Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA 95076
(831) 722-3580 www.weber-hayes.com

Updated Remedial Action Plan

Vacant Commercial Land
(Former Clusters Storage Yard)
511 Ohlone Parkway, Watsonville

January 12, 2021

Subject Site:

Hillcrest Project
511 Ohlone Parkway
Watsonville, California

Santa Cruz County
Assessor Parcel Number:
018-372-14
(11.3-acres)

Prepared for:
California Sunshine Development, LLC.
c/o: Lisa Li, John Fry
444 Airport Boulevard
Watsonville, California 95076

For Submittal To:
County of Santa Cruz Health Service Agency (SC-HSA)
c/o: John Gerbrandt
701 Ocean Street, Room 312
Santa Cruz, California 95060-4073

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

Figures, Tables, Calculation Sheets, & Appendices

Acronyms & Abbreviations

bgs:	below ground surface
BTV:	Background Threshold Value
Cal/EPA:	California Environmental Protection Agency
COPCs:	Chemicals of Potential Concern
Cr(VI)	Hexavalent Chromium
DTSC:	Department of Toxic Substances Control
DTSC-SLs:	DTSC-modified Screening Levels
EPA:	Environmental Protection Agency
ESA:	Environmental Site Assessment
ESLs:	RWQCB-established, Environmental Screening Levels
HI	Hazard Index
ILCR	Incremental Lifetime Cancer Risk
IRAP:	Interim Remedial Action Plan
ISM	Incremental Sampling Methodology
LUC:	Land Use Covenant
MCL:	Maximum Contaminant Level
ppm (mg/kg):	parts per million (milligrams per kilogram)
RAO:	Remedial Action Objective
RBSLs:	Risk Based Screening Levels
RSLs:	USEPA-established, Regional Screening Levels
RWQCB:	California Regional Water Quality Control Board
SCM:	Site Conceptual Model
SC-HSA:	County of Santa Cruz Environmental Health Services
SSP	Site Safety & Dust Monitoring Plan
TBCs:	To-Be-Considered Criteria
TPH-diesel	Total Petroleum Hydrocarbons as diesel
TPH-motor oil:	Total Petroleum Hydrocarbons as motor oil
Water Board:	California Regional Water Quality Control Board, Central Coast Region
95%-UCL	95% upper confidence limit
USA:	Underground Service Alert
USL:	Upper Simultaneous Limit
USEPA:	United States Environmental Protection Agency
VOCs:	Volatile Organic Compounds
WHA:	Weber, Hayes and Associates

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA 95076
(831) 722-3580 www.weber-hayes.com

Updated Remedial Action Plan
Vacant Commercial Land
(Former Clusters Storage Yard)

1.0 EXECUTIVE SUMMARY

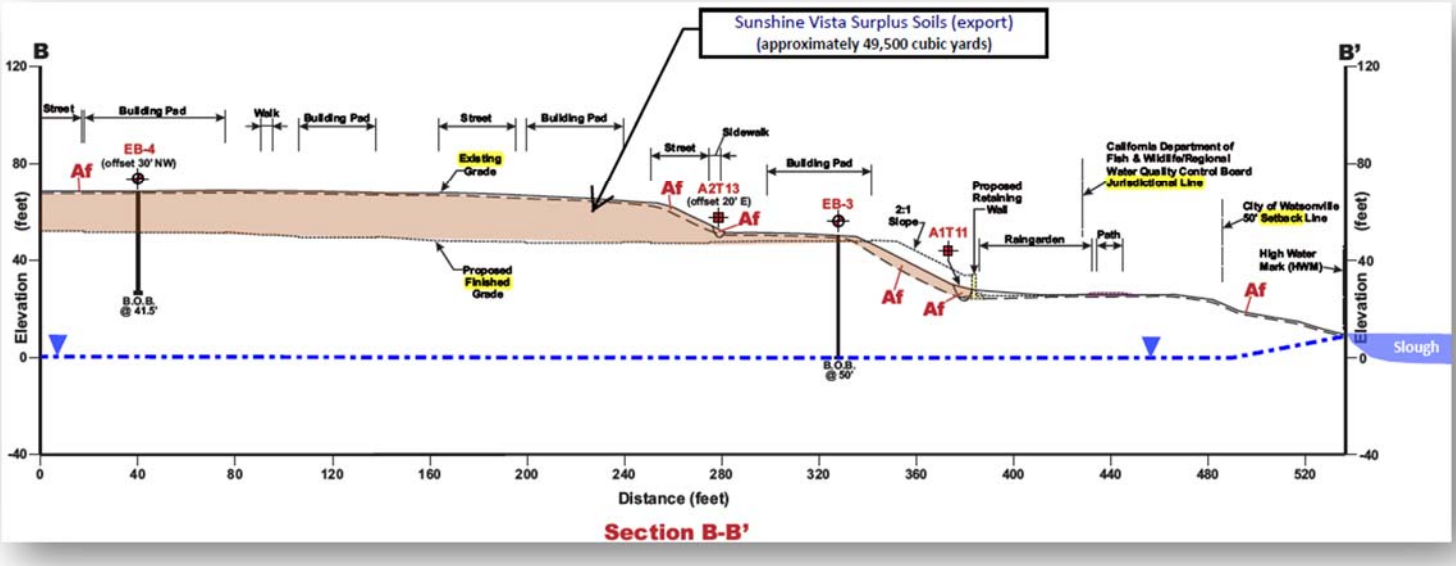
This ***Updated Remedial Action Plan (Updated RAP)*** has been prepared behalf of California Sunshine Development for an 11.3-acre area of land located at 511 Ohlone Parkway in Watsonville (the "Site", see *Topographic Location Map*, and *Aerial Vicinity Map*, Figures 1 and 2 respectively).

The irregularly-shaped Site is situated on a small hilltop that has been cut and filled to create several flat-lying terrace areas. The Site is currently vacant (no structures, no infrastructure, see aerial on the report cover) but over the past sixty (60) years the Site contained several residences, offices, automotive shop structures, and dirt lots that were primarily associated with automotive wrecking, dismantling, and vehicle storage (see the areal clip to the right, and Site Map, Figure 3).

The Site is being redeveloped for residential land-use to include single-family homes and housing community amenities (a project description and design drawings for the "Hillcrest Subdivision" redevelopment are included as Appendix A). The Site is bordered by residential development to the west, light commercial land use to the south and the Watsonville Slough to the north and east. The northern and eastern perimeter of the property along the slough are part of a protected riparian corridor and are not included in this *Updated*

RAP. These perimeter areas will ultimately be constricted as a public walkway (path) and are being separately assessed.

The original (Sunshine Vista) development plan[1] included transforming the property knoll into a relatively flat-lying development with retaining walls and required the export of approximately 44,052 yd^3 of surplus soils and 5,500 yd^3 relic debris (the shaded wedge on cross-section clip below graphically shows an example of surplus soils planned for export planned removal soil wedge).



