HAZARDOUS WASTE
INITIAL SITE ASSESSMENT/PRELIMINARY SITE INVESTIGATION

FOR THE

HONEYDEW BRIDGE REPLACEMENT PROJECT
HUMBOLDT COUNTY, CALIFORNIA
FEDERAL PROJECT NUMBER STPLZ 5904(024)

Prepared for:

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Honeydew Bridge Replacement Project
Humboldt County, California
Federal Project Number STPLZ 5904(024)

Initial Site Assessment/Preliminary Site Investigation

Submitted to:
Humboldt County, Department of Public Works

This report has been prepared by or under the supervision of the following Professional Engineer. The Professional Engineer attests to the technical information contained herein and has judged the qualifications of any technical specialists providing engineering data upon which recommendations, conclusions, and decisions are based.

Joyce Cheng, P.E.
Senior Engineer

10/19/17
Date

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This report has been prepared by or under the supervision of the following Certified Asbestos Consultant (CAC) and Certified Lead Inspector/Assessor (CLIA). The CAC and CLIA attests to the technical information contained herein and has judged the qualifications of any technical specialists providing asbestos and lead expertise upon which recommendations, conclusions, and decisions are based.

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10/19/17
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Submitted to:
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This report has been prepared by a qualified lead, asbestos, and hazardous materials technical specialist who attests to the technical information contained herein.

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ACRONYMS AND ABBREVIATIONS

AAI	All Appropriate Inquiries
ACM	Asbestos Containing Material
ACCM	Asbestos Containing Construction Material
ADL	Aerially Deposited Lead
ARB	Air Resources Board
ASTM	ASTM International
AUL	Activity and Use Limitation
bgs	below ground surface
CAC	Certified Asbestos Consultant
Caltrans	California Department of Transportation
Cal/OSHA	California Department of Occupational Safety and Health
CEQA	California Environmental Quality Act
CDPH	California Department of Public Health
CIDH	cast-in-drilled-hole
CLIA	Certified Lead Inspector/Assessor
COC	Constituents of Concern
DTSC	Department of Toxic Substances Control
EDR	Environmental Data Resources
ESL	Environmental Screening Level
ft	Feet
ISA	Initial Site Assessment
LBP	Lead Based Paint
LUST	Leaking Underground Storage Tank
NCUAQMD	North Coast Unified Air Quality Management District
NEPA	National Environmental Policy Act
NOA	Naturally Occurring Asbestos
NPL	National Priority List
PE	Professional Engineer
PLM	Polarized Light Microscopy
PSI	Preliminary Site Investigation
RACM	Regulated Asbestos Containing Material
RCRA	Resource Conservation Recovery Act
REC	Recognized Environmental Condition
ROW	Right-of-Way
STLC	Soluble Threshold Limit Concentration
SWRCB	State Water Resources Control Board
TPH-d	Total Petroleum Hydrocarbons – diesel
TPH-g	Total Petroleum Hydrocarbons – gasoline
TTLC	Total Threshold Limit Concentration
TWW	Treated Wood Waste
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This report presents results of an Initial Site Assessment (ISA) and Preliminary Site Investigation (PSI) in a combined report. The combined study was conducted by WRECO for property associated with the Mattole Road Bridge over Mattole River, the Honeydew Bridge Replacement Project (Project), including Caltrans right-of-way (ROW), unincorporated community of Honeydew ROW, Humboldt County, and private parcels located along Mattole Road, Wilder Ridge Road, and Burrel Road.

The Project site is located on Mattole Road over Mattole River within Humboldt County (County) and the community of Honeydew. The proposed bridge types are all two-span structures with equal span lengths of 187 feet - 7 ½ inches for a total bridge length of 375 feet - 3 inches. It will carry two lanes of traffic with each lane width 11-foot plus a 2-foot shoulder, for a clear width of 26 feet.

The ISA component of this study conducted regulatory records searches, file reviews, and a visual site survey. WRECO found no evidence of Activity and Use Limitations at the site or adjacent properties. However, several current and potential Recognized Environmental Conditions (RECs) were identified during the ISA, including:

- History of fuel cleanup (volatile organic compounds (VOCs))
- Thermoplastic striping and other lead-based paints (lead)
- Asbestos applications in construction materials

The studies recommended by the ISA and performed as part of the PSI included:

- Limited subsurface soil investigation;
- Aerial Deposited Lead (ADL) study;
- Pre-demolition asbestos containing material survey; and,
- Lead-based paint survey.

The above listed studies were performed to verify the presence/absence of RECs, to evaluate the available options for soil or groundwater disposal or reuse during construction, and to provide specific guidance for waste management and worker safety during construction. The studies revealed the presence of lead-based paint, lead, and total petroleum hydrocarbons - diesel (TPH-d).

A summary of this study's recommendations is presented the table below:

ISA/PSI Recommendations Summary Table

Description	Evidence of REC Found	Recommended Actions
Excavated surface soil	Results were below RCRA and California Hazard Waste classification levels	Dispose of excavated soils as Designated or Non-hazardous waste at Class II unit or Class III landfill depending on facility acceptance standard. Screen and manifest for waste classification prior to off-site disposal.
Yellow roadway striping	Potential lead and heavy metals associated with pavement striping. Implementation of improvements may require the removal and disposal of yellow traffic striping and pavement marking materials (paint, thermoplastic, permanent tape, and temporary tape). Yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22, California Code of Regulations, and require disposal in a Class 1 disposal site.	Abate striping and fire hydrant prior to demolition per Caltrans protocol.
Bridge Paint	The green and yellow paint applied to the bridge have been determined to contain lead-based paint at levels far above the regulatory threshold of 0.5% by weight.	Manage waste per Caltrans, DTSC, CDPH, USEPA, and Cal OSHA regulations.
Bridge deck concrete waste	Load bearing concrete in bridges may contain asbestos as a strengthening agent. No asbestos was found in concrete deck materials accessible during investigation from the surface of the bridge.	Manage bridge deck concrete as inert waste.

1 INTRODUCTION

This report presents the results of an Initial Site Assessment (ISA) and Preliminary Site Investigation (PSI) conducted by WRECO, on behalf of Humboldt County, for the Honeydew Bridge Replacement Project (Project).

The County of Humboldt (County) has determined that the Honeydew Bridge (Bridge No. 04C0055) over Mattole River is structurally deficient and functionally obsolete based on its age, condition, and lack of current geometric and seismic standards. The County has proposed to replace the bridge with a structure that is up to modern highway design standards. The proposed Project will replace the existing single-lane, two-span Camelback steel truss bridge.

1.1 Background

The Project site is located on Mattole Road over Mattole River within the community of Honeydew in Humboldt County California. The Project extends from south to north, approximately 100 feet from the existing intersection of Mattole Road and Wilder Ridge Road. The Project site and vicinity are shown in Figure 1 and Figure 2. Figure 2 delineates the Project area with areas of potential impacts. The following subsections describe the existing conditions of and proposed improvements for the site.

1.1.1 Existing Conditions

The Project site is located in a mountainous rural area. The parcels surrounding the Project site consist of one general store, a post office, an elementary school, residential housing, agricultural land, and undeveloped land.

The existing bridge at the site was constructed in 1920 and serves as a crucial access road in the community. The bridge consists of a single-lane and has two steel Camelback truss spans supported by a concrete pier and wing abutments on spread footings. Over time, several main truss members and portal cross frames have had to be replaced largely due to damage by oversized vehicles. The last painting of the truss portion of the bridge occurred in the mid-1970s. According to County's Environmental Permitting and Compliance Manager Andrew Bundschuh, the bridge currently supports approximately 450 vehicles daily.

