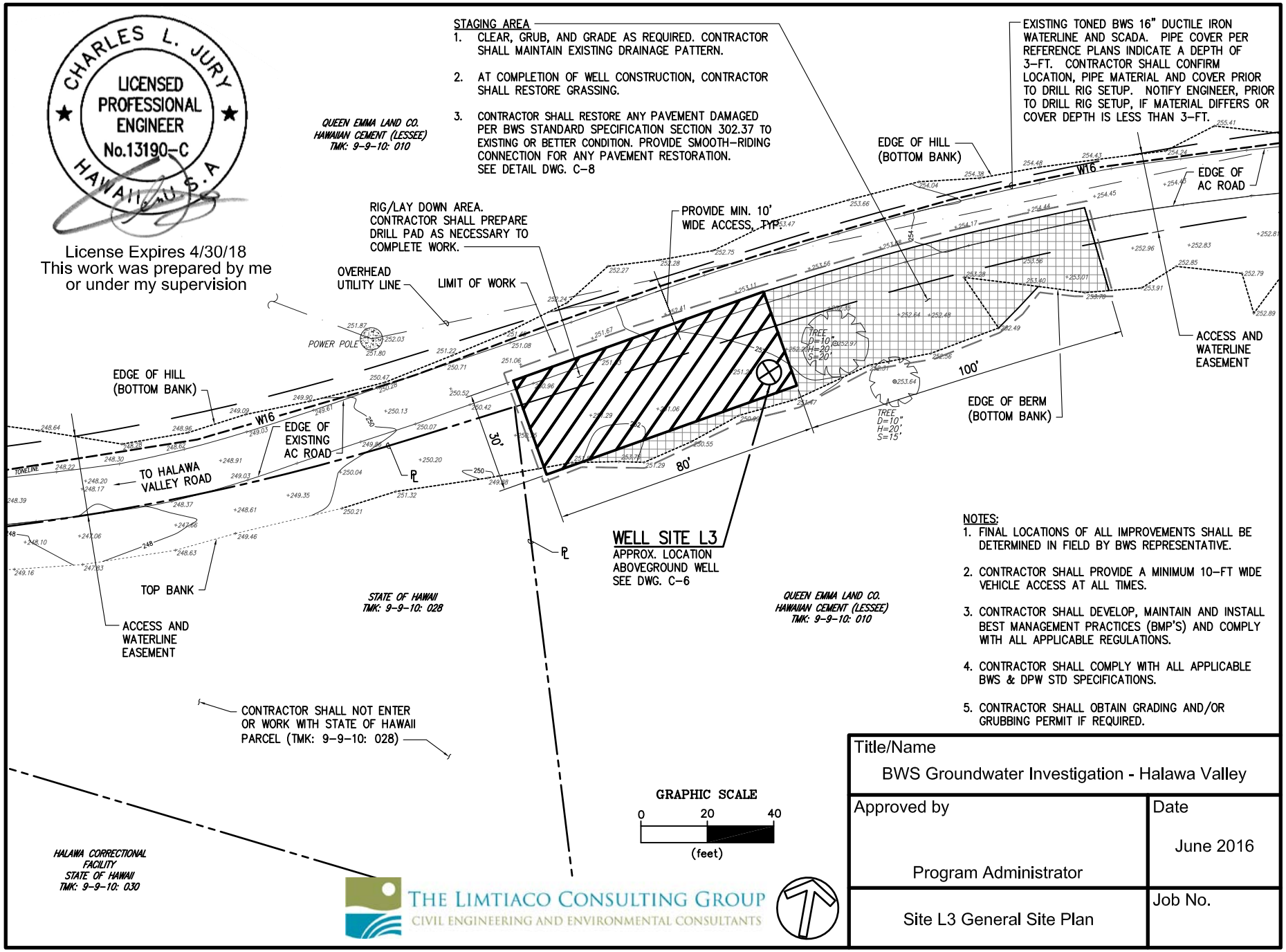
THE LIMTIACO CONSULTING GROUP
CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS

Title/Name: BWS Groundwater Investigation - Halawa Valley	
Approved by: Program Administrator	Date: June 2016
Site H General Site Plan	Job No.

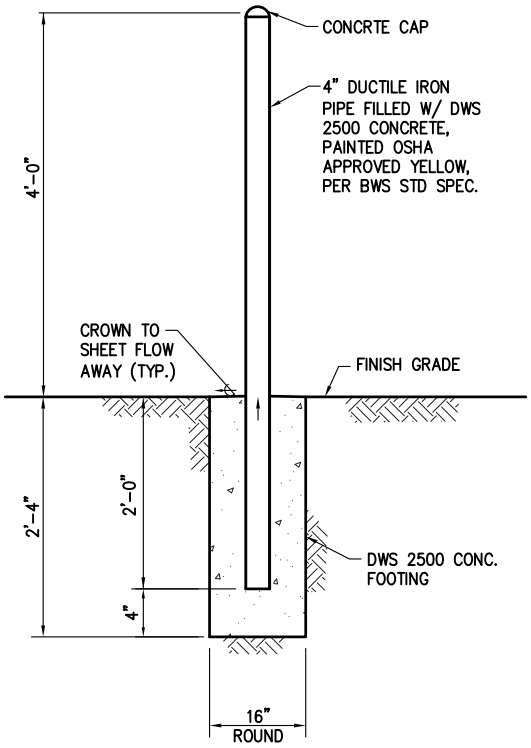
L:\1. PROJECTS\88 - Intera\Drawings\GEN SITE H L3.dwg