The original 2017 project grading design calculated there would be 44,052 -yd^3 of surplus soils to build the residential development, so the most cost effective remedial option selected was Alternative 2, the site-wide off-haul of the upper two (2) feet of soils, which contained most all of the contaminant impacts (note: site-wide removal of two (2) feet of soil totals 33,195-yd^3)[2]. However, in 2019 that grading plan was determined to be infeasible due to prohibitive transport and landfill disposal costs. As a result, the third remedial option (i.e., Alternative 3, the *Area of Containment* (AOC)) has been reevaluated and determined to be the most feasible option for incorporating remediation into the development plans. Specifically,

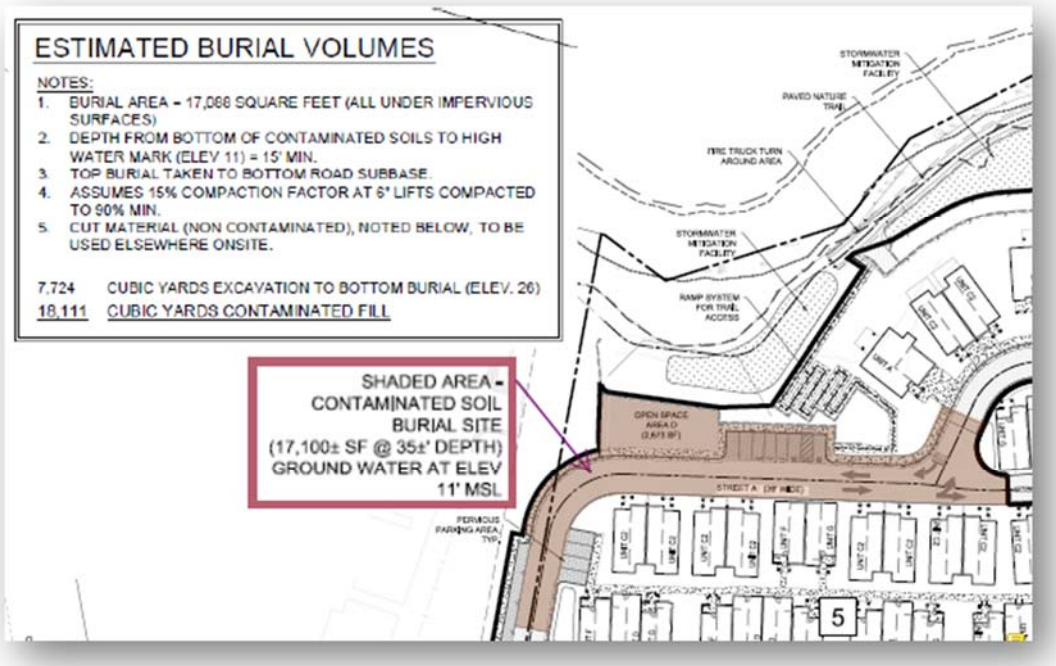
- A total of four (4), on-site *chemicals of potential concern* COPCs were identified in soils based on site-wide testing of soils showing concentrations that exceeded conservative, Tier-1 agency-

[1]: Rincon Consultants, *Sunshine Vista Phased Development Project, Final Environmental Impact Report*, May 2018.

[2]: Weber, Hayes & Associates report: *Revised Remedial Action Plan, 511 Ohlone Parkway, Watsonville;* June 2018. Hyperlink to *Revised Remedial Action Plan*

established thresholds designed to be protective of human health and the environment (i.e., RWQCB *Environmental Screening Levels,* ESLs[3])). These four COPCs include: Lead, TPH-diesel and Motor Oil, and to a much lesser extent Naphthalene. The proposed AOC soil remediation option is designed to remove well-defined, shallow, metal and petroleum hydrocarbon impacted soils from potential exposure to future onsite receptors in order to safely facilitate the planned residential land use.

- In order to remove these impacted soils from potential exposure to future onsite receptors, *this Updated RAP* proposes:
    1. Consolidation of the well-defined shallow soil impacts;
    2. On-site burial of the impacted soils beneath a limited, impervious area (i.e., roadway and parking in the northeastern corner of the development (see brown shaded capped area, below); and
    3. Emplacement of a clean cap of soil and impervious materials (asphalt/concrete) above the impacted soils.



[3]: ***Environmental Screening Levels*** *(ESLs), established for multiple contaminant pathways):* Regional Water Quality Control Board (San Francisco Bay Region) guideline document: *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Final version, 2019). The ESLs are intended to provide quantitative risk-based guidance on whether further assessment or remediation of contamination is warranted

- < https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/new/ESL_Summary_Tables_24Jan19_Rev1.pdf >

The development's grading plan, included in Appendix A, has been designed to limit the volume of surplus soils while providing a protective cover that eliminates potential risks to human health and the environment.

1.1 Summary of Previous Environmental Sampling

A detailed description of four previously completed sampling mobilizations and the associated, State-certified laboratory testing results is provided in Appendix B. In summary, residual contaminants have been characterized to a practical extent based on the multiple rounds of soil and groundwater sample collection and testing. Completed subsurface investigations included laboratory analysis of 249 soil samples collected from 145 locations across the Site (see Table 1). The sample key describing sample locations by quadrant and cross-referenced by sample IDs by investigation, is presented as Table 1, and the locations are presented in plan view on Figure 4a. Tabulated results are presented on Tables 2 through 4 and contaminant exceedances are presented on Figures 4b through 4d. Laboratory results and visual observations of the four completed investigations indicated:

- Groundwater: Groundwater samples collected from 14 locations across the Site (as well as the on-Site domestic water supply well) were not impacted by any *chemicals of potential concern* (*COPCs*).
- Soil: Long-term land-use impacts have not caused significant negative impacts to Site soils. The laboratory testing of 249 soil samples collected from 145 locations across the Site have shown that long-term, automotive-related land-uses have not caused significant negative impacts to Site soils. Specifically, Environmental investigation testing results show that impacted soils are generally limited to the top one-to-two feet below ground surface (bgs) and COPCs appear to be localized.
- Soil Vapor: Based on the non-volatile contaminants detected at the Site, soil vapor intrusion is not considered a transport pathway of concern. Specifically, test results showed only trace to non-detectable volatile contaminant compounds were detected in soils (no volatile compounds have been identified as *COPCs*).

A detailed description of all sampling mobilizations and State-certified laboratory testing results is provided in Appendix B. Additional details are provided in Section 3.5, below.

1.2 Summary: Remedial Action (Incorporating with Site Redevelopment Plans)

Three (3) remedial action alternatives were evaluated in order to integrate Site-specific, environmental cleanup with the planned residential grading plan. Site environmental conditions included:

- The presence of Site-wide, shallow soil contamination primarily consisting of relatively immobile *COPCs*;
- The lack of contaminant impacts to groundwater;
- The goal of completing risk-based cleanup for the transition to residential land-use

The alternative remedial options evaluated included:

1. *Alternative 1:* No Action (required, do-nothing evaluation).
2. *Alternative 2*: Soil Excavation & Off- Site Disposal. Included Site-wide excavation of contaminated soil to a depth of 2-feet, and targeted excavation of a few, limited, deeper areas.
3. *Alternative 3*: Burial Envelope with Soil Cap, which consists of excavating impacted shallow soils (less than 2 feet bgs) and deeper areas with known contamination and burying the soils within an on-Site, target envelope and in conformance with the State Department of Toxic Substances' Control (DTSC) "*Area of Contamination*" (AOC) guidelines[4] (DTSC, 2008). Excess soils will be landfilled and an appropriate landfill.

These three (3) alternatives were evaluated based on whether they were protective of human health, effective over both the short and the long term, eliminated risk for the four Site contaminants of potential concern[5], readily incorporated into the redevelopment plans (i.e., it is implementable), and were relatively cost effective.

Selected Remedial Action: Three (3) alternatives to remediate elevated *COPCs* were evaluated in this report, which included: a) no action (baseline conditions), and b) two excavation options that include Site-wide excavation/grading and off-site disposal of impacted soils, or deep, on-site burial of impacted soils overlain by a clean soil cap. As detailed in Section 6.1, Remedial Alternative 3 ("*Burial Envelope with Soil Cap")* has been selected as the most reasonable and appropriate remedial option because it:

- is protective of human health;
- is effective over both the short and the long term;
- is cost effective because it incorporates remedial action with redevelopment grading;
- limits the potential for a deed restriction;
- is implementable; and
- is the most cost effective based on redevelopment plans.

As noted above, site-wide removal of two (2) feet of soil totals 33,195-yd^3. This total is reduced by 5,500-yd^3 of separately managed demolition debris, and 1,500-yd^3 of haz-waste soils that will be off-hauled to a Class I (haz-waste) landfill, So, the amount of soil available for on-site burial is calculated to be approximately 26,195-yd^3. The burial envelope footprint (i.e., beneath impervious roadways) can contain a volume that is estimated to total 18,111-yd^3. As noted above, excess soils will be landfilled

[4]: DTSC guideline document, *Proven Technologies and Remedies (PT&R) guidance for Remediation of Metals in Soil,* August-2008. DTSC weblink:

- https://dtsc.ca.gov/wp-content/uploads/sites/31/2016/01/Guidance_Remediation-Soils.pdf

[5]; Total Lead, Total Petroleum Hydrocarbons in the range of diesel & motor oil, and Naphthalene.

and an appropriate landfill. Confirmation base samples will document underlying soil quality for post-remediation earthworks of surplus soil (i.e., for export).