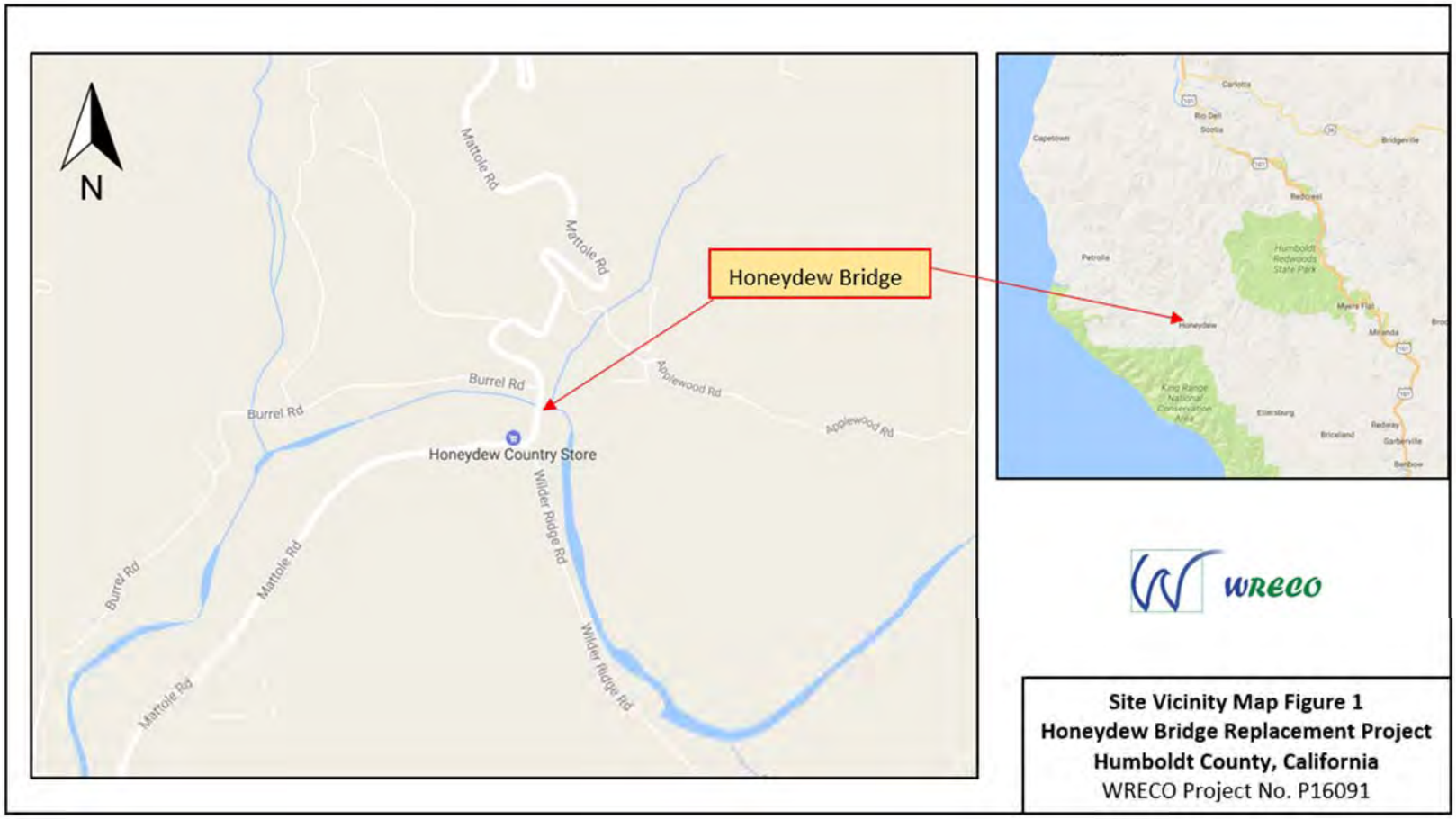

Figure 1. Project Vicinity

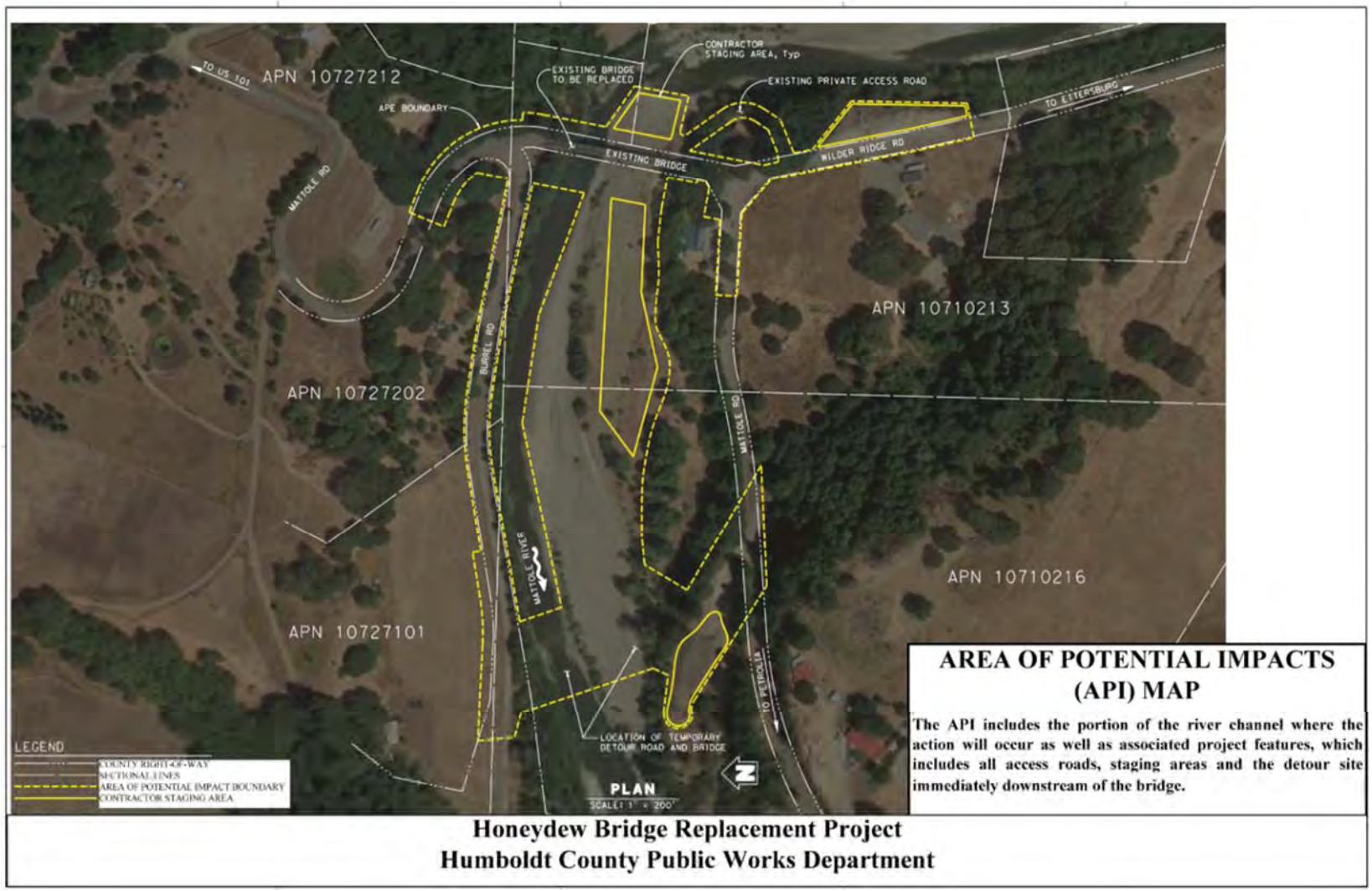

Figure 2. Project Site

1.2 Project Description

1.2.1 Area of Potential Effect

The proposed Project has a potential Area of Potential Effect (APE) delineated by the Humboldt County Public Works Department in coordination with Caltrans and the consulting engineer designing the new bridge (see Figure 2). The vertical limit of the APE is expected to remain superficial except where new abutments will be constructed and portions of the access road west of the Mattole River. The new abutment locations and portions of the access road located west of the Mattole River are expected to require excavation that exceed more than two meters depth.

Abutment 1, located on the north bank of the Mattole River, will likely extend 5 feet beyond each edge of the existing abutment and to the base of the abutment footing, 6.5 feet in depth. The new Abutment 1 will require an excavation size of approximately 40 feet in width, 14 feet in length, and 19 feet in depth. The retaining walls along each side will require 5- to 7-foot-wide excavation with a depth of 4 to 6 feet.

The central channel Pier 2's excavation will be approximately 45 feet in width, 10 feet in length, and extend to an elevation of approximately 283 feet. The current pier will be removed, and require excavation of approximately 41 feet in width, 20 feet in length, and 10 feet in depth.

The current Abutment 3, located on the south bank of the Mattole River, will be removed thereby requiring excavation extending 5 feet beyond each edge of the existing abutment and to the base of the abutment footing, 11 feet of depth. The new Abutment 3 will need an excavation size of approximately 40 feet in width, 10 feet in length, and 12 feet in depth. Retaining wall excavations will be 5 to 7 feet wide, varying in depth from 4 to 6 feet.

1.2.2 Construction Criteria and Methods

Construction specifications will be in accordance with the Special Provisions and the current Caltrans Standard Plans, Standard Specifications, and Standard Special Provisions at the time the construction contract is awarded. Equipment and materials will be staged in the three designated staging areas only, and traffic will be maintained through the area during the first season on the existing bridge and during the second season on the detour bypass.

Temporary work platforms and the detour route will be constructed of river run gravel fill or properly sized salmon spawning gravel "fish rock." Gravel will be uncrushed, rounded, natural river rock with no sharp edges. It will be washed at least once and have a cleanliness value of 85 or higher based on Caltrans Test No. 227. Gravel will also be completely free of oils, clay, debris, and organic material.

Because fish rock does not stay together under pressure of heavy equipment, clean crushed angular gravel will be placed on top of the fish rock with geotextile fabric to separate the crushed angular gravels from the fish rock. Once the new bridge is

completed, the crushed rock atop the gravel work platforms and temporary detour will be removed and disposed of offsite.

Final design has not been completed at this time, and the exact construction for the work pads and falsework trestles has not been selected. The actual number, size, types, and depth of piles to be driven for the complete project is indeterminate. The most likely option for the north abutment will be HP 10X57 driven about 30 feet. The pier will most likely be two 7-foot diameter cast-in-drilled-hole (CIDH). The south abutment will most likely be two 48-inch CIDH. In addition, sheet piles may be required for the construction of the pier cap.

1.3 Purpose of the Initial Site Assessment and Preliminary Site Investigation

WRECO was contracted and tasked by North State Resources, Inc. to perform an ISA and, if necessary, a PSI in support of the County's proposed bridge replacement and roadway improvements, and Caltrans' efforts to assess the potential California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) impacts posed by the proposed Project. The ISA was identified by the Preliminary Environmental Study signed on July 20, 2011 (Appendix A) as required as part of Caltrans' environmental review, consistent with the Caltrans Local Assistance Procedures Manual and Caltrans Standard Environmental Reference (SER) Environmental Handbook (EH) Volume 1, Chapter 10 guidelines (Caltrans, 2016).

During performance of the ISA, WRECO determined that a PSI would be required to fully investigate the potential for hazardous material risks to the Project. In a memo dated February 16, 2017, WRECO and North State Resources, Inc. requested from the County authorization to perform a PSI and combine the remaining ISA tasks and PSI into a joint ISA/PSI study and report (Appendix B). The County, with Caltrans approval, authorized North State Resources, Inc. and WRECO to proceed with a joint ISA/PSI in an email dated February 16, 2016 (Appendix C).

The ISA/PSI investigation included analysis of bridge structural materials and shallow soil at the Project site. The purpose of the combined ISA/PSI report is to assess the potential risks posed by hazardous material at the site to environmental resources and human health, and to communicate the findings and recommendations of the investigation.

This ISA/PSI is also intended to satisfy the U.S. Environmental Protection Agency's "Standards and Practice for All Appropriate Inquires (AAI)" and with the "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" as specified in ASTM International (ASTM) Standard E1527-13 (ASTM, 2013). Certain exceptions in this ISA/PSI, to the AAI standard, included: 1) no property appraisals performed for the subject properties and; 2) no direct interviews with the owners of the subject parcels.

The ISA/PSI investigation evaluated the site for the presence of Recognized Environmental Conditions (RECs) and/or Activity and Use Limitation (AULs), defined as:

> **REC:** "...the presence or the likely presence of any hazardous substances or petroleum hydrocarbons on the (Subject Property) that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum hydrocarbons into structures or into the ground, groundwater, or surface water of the subject property." (ASTM, 2013)
>
> **AUL:** "...an explicit recognition by a federal, tribal, state, or local agency that residual levels of hazardous substances or petroleum hydrocarbons may be present on the property, and that unrestricted use of the property may not be acceptable." (ASTM, 2013)

2 SITE SETTING

A preliminary site plan is included in the Preliminary Environmental Study (Appendix A).

The Project study area is defined as the area included within a 1-mile radius of the Project site (See Figure 3). The ISA/PSI study includes a review of hazardous waste activities and potential effects to resources within the Project study area.

