ENVIRONMENTAL HAZARD MANAGEMENT PLAN

PALI HIGHWAY PROJECT CORRIDOR

Vineyard Blvd. (Honolulu) to Kamehameha Hwy. (Kaneohe)

Prepared for:

State of Hawaii, Department of Transportation,
Highways Division
727 Kakoi Street
Honolulu, Hawaii 96819

Prepared by:

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94-515 Ukee Street Suite 301
Waipahu, HI 96797
Formerly:
ACSI Advanced Compliance Solutions, Inc.

February 24, 2020

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ATTACHMENT I. Site Investigation Report

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FIGURE 2. Topographic Map

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ACRONYMS & ABBREVIATIONS

ACSI	Advanced Compliance Solutions, Inc.
Bgs	below ground surface
COC	Chemical of Concern
EAL	Environmental Action Level
EC	Engineering Control
EHMP	Environmental Hazard Management Plan
EPA	U.S. Environmental Protection Agency
HDOH	Hawaii Department of Health
HEER	Hazard Evaluation and Emergency Response
IC	Institutional Control
NFA	No Further Action
OCP	Organochlorine Pesticides
PCS	Pacific Commercial Services
SSHSP	Site-Specific Health and Safety Plan
TGM	Technical Guidance Manual
TMK	Tax Map Key
TPH	Total Petroleum Hydrocarbons
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
HRS	Hawaii Revised Statute
NRC	National Response Center
HSERC	Hawaii State Emergency Response Commission
LEPC	Local Emergency Planning Committee
CFR	Code of Federal Regulation
RQ	Reportable Quantity

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PALI HIGHWAY PROJECT CORRIDOR

Prepared for:

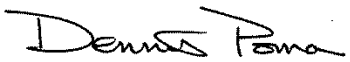
State of Hawaii, Department of Transportation

Highways Division

727 Kakoi Street

Honolulu, HI 96819

Prepared by Danielle Restelli, Assistant Scientist



Approved by Dennis Poma, P.E., Principal Engineer

Integral Consulting Inc.

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1 INTRODUCTION AND PURPOSE

This Environmental Hazard Management Plan (EHMP) has been prepared for the Pali Highway, also known as Route 61, between Vineyard Blvd and Kamehameha Hwy. This plan was prepared by Integral Consulting Inc. (Integral), formerly Advanced Compliance Solutions Inc. (ACSI), on behalf of the property owner, State of Hawaii Department of Transportation (DOT), Highways Division.

ACSI assisted in the soil sampling and characterization for disposal of median and guardrail soils generated in excess at the DOT Highways Division, Pali Highway Resurfacing Project Site (Federal Aid Project No. NH-061-1(035)). Soil screening activities were conducted on behalf of the project site general contractor, Goodfellow Brothers, LLC.

Soil sampling activities were conducted in accordance with the protocols set forth in the State of Hawaii DOH HEER Interim Final Technical Guidance Manual for the implementation of Hawaii Contingency Plan (TGM) November 2008, as revised in August 2016. During the initial environmental sampling at the site, ACSI the "consultant", was able to determine TPH Oil and Lead were the primary contaminants of concern (COC) at the site. All other contaminants were removed from the list of COC's for analysis moving forward. Lead and TPH Oil concentrations in the soil were detected above Unrestricted and Commercial Environmental Action Levels (EAL's) throughout the project site. Therefore soils were not acceptable for reuse on site and required disposal in a permitted landfill.

Soil screening continued into November of 2018, on an as needed basis, when an abnormal laboratory result indicated 4,500 mg/kg of Lead was present at Project Station 151 median sample. The sample was then tested by toxicity characteristic leaching procedure (TCLP) to determine the amount of total leachable lead in the soil at the Station. Results indicated leachable lead to be 9.1 mg/L, exceeding the regulatory level of 5 mg/L and classifying soil in median Station 151 as a Hazardous Waste. The Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response (HEER) Office was notified of the discovery of the Hazardous substance on March 4th, 2019. The cause is believed to be presence of lead worn from tire dust into the pavement, and the deterioration of lead paint striping on the highway which over time has been washed into the median and guardrails accumulating to highly concentrated levels.

ACSI continued sampling mobilizations along the Pali Highway using Multi-Incremental Sampling methods through the month of June 2019. ACSI has completed characterization of soils within the physical scope of the Pali Highway resurfacing and lighting replacement projects, intermittently between Stations 40+72 near Vineyard Blvd to 200+00 at Kamehameha Hwy. However delineation of Hazardous Waste lead contamination on the entire Pali Highway has not been completed. As a result, all earth disturbing work on the Pali Highway medians, or guardrails within two feet laterally on either side and up to three (3) feet below ground surface in the median and guardrails between the cross streets

Vineyard Blvd. and Kamehameha Hwy. are considered potentially lead impacted and should be treated as such (See Figure 3 – Lead Impacted Area Map).

Based on the site investigation results, the median soils were positive for Hazardous Waste lead contamination. See Attachment I, Site Investigation Report, for specific locations where lead was detected in soil.

The following long-term Institutional Controls (ICs) shall be implemented to prevent future exposure to human and environmental receptors at the site:

INSTITUTIONAL CONTROLS:

- The implementation of this EHMP shall govern over the site for the entirety of construction, earth disturbing, or related actions (such as soil grading or excavation) that may encounter potentially lead impacted soil and introduce environmental hazards of direct exposure to humans or the environment and or cause migration of contaminated soil by wind or surface water runoff;
- All described activities shall be conducted under an environmental plan approved by HDOH;
- Any soil disturbance (such as excavation, grading, etc..), within the Pali medians and guardrails (up to three feet below ground surface) and within two feet of the guardrails on either side, shall require proper testing (in accordance with the Hawaii State Contingency Plan TGM), handling, characterization, and proper disposal, as described in this plan;
- Contractors shall determine proper Health & Safety protocols according to OSHA 1926.62, lead in construction requirements, for all soil disturbing work performed within the limits of the Pali Highway, see Figure 3 for the impacted area. Health and safety parameters to be observed include, but are not limited to the following:
    a. Personal Protective Equipment requirements, such as gloves, long sleeve shirts, boots, safety glasses, etc. shall be observed in accordance with OSHA personal protective equipment general requirements.
    b. An importance shall be placed on proper hygiene for workers who will contact lead impacted soil, safety and health plan shall include washing hands thoroughly and often.
    c. Proper boot wash stations should be provided for workers to limit track out to belongings (such as employees residences and vehicles)
- Storm Water Pollution Prevention Plan (SWPPP) shall be developed and properly implemented to prevent and minimize the contact of lead with storm water, according to Hawaii Administrative Rules (HAR), Chapter 11 Title 55 during any earth disturbance greater that 1 acre in area or requiring coverage by a National Pollution Discharge Elimination System (NPDES) General Permit;

- The landowner or operator must provide HDOH NFA Controls letter and accompanying EHMP to construction companies, or other significant users of the site, and all those tasked with intrusive soil activities within the project site boundaries prior to the commencement of soil disturbing activities;
- Providing HDOH NFA with Controls letter and accompanying EHMP to prospective buyers of the property during any sale disclosure process, potential lessees, and other significant users of the site.

The purpose of this EHMP is to document the nature and extent of lead contamination remaining at the subject property, the potential environmental concerns posed by such contamination, and the procedures that will be followed to properly handle contaminated media long-term. The ICs specified in this report will adequately prevent potential impacts to human health and the environment from contamination left in place on the Pali Highway.

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2 BACKGROUND

2.1 Site Description

The Pali Highway was officially dedicated in December of 1962 and is actually the third roadway to be built in its location. Chosen for the low traversable nature in the Ko'olau mountain range, this route has been used by settlers for thousands of years. Formally named Hawaii State Highway Route 61, the Pali Highway, connects the windward side of Oahu, Kailua and Kaneohe in the east, to downtown Honolulu at Vineyard Boulevard (Pederson, 2017). The highway traverses up through the Nu'uanu valley, the residential neighborhood of Nu'uanu, it passes through the Nu'uanu Pali Tunnels before descending to the windward side of Oahu (Lee, 2017).