Site remediation activities (digging, stockpiling, loading, & trucking) will begin immediately following agency approval of this *Updated Remedial Action Plan.* A Site-specific, *Stormwater Pollution Protection Plan (SWPPP)* will be managed throughout the earthworks project.

2.0 INTRODUCTION

This ***Updated Remedial Action Plan (Updated RAP*)** has been prepared on behalf of California Sunshine Development in order to: 1) document the magnitude and extent of impacted soils at the subject Site, and 2) propose an acceptable remedial approach designed to eliminate potential environmental risks associated w/historical industrial land use at the Site. This *Updated RAP* combines and incorporates the following into a single document:

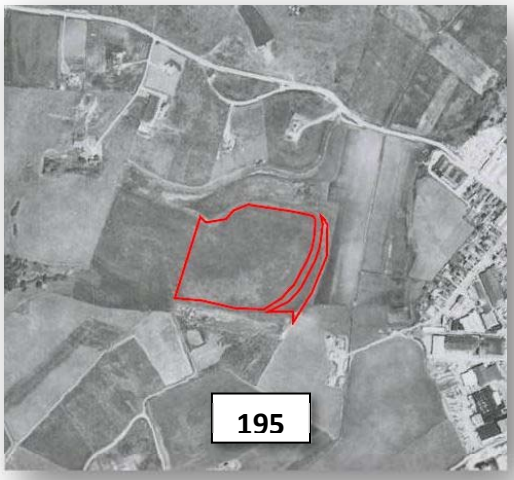
1. Previously recommended interim remedial action tasks that included demolition of relic structures and scraping the upper 6-inches of soil across the Site in preparation for final remedial actions (WHA, 2017a);
2. Previously submitted *Remedial Action Plan* (WHA, 2017b); and
3. County of Santa Cruz Environmental Health Services Agency (SC-EHS) agency comments on the above two documents (SC-HSA, 2017).

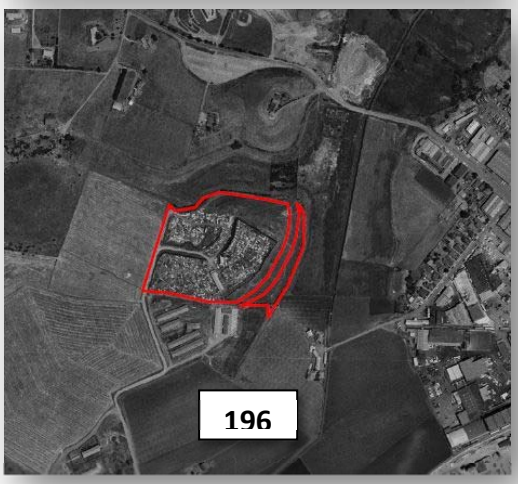
Agency oversight of the recommended, Site-wide remediation is provided by SC-EHS, in accordance with a Site-specific, *Voluntary Cleanup Program* agreement (SC-EHS, 2016). The purpose of this remedial action plan is to detail a soil removal action in anticipation of residential development of the property and it includes the following elements:

- A description of the nature and extent of the *COPCs* at the Site;
- A description of the *Remedial Action Objective,* describing the goals to be achieved;
- An analysis of the alternatives considered (including the effectiveness, implementability, and costs for each alternative);
- A description of the recommended alternative and the plan for its implementation.

2.1 Site Description & Land Use

The subject Site is an irregularly-shaped 11.27-acre parcel located at 511 Ohlone Parkway in Watsonville (Assessor Parcel Number 018-372-14) and has multiple terraces having elevations that range from 10 to 140 feet above Mean Sea Level (Figure 1). A number of long-term structures that were recently demolished (the property is currently an undeveloped dirt-covered lot and the tiers of flat-lying terraces are connected by dirt and gravel access roads). Remaining areas are vegetated, which include the steeper contoured hillsides and flatter areas adjacent to the slough. Note: The northern and eastern perimeter of the property along the slough is part of a protected riparian corridor and is not included in the current *Updated RAP*. These areas are being separately assessed and will be kept accessible for future characterization and remedial action.





Up until recently, the open terraces were primarily occupied by various automotive wrecking/dismantling and vehicle storage businesses (i.e., junkyard salvaging of vehicles, sales of dismantled parts, and towing company storage). Due to the decades of vehicle storage activities, surface and shallow soil beneath the Site contains shallow contaminants that have been fairly well characterized through multiple rounds of soil sampling and testing (described in Section 3, below).

The Site is flanked to the north and east by the Watsonville Slough and contains with three distinct terraces that include the upper terrace which has an elevation of ~70 feet Mean Sea Level (MSL), the middle terrace at ~50 feet MSL, and the lowest terrace at ~25 feet MSL. Historic grading at the Site included cutting (lowering) and filling. Exploratory trenches have shown that fill areas include soils from on- graded materials and debris (abundant tires, vehicle parts, and concrete rubble).

Vicinity land-use has been largely agricultural up until around 2005 when historical aerials show the lands to the west, south and north were developed into residential neighborhoods. The Site is currently bordered to the north and east by Watsonville Slough, to the south by a commercial trucking warehouse, to the

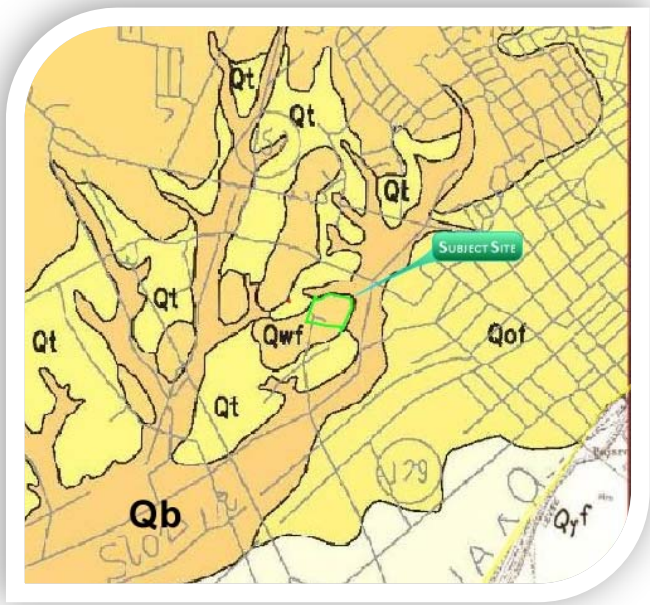
southeast by vacant land recently approved for residential development (i.e. Sunshine Gardens Residential Project), and to the west by residential developments (see Aerial Vicinity Map, Figure 2).

Historical aerial photographs document that the subject Site was undeveloped, possibly used as grazing lands in the 1930s, and remained so until sometime between 1956 and 1968 (WHA, 2016). By 1968, the Site contained a mixture of automotive wrecking and salvage operations on the western and central portions of the property. Automotive salvage operations continued until approximately 2016 when the majority of vehicles, structures and trees were removed from the property in preparation for redevelopment. The Site maintains the present-day configuration of road networks, which will be utilized in remedial action activities.

Up until recently, the Site contained a number of offices, automotive shop structures, and separately managed lots, which were primarily used for automotive wrecking, dismantling, and vehicle storage are present on the terrace areas (see Site Map, Figure 3). The Hillcrest Subdivision Development project proposes to remediate shallow contaminated soils and construct a residential development in this location, including new road access to Ohlone Parkway and new stormwater treatment facilities. Planned Site redevelopment will involve extensive grading to lower the upper elevations at the Site (design plans show there will be a significant surplus of soils that need to be exported from the Site; design drawings included as Appendix A).