DWG. C-4



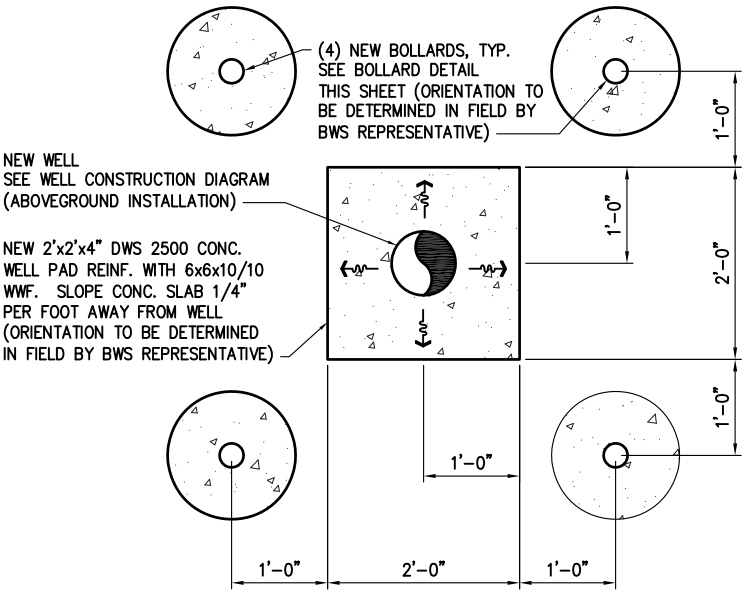
L:\1. PROJECTS\88 - Intera\Drawings\GEN SITE H L3.dwg

DWG. C-5



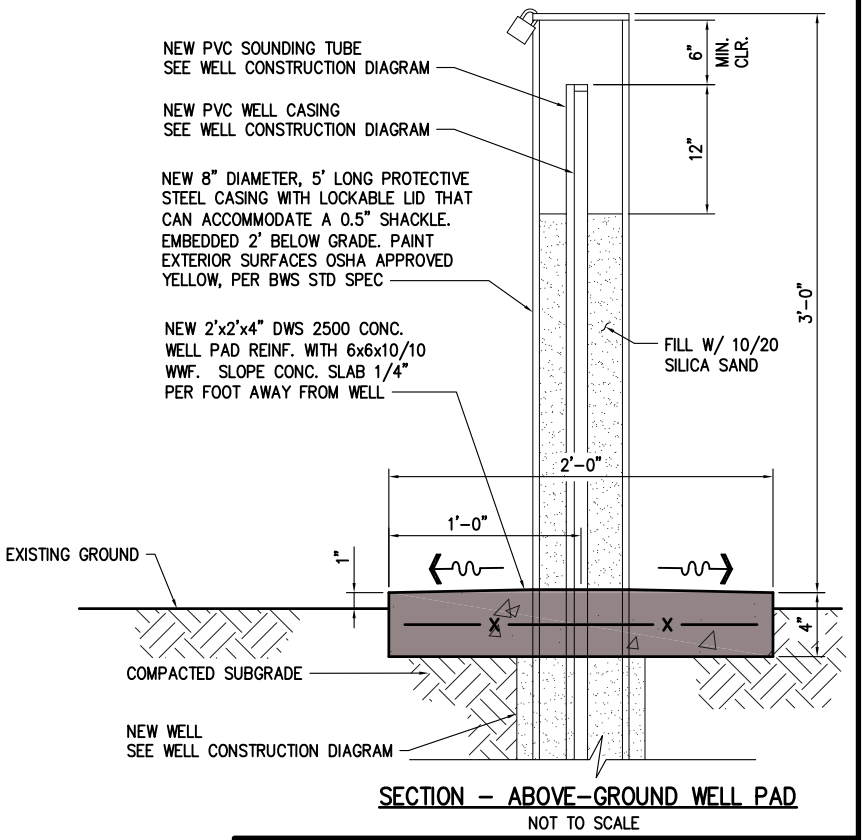
ELEVATION – BOLLARD DETAIL

NOT TO SCALE



PLAN – WELL LAYOUT

NOT TO SCALE



SECTION – ABOVE-GROUND WELL PAD

NOT TO SCALE

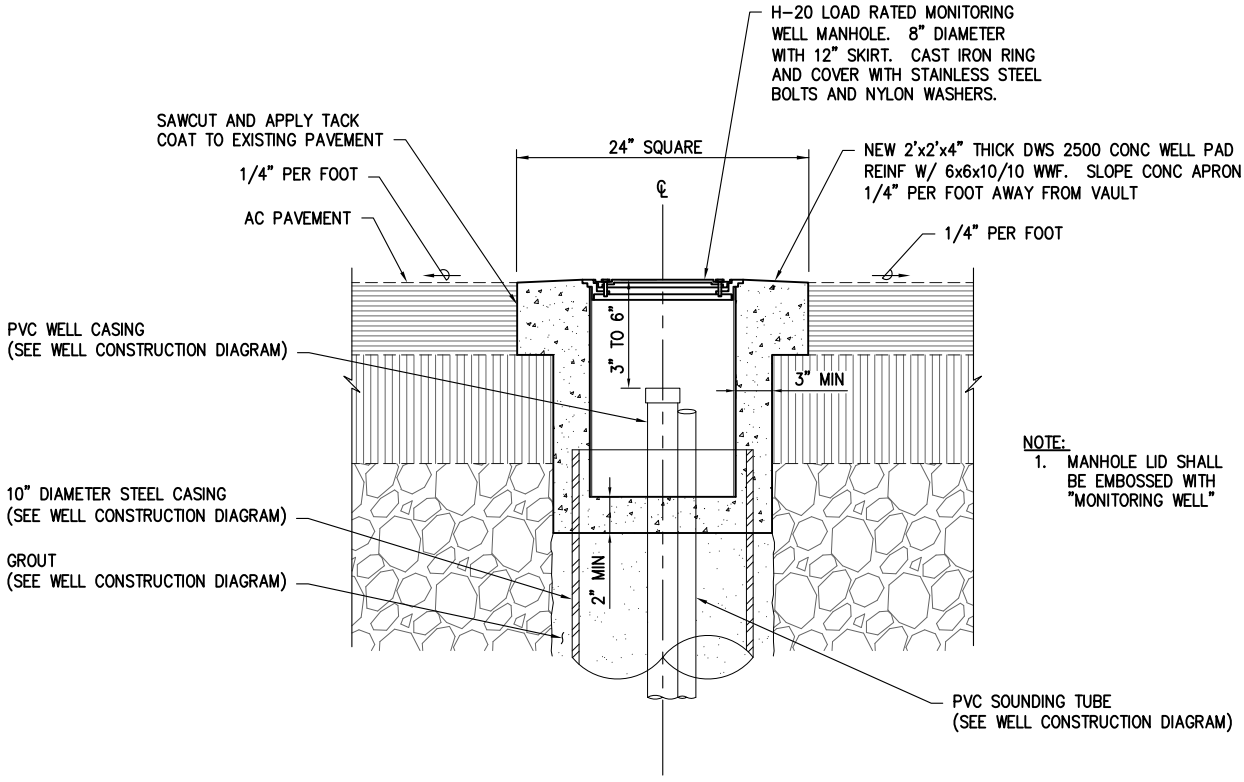
License Expires 4/30/18
This work was prepared by me or under my supervision