See Figure 1, Location Map, for the site location and Figure 2, for Topographic Data of the site. Surrounding land use includes, approximately half residential development and half State of Hawaii Preservation area (Schneider, 2019). Elevation on the Pali Highway varies from 356 to 1,168 (USGS, 2019).

See Figure 3, Lead Impacted Area Map, for a depiction of the affected area. All soil disturbing work within this area will require control under the institutional controls described herein, see section 4.3.2 hazard mitigation.

2.2 Discovery Background

The Pali Highway resurfacing, and lighting project begins at Vineyard Boulevard in Honolulu and ends at Kamehameha Highway on the East side of Oahu Hawaii. The project consists of median and guardrail replacements between Waokanaka Street and Kamehameha Highway and lighting replacement between Vineyard Blvd. and Kamehameha Highway. During initial environmental sampling at the site ACSI was able to determine TPH oil and Lead were the primary contaminants of concern (COC), and all other contaminants were removed from the list of COC's. In November 2018, results of sampling at Station 151 indicated total leachable lead exceeded regulatory levels, classifying it as HW.

ACSI has completed characterization of soils within the physical scope of this project, between Stations 40+72 near Vineyard Blvd to 200+00 at Kamehameha Hwy, however lateral and vertical delineation of Hazardous Waste lead contamination on the Pali Highway has not been completed (see Attachment I, Site Investigation Report).

2.3 Climate

The warmest month in Honolulu, August, has an average temperature of 78° Fahrenheit (F) and the coldest month, February has an average temperature of 72° (F). Mean annual rainfall in Honolulu is 24 inches, and 80 inches in Kaneohe (USDA, 2019). These averages may vary for the Pali Highway due to the geographic extent it covers East to South West

across the island of Oahu. In general, the islands of Hawaii are known for mild weather due to the temperature regulation offered by the surrounding ocean (WRRC, 2019).

2.4 Geology and Soils

Oahu is the third oldest in the Hawaiian Island chain which formed from hot spot volcanism, as a result soils across the Pali are weathered from basic igneous rock. Because soil taxonomy varies over the Pali Highway. Slopes vary greatly as well, ranging from 6-70%. Most of the south west side of the Pali and into the lower lying areas of the Nu'uanu valley consists of Ewa stony silty clay, and Lolekaa silty clay. Moving over the elevated areas of the highway, there are rock lands and outcrops, and as you drop down to the east side heading into Kaneohe and Kailua soils are Alaeloa, Waikane, and Kaneohe silty clays. These soils are very deep and well drained soils, they have slower to rapid runoff rates depending on the slope and moderate permeability. Soils here are formed in alluvium and colluvium, weathered from basalt, with slopes in the Kaneohe Series ranging between 3 and 65% (USDA Soil Series).

2.5 Topography

According to the U.S. Geological Survey Topographic map, the overall topography throughout the Pali Highway ranges in elevation from approximately 200 feet above mean sea level on the Honolulu - town side, 1,120 feet at the highest, and 400 feet at the junction with Kamehameha Highway on the east side. Although the portion of interest, the highway itself has been graded and paved for traffic, some soils are exposed beneath the guardrails on the median and the shoulders (USGS).

3 SUMMARY OF SITE DATA

In 2018 and 2019, ACSI performed extensive sampling and analysis of soil within the Pali Highway Resurfacing and Lighting Replacement Project.

3.1 Field activities

ACSI began prescreening in July 2018, on an as needed basis depending on the project's excavation schedule. Pre-screening soils at the project site were conducted using MIS sampling techniques to determine which COC's may be present in soils at the site. Results of prescreening indicated TPH-Oil and Total lead were elevated in the soils, Diesel, semi-volatile organic compounds (SVOC's), and other metals (Resource Conservation and Recovery Act [RCRA] 8 metals) were not detected. Moving forward ACSI screened soil using Ex-situ soil sampling methods, and discrete collection to screen soils and confirm Lead and Oil were below the Tier 1 Unrestricted EAL in the Stations at the Pali-Highway. Between July and October ACSI carried on screening in this fashion.

Upon receipt of laboratory reports indicating total lead levels above the commercial/industrial EAL at Station 151, ACSI chose to delineate this area using step out discrete samples to determine the lateral extent of the elevated Lead contamination for disposal and characterization purposes. Multi-Combined Increment samples, and Multi Incremental samples (MIS) were used moving forward to characterize the soil better.

MIS decision units were planned based upon the depth being excavated or graded for work in the area, between 0" – 18" bgs, and the length of the Station being renovated. Whenever possible MIS samples were collected evenly spaced over a predetermined length of the median or guard rail, MIS samples were collected during May and June 2019 Mobilizations. Discrete bulk samples were provided to ACSI in Stations where median/guardrail soil was not readily accessible due to traffic and/or construction hours. All discrete bulk samples were subsampled to form one sample for analysis. Information from discrete screening sample results was used to determine whether soils needed to be investigated further.

3.2 Results

Based on results obtained during the sampling investigation between July 2018 and June 2019 at the Pali Highway Resurfacing Project, ACSI concluded that the soil in median Stations 40-65, 141-155, and 182-195 contained Hazardous Waste levels of lead that required disposal on the mainland at a permitted HW accepting facility.

Median Stations 65-75 (near Wyllie street), 35-45, and 69-80 (Mauka of Meleana Place) were cleared for disposal at PVT. Guardrail stations 42+50 through 80 Kailua Bound and 45-80 Town bound (Starting at Pali Lookout) were cleared for and disposed of at PVT landfill. Median Stations in this area including 48+50 – 59'00 were also cleared for disposal. Median Stations 99+00 – 108+00 town bound at Tunnel 1 were also tested and

cleared for on-island disposal. Stations 136+00 – 140+50, just after the end of the bridge, were cleared for disposal. These stations mark the town-side boundary of HW contamination. Station 196+93-200 was tested and cleared for disposal, marking the Kailua-side boundary of HW contamination.

3.3 Completed Remedial Actions

ACSI has delineated the boundary of two stretches of highway containing Hazardous Waste (HW) lead contamination. Boundaries of HW and Non-HW soils within the project scope were determined, and recommendations for disposal of soil based on results were made. However complete delineation, vertical and lateral, of HW contamination has not been completed. In accordance with recommendations provided to the General Site Contractor, Goodfellow Brothers, soil was excavated, removed, and shipped to Chemical Waste Management of the Northwest in Arlington Oregon, by Pacific Commercial Services LLC (PCS) for disposal.

Lead accumulated in soil on the Pali Highway median and shoulders over the span of many years by means of lead-based paint striping application and oil deposited by traffic. Therefore, it is likely that additional impacted soil remains on site. As a result, all earth disturbing work on the Pali Highway medians, or guardrails within two feet laterally on either side and up to three (3) feet below ground surface in the median and guardrails between the cross streets Vineyard Blvd. and Kamehameha Hwy. are considered potentially lead impacted and should be treated as such (See Figure 3 – Lead Impacted Area Map). Soil in the lead impacted area will require sampling, testing, and pending results, removal and disposal.

4 ENVIRONMENTAL HAZARDS EVALUATION

A summary of chemicals of potential concern at the site and the chemicals of potential concern are provided in this section.

4.1 Chemicals of Potential Concern

The chemicals of concern on the Pali Highway site are lead and TPH oil. During site investigations at the site, both lead and oil were found to be present above commercial/industrial EAL's. Batch leaching test were run on soil samples collected with the highest Lead levels, and results confirmed that lead poses a potential threat of leaching to ground water. Soil with leachable lead above the regulatory level of 5 mg/L for the metal lead were handled and disposed of as Hazardous Waste. Lead impacted soil remains on the Pali Highway.