2.2 Site Subsurface Conditions

The Site is located near the north end of Monterey Bay, at the western base of the Santa Cruz Mountains (Coast Ranges Geomorphic Province). Regional geologic maps and reports indicate that surface soils underlying the Site and vicinity area generally consist of pliestocene-aged fluvial facies ('Qwf', see Regional Geologic Map, right), which are reported to consist of semi-consolidated, moderately to poorly sorted silt, sand, silty clay, and gravel. Gravel, approximately 50 feet thick, is generally present 50 feet below ground surface (bgs). The areas to the immediate north and east of the Site have surface soils consisting of Basin deposits (Qb), which are generally unconsolidated, plastic, silty clay and clay rich in organic material.



Regional Geologic Map: Pleistocene-aged fluvial facies (Qwf) underlie the Site.

Phase II Site Assessment drilling completed in July 2016 (WHA, 2016), included fourteen (14) direct push borings that were continuously cored to depths of 8-12 feet below the ground surface (bgs). These

borings generally encountered clay to depths of approximately 4 to 8 feet bgs, underlain with silty sand. These shallow soil conditions are relatively consistent across the Site, regardless of elevation. Non-native surficial fill material was encountered in the majority of the 14 borings ranging in thickness of about 0.5 to 2 feet. Six (6) of these borings were extended to groundwater which was encountered at depths ranging from 19.7 to 33.7 feet bgs (not necessarily stabilized water table conditions). On-site shallow groundwater is assumed to flow northerly and easterly, towards the adjoining, low-lying slough.

2.3 Purpose of this *Updated Remedial Action Plan* and Planned Future Land Use

Environmental investigations conducted at the Site identified the presence of TPH and select metals in near surface soil at concentrations exceeding Tier 1, risk-based residential soil screening levels. The property owner intends to develop the Site for residential use. Removal action is proposed in order to eliminate restrictions on the property.

2.4 Environmental Screening Levels

Site-specific, *Chemicals of Potential Concern* ("*COPCs*") have been identified based on a review of land uses and laboratory analysis results obtained from multiple soil and groundwater sampling investigations at the subject property. The significance of all *COPC* detections in soil and groundwater are evaluated by comparing all detectable concentrations with agency-published screening levels. The screening thresholds have been established by several agencies that include:

- Federal screening levels (United States Environmental Protection Agency[6], USEPA), and
- State screening levels: a) one established by the California Department of Toxic Substances[7] (DTSC); and b) the second established by the California Regional Water Quality Control Board[8] (RWQCB).

---

[6]: *Regional Screening Levels* (***USEPA-RSLs***): Federally established, human health and safety, risk-based threshold concentrations established by the USEPA for use in the human health risk assessment process at chemical release sites. These screening levels are derived at a target cancer risk level of 1×10-6, and a target non-cancer (hazard quotient value) of 1. < http://www.epa.gov/region9/superfund/prg/ >;

[7]: *DTSC-modified Screening Levels* (***DTSC-modified SLs***): California-established, human health and safety, risk-based threshold concentrations established by California DTSC in their guideline document: *Human Health Risk Assessment (HHRA), Note Number: 3* (January 2018). These DTSC-modified screening levels are used in conjunction with the USEPA's RSLs to evaluate chemical concentrations in environmental media at California sites and facilities (i.e., for those chemicals not posted on the Note 3 website, DTSC-HERO endorses USEPA-RSLs). These screening levels are also derived for a target cancer risk level of 1×10-6, and a target non-cancer (hazard quotient value) of 1 but for select chemicals, California uses a more conservative toxicity evaluation for a select number of urban chemicals. < http://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-January-2018.pdf >

[8]: *Environmental Screening Levels* (***RWQCB-ESLs***): The California Regional Water Quality Control Board (San Francisco Bay Region) also provides screening threshold guidance (Scre*ening for Environmental Concerns at*

These established "Tier 1" screening levels have been developed using a set of conservative exposure and risk assumptions considered to be protective of the human health and the environment and based on appropriate land use parameters (i.e., residential-specific, or commercial/industrial-specific).

The Tier 1 screening levels have been used to evaluate sampling results of laboratory tested soil and groundwater. *COPC* concentrations that exceed media-specific screening thresholds provide the basis where further evaluations, general response actions, or specific mitigation measures may be needed. Aside from naturally-occurring metals having a site-specific, *Background Threshold Value* (BTV), this assessment uses the lowest (most conservative), agency-derived threshold as a cleanup goal for chemical compounds (see Tables for additional details).

Soil Screening Levels: As described in Section 4.1 (overview of chemicals of concern), site-specific cleanup standards have been based on either:

a. Agency-established Tier 1 thresholds [i.e., quantitative, worst-case, risk-based guidance based on multiple pathways that include potential threats to groundwater (leaching), human health (ingestion, inhalation, dermal), and ecological (surface soils, surface waters)]; or,

b. Site-specific, *Background Threshold Value* (BTV) for naturally occurring metals.

The soil tables presented in this *Updated Remedial Action Plan* (Tables 2-4) present the multi-pathway RWQCB-ESL, as well as the DTSC-modified SLs (and the relevant USEPA RSLs for those chemical compounds that do not have an established DTSC-modified screening level).

Groundwater Screening Levels: The subject property is located within the jurisdiction of the Central Coast Regional Water Quality Control Board (Water Board) and the regulatory guidance used to evaluate potential impacts to groundwater is the California State Water Resources Control Board's *Maximum Contaminant Levels* ("MCLs") for drinking water resources (CCR Title 22). Summary tables of laboratory tested groundwater are included in Appendix B and include the State MCLs as well as RWQCB-ESLs for those contaminant compounds where no MCL exists (i.e., Total Petroleum Hydrocarbons).

3.0 SUMMARY OF COMPETED SITE INVESTIGATIONS

Due to the decades of vehicle storage activities, surface and shallow soil beneath the Site contains shallow contaminants associated with the land use and detected contaminants have been well

Sites with Contaminated Soil and Groundwater, Final version, 2016. The ESLs are intended to provide quantitative, worst-case, risk-based guidance (based on multiple pathways that include potential threats to groundwater (leaching), human health (ingestion, inhalation, dermal), and ecological (surface soils, surface waters). The final ESLs are not cleanup goals but are meant to assist risk managers in determining whether further assessment or remediation of contamination is warranted.
< http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/ESL%20Workbook_ESLs_PDF_Rev2.pdf >

characterized through multiple rounds of soil and groundwater testing. These investigations included laboratory analysis of 249 soil samples collected from 145 locations across the Site. Because of the variable sampling nomenclature used by the different consulting firms, all samples have been renamed by quadrant for uniformity and ease of finding the location – Table 1 presents the chronological list of samples obtained at the Site (original consultant ID), the quadrant where the sample is located, and the quadrant sampling ID (updated sample ID). Figure 4a presents the quadrants and sample location (A through E on the north-south axis, and #1 through 7 on the east-west axis).

The following tables and figures and charts have been compiled to better show the overlapping data collected at this property over the last 12 years.

	Tables
Table 1:	Master Table of All Previously Collected Soil Samples
Table 2:	Soil Sample Test Results: CAM 17 METALS Analysis
Table 3:	Soil Sample Test Results: Total Lead Analysis
Table 4:	Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint
	Figures
Figure 4a:	Soil - Sample Locations (identified by quadrant)
Figure 4b:	Soil - Contaminant Exceedances in Shallow Soil (< 2 ft depths)
Figure 4c:	Soil - Contaminant Exceedances (> 2-ft depths)
Figure 4c:	Soil - Contaminant Exceedances w/o Clean Base Sample (confirmation sample required)
Appendix B:	Summary description of previous soil & groundwater investigations (including summary tables & figures). Tabulated results of groundwater samples are included in Appendix B which include 8 grab samples tested in 2004, 6 grab samples in 2016, and analysis of the Site's domestic water supply well. Only trace to non-detectable results were detected in any of the groundwater samples.