THE LIMTIACO CONSULTING GROUP
CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS

Title/Name: BWS Groundwater Investigation - Halawa Valley	
Approved by: Program Administrator	Date: June 2016
Aboveground Well Plan Layout & Details	Job No.

L:\1. PROJECTS\88 - Intera\Drawings\DETAILS-Site H L3 F D.dwg

DWG. C-6



SECTION – FLUSH MOUNT WELL BOX & COVER

NOT TO SCALE

CHARLES L. JURY
LICENSED PROFESSIONAL ENGINEER
No.13190-C
HAWAII, U.S.A.

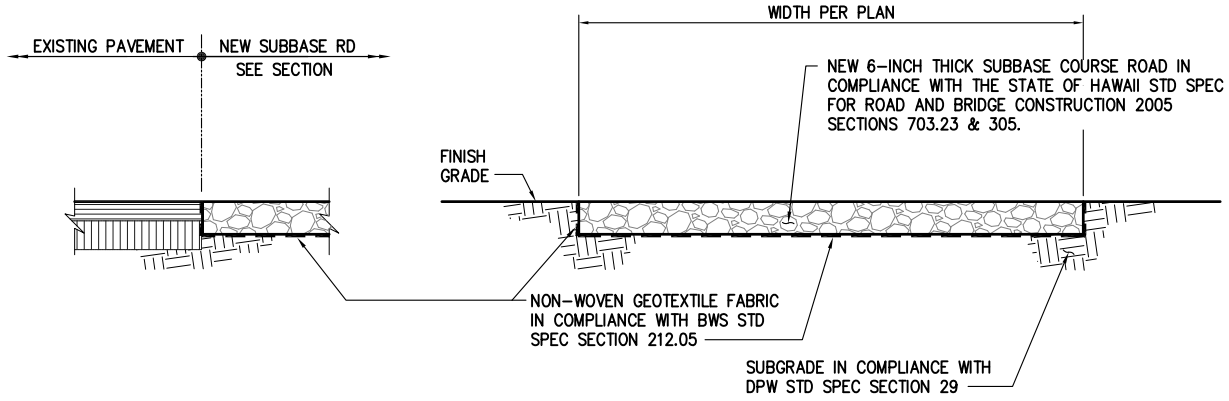
License Expires 4/30/18
This work was prepared by me or under my supervision

THE LIMTIACO CONSULTING GROUP
CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS

Title/Name BWS Groundwater Investigation - Halawa Valley	
Approved by Program Administrator	Date June 2016
Flush Mount Well Completion Detail & Pavement Section	Job No.