4.2 Conceptual Site Model

To address human health and environmental receptor concerns, a conceptual site model is used to identify how people, or the environment could be exposed to chemicals present at the site. Lead migration pathways, exposure routes, and sensitive receptors identified at the site are described below.

4.2.1 Lead Migration Pathways

The following general migration pathways for lead were evaluated and determined to be the priority pathways of concern.

- **Stormwater Runoff:** Stormwater runoff from the site travels as sheet flow from the highway lanes toward the median where it infiltrates, or to the guardrails where it infiltrates or travels as sheet flow to areas of lower elevation where it evaporates. The site is surrounded by the densely populated neighborhood of Nu'uanu, and by forest and preservation lands. Storm water in contact with impacted soils is not of high concern as it is either densely vegetated or covered with concrete. If soils on the Pali highway are exposed in the future, this pathway becomes a viable method of transport for lead impacted soil and stormwater best management practices (BMP's) should be implemented to minimize contaminant transport during all soil disturbing activities.
- **Dust:** Future project related activities such as excavation and transport may stir up unwanted dust. The site soil is wet to moist, and current site activities do not generate dust.

4.2.2 Sensitive Receptors and Exposure Routes

The site is a highway were human exposure is limited. The most plausible current or future receptor population that may contact lead in the soil include the following:

- Workers at the site
- Patrons of disabled vehicles

For these sensitive populations, the most plausible pathway for human exposure include the following:

- Incidental ingestion or inhalation or, or dermal contact with exposed soil or debris from the site
- Incidental ingestion or inhalation or, or dermal contact with dust generated from soil stockpiled or allowed to dry and generate dust

4.3 Potential Environmental Hazard Evaluation

An evaluation of the potential environmental hazard is provided below.

4.3.1 Hazard Description

Residual soil is the medium of concern at the site. The presence of soil with total lead concentrations above applicable EAL's, and total leachable lead exceeding the maximum concentration of contaminants for the toxicity characteristic, constitutes the environmental hazard addressed by this evaluation. See Figure 3, Impacted Area Map, for a depiction of the affected area. All soil disturbing work within this area will require control under the institutional controls described below.

4.3.2 Hazard Mitigation

Site soil encountered, within the scope of this project, containing lead at concentrations above EAL's were excavated and hauled off-site for disposal on-island. Site soil encountered, within the scope of this project, containing lead exceeding the maximum concentration of contaminants for the toxicity characteristic was handled as hazardous waste and disposed of off island. Total lead concentrations above EAL's range from 210 mg/kg to 11,000 mg/kg, with total leachable lead ranging from 9.1 mg/L to 19 mg/L. Laboratory TCLP results were plotted to establish a correlation of total lead in soil to the mobility of leachable lead in the soil. The curve was used to establish a threshold above which mobility of lead may be a hazard. Soil samples with total lead levels of 1,500 mg/kg or greater resulted in TCLP detections. However, this number is a conservative one, as 4,500 mg/kg total lead was the first detection in a soil sample resulting in a TCLP detection above 5.0 mg/L the maximum concentration of contaminants for toxicity characteristic.

Lead impacted soil remains in median and guardrail soil, as well as laterally two feet outside Pali Highway guard rails, as well as vertically up to three (3) feet below ground surface between cross streets Kamehameha Hwy and Vineyard Blvd. The source contributing lead contamination has not been removed, as it is believed to be deposited from accumulation over decades following the use of lead paint gasoline.

4.3.3 Sampling and Disposal Requirements

Any earth disturbing activity, such as grading, or excavating, will incur soil sampling requirements within the impacted area, see Figure 3. Sampling shall be performed in accordance with TGM guidance. MIS samples are encouraged to increase Decision Unit representativeness. Decision Units shall be thoughtfully placed to properly characterize an area to be sampled. A minimum of 30 to 75 increments with systematic random distribution throughout the Decision Unit is recommended. Replicate samples are recommended to increase the characterization of the DU. See Hawaii DOH HEER branch TGM for more information on recommended sampling techniques.

Upon receipt of sample results, disposal (on-island) of soil containing lead levels greater than 200 mg/kg, the Tier 1 unrestricted use EAL, will be required. TCLP testing of samples with results exceeding 1,000 mg/kg total will be required for disposal on-island based upon the 20:1 rule. This rule states that if a chemical concentration is 20 times higher than the regulatory level for a chemical it meets the minimum concentration requiring TCLP test data prior to disposal of soil in a municipal construction/demolition waste landfill.

4.3.4 Institutional Controls

The following institutional controls will be required moving forward, governing all earth disturbing activities at the site.

- The implementation of this EHMP shall govern over the site for the entirety of construction, earth disturbing, or related actions (such as soil grading or excavation) that may encounter potentially lead impacted soil and introduce environmental hazards of direct exposure to humans or the environment and or cause migration of contaminated soil by wind or surface water runoff;
- All described activities shall be conducted under an environmental plan approved by HDOH;
- Any soil disturbance (such as excavation, grading, etc.) shall require proper testing (in accordance with the Hawaii State Contingency Plan TGM), handling, characterization, and proper disposal, as described in this plan;
- Contractors shall determine proper Health & Safety protocols according to OSHA 1926.62, lead in construction requirements, for all soil disturbing work performed

within the limits of the Pali Highway, see Figure 3 for affected area. Health and safety parameters to be observed include, but are not limited to the following;

a. Personal Protective Equipment requirements, such as gloves, long sleeve shirts, boots, safety glasses, etc. shall be observed in accordance with OSHA personal protective equipment general requirements.

b. An importance shall be placed on proper hygiene for workers who will contact lead impacted soil, safety and health plan shall include washing hands thoroughly and often.

c. Proper boot wash stations should be provided for workers to limit track out to belongings (such residences or vehicles).

- Storm Water Pollution Prevention Plan (SWPPP) shall be developed and properly implemented to prevent and minimize the contact of lead with storm water, according to Hawaii Administrative Rules (HAR), Chapter 11 Title 55 during any earth disturbance greater that 1 acre in area or requiring coverage by a National Pollution Discharge Elimination System (NPDES) General Permit;
- The landowner or operator must provide HDOH NFA Controls letter and accompanying EHMP to construction companies, or other significant users of the site, and all those tasked with intrusive soil activities within the project site boundaries prior to the commencement of soil disturbing activities;
- Providing HDOH NFA with Controls letter and accompanying EHMP to prospective buyers of the property during any sale disclosure process, potential lessees, and other significant users of the site.

4.3.5 Post-remediation Exposure Assessment

Institutional controls governing the site will prevent pathways identified in Section 4.2.1 from becoming complete. As a result of implementing these controls properly the direct exposure pathway will be eliminated and therefore no complete human or ecological direct exposure pathway will be present at the site, and health and environmental risks will remain.

5 CONCLUSIONS

Lead contamination was discovered on the Pali Highway, soil contaminated with lead exceeding EAL's encountered during the Pali Highway Resurfacing and Lighting Replacement project were removed and disposed of according to recommendations provided by ACSI. Lead contamination is likely still accumulating at the site at a slow rate. Because of the historical use of lead in oil and paint transferred from asphalt into the soil, total removal of lead contamination is not feasible. Institutional controls described in Section 4 will eliminate any complete human or ecological direct exposure pathway to contamination at the site and no unacceptable health and environmental risks will remain. All soil within the Pali Highway median, guardrails, and two feet beyond the guardrails on either side (Kailua bound and Town bound) up to a vertical depth of three feet should be assumed impacted with lead contamination.