Consultant reports from 2004 and 2016 concluded that chemical impacts exceeding agency screening levels for residential land use were generally limited to the upper two feet of soil. Results of the four (4), on-site environmental investigations are summarized below (a more detailed description of these evaluations including copies of the original sample location maps/tabulated results for round of sampling is presented in Appendix B).

3.1 Phase I/II Environmental Site Assessment (ESA) (WHA, 2004)

This early property transaction screening and preliminary shallow soil screening assessment identified three *Recognized Environmental Conditions*[9] including:

[9] : A r*ecognized environmental condition* (REC) is defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under

- Long term storage and dismantling of vehicles on native soils
- Long term handling, containerization, and disposal of hazardous materials
- Fill wedges contained tires, debris and non-native fill soils

Based on these potential liabilities, a *Phase II soil and groundwater testing program* was implemented that included the collection and laboratory analysis of soil collected at sixty-five (65) locations across the Site. Soil samples were analyzed for Total Petroleum Hydrocarbons (TPH), Volatiles, metals, and anti-freeze. Laboratory-tested shallow soil samples identified isolated areas of shallow soil contamination, but were generally limited to relatively low-level, motor oil-range petroleum hydrocarbons. Results did not indicate evidence of any significant chemical release at the Site. In addition, isolated pockets of elevated Lead contamination were identified on the western portion of the Site relative to regulatory-established, screening thresholds (see Tables 2, 3, and 4 for results and Appendix B for an in-depth summary of this subsurface testing investigation).

Groundwater contained *trace* concentrations of TPH-diesel and 1,1,1-Trichloroethane (1,1,1-TCA) at levels well below their respective drinking water threshold limits (i.e., the *Maximum Contaminant Levels*,[10] *MCLs*). The results were provided to the Central Coast Regional Water Quality Control Board, and that agency did not require additional investigation for the trace detections in groundwater. For reference, original copies of the 2004 sampling location maps and tabulated lab results are included in Appendix B.

3.2 Follow-up *Soil Quality Evaluation* (Lowney, 2004)

Additional investigation was completed to further evaluate the Lead and Total Petroleum Hydrocarbon impacts detected during the initial Phase I/II screening of soils and groundwater (described above). Specifically, thirty-three (33) soil borings were sampled throughout the Site ranging in depth from four (4) to sixteen (16) feet below ground surface. Results indicated only one (1) of seventy-six (76) total samples had an exceedance of Lead (110 mg/kg) that was above the established human health-risk screening level of 80 mg/kg for residential land use. There were no exceedances of TPH-diesel or motor oil in a limited set of samples analyzed for TPH. See Tables 2, 3 and 4 for a summary of the results and Appendix B for original copies of the investigation results and figures.

conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

[10]: *Maximum Contaminant Levels (MCLs)*: the groundwater cleanup goals based on the region's *Water Quality Control Plan* (Basin Plan) for the Central Coast Regional Water Quality Control Board (CCRWQCB) and SWRCB guidelines.

3.3 Subsequent *Phase I/II ESA* (WHA, 2016)

Twelve years after the initial soil and groundwater testing described above, a second *Phase I/II ESA* was completed to evaluate whether there were apparent environmental changes since the 2004 assessment. Since land use remained the same, the Phase I land use evaluation identified the same potential liabilities that were identified in the earlier 2004 *Phase I ESA.* An updated *Phase II soil and groundwater testing program* was implemented in June 2016 that included the collection and laboratory analysis of soil at twenty-three (23) locations across the Site, and grab-groundwater samples collected from six (6) borings positioned around the perimeter of the Site. Specifically, samples were collected from fill and native soils and analyzed for TPH-gasoline, TPH-diesel, and TPH-motor oil, CAM 17 metals, and selected samples were analyzed for volatile organic compounds. See Tables 2, 3, and 4 for results and Appendix B for an in-depth summary of this subsurface testing investigation). Results indicated the following:

- Shallow Soil Inspection and Sampling: Fifteen (15) shallow soil borings were cored at depths ranging from 0.5 to 4 feet bgs. These shallow soil borings were intended to provide cost-effective, broad coverage that would be representative of near surface soils at heavy land-use areas.
- Deeper Soil Inspection and Sampling: Eight (8) deeper soil borings were cored to depths of 8 to 12 feet bgs. The borings targeted industrial/commercial land use areas adjacent to established Site structures/workshops, with a few of the borings targeting vehicle dismantling areas, a reported potential UST/AST location, and a reported vehicle burn area.
- Grab Groundwater Sampling: Six (6) grab groundwater samples were collected around the perimeter of the Site, in the apparent downgradient direction from the automotive salvage facilities. Depth to groundwater in these borings ranged from 19.7 to 33.7 feet bgs.

This 2016 *Phase I/II ESA* concluded that based on field observations and laboratory results (which were designed to provide a representative indication of the environmental quality of shallow soil conditions), the long-term automotive maintenance, salvaging/wrecking activities had not caused significant negative impacts to Site soils, and that testing results indicate that impacted soils are generally limited to the top one to two feet bgs. In addition, laboratory testing again confirmed that groundwater was not impacted by current/historical land use site activities.

3.4 Additional *Phase II Sampling Report* (Trinity, 2016)

Trinity Source Group (Trinity) completed additional exploratory trenching to visually inspect fifty-five (55) locations across the Site, primarily located along the slopes of the existing cut-and fill terraces where there was potential for imported fill and debris (trench and sample locations are shown on a plan view map included in Appendix B). In addition, nine (9) exploratory borings were cored to evaluate a

reported car burn area. Additional testing of *COPCs* included organochlorine pesticides, polychlorinated biphenyls, polynuclear aromatic hydrocarbons, and dioxins.[11] The work tasks and testing included:

- Debris Fill Areas: Backhoe trenching was used to provide additional assessment of slope debris areas which showed various levels of debris including tires, vehicle parts, and concrete. The assessment concluded that debris fill areas are typically located on steep slopes separating the terraces, which appeared to have been developed with (cut and) fill materials.
- No Pesticides, PCBs or Dioxins: Additional testing for organochlorine (persistent) pesticides and PCBs indicated that tested soils did not contain contaminant concentrations above screening levels. In addition, worst-case testing for Dioxins (adjacent to a fire pit location) showed risk-based residential screening thresholds were not exceeded.
- Shallow Soil Contamination: Stained surface soils at some locations contained concentrations of naphthalene, TPH-motor oil, Arsenic and Hexavalent Chromium above Tier 1 agency screening levels. *COPCs* for the Site were based on researched land use and some compounds were detected at concentrations exceeding Tier 1 agency threshold limits but generally, elevated concentrations were localized and appeared to be limited to shallow soil in the top two (2) feet bgs. Site-wide, Lead was the most widespread *COPC*. Statistical analysis of detected Nickel, Hexavalent Chromium and Arsenic indicates the detected concentrations represent background conditions (see Section 3.5, below).
- Adjoining Perimeter Land: Perimeter land beyond the north and east boundary of the planned development is protected as part of the Watsonville Slough riparian protection setbacks (see Figure 4A). This parcel is targeted for development as a public pathway and bird watching area (separate from the planned residential development). Observations of trenches completed as part of the 2016 assessment showed some debris fill and soil impacts that exceeded agency screening. This perimeter land is located in protected, sensitive habitat and further delineation sampling has recently been completed in accordance with an agency-approved *Workplan* (WHA, 2018). The perimeter walkway lands area will remain accessible for any necessary remedial actions during development activities that may be necessary, and upon approval of the California Department of Fish and Game.

[11]: Note: Boring logs show indicate that Trinity defined their measured sample collection depth to be the base of their sample (i.e., a "two-foot" deep sample was actually collected from 1-ft, 6-inches to 2-ft). The sample depths for the three other phases of soil sampling (2004 & 2016) is measured from the starting point (i.e., a "two-foot" deep sample was collected from 2-ft to 2-ft, 6-inches). In either case, remediation will extend to the more conservative depth and this *Remedial Action Plan* has been updated accordingly.