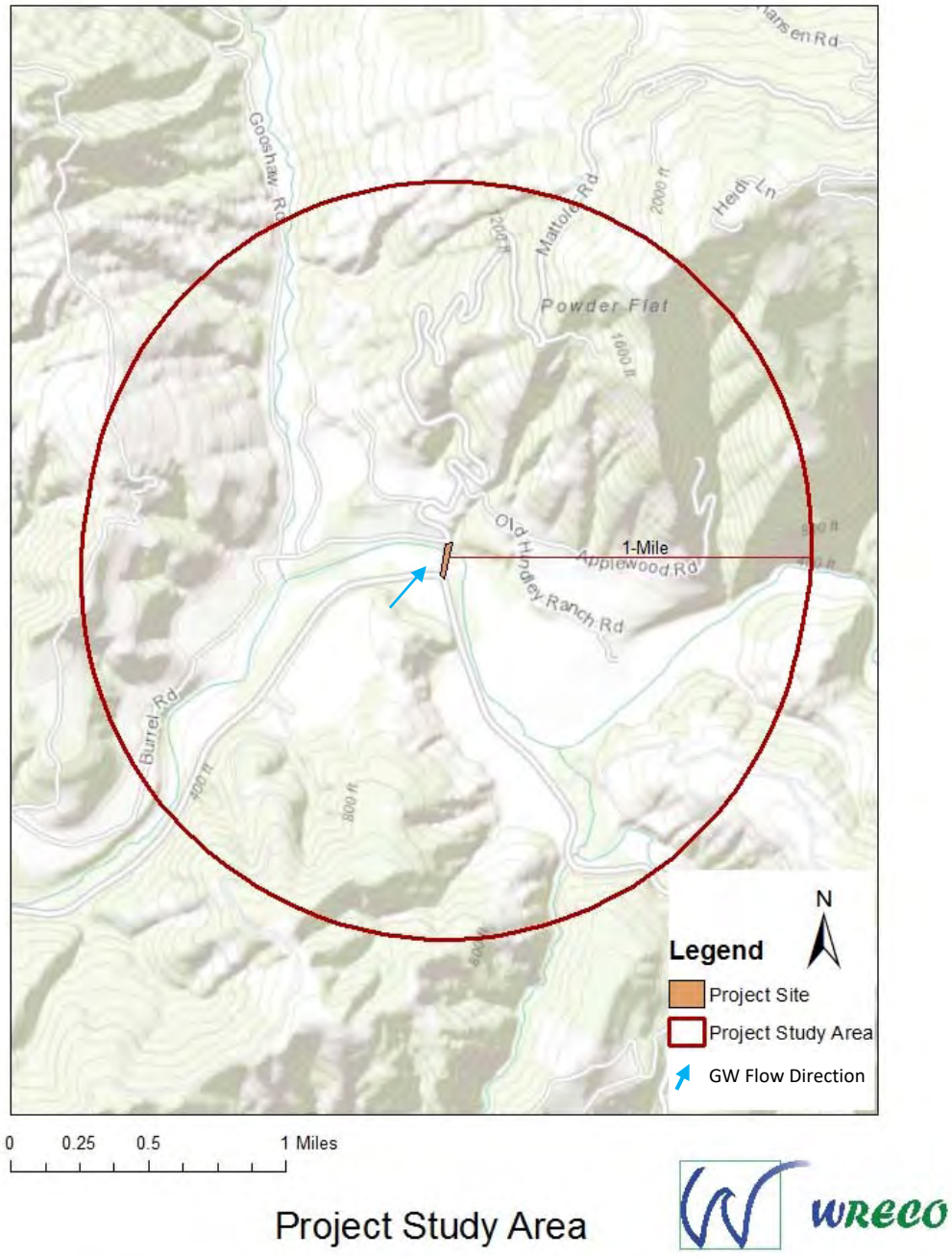

Figure 3. Project Study Area

2.1 Surface Water

The Project is located in the Cape Mendocino hydrologic unit within the Mattole River hydrologic area (hydrologic sub-area 112.30) roughly 0.5 miles upstream of the

confluence with the Upper North Fork Mattole River and 26 river miles (RM) from the mouth of the Mattole River as it empties into the Pacific Ocean (Figure 4) (Caltrans, 2012). The Mattole River is the only natural surface water present within the Project site. The Mattole River is temperature and sediment impaired as a result of past timber harvest, removal of riparian vegetation, widespread streamside landslides, and channel aggradation resulting from seismic and large rainfall events. The Mattole River generally flows from the southeast to northwest with large meanders in the area of the Project site. The Honeydew Bridge is located near the apex of a large bend in the river and, at the location of the bridge, the river flow is approximately from east to west.

Figure 4. Project Site Local Surface Waters

2.2 Geology and Soils

The Project site and adjacent areas are shown on the Geologic map of the Point Delgada and Garberville 15-minute quadrangles, Humboldt and Mendocino Counties, California (Figure 5). The Honeydew area at the location of the Project site is underlain by Holocene-age alluvium, Pleistocene-age non-marine fluviatile sediments, and a Jurassic-

age Franciscan formation consisting of Graywacke sandstone being dark gray, very hard, brittle, much fractured, with minor shale interbeds and many calcite veinlets (USGS 1949).

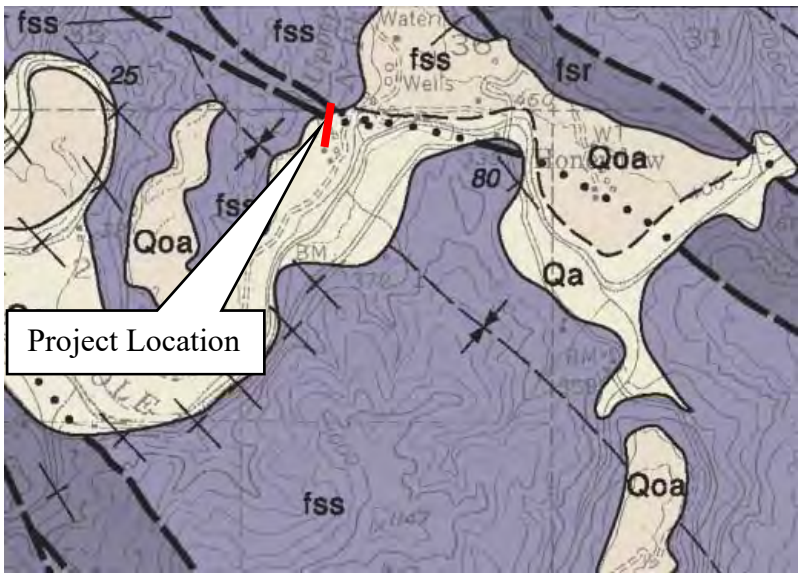

Figure 5. Geologic Map

Source: National Geologic Map Database

The soils at the Project site of the bridge replacement are shown in Figure 6. Soils within the Project vicinity are primarily characterized by water and fluvents (alluvial soils where development is prevented by repeated deposition of sediment in period floods) with 0 to 2 percent slopes. The soils at the northern limits of the Project consist of Conklin with 0 to 2 percent slopes and Crazycoyote-Windynip-Caperidge complex with 15 to 50 percent slopes. The soils at the southern limits of the Project consist of Parkland-Garberville complex with 2 to 9 percent slopes. The Conklin soils have a hydrologic soil group rating of B and the Crazycoyote-Windynip-Caperidge complex and Parkland-Garberville complex both have a hydrologic soil group rating of C. A copy of the United States Department of Agriculture (USDA)'s Web Soil Survey Data for this site is presented in Appendix D.

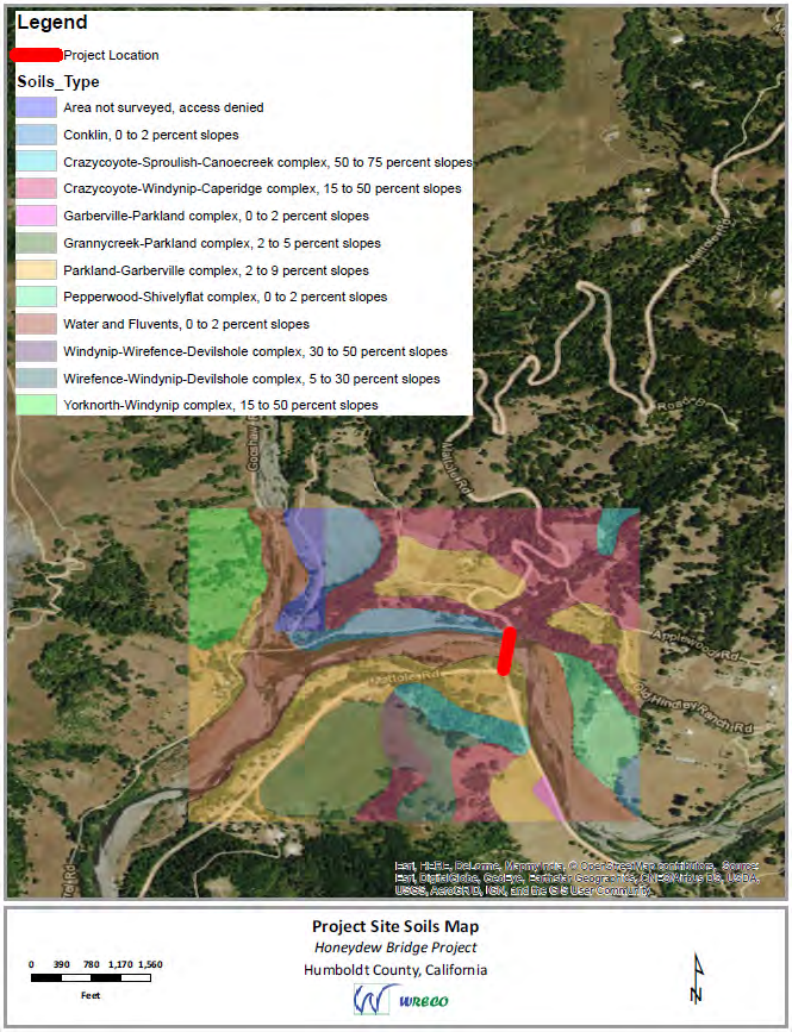

Figure 6. Soils Map

Source: United States Department of Agriculture

2.3 Groundwater Information

The study area is located along the eastern edge of the King Range, which is part of California's North Coast Ranges. There are no recorded observation wells near the Project location according to the California Department of Water Resources Water Data Library (2017). A review of local cleanup site records on the California State Water Resources Control Board's (SWRCB) GeoTracker Database indicated that the minimum depth to groundwater ranged from approximately 9 feet to approximately 16 feet below ground surface (bgs) near the Honeydew Country Store location at 44670 Mattole Road, Honeydew, California 95545. According to Blue Rock Environmental, Inc's *Soil Management Contingency Plan*, groundwater flows northerly to northeasterly toward the Mattole River (see Figure 3 for groundwater flow). No specific groundwater studies or potentiometric maps were found for the area around the Project site.

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3 INITIAL SITE ASSESSMENT

WRECO reviewed previous records available, the Department of Toxic Substances Control's (DTSC's) EnviroStor database, the SWRCB's GeoTracker, and the Environmental Data Resources (EDR) databases and historic maps for information relevant to the potential presence of pollution at the Project site. WRECO also performed a field reconnaissance to evaluate the existing conditions at the Project site and in the vicinity of the Project site.