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6 REFERENCES

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FIGURES

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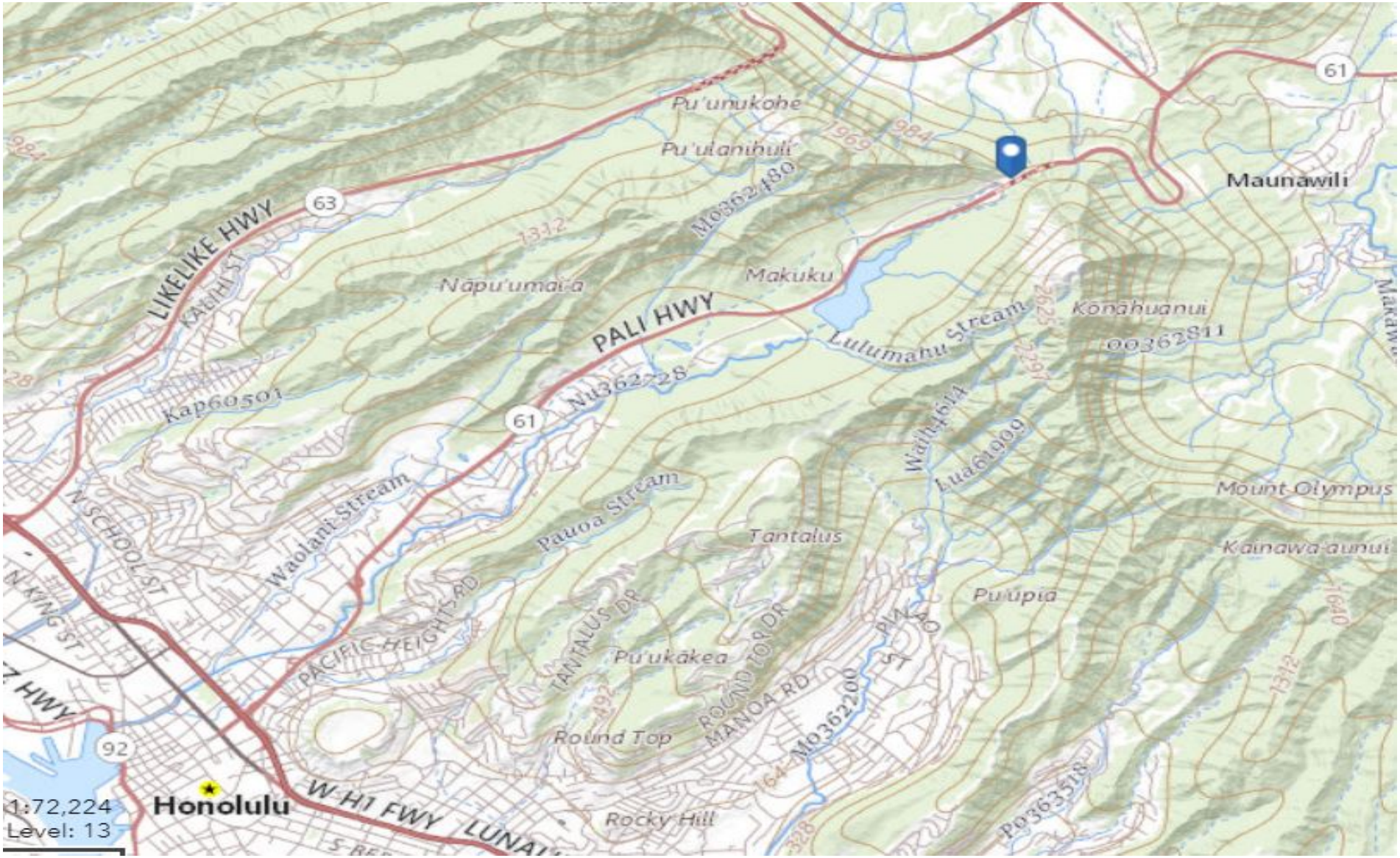
ACSI

Environmental Hazard Management Plan
HDOT Pali Highway
Site Vicinity and Project Location Map

Not to Scale

December 2019

Figure 1



ACSI

Environmental Hazard Management Plan
HDOT Pali Highway
Topographic Map

Source: USGS

December 2019

Figure 2

Advanced Compliance Solutions, Inc.

ACSI

Civil Engineer: Dennis Poma
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FIGURE 3:
LEAD IMPACTED AREA MAP

ENVIRONMENTAL HAZARD MANAGEMENT PLAN
HDOT - PALI HIGHWAY

DATE: FEBRUARY 2020

SCALE: Not to Scale

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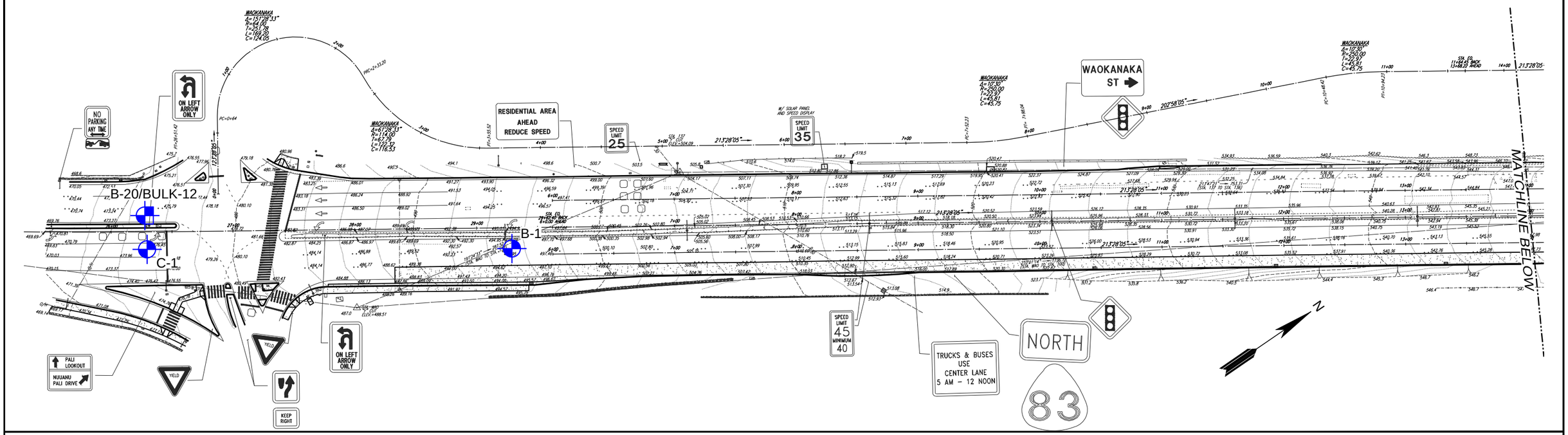

LEGEND:

APPROXIMATE BORING LOCATION

APPROXIMATE BULK SAMPLE LOCATION

APPROXIMATE LIMITS OF RECOMMENDED PAVEMENT RECONSTRUCTION

REFERENCE: TOPOGRAPHIC SURVEY MAP TRANSMITTED BY
WESLEY R. SEGAWA & ASSOCIATES, INC. ON FEBRUARY 6, 2014.

0 40 80 160 240 FT.

GRAPHIC SCALE

SITE PLAN

REHABILITATION OF PALI HIGHWAY
WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY
HONOLULU TO KANEOHE, OAHU, HAWAII

GEOLABS, INC.
Geotechnical Engineering

DATE	DRAWN BY	PLATE
FEBRUARY 2004	JRP	3.1
SCALE	W.O.	
1" = 80'	6782-00(A)	

GEOLABS, INC.

Geotechnical Engineering

REHABILITATION OF PALI HIGHWAY
WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY
HONOLULU TO KANEOHE, OAHU, HAWAII

Log of Boring

B-20

Approximate Ground Surface Elevation (feet MSL): 474.8 *

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											6-inch **ASPHALTIC CONCRETE**
										GP	Gray medium to coarse **GRAVEL** with a little sand and traces of silt, dense, moist (base course)
										GM	
	16				35						Brownish gray coarse **SILTY GRAVEL** with a little sand, dense, moist (subbase course)
										SM	Grayish brown **SILTY SAND** with some gravel and a little cobbles, medium dense to dense, moist (fill)
							5			MH	Dark grayish brown **CLAYEY SILT** with some gravel, stiff, moist (fill)
	37	76			16						
										MH	Orangish brown **CLAYEY SILT** with a little fine gravel, stiff, very moist (older alluvium)
							10				
	61	62			12						
											Boring terminated at 12 feet
							15				

Date Started:	October 25, 2013	Water Level:	Not Encountered
Date Completed:	October 25, 2013		
Logged By:	S. Latronic	Drill Rig:	DIEDRICH D-25.3
Total Depth:	12 feet	Drilling Method:	4" Solid Stem Auger
Work Order:	6782-00(A)	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 20

BORING_LOG 6782-00(A).GPJ GEOLABS.GDT 2/20/14

GEOLABS, INC.