3.5 Statistical Evaluation of Naturally-Occurring Metals (TH&Co, 2018)

Thomas Harder and Company (TH&Co) completed a statistical evaluation of Arsenic, Hexavalent Chromium (Cr[VI]), and Nickel was completed using a multiple-lines-of-evidence approach to establish whether detected concentrations indicate background conditions or a Site-related release of these metals (a copy of the statistical evaluation is included in Appendix G as a reference). The analysis was conducted to determine whether or not these naturally-occurring metals should be included as *'chemicals of potential concern'* (*COPCs*), and ultimately included in quantitative risk calculations.

The statistical analysis presented was conducted in accordance with CalEPA and USEPA guidance using USEPA's statistical software ProUCL. The statistical evaluation concluded that based on the population of soil sample concentrations detected during multiple investigation mobilizations, Site-related releases of Arsenic, Cr(IV), and Nickel have not occurred at the Site. A summary of the analysis is presented below:

- Site-Specific Arsenic Detections: The data evaluation of sixty (60) samples showed a relatively narrow range of Arsenic concentrations (0.6 to 14 mg/kg) having a relatively low coefficient of variation (0.482). Additionally box and Q-Q plots (visual analyses) showed the Site's Arsenic dataset followed a normal distribution with relatively few potential outliers (i.e., four samples at 11 mg/kg, and one sample at 14 mg/kg). A follow-up statistical (quantitative) analysis of the visual plots (i.e., a Rosner Test, ProUCL) did not identify any outliers in the Site's Arsenic dataset so no outliers were removed from the Site's Arsenic dataset.

  The Site-specific *Background Threshold Value* (BTV), quantified as the 95% USL (**13.97 mg/kg**), is essentially equal to the maximum detected concentration (14 mg/kg). The analysis concluded that a Site-related release of Arsenic has not occurred, and Arsenic is reasonably is eliminated as a *COPC*. As noted, Appendix G contains a copy of the analysis as a reference.

- Site-Specific Hexavalent Chromium [Cr(VI)] Detections: The data evaluation of twenty-three (23) samples showed a relatively narrow range of Cr(VI) concentrations (0.61 to 4.9 mg/kg); having a coefficient of variation of 1.

  - Additionally, visual (Box and Q-Q plots) and quantitative analyses (Dixon's Test, ProUCL) showed the log-transformed Cr(VI) Site dataset to contain no statistical outliers.
  - The site-specific *Background Threshold Value* for Cr(VI), was quantified as
    a) 6.1 mg/kg for the 95% USL, and
    b) **5.2-5.3 mg/kg** for a more conservative gamma distribution analysis.

  Both BTV thresholds exceed the maximum detected Cr(VI) concentration (4.9 mg/kg), which indicates that a Site-related release of Cr(VI) has not occurred, and Cr(VI) is

reasonably is eliminated as a *COPC*. Appendix G contains a copy of the analysis as a reference.

- Site-Specific Nickel Detections: The data evaluation of ninety-six (96) samples showed the Nickel dataset to follow a normal distribution with potential outliers of 0.76 mg/kg (one sample) and 150 mg/kg (two samples) and have a coefficient of variation of less than 1.
    - Additionally, visual (Box and Q-Q plots) and quantitative analyses (Rosner's Test, Pro UCL) showed an approximate normal distribution site dataset with no statistical outliers.
    - The site-specific *Background Threshold Value* for Nickel was quantified as the 95% USL (**168.1 mg/kg**), which exceeds the maximum detected concentration (150 mg/kg). The analysis concluded that a Site-related release of Nickel has not occurred, and Nickel is reasonably is eliminated as a *COPC*. As noted, the full analysis is included in Appendix G as a reference.

3.6 Summary of Soil and Groundwater Testing

Residual contaminants that have been characterized through multiple rounds of soil and groundwater sample collection and testing. These investigations included laboratory analysis of 249 soil samples collected from 145 locations across the Site (all samples summarized on Table 1 and presented in plan view on Figure 3). Investigation results indicated:

- Grab groundwater samples collected from 14 locations as well as the on-site domestic water supply well was not impacted by current/historical land-use activities.
- Long-term land-use impacts have not caused significant negative impacts to Site soils. Summary tables of the multiple environmental investigation results (Tables 2, 3, and 4) show that impacted soils are generally limited to the top one to two feet bgs and *COPCs* are typically localized in isolated areas. Four *COPCs* were identified based on concentration exceedances of conservative, Tier-1 agency-established thresholds that are designed to be protective of human health and the environment (i.e. the RWQCB-ESLs). These four *COPCs* include: Lead (up to 5,400 mg/kg), TPH-diesel (up to 670 mg/kg), TPH-Motor Oil (up to 97,000 mg/kg), and Naphthalene (up to 1.5 mg/kg). However as noted above, the preponderance of elevated detections are largely limited to shallow depths (<2 feet).
- Soil vapor is not considered a transport pathway of concern since test results showed only trace to non-detectable volatile contaminant compounds were detected in soils (no volatile compounds have been identified as *COPCs.*
- A statistical evaluation of the collected concentration data concluded that based on the population of soil sample concentrations, Site-related releases of three naturally occurring

metals (Arsenic, Cr(IV), and Nickel) have not occurred at the Site. Calculated *Background Threshold Values* for Arsenic, Cr(IV), and Nickel are 13.97, 5.2 mg/kg, and 168.1 mg/kg, respectively.

A detailed description of all sampling mobilizations and State-certified laboratory testing results is provided in Appendix B.

4.0 NATURE AND EXTENT OF CONTAMINATION

As noted above, Table 1 presents the chronological list of samples obtained at the Site (original consultant ID), the quadrant where the sample is located, and the updated, quadrant-based sampling ID (updated sample ID). Figure 4 presents sample location by quadrants (A through E on the north-south axis, and #1 through 7 on the east-west axis). Certified laboratory results in exceedance of screening thresholds (i.e., *Environmental Screening Levels/Background Threshold Values)* are presented on Figures 4b and 4c and the results have been tabulated onto summary Tables 1 through 4.

The laboratory results confirm that four contaminants [Lead, Extractable-range TPH (as diesel and motor oil), and Napthalene] are present in the top two feet of surface soils at concentrations exceeding Tier 1, risk-based, soil screening thresholds. Exceedances are also present at localized deeper locations associated with historic automotive salvaging land-use.

4.1 Overview of Chemicals of Concern

Elevated Shallow Soil Detections of Lead, TPH-diesel, TPH-motor oil, and Napthalene (Tables 2, 3, and 4 and Figures 4b and 4c): Laboratory results document there are localized on-site areas that contain *COPCs* at concentrations exceeding risk-based screening threshold concentrations for residential land use (i.e., the established RWQCB-ESL/*Background Threshold Value* threshold limits for unrestricted land use). Locations where threshold exceedances occur generally are limited to the upper two feet of soil and are highlighted on the summary tables (Tables 2 and 3 for metals, and Table 4 for remaining volatile and semi-volatile testing results) and the following figures:

- Figure 4a shows the location of all soil samples collected;
- Figure 4b highlights those locations having detected exceedances in the *upper two feet of soil*;
    - Note: many of these locations have co-located *COPCs* that will all be eliminated with the planned removal and disposal of the upper two feet of soil.
- Figure 4c highlights those locations having detected exceedances at *depths of greater than two feet below ground surface* (bgs). Note: limited over-excavation is planned for these locations and confirmatory base/sidewall samples will be collected to confirm no exceedances are present following soil removal.

- Figure 4d is an extension of Figure 4c but also includes additional locations where there was a shallow *Environmental Screening Level*/*Background Threshold Value* exceedance without a deeper confirmation sample. As with those sample locations presented in Figure 4c, deeper confirmatory soil samples will be collected to confirm no exceedances are present following soil removal.