3.1 EDR Records Review

The following EDR records were reviewed for this ISA investigation:

Table 1. Reviewed Public Records

Standard Environmental Record Sources	Standard Environmental Record Sources Approximate Minimum Search Distance (kilometers/miles)
Federal National Priority List (NPL) site list	1.6/1.0
Federal Delisted NPL site list	0.8/0.5
Federal CERCLIS list	0.8/0.5
Federal CERCLIS NFRAP site list	0.8/0.5
Federal Resource Recovery Conservation Act (RCRA) CORRACTS facilities list	1.6/1.0
Federal RCRA non-CORRACTS TSD facilities list	0.8/0.5
Federal RCRA generators list	property and adjoining properties
Federal institutional control/engineering control registries	property only
Federal ERNS list	property only
State and tribal-equivalent NPL	1.6/1.0
State and tribal-equivalent CERCLIS	0.8/0.5
State and tribal landfill and/or solid waste disposal site lists	0.8/0.5
State and tribal leaking storage tank lists	0.8/0.5
State and tribal registered storage tank lists	property and adjoining properties
State and tribal institutional control/engineering control registries	property only
State and tribal voluntary cleanup sites	0.8/0.5
State and tribal Brownfield sites	0.80.5

A copy of the EDR Radius Report is included in Appendix E.

The EDR report identified one property within 1 mile of the Project area which is a Leaking Underground Storage Tank (LUST) Site. The full listing is presented in Table 2 below:

Table 2. EDR Properties Within 1/8 Mile Of The Project Site

ISA Parcel Designation	Parcel Name	Listing Acronym	Current Property Use	Summary	Release Information / Cleanup	Case Status	Potential Pollution Risk (None, Low, Moderate, High, Unk)
Honeydew Country Store	44670 Mattole Rd / Gas Station	LUST, Humboldt County	Rural – Improved	Information not available	All USTs were removed in 1999. Case opened in July 1999. Site assessments and verification monitoring was conducted through 2009. Site became eligible for closure in 2013.	Closed	Low – Cleanup complete

3.1.1 Historic Topographic Maps

Historical topographic maps for the years 1949, 1950, 1951, 1969, 1970, and 2012 were analyzed to assess historical changes in land use at or near the Project site (see Appendix G). Historical maps for the years 1949, 1950, and 1951 show the locations of two oil wells and a water tank located approximately 0.5 miles northwest of the Project site. An additional water tank is present approximately 0.25 miles east of the Project site. The 1969 and 1970 historical topographic maps show the location of a drill hole approximately 0.25 miles east of the Project site and a water tank approximately 0.75 miles south of the Project Site. The 2012 historical topographic map does not include the above-mentioned features.

The USGS topographic map history review reveals development generally consistent with the current existing conditions. Neither rapid growth nor an increased presence of roadways appear to have occurred. The area is consistently rural in nature, however, the roadways (today known as Mattole Rd and Wilder Ridge Rd) first appeared in the late 1940s after gas-powered vehicles were in wide use.

3.1.2 Historic Aerial Photographs

Aerial Photography at a scale of 500:1 were analyzed for the years 1941, 1955, 1968, 1983, 1993, 2005, 2009, 2010, and 2012 (See Appendix H). The aerial photograph from 1941 reveals the existence of Honeydew Bridge and main roads through and beyond the Project area. The Project site and its surrounding properties were initially composed of open space with some agricultural land with one possible residence, and no other development. In 1955 a building appears adjacent to the Honeydew bridge, where Honeydew Country Store stands today, and farmlands appear more established with farmhouses southeast of the Project site. In 1968 another building appears on the eastern side of the site within close proximately of the bridge. By 1993 there are more buildings and residential areas apparent in the aerial photographs but the majority of land use remains the same. There is an additional building on Honeydew Country Store property east of the original store. Throughout the 2000s more buildings appear but overall open space, grazing land, and agricultural areas remain very prominent in the Honeydew community. Observable from a May 2012 satellite photograph of the Honeydew Country Store is an above-ground fuel storage tank, approximately 1,000 gallons in capacity.

The EDR aerial photo package is presented in Appendix H.

3.2 Prior Hazardous Material Investigations

According to an investigation conducted by Blue Rock Environmental, Inc., the Honeydew Country Store property formerly contained three gasoline underground storage tanks (USTs), consisting of two 500-lb tanks and one 700-lb tank. North Coast Environmental Construction of Eureka, California removed all of the USTs in 1999. Soil samples were taken after removal and were tested for total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tert-

butyl ether (MTBE). TPH-g was detected in the soil samples ranging in concentrations from 2.2 mg/kg to 81 mg/kg (2011).
In 2005, SHN Consulting Engineers & Geologists, Inc (SHN) completed a sensitive receptor survey using a 1,000 ft radius to determine any potential sensitive receptors that could be impacted by this contamination. No additional surface water bodies or wells were identified within the study vicinity. SHN also conducted a field survey and a buried utility survey. Given the upslope nature and distance of surrounding properties, it was determined that contaminated groundwater would not harm neighboring locations. Upon discussion with the owner of Honeydew Country Store, SHN learned that former product pipelines affiliated with the USTs had been removed.

Efforts have been made by Blue Rock Environmental, Inc to monitor site conditions and remediate the site with the installation of approximately 10 soil borings, eight monitoring wells, four air-sparge wells, and two observation wells. A plume of TPH-g was delineated in the vicinity of the former UST system. SHN performed a pilot test using air-sparge technology to dissolve petroleum hydrocarbon impacts. But after the technology was deemed ineffective, a mobile high-vacuum dual-phase extraction system was utilized to decontaminate the site.

In early 2015 at the request of Humboldt County Division of Environmental Health, Blue Rock Environmental, Inc. prepared a *Soil Management Contingency Plan,* which addresses potential health and safety hazards and concerns in the event that the remaining impacted soil is exposed. The cleanup operations were completed in 2015, however, estimated combined remaining concentrations of petroleum, BTEX, and MTBE are greater than 81 mg/kg surrounding the former UST system, at approximately 0 to 9 feet bgs. A remedial action completion certificate was issued on February 9, 2015.

3.3 Naturally Occurring Asbestos Maps

Naturally Occurring Asbestos (NOA) can occur in serpentine. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas Likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity, of the Project site (see Appendix I).

3.4 Interviews

Direct interviews were not performed with the owners of properties within the Project boundaries. Due to the availability of regulatory agency data associated with potential RECs on these properties, the lack of direct interviews with property owners within the Project boundaries does not present a data gap for the ISA.

3.5 Department of Toxic Substances Control, EnviroStor Database and Regional Water Quality Control Board's GeoTracker Database

The Department of Toxic Substances Control's (DTSC's) EnviroStor database is an online search and Geographic Information System (GIS) tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. It also identifies facilities that are authorized to treat, store, dispose, or transfer hazardous waste.

The EnviroStor database includes the following site types: Federal Superfund sites (National Priority List [NPL]); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

GeoTracker is the SWRCB's management system for sites that impact groundwater or have the potential to impact groundwater. GeoTracker contains sites that require groundwater cleanup, as well as permitted facilities that could impact groundwater.

A review of the SWRCB's GeoTracker Database (accessed December 27, 2016) indicated that there is one LUST cleanup site within a 1-mile vicinity of the Project site, shown in Figure 7 and listed in Table 3 below. No sites were listed in the EnviroStor Database.