Geotechnical Engineering

REHABILITATION OF PALI HIGHWAY
WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY
HONOLULU TO KANEOHE, OAHU, HAWAII

Log of Boring

C-1

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS

Approximate Ground Surface Elevation (feet MSL): 475.3 *

Description

8.5-inch **ASPHALTIC CONCRETE**

GW — Gray coarse subangular **SANDY GRAVEL** with traces of silt, very dense, damp (base course)

GM — Grayish brown coarse subangular **SILTY GRAVEL** with a little sand, dense, damp (subbase course)

Boring terminated at 2.5 feet

5

10

15

Date Started:	October 7, 2013	Water Level:	Not Encountered
Date Completed:	October 7, 2013		
Logged By:	S. Latronic	Drill Rig:	DIEDRICH D-25.4
Total Depth:	2.5 feet	Drilling Method:	4" Solid Stem Auger
Work Order:	6782-00(A)	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 21

BORING_LOG 6782-00(A).GPJ GEOLABS.GDT 2/20/14

	B-19 0” TO 8.0”
	B-20 0” TO 6.0”

	C-1 0" TO 8.5"
	C-2 0" TO 13.0"

F. CLARIFICATION QUESTIONS/REQUEST FOR INFORMATION AND HDOT RESPONSE

1. Question: Refer to the Special Provisions page 108-14a, 108.08 Liquidated Damages. What is the amount of the liquidated damages per working day?

   Response: Liquidated Damages shall be $5,100 per working day. Please see revised Special Provision 108 included in this Addendum.

2. Question: Will you please consider Mirafi MPG100 as an equivalent to the specified Tensar paving grid for Subject Project which bids 9/3?

   Response: This substitute product is not acceptable.

3. Question: With reference to SP subsection 107.02 rows #124-139 – request copy of referenced US Fish & Wildlife Service Section 7 permit information related to bat birthing & pupping, and Hawaiian Seabird fledging period for complete permit terms and conditions.

   Response: SP subsection 107.02 provides complete terms and conditions.

4. Question: With reference to bid item #657.1000, and SP section 657, and Standard Specification Section 107.16(A), request all pertinent information on the project's Environmental Hazard Management Plan (EHMP) as applicable, and any known locations of suspected contaminated or hazardous items or materials within the project limits.

   Response: Included in this Addendum is the Draft EHMP. The implementation of the EHMP will be extended to include the entire ROW.

5. Question: What is the description of work to be paid under the pay item planing pavement profile that is shown as a lump sum?

   Response: Planing pavement profile pay item eliminated.

6. Question: Typical Details call for tack coat on many vertical faces. This contradicts the specification requirements for joint adhesive. Please clarify.

Response: See revisions to Sheet ADD. 21 and ADD. 22 included in this Addendum.

7. Question: This project incorporates Glasgrid, RR GG25, and Mirafi. However, there is only one pay item, for Rapid Repair. Is all fabric to be paid under Rapid Repair? Can individual items for each type of fabric and quantities be provided?

   Response: Pay Items separated for GlasGrid 8511TF and Rapid Repair GG100. Products used for Pavement Section with Soft Condition shall be incidental to 304.1000.

8. Question: Many of the cross sections have an existing ground that does not appear match what is in the field after doing a quick field investigation. For example, the existing ground at section 15+00 does not tie into the top of curb. The existing right lane at station 16+00 does not jump up an inch and end up higher than the existing catch basin. At station 71+00, the existing concrete swale at edge of pavement is exposed and not paved over with 6+ inches of over burden as shown in the field. There are many sections that appear to have issues with the existing ground data. This is very concerning that the data provided for a lump sum bid item is inaccurate. Please provide clarification.

   Response: Please bid accordingly.

9. Question: On Sheet 83 Note 15 - Painting posts yellow has not been done in many years. Recently when posts needed to be have markings, an OM-5 Reflective covering has been used.

   Response: See revised Note 15 on Sheet ADD. 83 included in this Addendum.

10. In Section 415 Page 415-6A, there's a description for payment on the "Cold Planing" item. Does this description also apply to the "Planing Pavement Profile" item? Contractor won't be paid 100% until permanent overlay installed?

    Response: Planing pavement profile pay item removed.

11. Question: We are concerned about smoothness if temporary ramping/leveling will be required. Will the State consider leaving cold planed surfaces for extended periods longer than the number of days stated in Section 415 if fine-tooth drums are used for cold planing?

    Response: No.

12. Question: The cross sections shown on pages CS1 - CS36 detail locations along the alignment where the roadway Finish Grade (FG) will be up to 1 foot below the existing Original Ground (OG) elevation. The project plans require that the existing roadway shall be removed to 5" below Finish Grade. Please provide project grading plans and topographic CADD files that include both (OG) and (FG) elevations for the entire project alignment in order to accurately quantify the volume of milling for the lump sum bid item 415.0100 - Cold Planing . The provided project cross sections are not sufficient to calculate this quantity of work.

Response: Please bid accordingly.

13. Question: Please confirm if a standard qualifications packet per HDOT SS 102.01 is required to be submitted for this project.

Response: It is not required to be submitted, however, HDOT may ask for it at a later date.

14. Question: Please advise if the payment for cold planing of roadway substrate up to 5" below proposed finish grade (ie - base course, select borrow, subgrade) is to be inclusive of bid item 415.0100 - Cold Planing or if it will be paid under unit price bid item 203.1000 - Roadway Excavation.

Response: This will be paid under Cold Planing.

15. Question: Please confirm that all costs associated with Traffic Control, Traffic Control Devices, and Police Officers required for the construction of the project per the approved lane closure plans submitted by the contractor shall be included in Lump Sum pay item 645.7000.

Response: Yes.

16. Question: The electrical plan sheets require installation of electrical facilities outside the demolition and restoration limits shown in the roadway and intersection plan sheets. Please confirm that the prime contractor will be reimbursed for restoration of Asphalt Pavement, Permanent Striping, Curb, Curb & Gutter, Sidewalk, and curb ramps per the unit price bid items listed in the contract for all items associated with the installation of new permanent electrical facilities.

Response: Restoration work described in Standard Specification Section 623.03(H) is included in the Lump Sum Amount.

17. Question: Please clarify and define specific areas of work and definable strata for bid items 203.1000, 414.0100, and 415.1000.

Response: Areas previously defined in Addendum No. 1.

18. Question: Please clarify the limits of the removal of PCC Pavement per Bid item 202.2200. Please advise if the quantity of demolition is for concrete only or if it also includes the removal of asphalt above these areas.

Response: The removal of asphalt shall be included in lump sum cost for Cold Planing.

19. Question: At Sta 87+50 L plans show a bus pad to be installed. However, this area is also noted (hatched) as "Construct Full Depth Pavement Section". Is there area (and other similar areas) to be concrete or asphalt? Please clarify.

Response: The hatching in this case signifies removal of PCC pavement and construction of a bus pad. The bus pad will govern over other hatching.

20. Question: Can a detail for Type EG curb be provided? Unable to find in current Standard Details and it is called out to be removed in areas where existing concrete roadways have been overlaid.

Response: Sheet 21, Detail 7 provides a section of the Type EG curb and gutter. It is drawn to scale in relation to the Type 2DG curb and gutter.

