

## **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 4<sup>th</sup>, 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 than 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.