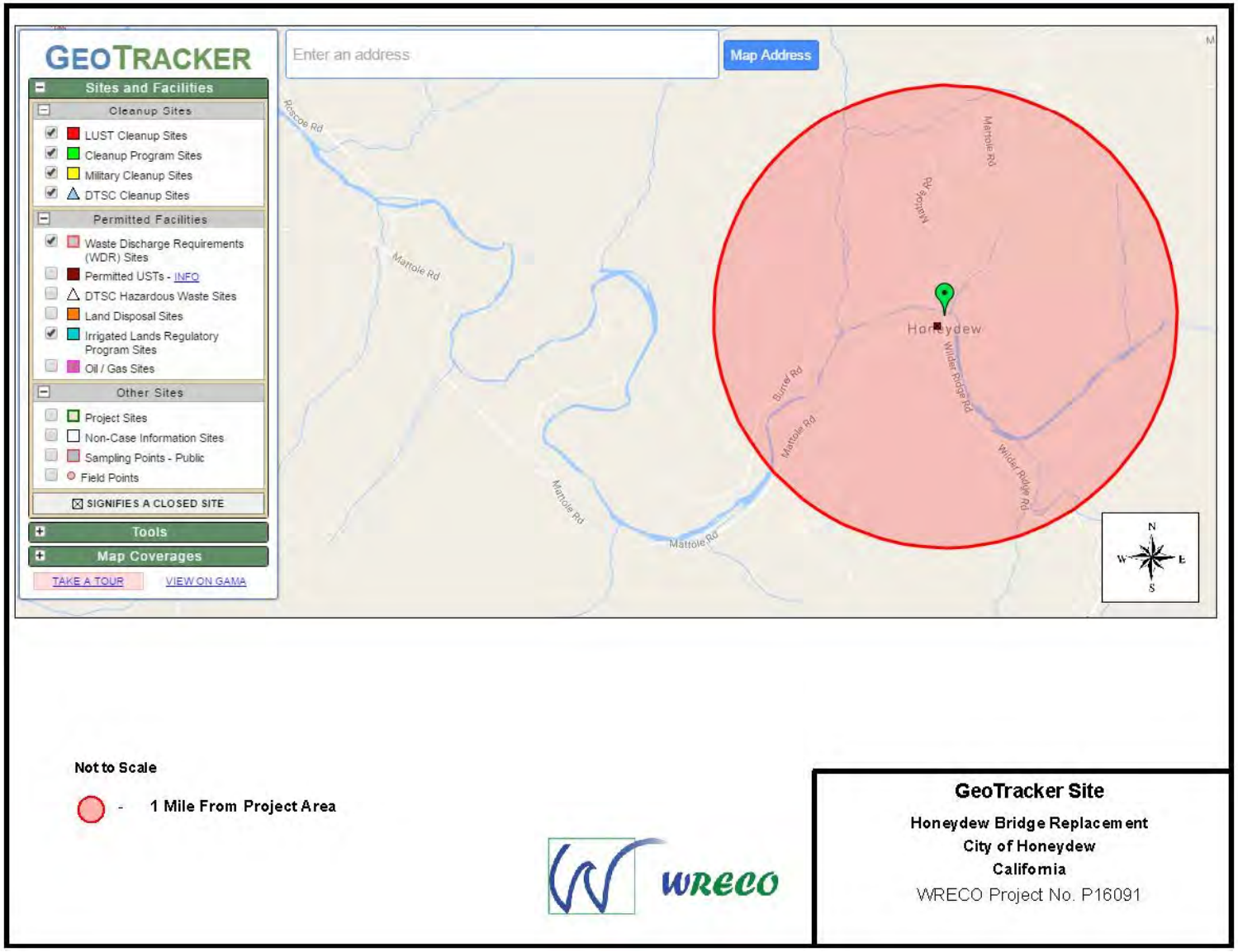
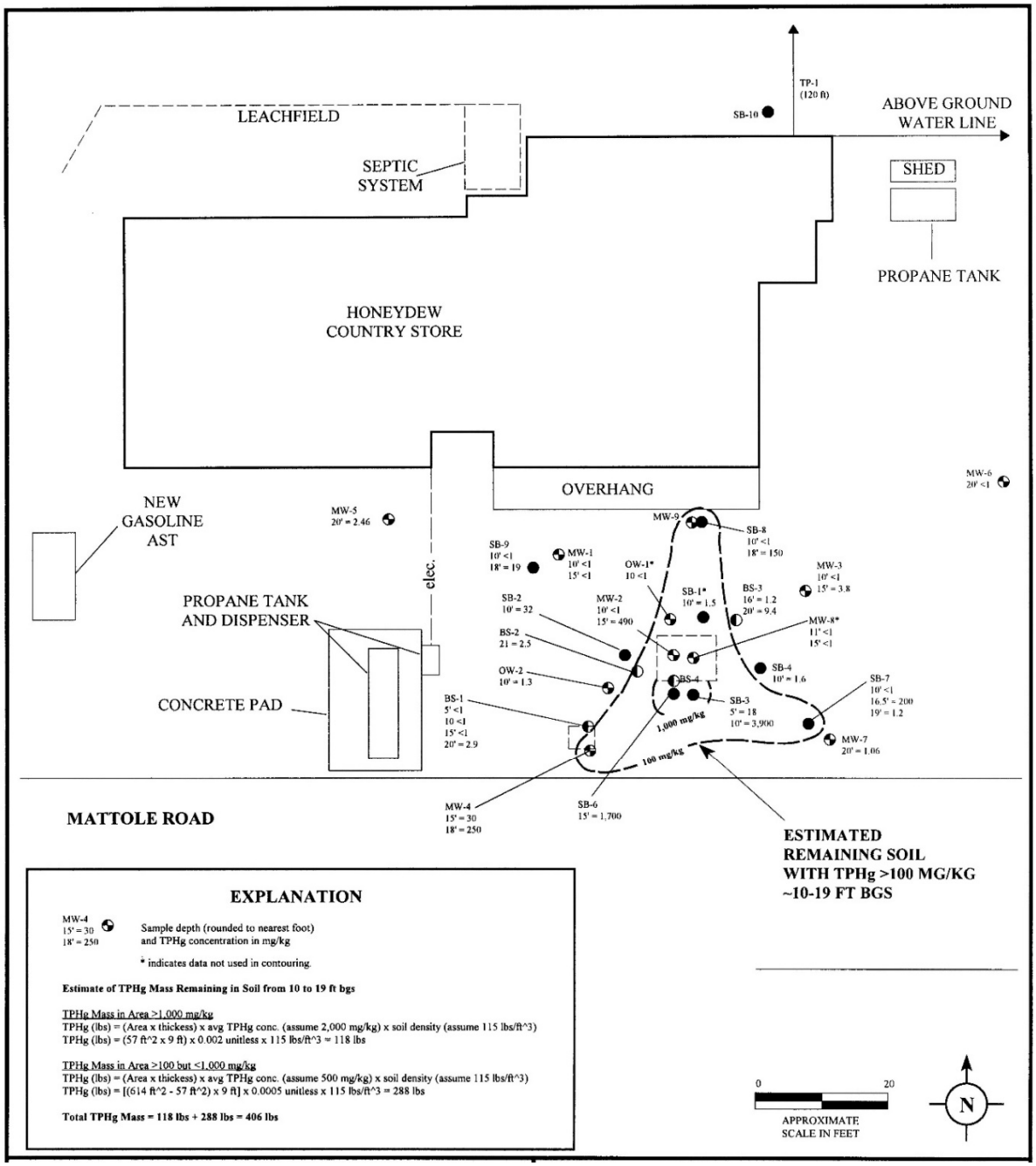


Figure 7. GeoTracker Sites Within and Adjacent to the Project site

Table 3. List of GeoTracker Historic Pollution Risk Sites with 1 mile of the Project

Site Name (ID)	Site Address	Database Listing	Pollution History	Potential Risk to Project (Low, Moderate, High)
Honeydew Country Store	44670 Mattole Road Honeydew, CA 95545	GeoTracker	Benzene, MTBE/TBA/Other fuel oxygenates, Gasoline, Toluene, Xylene. Soil Management Contingency Plan in place after case closure in 2015 due to leftover impacted soil.	High

Per the GeoTracker website, the Honeydew Country Store is a commercial property consisting of one building, and the site is currently used as a general store. Surrounding properties are mixed rural, residential, and agricultural. The site formerly contained three underground storage tanks (USTs): two 500-gallon gasoline USTs and one 700-gallon gasoline UST. All three USTs were removed on July 22, 1999 and a site investigation for soil and groundwater was conducted. A Soil Management Contingency Plan for Future Subsurface Work in Areas of Possible Petroleum Impacted Soil was accepted by the State Water Resource Control Board on January 21, 2015 (Blue Rock Environmental, Inc 2015). Samples collected from the vicinity of the former UST and dispenser were reported with maximum concentrations as high as 3,900 milligrams per kilogram (mg/kg) of Total Petroleum Hydrocarbons, as gasoline (TPH-g) (Blue Rock Environmental, 2015) (see Figure 8 below). The amount of BTEX, METBE, and TPH-g remaining in shallow soil areas located around the former UST were as follows: Benzene <0.03 mg/kg; Toulene 0.12 mg/kg; Ethylbenzene 0.061 mg/kg; Xylenes 1.18 mg/kg; TPH-g 81 mg/kg; MTBE <1 mg/kg (Blue Rock Environmental, Inc 2015). See Appendix F for GeoTracker case summary.



Source: Blue Rock Environmental, Inc. 2015

Figure 8. Remaining Petroleum in Soil

3.6 Reconnaissance of the Subject Properties and Vicinity

WRECO staff conducted a site reconnaissance on March 15, 2017. The weather that day was overcast and cool, which did not limit the observations of potential RECs. WRECO staff were able to observe the existing bridge structure and the banks of Mattole River,

which is located below the existing bridge structure. WRECO staff walked on Mattole Road to observe existing site features.

A copy of the Caltrans ISA Checklist is presented in Appendix J and photographs documenting the reconnaissance and other site visits are included in Appendix K.

WRECO staff walked the accessible areas within the Project site boundaries to look for evidence of RECs. Several features were observed, including gasoline and diesel pumps adjacent to a 1,000-gallon aboveground storage tank set on a concrete pad. There was no concrete apron surrounding the gas and diesel pumps, only exposed soil. Based on the reconnaissance, the following observations were made:

Table 4. Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☒	Roadways within the study area exhibited occasional minor surface stains
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☒	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	Adjacent properties have septic tanks and history of leach fields
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential Asbestos Containing Materials (ACM's) or Lead Based Paint	☒	Existing bridge truss, two traffic signs on bridge, and abandoned boat found underneath the existing bridge. Design of bridge has reinforced concrete pier.
Other (describe): Yellow and white pavement striping on existing roadways. Treated Wood Waste (TWW)	☒	Yellow and white pavement stripes are present throughout the length of Mattole Road, Wilder Ridge Road, and Burrel Road. The bridge platform and guard rail is constructed with treated wood.

Based on the reconnaissance, Table 5 below summarizes the observations of properties adjacent to the Project site.

Table 5. Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☒	Near gas and diesel pumps
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☒	Stains located on store property and roadways adjacent to the study area exhibited occasional minor surface stains.
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☒	Above ground diesel and gasoline storage tank with retail gas pumps. Two propane tanks.
Underground Tanks	☐	Previously there were three underground tanks on the store's property, but they were removed in 1999.
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☒	Municipal water supply is present for adjacent properties
Domestic Well	☐	
Industrial Well	☐	
Agriculture Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Other (describe): Yellow pavement striping on existing roadways. Treated Wood Waste (TWW) Potential for hazardous chemicals used in treated guardrail posts.	☒	Traffic striping paint along Mattole Road. Treated posts for roadway guard rails. Treated posts for telephone and electric poles along adjacent roads.

3.7 ISA Findings and Recommendations

Prior to completing the ISA, WRECO presented the following findings and recommendations to Humboldt County (via North State Resources, Inc.) in a memo dated February 16, 2017 (Appendix B):

- The EDR database research revealed one (1) Recovered Government Archive LUST site adjacent to the Project's footprint within the area of potential impact of the Project site.
- According to previous investigations, the Honeydew Country Store formerly contained three USTs: two 500-gallon gasoline tank and one 700-gallon gasoline tank. All were removed in 1999.
- Contaminants of concern in groundwater located in the vicinity of the Project include, but are not limited to, lead, TPH-g, benzene, MTBE/TBA/other fuel oxygenates, toluene, and xylene.
- Groundwater has been historically recorded in the vicinity of the Project to be as

shallow as 9 feet below ground surface (ft bgs).
- Observable from a May 2012 satellite photograph of the country store, as well as seen during the site visit, is an aboveground fuel storage tank, approximately 1,000-gallons in capacity.
- Because Honeydew Bridge was constructed in 1920, prior to the 1978 lead-based paint ban, it is believed there are contaminants present in the surrounding area.
- The bridge's age makes the bridge susceptible to having asbestos applications in construction materials.

WRECO recommended the following:
- Conduct a limited soil and groundwater screening (or PSI), per optional Sub-Task 9c of WRECO's scope of work.
- Perform structural sampling for asbestos containing material (ACM) and lead-based paint (LBP). Structural components of the bridge observed during the preliminary research and initial site reconnaissance revealed the potential to contain LBP and ACM.

In a memo dated February 16, 2017, WRECO and North State Resources, Inc. requested from the County authorization to perform a PSI and combine the remaining ISA tasks and PSI into a joint ISA/PSI study and report (Appendix B). The County, with Caltrans approval, authorized North State Resources, Inc. and WRECO to proceed with a joint ISA/PSI in an email dated February 16, 2017 (Appendix C).

On March 15, a field reconnaissance of the Project site was conducted. All RECs observed on the subject and adjacent properties are recorded in Tables 4 and 5. During the field reconnaissance, the 1,000-gallon tank that was observable from satellite photographs in the early part of the ISA investigation was determined to contain both gasoline and diesel and was on a concrete pad. No tertiary containment was present and soil adjacent to the tank was exposed.