L:\1. PROJECTS\88 - Intera\Drawings\DETAILS-Site H L3 F D.dwg

DWG. C-7

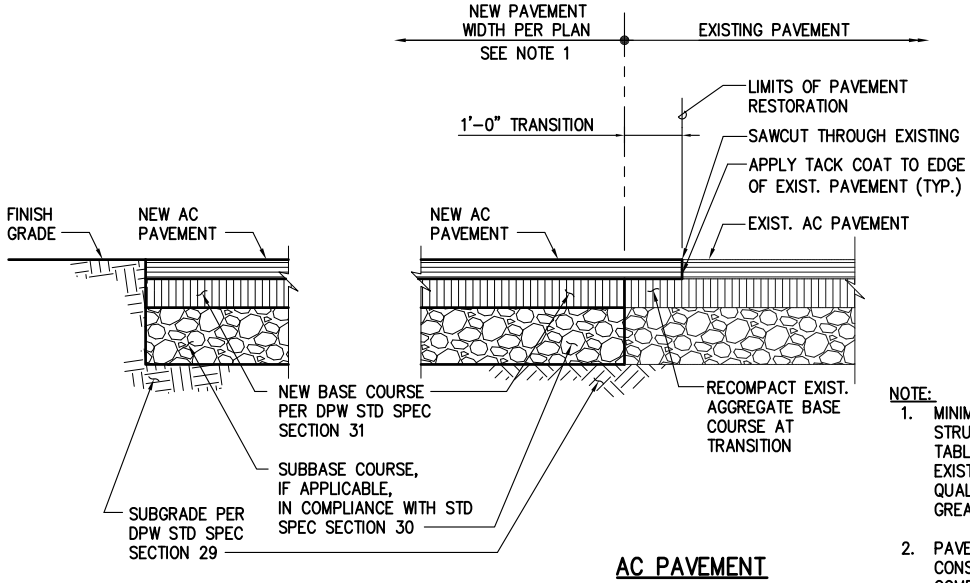


SITE H TEMPORARY BYPASS ROAD & SITE D CONSTRUCTION ACCESS ROAD CONNECTION TO EXIST PAVEMENT

NOT TO SCALE

SITE H TEMPORARY BYPASS ROAD & SITE D CONSTRUCTION ACCESS ROAD TYPICAL SECTION

NOT TO SCALE



AC PAVEMENT END TREATMENT FOR SITE F PAD

NOT TO SCALE

AC PAVEMENT SMOOTH-RIDING CONNECTION FOR SITE F PAD AND SITE H & L3 PAVEMENT RESTORATION

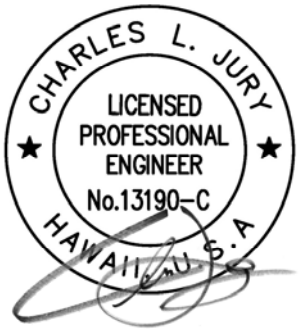
NOT TO SCALE

NOTE:

1. MINIMUM AC PAVEMENT STRUCTURE IS SPECIFIED IN TABLE 1 OR EQUAL TO EXISTING IN THICKNESS AND QUALITY, WHICHEVER IS GREATER.
2. PAVED AREAS SHALL BE CONSTRUCTED IN COMPLIANCE WITH BWS STD SPEC SECTION 303.32.

TABLE 1 – PAVEMENT SECTION			
SITE	AC	BASE COURSE	SUBBASE
F	2"	6"	0"
H & L3*	2 1/2"	6"	18"

*NOTE: ONLY APPLICABLE IF RESTORATION OF EXISTING BWS ROAD IS REQUIRED. CONTRACTOR SHALL RESTORE DISTURBED AREAS TO ORIGINAL CONDITION.



License Expires 4/30/18
This work was prepared by me or under my supervision

THE LIMTIACO CONSULTING GROUP
CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS

Title/Name	
BWS Groundwater Investigation - Halawa Valley	
Approved by Program Administrator	Date June 2016
Typical Sections	Job No.

L:\1. PROJECTS\88 - Intera\Drawings\DETAILS-Site H L3 F D.dwg

DWG. C-8

BOARD OF WATER SUPPLY

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

February 25, 2016

Ms. Sheri Mann, Administrator
State of Hawaii
Department of Land and Natural Resources
Division of Forestry and Wildlife
1151 Punchbowl Street, Room 325
Honolulu, Hawaii 96813

Dear Ms. Mann:

Subject: Chapter 195D, Hawaii Revised Statutes (HRS) Consultation
Honolulu Board of Water Supply (BWS) Halawa Monitoring Wells
Tax Map Key (1) 9-9-010:010, 028 & 030 and (1) 1-1-012:026
Halawa, Oahu, Hawaii

Pursuant to Chapter 195D, HRS, the BWS is consulting with your Division regarding the installation of water quality monitoring wells in Halawa, Oahu, Hawaii. The project will be funded by the BWS and will take place within State of Hawaii (State) and City and County of Honolulu (City) parcels. Therefore, the project is subject to the regulations and guidelines in Chapter 195D, HRS and Chapter 13-124, Hawaii Administrative Rules.

Overview of Undertaking

The BWS proposes the installation of up to three (3) monitoring wells at various locations in Halawa, Oahu (see enclosed Figure 1). The project will be entirely funded by the BWS and will involve State, County, and private lands. The project will not involve Federal land or funding.

1. Well "H". Monitoring Well H will be located on TMK (1)9-9-010:010 within an existing BWS access easement and on State parcel TMK (1)9-9-010:028 (see enclosed Figure 2). The site consists of a paved Hawaiian Electric Company (HECO) access road bordered by shrubs and other vegetation (see enclosed Photographs 1 and 2). Immediately to the south of the project site is the Halawa Correctional Facility. North of the project site is the Halawa Quarry. A large vegetated area serves as a buffer between the project site and the quarry. A drill pad and storage area will be prepared prior to drilling the monitoring well. Preparation of the drill pad and storage area will involve clearing/grubbing of vegetation, and minor grading of a maximum 15,000-square-foot area to a

maximum depth of 2 feet (ft.) below ground surface (bgs.). One 2.5-inch diameter monitoring well will be drilled to the basal aquifer approximately 225 ft bgs.

2. Well "I". Monitoring Well I will be located on TMK (1)9-9-010:030 within the Halawa Correctional Facility (see enclosed Figure 2). The well will be located on the east end of the facility in a grassed area that has been cleared of large vegetation (see enclosed Photographs 3 and 4). A drill pad will be prepared prior to drilling of the monitoring well. Preparation of the drill pad will involve minor grading of a maximum 12,000-square-foot area to a maximum depth of 2 ft. bgs. One 2.5-inch diameter monitoring well will be drilled to the basal aquifer approximately 220 ft bgs.

3. Well "J". Monitoring Well J will be located on TMK (1)1-1-012:026 within the BWS Moanalua 405' Reservoir facility (see enclosed Figure 3). The site consists of an existing potable water reservoir and a control building. A paved maintenance road circles the reservoir (see enclosed Photographs 5 and 6). One 2.5-inch diameter monitoring well will be drilled to the basal aquifer approximately 395 ft. bgs. No significant excavation or grading is proposed as a part of this project.

Development of all monitoring wells may involve installation of perimeter fencing and/or bollards for security purposes.

Project Areas

The project areas are shown in the enclosed figures (Figures 2 and 3). The project areas include the limits of work for construction of the proposed monitoring wells and possible storage and staging areas. Actual monitoring well construction activities will likely only use a small portion of the project area at each site; the project area is sized to allow the contractor flexibility of work area.