The summary table below presents the concentration ranges for these *COPCs,* the location containing the highest concentration, and the Site-specific cleanup standards based on either: a) agency-established Tier 1 thresholds [i.e., quantitative, worst-case, risk-based guidance based on multiple pathways that include potential threats to groundwater (leaching), human health (ingestion, inhalation, dermal), and ecological (surface soils, surface waters)]; or the site-specific, *Background Threshold Value* (BTV) for naturally occurring metals.

Chemicals of Potential Concern (COPC)
Concentration Ranges & Screening Thresholds
Soil concentration units in milligrams per kilogram (mg/kg)

Chemical Of Potential Concern	**Minimum Concentration** (mg/kg)	**Maximum Concentration** (mg/kg)	**Depth (& Location) of the Highest Concentration**	**Screening Threshold** (residential land use)
Arsenic	0.60	14	Debris *("T-18")*	13.97 mg/kg (basis: BTV)
Hexavalent Chromium [Cr(IV)]	0.61	4.9	3-ft *("T-13")*	5.2 mg/kg (basis: BTV)
Lead	1	5,400**	0.5-ft *("B-68")*	80 mg/kg (basis: RWQCB-ESL)
Nickel	0.76	150	0.5-ft *("B-11")*	168.1 mg/kg (basis: BTV)
TPH- Diesel	1.1	670	0.5-ft *("B-11")*	230 mg/kg (basis: RWQCB-ESL)
TPH- Motor Oil	ND	97,000	8-ft *("T-16")*	5,100 mg/kg (basis: RWQCB-ESL)
Napthalene	ND	1.5	1.5-ft *("B-3")*	0.033 mg/kg (basis: RWQCB-ESL)

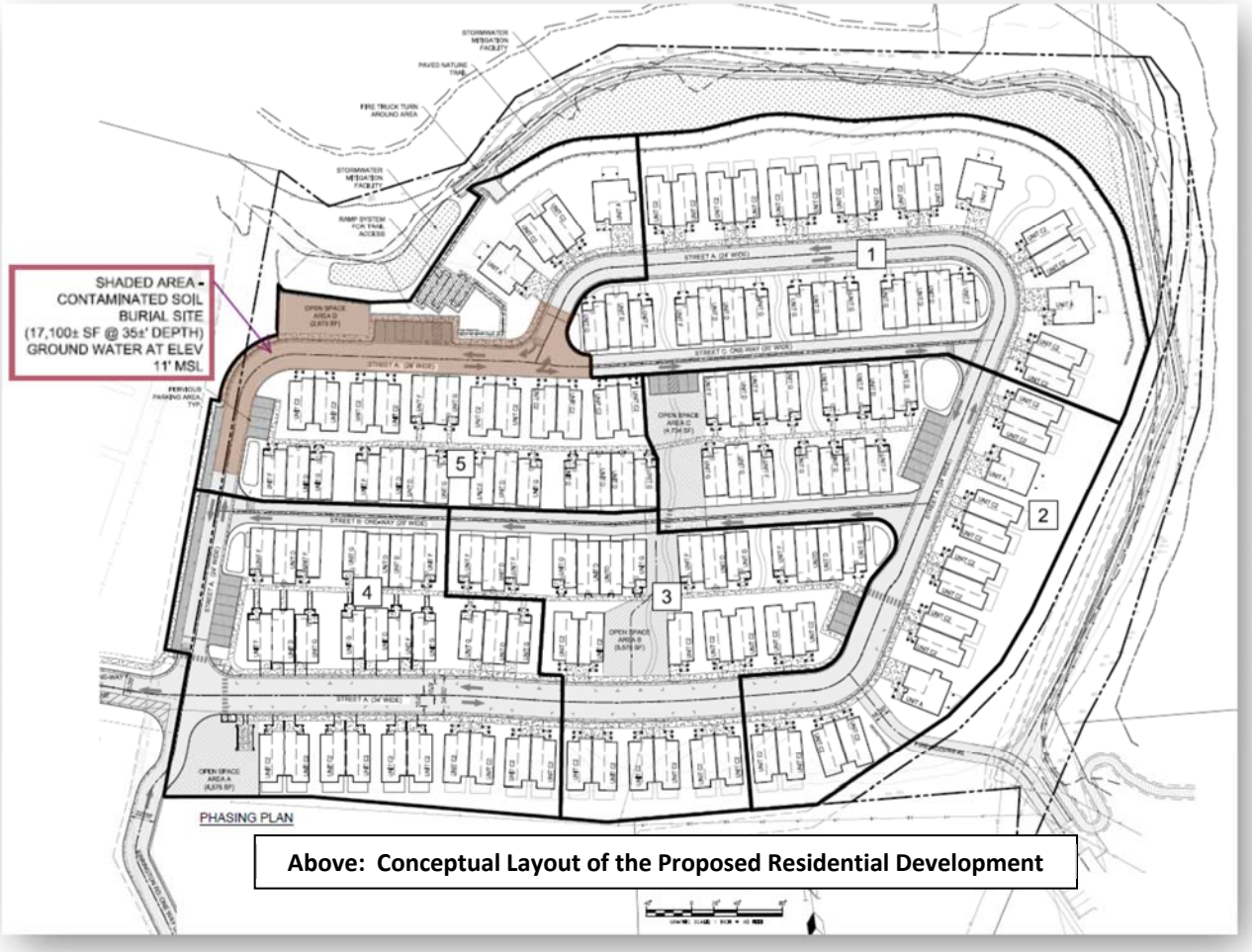
RWQCB-ESL = *Environmental Screening Level* (see Table 2 for additional details).

BTV = *Background Threshold Value* (see Section 3.5, above for discussion of background analysis).

** = Note: This result was a 3-point composite sample. The three individual samples were then analyzed separately, and the Lead concentrations dropped to a range of 100-480 mg/kg.

Anomalous Detections: One isolated location contained a slightly elevated concentration of *cadmium* at 9.3 mg/kg (i.e., T-11 @6-ft, see Table 2). This cadmium detection is below its *RWQCB-Environmental Screening Threshold* of 39 mg/kg, but in exceedance of the human -health based, DTSC-modified

screening threshold of 5.2 mg/kg. In addition, there were two (2) exceedances of *cobalt* that were detected at concentrations slightly above its screening threshold of 23 mg/kg [i.e., 28 mg/kg at T-18@surface ("debris"); and 26 mg/kg at B-24@2-ft]. Note: both were co-located other contaminant impacts and are considered anomalous based on the numerous additional test results that were below agency thresholds (see Table 2). Confirmation samples will be obtained at these apparently anomalous detection locations.



Above: Conceptual Layout of the Proposed Residential Development

5.0 REMEDIAL ACTION OBJECTIVE

The *Remedial Action Objective* (RAO) for this Site has been designed to abate potential health risks resulting from the identified *COPCs* to be protective of the current and reasonably anticipated future uses of the Site. Risk-based and background-based remedial criteria have been evaluated to establish specific concentration goals that are protective of human health and the environment (i.e., established

screening level and anthropogenic concentrations that can safely be left in place). Risk-based cleanup will be based on the proposed residential land-use of the Site, specifically, the California Sunshine Development which will contain a 151 residential units and associated road-ways, sidewalks, and utility services. A discussion of human health risks, regulatory requirements, and the remedial action objective developed for the Site is presented below.

5.1 Remedial Action Objective

The *Remedial Action Objective (RAO*) for this redevelopment project is to reduce, minimize, or eliminate potential exposure of future residents (receptors) including future Site workers to *COPCs* detected at the Site that may pose an unacceptable human health risk [defined as less than one-in-one million *Incremental Lifetime Cancer Risk* (ILCR)], or excess of *Background Threshold Value* (BTV) concentrations.

5.2 Applicable or Relevant and Appropriate Requirements

The remedial action objective must be consistent with *Applicable or Relevant and Appropriate Requirements (ARARs),* based on federal guidelines derived from the National Oil and Hazardous Substances Pollution Contingency Plan (NCP, 40 CFR Section 300.5). Applicable requirements are remedial standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, remedial action, location, or other circumstance at a Site.