4 PRELIMINARY SITE INVESTIGATION

4.1 Limited Subsurface Investigation

4.1.1 Method

A limited subsurface investigation was conducted by WRECO staff on March 16, 2017, involving shallow soil sampling in areas proposed for excavation. The purpose of the study is to screen shallow soils for hazardous materials that may be encountered by workers, and to assess available options for excavated soil and groundwater reuse and waste management.

The limited shallow soil investigation consisted of taking soil samples from two boring locations around the proposed Project. From each location, WRECO sought to collect three, 5-foot bgs composite samples and one grab groundwater sample, where accessible by hand auger. Due to the encounter of a gravel and clay layer near 6 feet bgs in both borings, only three total soil samples were collected and no groundwater was encountered. Representative composite soil samples were collected and homogenized from each augured hole.

The boring locations were selected to represent areas of proposed excavation and potential areas of contamination. Figure 9 and 10 on the following pages show the two selected boring locations overlain over the Project study area figure.

Soil boring B-1 was located at the Project site boundary on the south side of the bridge between the Honeydew Country Store's current aboveground fuel storage tank, the location of the historic underground fuel storage tanks, and Mattole Road within the area planned for bridge approach roadway reconstruction.

Soil boring B-2 was located at the Project site boundary on the south side of the bridge. It was situated between the Honeydew Country Store's eastern perimeter at the west side of the bridge's southern approach shoulder and the former LUSTs. The location for B-2 was selected at a flattened area about 8 feet below the deck of the bridge, just above the bridge's southern abutment.

The ISA identified hazardous material RECs that indicate the potential presence of the following constituents of concern (COCs):

- Asbestos building materials
- Petroleum Hydrocarbons (gas and diesel)
- Lead

WRECO analyzed soil for the above-listed COCs and screened the results against Tier 1 Environmental Screening Levels (ESLs) from:

- San Francisco Bay Regional Water Quality Control Board's *User's Guide: Derivation and Application of Environmental Screening Levels* (2016),
- State hazardous waste thresholds at
    - Title 22 California Code of Regulations (CCR), Section 66261.24; California's solid waste disposal classification system at 27 CCR Division 2, Subdivision 1
    - California's regulations on discharge of hazardous waste to land at 23 CCR Division 3, Chapter 15
- Federal hazardous waste thresholds at:
    - Title 40 Code of Federal Regulations (CFR) Section 261.24
    - DTSC's 2001 *Information Advisory Clean Imported Fill Material*

This screening criteria takes into consideration risks of direct and indirect exposure to construction workers; residential, commercial, and industrial land uses; and sensitive environmental receptors.

Under most circumstances, the presence of a chemicals in soil, soil gas, or groundwater at concentrations below the corresponding ESL can be assumed to not pose a significant threat to human health, water resources, or the environment. Additional evaluation will generally be recommended at sites where a chemical is present at concentrations above the corresponding ESL.

Figure 9. Honeydew Bridge Proposed Soil Boring Locations

Figure 10. Humboldt County Soil Boring Locations – Overlain onto Project site

After rocks, vegetation, and debris were removed from each sample location, each hole was hand augured to a maximum depth of 6 feet because of ground conditions. Representative composite soil samples were collected and homogenized from each augured hole from 0-5 ft bgs, and from 5-6 ft bgs; heavy gravel and clay were encountered between 5 and 6 feet bgs at both borings limiting further excavation. Groundwater was not encountered at either boring. Soil samples were sent to McCampbell Analytic, Inc for the analyses shown in Table 6 below. Field forms and boring logs may be found in Appendix L.

Table 6. Soil Sample Collection & Analyses

Soil Samples Collected and Analyses Requested					
Sample ID	**Actual Composite Depth Range Collected**	**Constituents of Concern**	**Analyses Requested**	**EPA or SW846 Method**	**Preservative**
B-1-COMP-0-5	0 to 5’	Total lead, volatile organic compounds, nonhalogenated organics	VOCs, TPH-g, BTEX, MTBE Lead, TPH-d	EPA 8260 EPA 6010B EPA 8015	None
B-2-COMP-0-5	0 to 5’	Total lead, volatile organic compounds, nonhalogenated organics	VOCs, TPH-g, BTEX, MTBE Lead, TPH-d	EPA 8260 EPA 6010B EPA 8015	None
B-2-COMP-5-10	5’ to 6’	Total lead, volatile organic compounds, nonhalogenated organics	VOCs, TPH-g, BTEX, MTBE Lead, TPH-d	EPA 8260 EPA 6010B EPA 8015	None

4.1.2 Results and Findings

The results of the limited subsurface investigation are summarized in Table 7. All three shallow soils samples were analyzed for VOCs, TPH-g, BTEX, MTBE, Lead, and TPH-d. Results from all three soil samples were reported as non-detect for VOCs and TPH-g. The results from the three soil samples indicated concentrations of lead above the laboratory detection limit, but below the Total Threshold Limit Concentration (TTLC) level of 1,000 mg/kg for hazardous waste and below the Soluble Threshold Limit Concentration (STLC) “rule-of-thumb” threshold for waste extraction testing (California WET) of 50 mg/Kg. Lead concentrations in shallow soil also did not exceed ESLs for lead of 80 mg/kg for residential soil use.

Results from the two samples (samples B-2-COMP-0-5 and B-2-COMP-5-10) collected from the location closest to the bridge were reported with TPH-d concentrations greater than the laboratory detected limit, but below California’s ESL for residential soil use.

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Table 7. Screening Level Exceedance Summary - Soil

Boring Number	*Sample ID*	*Constituent*	*Total (mg/Kg)*	*ESL (Table S-1)*			*Hazardous Waste Criteria*		*Waste Reuse and Disposal Screening*				*CA Hazardous Waste Classification*
				Residential Use (mg/Kg)	*Com/Ind Use (mg/Kg)*	*Construction Worker (mg/Kg)*	*STLC (mg/L)*	*TTLC Limit (mg/Kg)*	*Total ≥ TTLC?*	*Total ≥ Res ESL?*	*Total ≥ Com ESL?*	*[1]Total ≥10 x STLC?*	
B-1	B-1-COMP-0-5	Lead	9.5	80	320	160	5	1,000	no	no	no	no	Non-hazardous
		TPH-d	ND	230	1100	8800	--	--					
		TPH-g	ND	740	3900	2800	--	--					
B-2	B-2-COMP-0-5	Lead	20	80	320	160	5	1,000	no	no	no	no	Non-hazardous
		TPH-d	6.4	230	1100	8800	--	--					
		TPH-g	ND	740	3900	2800	--	--					
B-2	B-2-COMP-5-10	Lead	11	80	320	160	5	1,000	no	no	no	no	Non-hazardous
		TPH-d	2.3	230	1100	8800	--	--					
		TPH-g	ND	740	3900	2800	--	--					

STLC = Soluble Threshold Limit Concentration; TTLC = Total Threshold Limit Concentration; ESL = Environmental Screening Level; mg/Kg = milligram per kilogram;

[1]If a substance is ten times (by rule of thumb) the STLC value found on the TTLC, the Waste Extraction test (WET) should be performed. If any substance in the waste so analyze equals or exceeds the STLC value, it is considered a non-RCRA hazardous toxic waste.

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4.1.3 Recommendations

4.1.3.1 Waste Management

None of the three composite samples were reported with results above the threshold for the Resource Conservation Recovery Act (RCRA) or California hazardous waste. Consistent with CCR Title 23 disposal unit classification system (See Figure 11 below), WRECO recommends that the soil excavated from the Project area within the depth ranges (0 to 5 ft bgs and 5 to 6 ft bgs) sampled in the study be reused as inert soil.

The hazardous material profiles for soils excavated at depths beyond the range screened by the Limited Site Investigation (LSI) are not covered by this study.

WRECO recommends stockpiling excavated soils for waste screening and disposal unit classification during construction according to the pre-classification composite depth ranges screening results shown in Table 6 and Table 7; WRECO also recommends practices associated with the CCR Title 23 stockpile screening requirements.

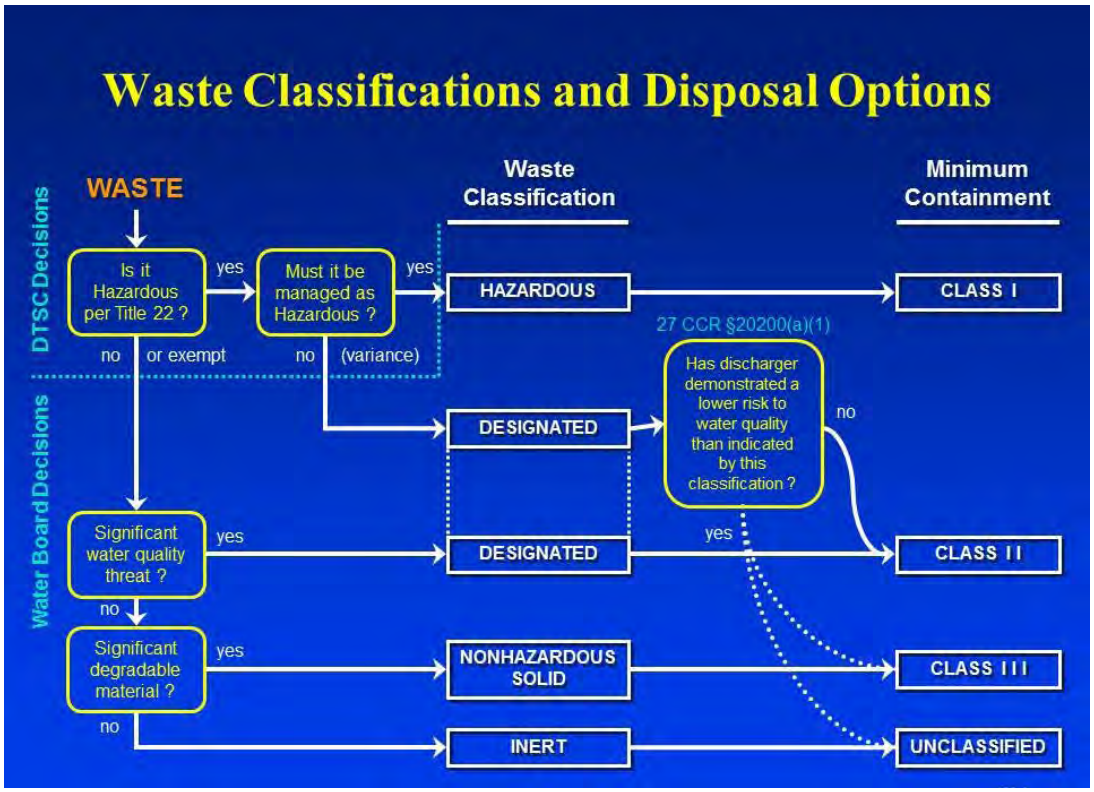

Figure 11. California Waste Classifications and Disposal Options

4.1.3.2 Worker Safety

The following state and federal regulations govern the protection of worker safety at potential hazardous material sites:

- Worker education and training (Hazard Communication Standard) 29 CFR 1910.1200, 1915.1200, 1917.28, 1918.90, and 1926.59, 1910.1018 (inorganic arsenic)
- Construction Safety Orders 8 CCR Division 1, Chapter 4
- Lead in Construction 8 CCR 1532.1
- General Industry Safety Orders8 CCR 5214. Inorganic Arsenic
- Environmental Health Standards for Management of Hazardous Waste 22 CCR Division 4.5

4.2 Lead-Based Paint Survey

4.2.1 Purpose of LBP Study

The purpose of the survey was to evaluate the presence, extent, and condition of any above-ground, regulated lead-based paint (LBP) that may be present on the surface of the bridge in order to assess safe work practices and waste disposal options.