1. Well "H". The project area for Well H is approximately 1.6 acres. The project area encompasses an existing HECO access road as well as some vegetated areas directly adjacent (south) to the access road. Based on GIS data, the dimensions of the project area measure approximately 1,000 ft. long by 210 ft. wide at its longest and widest points.

2. Well "I". The project area for Well I is approximately 0.4 acres and is located entirely within the Halawa Correctional Facility property. The Halawa Correctional Facility is operated by the State Department of Public Safety. Based on GIS data, the dimensions of the project area measure approximately 390 ft. long (at its longest point) by 70 ft. wide.

3. Well "J". The project area for Well J is approximately 0.8 acres and encompasses the existing BWS Moanalua 405' Reservoir facility. Based on GIS data, the dimensions of the facility measure approximately 170 ft. by 200 ft.

We would like to request your review of the project for endangered, threatened, and/or candidate species and their critical habitat which may occur in the project areas.

If you have any questions, please contact Erwin Kawata, Program Administrator of our Water Quality Division at 748-5080 or via email at ekawata@hbws.org.

Very truly yours,

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

Enclosures

cc: Joe Tracy, INTERA Incorporated
Eileen Marcillo, INTERA Incorporated
Ian Arakaki, The Limtiaco Consulting Group

Jason Nakata

From: ERWIN KAWATA <EKAWATA@hbws.org>
Sent: Friday, May 13, 2016 3:00 PM
To: Peralta, Ryan K
Cc: Misaki, Jason C; Joe Tracy (JTracy@intera.com); Jim Joseph; Ian Arakaki; Jason Nakata; Lori Higashi
Subject: RE: Chapt 195D Consultation Halawa Monitoring Wells, TMK: 9-9-10:10, 28 and 30 and 1-1-12:26

Aloha Ryan,

Thank you for your comments regarding the BWS consultation letter associated with our Halawa Valley groundwater investigation.

The issue regarding the Rapid Ohia Death had not been previously considered, and your reminder is greatly appreciated. Although the procurement documents have already been finalized and posted, we will pass the information on to our contractors and ask for their voluntary compliance with the specified mitigation measures. We will incorporate these mitigation measures into future procurement requirements on this project to ensure that these actions are taken to preserve the flora and fauna of Oahu and protection of its watersheds.

The monitoring wells we are installing is being designed, constructed, and used for studying the groundwater aquifer in the Halawa valley and not for producing large volumes of water. The wells will also be equipped with dedicated low flow rate (one GPM) sampling pumps and permitted by DLNR for groundwater quality monitoring purposes only. Given this design and purpose, the wells will be unable to serve as a water source for firefighting.

Thank you again for your comments. If you have any questions, please feel free to contact me at 748-5080. Mahalo!

Erwin Kawata
Honolulu Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96813
Office: 808-748-5080
Email: ekawata@hbws.org

From: Peralta, Ryan K [mailto:ryan.k.peralta@hawaii.gov]
Sent: Tuesday, May 10, 2016 7:47 AM
To: ERWIN KAWATA
Cc: Misaki, Jason C
Subject: Chapt 195D Consultation Halawa Monitoring Wells, TMK: 9-9-10:10, 28 and 30 and 1-1-12:26

Aloha Erwin,

Sorry for the delay in this response and I appreciate your willingness to accept our comments despite the timeliness of the submittal. See below for comments.

1. Due to the Rapid Ohia Death on Hawaii Island:

- The import of all ohia plants or plant parts (including logs, wood, leaves, twigs, flowers, seeds, stems and cuttings), untreated wood, green waste, mulch, sawdust, woodchips, soil and frass from Hawaii Island to Oahu should be avoided.
- All tools, shoes, clothing, gear and equipment used on Hawaii Island should be cleaned with Lysol (4 oz/gallon Lysol), 70% rubbing alcohol or 10% bleach prior to returning to Oahu. Clothing must be washed in hot water and detergent.
- Use detergent to wash the tires and undercarriage of vehicles and equipment being transported from Hawaii Island to Oahu if they travelled off road.

2. If possible, recommend the install stand pipe with 2.5" NH thread at all three locations for access to water for fire fighting.
3. If possible, recommend the install and keep clear a 40' by 40' pad for helicopter fire fighting purposes

Mahalo,

Ryan Keala Ishima Peralta
Forest Management Supervisor I

PUPUKAHI I HOLOMUA!

State of Hawaii
Department of Land and Natural Resources
Division of Forestry and Wildlife
2135 Makiki Heights Drive
Honolulu, Hawaii 96822
(o) 808-973-9784 (f) 808-973-9781 (c) 808-292-5645

BOARD OF WATER SUPPLY

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

February 2, 2016

02-03-16A07:43 RCVD

Mr. Alan Downer, Administrator
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Boulevard, Suite 555
Kapolei, Hawaii 96707

Dear Mr. Downer:

Subject: Historic Preservation Review, Chapter 6E, Hawaii Revised Statutes (HRS)
Honolulu Board of Water Supply (BWS) Halawa Monitoring Wells
Tax Map Key (1) 9-9-010:010, 028 & 030 and (1) 1-1-012:026
Halawa, Oahu, Hawaii

Pursuant to Chapter 6E, HRS, the BWS request your review of the proposed Halawa Monitoring Wells project and your written concurrence with our "no historic properties affected" determination. The project is intended to further the BWS mission of providing safe and dependable water service to its customers.

Overview of Undertaking

The BWS proposes the installation of three (3) monitoring wells at various locations in Halawa, Oahu (see enclosed Figure 1). The project will be entirely funded by the BWS and will involve State, County, and private lands. The project will not involve Federal land or funding.