21. Question: Is there a reason why this bid is being submitted via HIePRO? Will more projects be bid via HIePRO in the future?

Response: HDOT is moving towards more paperless processes. Yes, more projects will be bid via HIePRO in the future.

22. Question: Will the State be running this project or will a consultant/CM be hired? Has a consultant/CM already been chosen?

Response: The State will be running the project with a consultant/CM, who has already been chosen.

23. Question: Request to use surface mounted detectable warning mats. Sheet 81 does not specify what type of detectable warning mats are acceptable.

Response: If they meet the plans and specifications, surface mounted detectable warning mats are acceptable.

24. Question: How many sets of construction signs (mentioned in Note 8 on Sheet 83 and shown on Sheet 116) are required for this project? Will side streets require construction signs? Will covering of signs (such as speed limit signs) be allowed or will signs have to be changed/replaced to comply with traffic control plans?

    Response: Please see Sheet 116.

25. Question: What types of work were envisioned to contribute to the 9% DBE requirement?

    Response: It will be up to the bidder to come up with a combination to meet that goal, or at least make a good faith effort towards it.

26. Question: When is work anticipated to start?

    Response: Start dates will be in accordance with the Special Provisions but it is the intent of HDOT to start work as soon as possible.

27. Question: Drawing Sheet 230 has details for circular loop detectors which are not standard. Are standard square loop detectors allowed?

    Response: Square loop detectors are not allowed.

28. Question: The electrical demo drawings call for existing loop detectors to be removed. Normally they are removed during cold planing of the road. If there is no resurfacing, they are normally abandoned in place. For existing detector loops that are outside of the resurfacing limits is it okay to abandon in place? Please advise.

    Response: Yes, the loops can be abandoned in place if outside the resurfacing limits.

29. Question: For the Guardrail call outs on Sheet 10 and 11. Can you please provide MASH Guardrail drawing detail for curb under guardrail as depicted at STA 39+56 to STA 40+73, STA 40+73 to STA 43+30, STA 43+30 to STA 49+65, and Pauoa Road off-ramp?

    Response: Construct the curb or curb and gutter per the Standard Details. The MASH guardrail shall be installed so the face of guardrail lines up with the face of curb.

30. Question: On Sheet 30 there is a detail out for Modified Type G Flare, but is not called out on the plans. Is there a situation for this detail to be used?

Response: This detail is just to show where the reflector markers are.

31. Question: Is SKT-350 detailed on sheet 30 to be used on the project? There does not seem to be a call out on the Roadway Plans?

Response: This detail is just to show where the reflector markers are.

32. Question: In recent years RM-2 on Flex post has not been used and typically RM-3 on Flex post has been used, can this be checked with vendors to see what is readily available?

Response: Safe-Hit by Trinity has RM-2 on flexible posts.

33. Question: Does Strong Post Guardrail on Sheet 31 meet MASH? If so, can MASH Detail be provided?

Response: No, it does not meet MASH. Please follow the plans.

34. Question: On Sheet 31 in Section A-A details it shows a picture of metal spacer block with multiple bolts to hold block to post and w-beam guardrail. Is the metal spacer block used on the project?

Response: No, use the plastic spacer blocks.

35. Question: On Sheet 32 there is a detail for double nested rail, is this system MASH Compliant? If so can MASH Detail be provided?

Response: This detail is not MASH compliant.

36. Question: On Sheet 37 at STA 39+00 OB Near Pacific Heights Rd, can you provide a detail on how transition section is connected to existing rub rail guardrail?

Response: The rubrail ends before the start of the transition section.

37. Question: On Sheet 42 at STA 68+50 IB Near Nuuanu Stream Overpass, can you provide a detail on how transition section is connected to existing rub rail guardrail?

Response: The rubrail ends before the start of the transition section.

38. Question: On Sheet 44 for Guardrail on Wyllie St on ramp to IB Pali Hwy, is there an end treatment for the trailing end of the guardrail? Currently none is called out.

Response: Trailing end treatment added to Sheet ADD. 44 and included in this Addendum.

39. Question: On Sheet 44 and 45 there seems to be two callouts for the same area with different call out information, can you please clarify?
Sheet 44 - STA 78+67 to STA 82+26 Lt - Remove and Install MGS GR 362.5 LF
Sheet 45 - STA 78+67 to STA 81+94 Lt - Remove and Install MGS GR 325 LF

Response: See revised Sheet ADD. 44 included with this Addendum.

40. Question: On Sheet 44 and 45 there seems to be two callouts for the same area with different call out information, can you please clarify?
Sheet 44 - STA 78+67 to STA 82+26 Rt - Remove and Install MGS GR 375 LF
Sheet 45 - STA 78+67 to STA 81+94 Rt - Remove and Install MGS GR 325 LF

Response: See revised Sheet ADD. 44 included with this Addendum.

41. Question: On Sheet 45, callout for double sided guardrail at STA 81+94 to STA 84+11, can you please provide a pay item for the 217 LF called out?

Response: Pay Item added to Proposal Schedule included in this Addendum.

42. Question: Electrical demolition plan sheets indicate “Thermal Traffic Detectors shall be installed at intersection prior to cutting and demolition of existing loop detectors.” Are we allowed to mount risers on 10' signal poles?

Response: Please refer to Standard Specification 623.03(C)(14).

43. Question: Electrical demolition plan sheets indicate “Thermal Traffic Detectors shall be installed at intersection prior to cutting and demolition of existing loop detectors.” Are we allowed to mount thermal traffic sensors to signal framework on 10’ signal poles?

Response: Please refer to Standard Specification 623.03(C)(14).

44. Question: Electrical demolition plan sheets indicate “Thermal Traffic Detectors shall be installed at intersection prior to cutting and demolition of existing loop detectors.” Are we allowed to mount equipment (thermal traffic sensors) to streetlight poles, and if so, what are the restrictions?

Response: Please refer to Standard Specification 623.03(C)(14).

45. Question: Subsection 770.12 – Thermal Imaging Vehicle Detector - Would DOT consider/accept an alternate vehicle video detection system?

Response: Please refer to Standard Specification 106.13.

46. Question: Will DOT Honolulu provide 170E Controllers (170E Controller has been discontinued since Jan. 2019)? If not, will you accept an alternate Advanced Transportation Controller (ATC)?

Response: The Contractor shall provide the controllers. If the 170E Controller is not available, please request a substitution per Standard Specification 106.13.

47. Question: On Sheet 44 at STA 76+34 Rt and Lt Makai of the Wyllie Overpass, can you provide a detail on how transition section is connected to existing rub rail guardrail?

Response: There is no transition section here. The new guardrail will connect after the rubrail.

48. Question: On Sheet 83 Note 8 can you please provide location on where to deliver the removed advanced warning signs?

Response: They should be delivered to the State field office, or as directed by the Engineer.

49. Question: On Sheet 83 Note 5 - Can you please provide a pay item or force account pay item to "remove and dispose signs and posts" as directed by engineer? There is no way to locate, quantify and cost out what will be directed by the engineer.

Response: This shall be incidental.

50. Question: On Sheet 83 Note 13 - Can you please provide a pay item or force account pay item to "remove and dispose existing delineators" as directed by engineer? There is no way to locate, quantify and cost out what will be directed by the engineer.

Response: This shall be incidental.

51. Question: On Sheet 84 Can you please provide the sizes of the signs R3-8(L,S,S,SR) 2 each & Modified R4-1?

Response: Size for the R3-8 is shown on Sheet ADD. 84 included in this Addendum. See Sheet 113 for Modified R4-1 detail.

52. Question: Sheet EC-6 shows 72SM bypassing the School street intersection in 2" conduit (Cable – Interconnect), however Sheet EC-39 enlarged plan shows 72SM entering handhole at School/Pali but not exiting handhole (Cable type 9). Please confirm if 72SM is to enter handhole on School/Pali and if so where does the other end originate?

Response: Please see revised electrical sheets included in this Addendum.