In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5,000 ppm) and, in 1978, to 0.06% (600 ppm). Title 17 of the California Code of Regulations presumes that paint on structures built before January 1, 1978 is LBP and disturbance therefore requires the use of lead-safe work practices including containment and cleaning the work area after the Project is completed.

The Environmental Protection Agency (EPA) and California Department of Public Health (CDPH) define lead-based paint as paint having a lead content equal to or greater than 0.5% by weight or 5,000 parts per million (ppm) by paint chip analysis. California Department of Occupational Safety and Health (Cal/OSHA) considers any level of lead in paint to be a potential exposure hazard for the worker. California regulates lead containing construction wastes through its hazardous waste regulation in Title 22 CCR Chapter 11 and the Resource Conservation and Recovery Act (RCRA). Total lead levels above 1,000 ppm (0.1% by mass) is considered California Hazardous waste. Lead levels above 350 ppm (0.035% by mass), while not hazardous – it must be disposed of in a Class I landfill per AB 2784.

4.2.2 Method

The study included the following elements:

- A visual inspection of the painted surfaces.
- The collection of paint chip samples from suspected LBP surfaces.
- Laboratory analysis of collected samples.

Paint chip samples of a size representative of the surface of interest were collected and recorded in the inspection field forms (Appendix L). Each sampling location was logged with photographs, a description of the location and material, approximate estimated quantity, and sample volume. Lead-based paint was suspected for paint on the bridge truss, wooden signs post paint, roadway paint striping, and the abandoned boat underneath the bridge. Figure 12, Figure 13, and Figure 14 show the locations of suspected lead-based paint and locations paint chip sampling was performed. Paint identified in the roadway striping is presumed to contain lead at hazardous levels due to color, age, and industry practice.

Figure 12. Lead-Based Paint Sampling Locations

Figure 13. Lead-Based Paint Sampling Locations

Figure 14. Lead-Based Paint Sampling Locations

Suspected lead-based paint samples were obtained by scraping or chipping off small pieces of the paint. Field personnel collecting the samples shall adhere to the guidelines for "Lead-based paint sampling" as outlined in WRECO's "Project Site Specific Safety Plan" for the existing bridge PSI. Each lead-based-paint sample was bagged in sealable plastic bags (i.e., Ziploc), labeled with the sample ID number, time, date, and approximate location. Lead-based-paint samples were delivered to the laboratory at the end of the work day or the following day with a Chain of Custody form.

The laboratory testing for the paint chip samples was conducted using EPA Method 7000/7420 Atomic Absorption Spectroscopy. Full analytical reports are found in Appendix M. Sampling was conducted by homogeneous area or similar component.

4.2.3 Results and Findings

Table 8 below summarizes the results. Samples highlighted in red are for paint samples which exceed the EPA and CDPH standard for LBP.

Table 8. Lead Containing Material Sampling and Analytical Results

Sample ID	Location/ Material Description	Estimated Quantity (sq. ft)	Concentration (%)	Condition	Hazardous Waste	CalOSHA Requirements
LBP-1	Green paint on bridge	23160	0.115	peeling	RCRA and California hazardous waste	CalOSHA Lead in Construction Standard
LBP-2	Green paint on bridge	23160	0.135	peeling	RCRA and California hazardous waste	CalOSHA Lead in Construction Standard
LBP-3	Yellow paint on sign on bridge	1	8.38	chipping	RCRA and California hazardous waste	CalOSHA Lead in Construction Standard
LBP-4	Green paint on bridge	23160	0.177	peeling	RCRA and California hazardous waste	CalOSHA Lead in Construction Standard
LBP-5	White paint on Sign Post "15 MPH On Bridge For All Vehicles	1	0.0102	chipping	Non-haz	CalOSHA Lead in Construction Standard
LBP-6	White paint on boat	132	0.0202	peeling	Non-haz	CalOSHA Lead in Construction Standard

Paint from the truss of the bridge exceeded the regulatory threshold for LBP (< 0.1% concentration). To most accurately assess the bridge's painting condition, three sampling locations were taken (LBP-1, LBP-2, and LBP-4) and were all over 0.1% concentration. All paint on the truss is considered California hazardous waste and requires adherence to hazardous waste regulation during abatement prior to construction.

The yellow paint on the road sign on the western side of the bridge exceeded the regulatory limit for lead concentration according to EPA standards and Cal/OSHA standards. The level detected was 8.38% dry weight and will require adherence to hazardous waste regulation during abatement prior to construction.

The wooden sign post with white paint at the south end of Honeydew bridge showed lead levels below the EPA and CDPH lead-based paint thresholds. Because of the similar nature of the white paint, it was presumed that the identical sign on the north side of the bridge contained the same lead concentration and therefore was not sampled.

Roadway striping is presumed to contain LBP for management purposes.

4.2.4 Recommendations

The green and yellow paint applied to the bridge have been determined to contain lead-based paint at levels far above the regulatory threshold of 0.1% concentration.

Lead-based paint is considered hazardous waste and therefore must be transported under a Uniform Hazardous Waste Manifest (CCR, Title 22, Section 66262.23). For the purposes of disposal in California, wastes with concentrations of total lead greater than 350 ppm must be disposed of either at a Class I landfill or at other landfills that have specific permits to accept these wastes (Health and Safety Code, Section 25157.8).

Demolition or construction work at the Project site is subject to California General Construction Order 1532.1(a), Lead-in-Construction Standard and Title 17, California Code of Regulations, Division 1, Chapter 8 Accreditation, Certification, and Work Practices for Lead-Based Paint and Lead Hazards.

According to the Lead-in-Construction Standard, contractors disturbing more than 100 square feet or more than 100 linear feet of lead-containing materials must take steps to prevent worker exposures to lead and are required to notify the Department of Industrial Relations at least 24 hours prior to beginning work.

WRECO recommends LBP be abated prior to planned construction/demolition. Abatement must be performed by a licensed contractor in accordance with 17 CCR 3500 et seq.

4.3 Asbestos Pre-Construction Survey

4.3.1 Purpose of Pre-Construction Survey

Title 8 of the California Code of Regulations Section 1735 requires a pre-demolition survey for asbestos containing construction materials (ACCM).

For the purpose of assessing procedures for waste handling associated with a demolition or renovation, the federal National Emission Standard for Asbestos (NESHAPS) Subpart M Section 61.145 requires the identification and removal of all regulated asbestos containing material (RACM) prior to demolition or renovation.

The purpose of the survey is to evaluate the presence, extent, and condition of any above-ground ACCM and RACM that may be present on or in the composition of the bridge.

Cal/OSHA classifies any material as having greater than 0.1% asbestos as ACCM. In combination, the EPA and OSHA requirements govern the testing, handling, and disposal of materials containing asbestos.

RACM is defined by NESHAPS as asbestos which is friable and contains greater than 1% asbestos. Friable asbestos is asbestos which can be crushed, crumbled, or pulverized using simple hand pressure when dry. Non-friable ACMs containing greater than 1% asbestos are also considered to be RACM if they are subjected to sanding, drilling,

grinding, cutting, and abrading, or may be crumbled, pulverized, or reduced to powder during the course of demolition or renovation.

4.3.2 Method

The survey was conducted under the direction and quality control of a California Certified Asbestos Consultant (CAC #05-3872). The survey was performed as part of an ISA or Phase I Environmental Site Assessment as defined by Title 22 California Code of Regulations §69200 (d) and (j) and as part of a greater environmental review pursuant to California Health and Safety Code §25570.2 (f).

The following summarizes the sampling protocol and generally describes the sampling methodology employed by WRECO for the bridge structure asbestos survey conducted at the Project site:

1. Suspect ACM was visually identified at the Project site during the ISA.

2. Suspect ACM was categorized into homogeneous materials. To verify uniformity of homogeneous material, several distinct grab samples of each suspected homogeneous material was collected.

3. A sampling scheme was developed based upon the location and quantity of the identified homogeneous materials. Sample numbers were recorded on associated Chain of Custody documentation. Each suspect asbestos sample was categorized as one of the following material classifications per EPA regulations: miscellaneous material (Misc), surfacing material (SM), or thermal system insulation (TSI).

4. Bulk samples were collected using appropriate sampling tools consistent with AHERA sampling protocol (40 CFR 763.86), Cal/OSHA requirements, and pursuant to WRECO's CAC approved Sampling and Analysis Plan. Three bridge deck concrete samples were collected using wet methods, one for each of the three unique suspected homogeneous ACMs identified during the ISA.

5. Samples were placed in leak-tight containers and labeled with a unique numerical identifier or sample number.

6. The general location and sample number of each bulk sample was denoted on a corresponding Project site sampling diagram (See Figure 15). Each sampling location was logged with photographs and a description of the location.

7. Friability was determined for each sampled suspect ACM.

8. The sample number, collection location, and a description of the physical attributes of each bulk sample were recorded on a field log form and Chain of Custody form which accompanied each sample set to the analyzing laboratory. The field log included estimated quantity and friability.

9. Decontamination of sampling tools was employed to prevent the spread of secondary contamination to subsequent bulk samples.

10. The bulk samples were submitted under Chain of Custody for analysis of asbestos content via Polarized Light Microscopy (PLM) analysis. Samples were analyzed using bulk analysis by PLM by EPA Method-600/M4-82-020 by QuanTEM Laboratories in Oklahoma City, Oklahoma – an NVLAP, CLAP, and AIHA-LAP certified laboratory.

Figure 15 shows the locations for asbestos material sampling and Table 9 shows potential material classification.