1. Well "H". Monitoring Well H will be located on TMK (1)9-9-010:010 within an existing BWS access easement and on State parcel TMK (1)9-9-010:028 (see enclosed Figure 2). The site consists of a paved BWS access road bordered by shrubs and other vegetation (see enclosed Photographs 1 and 2). Immediately to the south of the project site is the Halawa Correctional Facility. North of the project site is the Halawa Quarry. A large vegetated area serves as a buffer between the project site and the quarry. A drill pad and storage area will be prepared prior to drilling of the monitoring well. Preparation of the drill pad and storage area will involve clearing/grubbing of vegetation, and minor grading of a maximum 15,000-square-foot area to a maximum depth of 2 feet (ft) below ground surface (bgs). One 2.5-inch diameter monitoring well will be drilled to the basal aquifer approximately 225 ft bgs.

2. Well "I". Monitoring Well I will be located on TMK (1)9-9-010:030 within the Halawa Correctional Facility (see enclosed Figure 2). The well will be sited on the east end of the facility in a grassed area that has been cleared of large vegetation (see enclosed Photographs 3 and 4). A drill pad will be prepared prior to drilling of the monitoring well.

Preparation of the drill pad will involve minor grading of a maximum 12,000-square-foot area to a maximum depth of 2 ft bgs. One 2.5-inch diameter monitoring well will be drilled to the basal aquifer approximately 220 ft bgs.

3. Well "J". Monitoring Well J will be located on TMK (1)1-1-012:026 within the BWS Moanalua 405' Reservoir facility (see enclosed Figure 3). The site consists of an existing potable water reservoir and a control building. A paved maintenance road circles the reservoir (see enclosed Photographs 7 and 8). One 2.5-inch diameter monitoring well will be drilled to the basal aquifer approximately 395 ft bgs. No significant excavation or grading is proposed as a part of this project.

Area of Potential Effect

The Areas of Potential Effect (APE) are shown in the enclosed figures (Figures 2 and 3). The APE includes the limits of work for construction of the proposed monitoring wells and possible storage and staging areas. Actual monitoring well construction activities will likely only use a small portion of the APE at each site; the APE is sized to allow the contractor flexibility of work area.

1. Well "H". The APE for Well H is approximately 1.6 acres. The APE encompasses an existing BWS access road as well as some vegetated areas directly adjacent to the access road. Based on GIS data, the dimensions of the APE measure approximately 1,000 ft long by 210 ft wide at its longest and widest points.

2. Well "I". The APE for Well I is approximately 0.4 acres and is located entirely within the Halawa Correctional Facility property. The Halawa Correctional Facility is operated by the State Department of Public Safety. Based on GIS data, the dimensions of the APE measure approximately 390 ft long (at its longest point) by 70 ft wide.

3. Well "J". The APE for Well J is approximately 0.8 acres and encompasses the existing BWS Moanalua 405' Reservoir facility. Based on GIS data, the dimensions of the facility measure approximately 170 ft by 200 ft.

Identified Potential Historic Resources

The following steps were taken to identify historic properties within the APE.

The *Nominated and Listed Properties on the Hawaii and National Registers of Historic Places 11-27-2015* was downloaded from the SHPD website and searched for any registered historic properties within the vicinity of the project sites. No listed or nominated historic properties were identified in the vicinity of the project sites.

The SHPD library was searched for any archaeological studies or reports in the vicinity of the project sites. The results of this research are as follows:

1. Well H. No historic properties identified in the vicinity of Well H.

2. Well I. The APE for Well I is located within the survey area for the *Archaeological survey and Excavations, Kamana-Nui Valley, Moanalua Ahupuaa, South Halawa Valley, Halawa Ahupuaa, Oahu* (Ayres, rv. 1971). This report has been given the SHPD identification number O-0003.

   Report O-0003 identifies Sites 50-OA-B1-22 and 50-OA-B1-24 near the APE for Well I, the approximate locations of these Sites are illustrated in enclosed Figure 2. Sites -22 and -24 are the remains of agricultural terraces, which may have been part of a larger agricultural system. Both sites are located within the taluvium deposits of South Halawa Stream. The report does not provide dimensions of Sites -22 and -24. South Halawa Stream has been channelized and concrete lined in the vicinity of Sites -22 and -24 (see enclosed Photographs 5 and 6). Site -22 is located approximately 300 ft to the west from the APE for Well I. Site -24 is located approximately 500 ft to the west from the APE for Well I.

   Report O-0003 identifies Site 50-OA-B1-23 near the APE for Well I, the approximate location of this Site is illustrated in enclosed Figure 2. Site -23 is a house platform that measured approximately 24 ft long, 5 ft wide, and 3.7 ft high. The report concludes that many of the platforms in the vicinity of Site -23 were for residential use; however, the report states that the use of Site -23 is unknown since it is more than twice as large as any adjacent sites. Based on figures shown in Report O-0003, the location of Site -23 is now occupied by a building at the Halawa Correctional Facility. It is unlikely that Site -23 still exists at that location. Site -23 was located approximately 1,000 ft to the west from the APE for Well I.

3. Well J. No historic properties were identified within the vicinity of Well J. The BWS previously consulted with the SHPD regarding a separate project at the Moanalua 405' Reservoir facility. The SHPD provided a "no historic properties affected" determination for that project in a letter dated February 3, 2014. A copy of that letter is enclosed for reference.

Identification of Eligible Structures

The proposed projects will not affect any structures. As such, no structures greater than 50 years old will be affected by the proposed projects.

Effect Determination

Based on the research described above, the BWS proposes the following determinations for each site:

1. Well H. No historic properties affected.

2. Well I. No historic properties affected. Modern development has presumably disturbed Sites -22, -23, and -24. The APE of the proposed project will be located sufficiently distant from Sites -22, -23, and -24.