53. Question: On sheet 107 can you please provide heights for signs DES-3 School Street, DES-5 Kauila St, and DES-6 S Kuakini St?

Response: Sign height provided on DES-2 is the same for these signs.

54. Question: ON Sheet 86 Sign DES-4 National Memorial Sign - can you please provide what type and quantity of posts, as the current posts are slip base type I-beam posts?

Response: See Sheet 107, Note 3.

55. Question: On sheet 89 has a call out for (#4) Remove Existing Sign and Install new sign on posts - "Scenic Lookout 500 FT" Can you please provide measurements and details.

Response: See revised Sheet ADD. 89 included in this Addendum.

56. Question: With reference to bid item #411.5000, Concrete Bus Pad, SP section 411, and HDOT Standard Plan D-16, request clarification as to what pay item the required structural excavation for the new Concrete Bus Pad will be paid for in? Please confirm or

clarify that this work will be paid for in bid item #203.1000.

Response: Any excavation below the bottom of existing PCC pavement that is being removed, or below the cold planing depth shall be paid under 203.1000.

57. Question: With reference to bid item #411.5000, Concrete Bus Pad, SP section 411, and HDOT Standard Plan D-16, request clarification as to what pay item the required subbase course or minimum 6" aggregate subbase layer will be paid for in?

Response: Aggregate base course shall be used instead of aggregate subbase. Aggregate base course shall be paid under 304.1000.

58. Question: With reference to bid item #411.5000, Concrete Bus Pad, SP section 411, please confirm or clarify that excavation of unsuitable material and backfill work shall be covered under Subsection 104.04.

Response: Excavation will be paid under 203.1000. If unsuitable material is encountered, that work shall be covered under Subsection 104.04.

59. Question: With reference to bid item #634.0400, PCC Sidewalk, SP section 634, and HDOT Standard Plan D-15. Plan detail sheet #79, note #15 indicates that bed course layer is required for PCC Sidewalk. Please indicate the pay items for structure excavation and structure backfill required for the bed course layer work. We have the same question for curb ramp items (#650.1000 to 650.5000).

Response: Pay Item for excavation shall be 203.1000 and the bed course layer shall be aggregate base course, paid under 304.1000. The same applies for curb ramps, driveways, curb, curb and gutter and bus pads. All shall use aggregate base course.

60. Question: Please confirm or clarify that all inspection costs related to the lane closure schedule per SP section 645 (also General Notes #23-26, plan sheet #3) and including Saturdays, and select Sundays day shift work, and optional night work are to covered by the State.

Response: See Standard Specification Subsection 107.05.

61. Question: With reference to typical section Pali Mainline Sta 12+00 to 18+77 and typical request information on existing 6-1/2" PCC

pavement to be removed. Please confirm or clarify whether the existing 6-1/2" PCC pavement to be removed contain any reinforcing or dowel bars?

Response: It is expected that the PCC pavement will have wire mesh reinforcing without dowels.

62. Question: Request confirmation or clarification that removal work for bid item #202.4000 is directly related to reconstructing water manhole work (bid items 626.1000 and 626.2000).

Response: Correct.

63. Question: If removal work for bid item #202.4000 is directly related to reconstructing of BWS Type "A" Water Manhole, request work detail for reconstruction like that provided on water detail sheet #82 for Type "B" or "C" water manholes. If work intent is to reconstruct the entire water manhole respectfully request clarification to work description for bid item #202.4000, "Removal of Portion of Water Manhole", which is misleading.

Response: The Type "A" Manholes are to be fully reconstructed per BWS Standard Details.

64. Question: With reference to roadway plan sheet #53, request valve size for the two each BWS Type "A" water manholes to be reconstructed. Approximate station 121+50. Information required to calculate work required for removal and concrete volume required for water manhole reconstruction.

Response: One should be a 16" valve and the other should be a 24" valve.

65. Question: Request clarification for apparent discrepancy for inbound (IB) bus pad information. Sheet #54 (Roadway Plans) – calls out IB bus pad dimensions as Sta 8+68 to 11+23, 10.3' wide. It appears the correct bus pad dimensions are called out on plan sheet #55. Additionally, please revise the proposal quantity for bid item #411.5000 to reflect the actual quantity of bus pads to build and so the indirect costs can be accurately assessed.

Response: Correct dimensions shown on Sheet 55. Proposal Schedule quantity revised in this Addendum.

66. Question: With reference to bid item #610.0600 & 610.0700, Reinforced Concrete Driveway, SP section 610, and HDOT Standard Plan D-06, request clarification as to what pay item the

required structural excavation (for aggregate subbase layer) will be paid for under. Also please indicate where the structural backfill work (6" aggregate subbase layer) is to be paid for. Finally, please confirm that any excavation of unsuitable material and backfill work shall be covered under Subsection 104.04.

Response: Excavation shall be paid under 203.1000. Aggregate basecourse shall be used instead of aggregate subbase. Aggregate basecourse shall be used under all sidewalks, curb ramps, driveways, curb, curb and gutter and bus pads.

67. Question: The "EC" Drawings have a Note "Traffic Detectors Shall be Installed at Intersections Prior to Cutting and Demolition of Existing Loop Detectors." Is the Contractor responsible for the Furnishing, Installation, Operation, and Maintenance of the Traffic Detectors during the duration of the project?

Response: Yes.

68. Question: The "EC" Drawings call for New CCTV Cabinets. Some of these New CCTV Cabinets are being relocated to a different corner of the intersection versus where the Existing CCTV Cabinet is located. The CCTV Cabinets have Fiber Optic Cables going back to the Vineyard Street Camera Hub Site. There is no indication on the Drawings if New Fiber Optic Cables and Ducts are required, how will this be addressed?

Response: The drawings indicate new CCTV fiber running the length of the project that shall be run from new controller to new controller. From the last new controller at Vineyard, the new fiber shall be run to the existing Vineyard Street Camera Hub Site to maintain operation. The new system shall be installed and tested prior to deactivation of the existing system.

69. Question: For Pay Item 631.5000 Regulatory and Warning Sign (10 Square Feet or Less) 212 EACH - Can this be split into 2 separate pay items - Sign with post and Signs without post? As the two different types are so different in price structure and typically there are separated pay items for each.

Response: This pay item will not be split into two. Please bid accordingly.

70. Question: For Pay Item 631.6000 Regulatory and Warning Sign (More than 10 Square Feet) 37 EACH - Can this be split into 2 separate pay items - Sign with post and Signs without post? As the two different types are so different in price structure and typically

there are separated pay items for each.

Response: This pay item will not be split into two. Please bid accordingly.

71. Question: Can you please verify the lengths of street name signs, as they are longer than typical of what are mounted on square tube post?

Response: Lengths confirmed as shown on plans.

72. Question: Can you please verify the One Way Signs on the project? All One Way signs are 54" x 18" this size is not typically used on slower speed roadways.

Response: Sizes verified as shown on plans.

73. Question: Please confirm that the staging yard located at the Pali Hwy Southbound to Pauoa Road Eastbound Off-Ramp will be made available for the duration of this project.

Response: Staging areas outside of the project limits may or may not be available pending other concurrent projects.

74. Question: Please provide a specification section and basis of payment for Bid Item 414.0100 - Excavation of Weakened Pavement Areas.

Response: Provided in Addendum No. 1.

75. Question: On sheet 92 - Sign Call out "No Outlet" w/ Arrow - at Jack Lane - can you please provide the size and what it is mounted to or if this is on a post?

Response: Approximately 16" x 72" mounted on traffic signal mast arm.

76. Question: On Sheet 92 - Sign Call out R17-1 at Jack Lane (Current Sign is in the median on Pali Hwy / Makai Side of intersection)- Can you please provide what this sign is mounted to or if this is on a post?

Response: Mounted on traffic signal mast arm.

77. Question: On Sheet 92 - Sign Call out at Akamu Place - Mast Arm Dead End w/ Arrow - Can you please provide size and how it is mounted on Mast Arm?