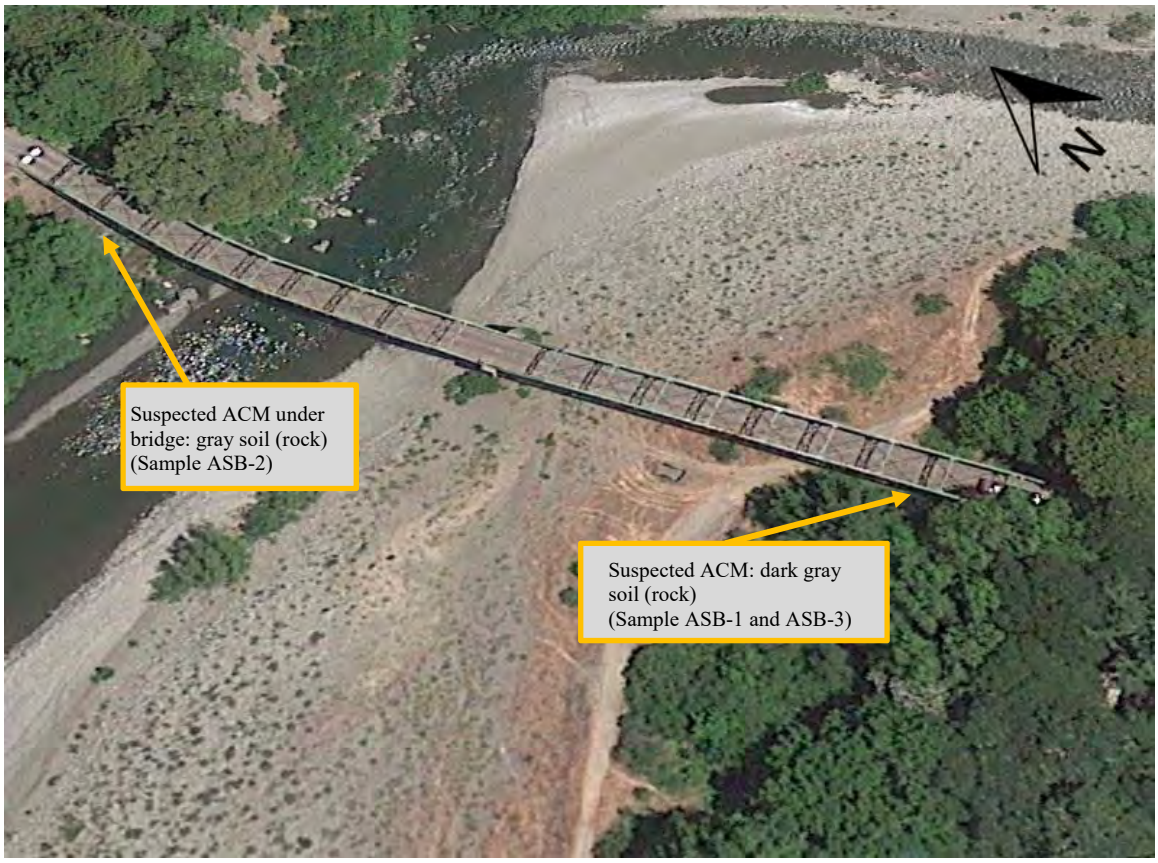

Figure 15. Asbestos Sampling Locations

Source: Google Earth

Table 9. Suspected ACM Sampling

Sample ID	Location/ Material Description	Potential Material Classification		
		AHERA Material Category	NESHAP Material Categories	OSHA Material/Job Classification
ASB-1	Dark gray soil (rock)	Misc.	Potential RACM	PACM/Class II
ASB-2	Gray soil (rock)	Misc.	Potential RACM	PACM/Class II
ASB-3	Dark gray soil (rock)	Misc.	Potential RACM	PACM/Class II

4.3.3 Results and Findings

Table 10 below presents a summary of results for asbestos. All samples results were non-detect for asbestos. The bridge material sampled for this survey is not subject to NESHAP and Air Board asbestos regulation for the bridge structure or under California's hazardous waste law (Title 22 CCR Chapter 11).

No bridge materials sampled for this survey were determined to contain asbestos fibers in concentrations greater than the laboratory reporting limit for Polarized Light Microscopy analysis. Bridge materials sampled are not subject to regulation by the EPA as ACM or RACM. The sampled materials are not characterized by Cal/OSHA as ACM or ACCM and are not assigned a Cal/OSHA asbestos work class designation.

A full sampling log and photographs are presented in Appendix K and Appendix L. Analytical reports are attached in Appendix M.

Table 10. Suspected ACM Analytical Results

Sample ID	Location/ Material Description	Asbestos Content (%)	Material Classification		
			AHERA Material Category	NESHAP Material Categories	Potential OSHA Material/Job Classification
ASB-1	Dark gray soil (rock)	ND	Not Regulated	Not Regulated	Not Regulated
ASB-2	Gray soil (rock)	ND	Not Regulated	Not Regulated	Not Regulated
ASB-3	Dark gray soil (rock)	ND	Not Regulated	Not Regulated	Not Regulated

As summarized in Table 10, neither AHERA, Cal/OSHA, nor NESHAP regulations will place limits on the demolition and disposal of the demolition waste material.

4.3.4 Recommendations

While this investigation determined that all suspected ACM did not contain asbestos above the laboratory detection limit, the NESHAP regulations still require notification of the demolition be submitted to the Air Resources Board (ARB) and the EPA (NESHAP Section 61.145(b)). Notifications must contain certain specified information including but not limited to: the scheduled starting and completion date of the work, the location of the site, the names of operators or asbestos removal contractors, methods of removal and the amount of asbestos, and whether the operation is a demolition or renovation.

For waste disposal consideration, generally, DTSC classifies ACM as hazardous waste if it is “friable” and contains one percent (1.0%) or more asbestos as hazardous waste. Because the EPA does not regulate asbestos as hazardous waste under the Resource Conservation Fact Sheet, December 2006 Managing Asbestos Waste and Recovery Act (RCRA), it is considered to be a "non-RCRA," or "California-only" hazardous waste. DTSC considers non-friable bulk asbestos-containing waste to be non-hazardous regardless of its asbestos content, so it is not subject to regulation under Title 22, Division 4.5, of the California Code of Regulations.

Asbestos content was found to be non-detect in all samples collected and analyzed. The bridge structure demolition is not regulated by the EPA’s NESHAP regulations as ACM or RACM, nor is it regulated by Cal-OSHA’s regulations as ACCM.

In Humboldt County, the NESHAP regulations are enforced by the North Coast Unified Air Quality Management District (NCUAQMD), as Humboldt County falls into NCUAQMD, a delegated air district. The ARB requires that a notification be sent to NCUAQMD for renovations and/or demolitions taking place within the Air District.

For occupational health consideration, OSHA classifies asbestos and work related to asbestos. Asbestos content was found to be non-detect in all samples collected and analyzed. Worker protection, training, and material handling requirements for asbestos as

defined by Title 8, Section 1529 of the California Code of Regulations (8 CCR 1529) do not govern work impacting materials sampled at the Project site.

5 ISA/PSI RECOMMENDATIONS SUMMARY

Table 11. ISA/PSI Recommendations Summary

Description	Evidence of REC Found	Recommended Actions
Excavated surface soil	Results were below RCRA and California Hazard Waste classification levels	Dispose of excavated soils as Designated or Non-hazardous waste at Class II unit or Class III landfill depending on facility acceptance standard. Screen and manifest for waste classification prior to off-site disposal.
Yellow roadway striping	Potential lead and heavy metals associated with pavement striping. Implementation of improvements may require the removal and disposal of yellow traffic striping and pavement marking materials (paint, thermoplastic, permanent tape, and temporary tape). Yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22, California Code of Regulations, and require disposal in a Class 1 disposal site.	Abate striping and fire hydrant prior to demolition per Caltrans protocol.
Bridge Paint	The green and yellow paint applied to the bridge have been determined to contain lead based paint at levels far above the regulatory threshold of 0.5% by weight.	Manage waste per Caltrans, DTSC, CDPH, USEPA, and Cal OSHA regulations.
Bridge deck concrete waste	Load bearing concrete in bridges may contain asbestos as a strengthening agent. No asbestos was found in concrete deck materials accessible during from the surface of the bridge.	Manage bridge deck concrete as inert waste.

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6 LIMITATIONS

The scope of an ISA is limited to anecdotal and visual evidence of potential RECs and does not include verification of RECs based upon environmental testing. As is the case for any project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during Project construction. If known or previously unknown hazardous waste/material is encountered during construction, the procedures outlined in Appendix N (Caltrans Hazards Procedures for Construction) shall be followed in addition to contract specifications and applicable federal and state laws.

The ISA/PSI for the Project located in the community of Honeydew in Humboldt County, California, was performed in general accordance with the Caltrans procedures and guidelines for performing and preparing ISAs and PSIs. During the performance of the assessment, all readily available materials pertaining to the Project site were collected and reviewed to prepare this document. This assessment is not a full-scale environmental site investigation to prove that the Project site is environmentally devoid of hazardous or toxic materials. Information and data were provided by presumably competent third parties with knowledge about the site and surrounding areas.

This report included only suspect asbestos and lead-containing material on the bridge structure and shallow soils adjacent to the bridge associated with the planned demolition, excavation, and reconstruction activities.

This ISA/PSI consists of professional opinions and recommendations made in accordance with generally accepted environmental principles and practices. The conclusions are based upon an evaluation of the information gathered and general observations of conditions prevalent at the Project site during the site visit. This ISA does not otherwise provide any implied or expressed guarantees regarding the characteristics or conditions of environmental media at the Project site. Analyst and laboratory certifications are provided in Appendix O.

Opinions given in this ISA report, relative to the potential for hazardous materials to exist within the study area, are based upon the information derived from the site reconnaissance conducted on March 15, 2016, and from other information sources described herein. Certain indicators of the presence of hazardous materials or petroleum hydrocarbons not readily observable during the reconnaissance may become observable at a later date. Readily available public information sources were reviewed as providing complete and accurate information, without independent verification. The findings and conclusions in this report are based solely on the limited scope of an ISA, including information from a variety of sources. Because the scope of an ISA is necessarily limited and based in part on third party sources and significant assumptions, it is not warranted that the Subject Properties do not include hazardous material or petroleum hydrocarbon releases in areas not identified in this report.

This ISA/PSI is not intended to identify ALL hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a

mutually agreed scope of work and WRECO's experience in performing this type of assessment.

WRECO has performed this survey in a professional manner using the degree of skill and care exercised for similar projects under similar conditions, by reputable and competent environmental consultants. WRECO shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

WRECO further states that no warranties, expressed or implied are made regarding the quality, fitness, or results to be achieved as a consequence of this report or impacted by information not properly disclosed to WRECO at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

Verification of material quantities is the responsibility of the contractor that will be performing future abatement activities at this Site.

Hazardous materials must be handled in strict accordance with the various federal, state, and local regulations. Failure to abide by these regulations can result in penalties to both the contractor as well as the owner.

It is the responsibility of the construction contractor to determine the appropriate RCRA waste and California waste present at the Project site.

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