3. Well J. No historic properties affected.

We look forward to your concurrence for commencement of the proposed project. If you have any questions, please contact Erwin Kawata, Program Administrator of our Water Quality Division at 748-5080 or via email at ekawata@hbws.org.

Very truly yours,

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

Enclosures

cc: Joe Tracy, INTERA Incorporated
Eileen Marcillo, INTERA Incorporated
Ian Arakaki, The Limtiaco Consulting Group

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555
KAPOLEI, HAWAII 96707

March 29, 2016

Mr. Jason H. Takaki, Head
Capital Projects Division
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, HI 96843

Log No. 2016.00301
Doc No. 1603GC08
Archaeology
History and Culture

Dear Mr. Takaki:

SUBJECT: **Chapter 6E-8 Historic Preservation Review –**
Honolulu Board of Water Supply (BWS) Halawa Monitoring Wells
Request for Concurrence of "No Historic Properties Affected"
Moanalua and Halawa Ahupua'a, Kona District, Island of O'ahu
TMK: (1) 1-1-012:026; 9-9-010:010, 028, 030

Thank you for the opportunity to review the Board of Water Supply's (BWS) proposed Halawa Monitoring Wells project and request for SHPD's concurrence of "no historic properties affected" for the project. The BWS proposes the installation of three monitoring wells in various locations within Halawa Valley and Moanalua Valley. We received this submittal on February 9, 2016. Each proposed site is discussed below.

TMK: (1) 9-9-010:010, 028 Monitoring Well H, Hālawa Valley

Monitoring Well H will be located adjacent (*mauka*) to the existing 1-acre BWS access easement identified as TMK: (1) 9-9-010:028, within a portion of the 342-acre parcel owned by Queen Emma Land Company identified as TMK: (1) 9-9-010:010, and *mauka* of the existing Halawa Correctional Facility. This segment of the BWS monitoring wells project is within the State Land Use Conservation District. The exact location for the well has not been determined. The scope of work includes well construction; drilling, grading and grubbing; installation of a concrete pad and a security fence; and access into the well site. A temporary access road may be constructed to maintain BWS and HECO access to their facilities.

On March 8, 2016, SHPD staff Kimi Matsushima and Garnet Clark (Archaeology Branch); along with OHA representatives Lauren Morawski and Kamakana Ferreira; Office of Coastal and Conservation Lands (OCCL) staff Alex J. Roy; and BWS consultants Jason Nakata and Lori Higashi, Limtiaco Consulting Group (TLCG) conducted a site visit to the proposed project area. SHPD staff identified several potential historic terraces outside of the proposed project area, no other surface historic properties were identified. The proposed project area along the BWS access road was overgrown with *haole koa (Leucaena leucocephala)* and scattered with construction and household debris. SHPD recommended that BWS reach out to Native Hawaiian Organizations (NHOs) and lineal descendants of Hālawa Valley to identify potential historic properties.

SHPD records indicate that an archaeological inventory survey was conducted by Cultural Surveys Hawaii, Inc. (Kay et al. 2013) for the proposed *HECO Transmission Line Relocation Project, Hālawa Valley (TMK: [1] 9-9-010:008, 010 and 026 por.)*. This survey area included a portion of the current project area. The survey identified no archaeological sites within the project area; twelve previously identified historic properties were relocated outside of the project area (March 12, 2013; Log No. 2013.2182; Doc No. 1303SL21).

TMK: (1) 9-9-010:030, Monitoring Well I, Hālawa Correctional Facility
The proposed location for Monitoring Well I is a 0.4-acre portion of a 31-acre parcel owned by the State of Hawaii, Department of Public Safety (DPS) identified as TMK: (1) 9-9-010:030. Due to heightened security measures, the SHPD, OHA and BWS staff were unable to gain access onto Hālawa Correctional Facility. Negotiations between BWS and DPS is still ongoing for the proposed site.

TMK: (1) 1-1-012:026, Monitoring Well J, Hālawa Valley (Behind of Red Hill Elementary School)
Monitoring Well J will be located within a small portion of the 0.792-acre BWS Moanalua 405' reservoir facility. The scope of work includes drilling a 2.5 inch diameter well hole to a depth of approximately 395 feet. The submittal indicates no significant excavation or grading is proposed as part of this project.

On March 8, 2016, SHPD staff Kimi Matsushima and Garnet Clark (Archaeology Branch), along with OHA representatives Lauren Morawski and Kamakana Ferreira, BWS consultants Jason Nakata and Lori Higashi, Limtiaco Consulting Group (TLCG) conducted a site visit to the current project area. The facility is currently undergoing renovations and no surface historic properties were observed. SHPD records indicate that SHPD previously commented on the Moanalua Reservoir 1 & 2 facility repair and renovation project on February 3, 2014 and determined that no historic properties would be affected by the proposed project (Log No. 2013.3729; Doc No. 1402SL01). The USDA identifies the soils as Manana silty clay (Foote et al. 1972). Recent aerial photographs indicate that the land has been significantly altered by the previous construction of this facility

SHPD Determination
In summary, the BWS proposes to install three monitoring wells within various locations in Halawa Valley and Moanalua Valley. Well H, will be located adjacent to an BWS and HECO access road within Halawa Valley. The proposed site for Well I, is still being negotiated between BWS and DPS; and Well J, will be within the BWS Moanalua 405' Reservoir Facility. Although, it is not required under Hawaii Revised Statues (HRS) 6E-8, SHPD recommended that BWS reach out to NHOs and lineal descendants of Hālawa Valley to help identify potential historic properties.

Based on the information above **SHPD's determination is no historic properties affected** for **Monitoring Wells H and J.** The permitting process may continue.

At this time SHPD is unable to make a determination for Monitoring Well I, however SHPD requests the opportunity to review and comment any future proposed plans for Monitoring Well I when a site have been selected prior to issuance of a permit involving ground disturbing activities.