Response: Approximately 16" x 72" mounted on traffic signal mast arm.

78. Question: Please confirm quantity of proposal item no. 202.2200 removal of P.C.C. Pavement.

Response: Confirmed.

79. Question: For pay item 630.3100 2.50 Inch Galvanized Square Tube Post for Destination Sign, can you please provide a quantity?

Response: Quantity not provided. Please bid accordingly.

80. Question: For pay item 630.3000 4.00 lbs/ft Flanged Channel Post for Destination Sign, can you please provide a quantity?

Response: Quantity not provided. Please bid accordingly.

81. Question: For pay item 632.7000 Gateway Treatment System, can you please provide a quantity?

Response: Quantity not provided. Please bid accordingly.

82. Question: There are signs in sign details on sheets 107 to 112, that are not called out in the plans, are these signs to be installed?

Response: Yes.

83. Question: With reference to General Note #52 on plan sheet #4, and SP section 617 – the work description includes "Remove and dispose of old soil and plants." We cannot locate a bid item for this work. How will this work be measured and paid for? If work is to be incidental to bid item #617.1000 respectfully request SP section 617 be revised to reflect this.

Response: Removal of soil will be paid under 203.1000.

84. Question: With reference to detail 6, sheet #22 – request estimate basis for expansion joint repair work. We are unable to locate any information within the current bid documents that allow us to quantify this work. Please provide us with a lineal foot amount so that all bidders can bid on this on an equal basis. Respectfully request SP section 412 be revised to reflect the estimate basis for expansion joint repair work.

Response: Quantity not provided. Expansion joint repair work

shall be considered incidental to 415.0100 Cold Planing.

85. Question: Can you please confirm the quantities of proposal item no. 202.2100. Proposal calls out for 20,000 LF of Concrete Curb and Curb and Gutter to be demoed, but I calculated a quantity closer to 18,500 LF.

Response: 20,000 LF confirmed.

86. Question: Please provide boring log B20 & C1 information for location shown on plan sheet CD25.

Response: These boring logs from Pali Phase 1 geotechnical report included in this Addendum.

87. Question: Please advise if Curb and Curb & Gutter will require to be placed on 6" of Aggregate Base Course similar to sidewalks, driveways, and curb ramps. If required, please advise which pay items the additional excavation and additional base course shall be included in.

Response: 4" of aggregate base course will be required under the curb and curb and gutter. Excavation will be paid under 203.1000 and aggregate base course will be paid under 304.1000.

88. Question: Per Addendum #1 Response to question #7, please advise where the quantity of excavation from the top of existing HMA to bottom of HMA shall be included. This quantity will vary substantially from location to location as the existing pavement ranges from 4" to 19" in thickness. If this work shall be included in bid item 415.0100 – Cold Planing, please confirm that the quantity of asphalt excavated beyond 5" below finish grade elevation shall be included in a separate bid item, ie 203.1000 – Roadway Excavation.

Response: No, removal from the top of existing pavement to bottom of new HMA layer is all cold planing.

89. Question: Please provide all Pali Highway As-Builts utilized for designing this project from Vineyard to Waokanaka. Specific requests are to provide plan sheets showing locations of the reinforced concrete roadway sections.

Response: As-builts will not be provided. Please bid accordingly.

90. Question: Plan Sheet 52 near station 120+50 rt. Shows boring location C-109. This core shows 2" AC over 7" Concrete. The plan

section is to install 5" AC. Does the State intend to remove this concrete?

Response: If additional PCC pavement is discovered during construction, it shall be removed.

91. Question: Per addendum #1 Response to Question #7, the measurement and payment of Excavation of Weakened Pavement shall occur from bottom of HMA to the bottom of excavation. Please advise if bottom of HMA is the bottom of new HMA or bottom of existing HMA.

Response: Bottom on new HMA.

92. Question: Please provide separate bid items for each type of paving fabric (i.e., Tensar Triax TX7 Geogrid, Mirafi 170N Non-Woven Geotextile, GlasGrid, RapidRepair) since each of them have their own quantity required for the project and unique unit prices.

Response: GG100 and TF8511 now have their own pay items. Mirafi 170 and Triax will be part of aggregate base course.

93. Question: Please clarify why some of the cross sections such as Sta. 60+00 to 61+00 seem to show existing grades that are lower than the existing concrete that are to remain?

Response: Most likely a small drafting error.

94. Question: Refer to response to Question 1 in Section F of Addendum 1 and Detail 1 Sheet ADD 22. The 12"-wide transition from 2" thickness to 1.5" thickness is not constructable. Requesting this be changed to a 2" to 1.5" transition from joint to curb (covering entire width of concrete lane).

Response: What you propose is acceptable. Plan Sheet ADD. 22 revised to reflect this.

95. Question: Refer to response to Question 22 in Section F of Addendum 1. Please confirm that Contractor is allowed to stockpile materials onsite. This may be a significant quantity to stockpile if Contractor has to budget for an unknown quantity.

Response: Stockpiling on site subject to approval of the Engineer.

96. Question: Refer to Spec Section 401.03(Q). Is the Contractor always responsible for the cost of third party testing? Shouldn't the cost be bourn by the State if the third party's results confirms

Contractor's results were correct?

Response: Please refer to Standard Specification 107.15, Disputes and Claims.

97. Question: Based on our takeoff, the proposal quantities for hot mix items seem to be overstated by about 13%. Can the quantities be confirmed? Was a contingency factor applied?

Response: Quantities shown in the contract are approximate per Special Provision Section 102.04.

98. Question: Plan Sheet CB1 detail 9 Dowsett Sewer Manhole Frame and Cover Adjusting Details with no brick or grade ring states "Remove up to 2" of cone top as necessary". The plans call out Dowsett Sewer Manhole Frame & Cover and Adjust Sewer Manhole Frame & Covers. Please confirm that this detail is applicable to all Sewer Manhole Frame and Cover adjustments that are shown on the plans.

Response: This detail applies to all sewer manholes labelled "Dowsett" sewer manholes.

99. Question: Plan Sheet CB1 detail 9 Dowsett Sewer Manhole Frame and Cover Adjusting Details with no brick or grade ring states "Remove up to 2" of cone top as necessary". We assume that none of the grade adjustments will require lowering SMH top greater than 2" as SMH tops and finish grade is not shown on plans. Otherwise please provide detail for lowering frame & covers greater than 2" and the locations with SMH top elevation and finish grade elevation for each SMH location.

Response: We do not anticipate needing to lower the frame and cover more than 2" to any of the Dowsett sewer manholes.

100. Question: Plan Sheet CD1 note * states Adjust Manhole Frame and Cover Elevations to finish grade as necessary for electrical manhole. It is not clear what type of electrical manhole and dimensions. Therefore please provide type of electrical manhole, dimensions, and detail for adjusting manhole frame and cover.

Response: Please bid accordingly.

101. Question: Referring to the cross sections such as Sta. 77+00, please clarify if there is earthwork required at the median to lower the existing grade.

Response: Yes, minor earthwork is required in this area and shall be paid under 203.1000.

102. Question: Please see Boring Log C-109. This boring log identifies concrete from 2.5” to 10” deep. The boring log is not located in any of the pre-determined concrete demolition areas. Please confirm the location of this boring log is correct. Please confirm that concrete demolition is not anticipated outside of the locations shown on the plans.

Response: Most likely the boring log location is not accurately shown and the correct location would be a few feet north in the concrete turn lane. Concrete demolition is not anticipated outside the locations shown on the plans.

103. Question: Regarding response #3 and question #22, how will measurement and payment be handled for detail #3/Sheet #21, specifically how will installation of the specified aggregate base be measured and paid for? Can we confirm that this work will be measured and paid for as part of bid item #304.1000.

Response: There was an error in the response to Question 3 in Addendum No. 1. The removal of soft subgrade shall be paid under 414.0100. The aggregate base course, geogrid and geotextile shall be paid under 304.1000.