Please contact me at Susan.A.Lebo@hawaii.gov or at (808) 692-8019 for any questions or concerns regarding this letter.

Aloha,

Susan A. Lebo

Susan A. Lebo, PhD
Archaeology Branch Chief

cc: Lauren Morwaski, OHA (laurenm@oha.org)
Kamakana Ferreira, OHA (kamakanaf@oha.org)
Alex J. Roy, OCCL (Alex.J.Roy@hawaii.gov)
Jason Nakata, Limtiaco (jason.n@tlcghawaii.com)
Jonathan Suzuki, BWS (jsuzuki@hbws.org)

BOARD OF WATER SUPPLY

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

May 23, 2016

Mr. Alan Downer, Administrator
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Suite 555
Kapolei, Hawaii 96707

Attention: Ms. Garnet Clarke

Dear Mr. Downer:

Subject: Historic Preservation Review, Chapter 6E, Hawaii Revised Statutes (HRS)
Honolulu Board of Water Supply (BWS) Groundwater Study
Tax Map Key (1) 9-9-010:010, Halawa, Oahu, Hawaii

Pursuant to Chapter 6E, HRS, the BWS requests your review of the proposed BWS Groundwater Study project in Halawa Valley. The project is intended to study groundwater quality and hydrogeologic properties of the basal aquifer in the Halawa Valley area.

This request is supplementary to a request that the BWS sent to your office dated February 2, 2016, which requested a determination for Sites H, I and J. A "no historic properties affected" determination was issued for Sites H and J by the State Historic Preservation Division (SHPD) in a letter dated March 29, 2016. No determination was issued for Site I because of ongoing negotiations between the BWS and State Department of Public Safety. Both letters are enclosed for your reference.

Since the March 29, 2016 determination was issued, Site L3 has been added to the project scope. We request your written concurrence with our "no historic properties affected" determination for Site L3, which is described below.

Overview of Undertaking

In addition to three monitoring wells described in the BWS' February 2, 2016 letter, the BWS proposes installation of a fourth monitoring well at Site L3 in Halawa, Oahu. The enclosed Figure 1 indicates the location of Site L3 with respect Site H. Site L3 will be funded by the BWS and will be located on private land. The project will not involve Federal land or funding.

1. Site L3. The monitoring well at Site L3 will be located in TMK (1)9-9-010:010 within an existing BWS access easement. Enclosed Figure 2 shows the Area of Potential Effect (APE) for Site L3 in relation to the APE for Site H. The site consists of a paved BWS access road bordered by shrubs and other vegetation (see enclosed Photographs 1 and

2). The Halawa Quarry is located immediately north of the project site. Southwest of the project site is the Halawa Correctional Facility. A drill pad and storage area will be prepared prior to drilling of the monitoring well. Preparation of the drill pad and storage area will involve clearing/grubbing of vegetation, and minor grading of a maximum 15,000-square-foot area to a maximum depth of 3 feet (ft.) below ground surface (bgs.). One 2.5-inch diameter monitoring well will be drilled to the basal aquifer approximately 260 ft. bgs.

Area of Potential Effect

The Area of Potential Effect (APE) for Site L3 is shown in the enclosed Figure 2. The APE includes the limits of work for construction of the proposed monitoring well and possible storage and staging areas. Actual monitoring well construction activities will likely only use a small portion of the APE; the APE is sized to allow the contractor flexibility of work area.

1. Site L3. The APE for Site L3 is approximately 3.0 acres. The APE encompasses an existing BWS access road, as well as some vegetated areas directly south and adjacent to the access road. Based on GIS data, the dimensions of the APE measures approximately 900 ft. long by 145 ft. wide.

Identification of Eligible Structures

The proposed projects will not affect any structures. As such, no structures greater than 50 years old will be affected by the proposed projects.

Identified Potential Historic Resources

The following steps were taken to identify historic properties within the APEs.

The *Nominated and Listed Properties* on the *Hawaii and National Registers of Historic -Places 3-17-2016* were downloaded from the SHPD website and searched for any registered historic properties within the vicinity of the project sites. Keaiwa Heiau, which is listed on both the State and National registers, is located within TMK parcels
9-9-011:001, 002, 003, 004, 005, and 006. Of the parcels listed above, parcel 001 is located nearest to the project site. However, Parcel 001 is located approximately one mile from Site L3.

The SHPD library was searched for any archaeological studies or reports in the vicinity of the project site. The APE for Site L3 is located in the survey area for the *Final Archaeological Inventory Survey for the Halawa Valley Transmission Line Relocation Project, Halawa Ahupuaa, Ewa District, Island of Oahu* (Kay et al, 2013). Kay identifies a number of sites within Halawa Valley. Archaeological resources identified by the March 2013 report are mapped in the *Archaeological Survey and Excavations, Kamana-Nui Valley, Moanalua Ahupuaa, South Halawa Valley, Halawa Ahupuaa* (Ayers, 1970). The map provided in the Ayers indicates that no archaeological resources are located in the APE for Site L3, most of the archaeological resources being located further mauka in within Halawa valley.

A site visit was conducted with SHPD and Office of Hawaiian Affairs staff on March 8, 2016. The site visit included the APE for Site L3. No archaeological, historic, or cultural resources were identified at the APE for Site L3 during the site visit.

Based on the research described above, no archaeological, historic, or cultural resources were identified in the APE for Site L3.

Effect Determination

Based on the research described above, the BWS proposes the following determinations for each site:

1. Site L3. No historic properties affected.

We look forward to your concurrence for commencement of the proposed project. If you have any questions, please contact Erwin Kawata, Program Administrator of our Water Quality Division at 748-5080 or via email at ekawata@hbws.org.

Very truly yours,

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

Enclosures

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