Generally speaking, ARARs are remedial standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a Site, address problems or situations sufficiently similar to those encountered at the Site, that their use is well-suited to the particular Site. ARARs may be categorized as chemical-specific, location-specific or activity-specific.

- Chemical-specific ARARs are health- or risk-based standards that define the allowable limits of specific chemical compounds found in or discharged to the environment.
- Location-specific ARARs apply to natural site features (e.g., wetlands, flood plains, endangered species) and manmade features (e.g., landfills, city zoning, places for historical or archaeological significance
- Activity-specific ARARs are technology-based or activity-based limitations that set performance and design restrictions.

Federal and State non-promulgated standards, policies, or guidance documents, and legal requirements, are not ARARs. However, according to NCP guidance, these criteria should also to be considered when evaluating and selecting remedial actions necessary to protect human health and the environment and

are commonly referred to as "To Be Considered" or TBCs. All necessary permits and approvals identified in this *Updated RAP* will be obtained prior to any removal activities. Specifically, Hillcrest Subdivision Development or its contractor will obtain a grading permit from the City of Watsonville prior to the commencement of grading and removal activities under this *Updated RAP*. The grading permit will require compliance with an approved grading plan and standard permit conditions, including:

- Construction Noise – Compliance with City Code construction noise requirements and construction activity scheduling limitations.
- Air Quality – Implementation Air Quality Management District best management practices to address fugitive dust emissions, localized dust impacts, and construction noise and nuisance impacts.
- Hydrology and Water Quality – Compliance with City of Watsonville Standard Conditions of Approval and the General National Pollutant Discharge Elimination System (NPDES) Storm Water Permit for Construction Activities, including preparation of a Storm Water Pollution Prevention Plan and Erosion Control Plan.

Upon approval from SC-HSA, and issuance of a grading permit, excavation activities will be performed by a California licensed contractor with a hazardous substance removal certification. A California-licensed geologist or civil engineer will be available as needed. In the event that a previously unidentified environmental concern is discovered at any time during the planned remedial action or subsequent Site redevelopment, the owner will notify SC-HSA, and take necessary response actions as required by SC-HSA.

5.3 Site-Specific Remedial Criteria

Risk-based, *"Site-Specific Remedial Criteria"* is a phrase used to describe the rationale behind the selection of Site cleanup goals. As described in Section 2.4 (*Environmental Screening Levels*), established, risk-based screening limits such as the State *Environmental Screening Limits* (*RWQCB-ESL*s, RWQCB-SFB, 2016) and the *DTSC-modified Screening Levels (DTSC-modified SLs)*, and the Federal counterpart, the EPA's *Regional Screening Limits* (RSLs; USEPA, 2017) incorporate a target risk level, assumptions concerning exposure, exposure estimation, and compound-specific toxicity values to obtain a chemical concentration that can be present in soil without creating an excessive likelihood of adverse health effects assuming exposure to affected soils.

As described in Section 3.5 (Statistical Evaluation of Naturally-Occurring Metals), we have selected the *Background Threshold Values* for Arsenic, Cr(IV), and Nickel, and for all other contaminants of potential concern we have selected the *Environmental Screening Level* (*RWQCB-ESL*) as the basis for establishing defensible, risk-based cleanup goals for the identified *COPCs* at the Site.

Site Numerical Remedial Criteria (cleanup goals) for Soil

Based on *Environmental Screening Levels* &
Background Threshold Concentrations for Arsenic, Hexavalent Chromium, and Nickel

Chemical	Remedial Criteria for Site Soils (mg/kg)
Arsenic	13.97 mg/kg Basis: BTV
Cr(IV)	5.2 mg/kg Basis: BTV
Total Lead	80 mg/kg Basis: RWQCB-ESL (health-risk)
Nickel	168.1 mg/kg Basis: BTV
TPH-diesel	230 mg/kg Basis: RWQCB-ESL (health risk)
TPH-motor oil	5,100 mg/kg Basis: RWQCB-ESL (leaching)]
Napthalene	0.033 mg/kg Basis: RWQCB-ESL (leaching)]

RWQCB-ESL = *Environmental Screening Level* (see Table 2 for additional details).

BTV = *Background Threshold Value (see* Section 3.6, below for discussion of background UCL-95% analysis).

5.4 Additional Statistical Evaluation of *COPC* Risk

As shown above, the four (4) *COPCs* include Total Lead, TPH-diesel, TPH-motor oil, and Napthalene. The residential and construction worker ESLs for lead (80 and 160 mg/kg, respectively) are associated with blood lead levels calculated using a blood Lead model (LeadSpread Model) developed by the CalEPA/OEHHA/DTSC, rather than the standard USEPA algorithms. As such, the risk values associated with Lead are neither calculated nor combined with that for the other *COPCs* but, rather, a direct comparison to the ESLs is conducted (i.e., comparison of detected concentrations to the residential (80 mg/kg) and construction worker (160 mg/kg) ESLs for Lead].

5.4.1 COPC Cumulative Non-Cancer and Cancer Risks

For the three remaining *COPCs*, TH&C computed the cumulative noncancer (Hazard Index, HI) and cancer risks (Incremental Lifetime Cancer Risk, ILCR) for both the residential receptor and the construction worker receptor based on direct soil exposure (i.e., via incidental ingestion, dermal contact, and particulate inhalation). Copies of the sample-specific risk tables are included as a reference in Appendix C, which include:

- Residential Receptor:
  - Cumulative noncancer (Table 1a);
  - Cumulative cancer (Table 1b) risks; and
  - Total Lead Concentration Comparison (Table 3a).

Summary Table 1a shows there are six instances in which the HI value exceeds 1.0. As shown in Table 1b, the maximum ILCR value (5 x 10-7) is less than the de minimis level of 1 x 10-6.

- Construction Worker Receptor: Cumulative noncancer (Table 2a) and cancer (Table 2b) risks;
    - Cumulative noncancer (Table 2a);
    - Cumulative cancer (Table 2b) risks; and
    - Total Lead Concentration Comparison (Table 3c).

  Summary Table 2a shows there is a single instance where the HI value exceeds 1.0 (T-16(t)). The HQ values at this location is driven by TPH-motor oil and the risk-driving exposure pathways are soil ingestion and dermal contact. As such, precautionary measures associated with these pathways near this location may be warranted. As shown in Table 2b, the maximum ILCR value (4 x 10-9) is less than the de minimis level of 1 x 10-6. An ILCR value less than the de minimis level is generally considered to be without potential adverse health effects.

The fact that the vast majority of the TPH/naphthalene and lead-impacted soil is confined within the upper 2 feet provides the basis for the removal depth of 2 feet. Over-excavation and subsequent confirmation sampling will be conducted at locations where the base sample exceeds the ESL or is not vertically defined (i.e., Figures 4c and 4d)

Note: Cumulative risk and hazard calculations for arsenic, chromium VI, and nickel were not done as a statistical background evaluation indicated they detected concentrations were not indicative of a Site-related release and they can reasonably is eliminated as *COPCs* (details in Section 3.5).

5.4.2 COPC Evaluation of 95% UCL Cumulative Risks

In addition, exposure point concentrations of the *Chemicals of Potential Concern* (other than Lead) were also evaluated for cumulative risks and hazards using calculated 95%UCL[12] concentrations rather than individual sample concentrations (2018, TH&Co, copy included in Appendix C). TH&Co's sample-specific risk tables (Table 1a, 1b, 2a, 2b, 3a, and 3b, copies included in Appendix C) show that TPH-Diesel, TPH-Motor Oil, and lead exceed risk benchmark levels for some samples. The 95% UCLs for these three *COPCs* were calculated using the USEPA ProUCL model (rounded to the nearest mg/kg) are:

Chemical	95% UCLs (mg/kg)	Residential Land Use Human Health Risk-Based Benchmark Levels	
TPH-Diesel:	98 mg/kg;	230 mg/kg	Basis: RWQCB-ESL (health risk)
TPH-Motor Oil:	5,143 mg/kg;	11,000 mg/kg	Basis: RWQCB-ESL (leaching)]

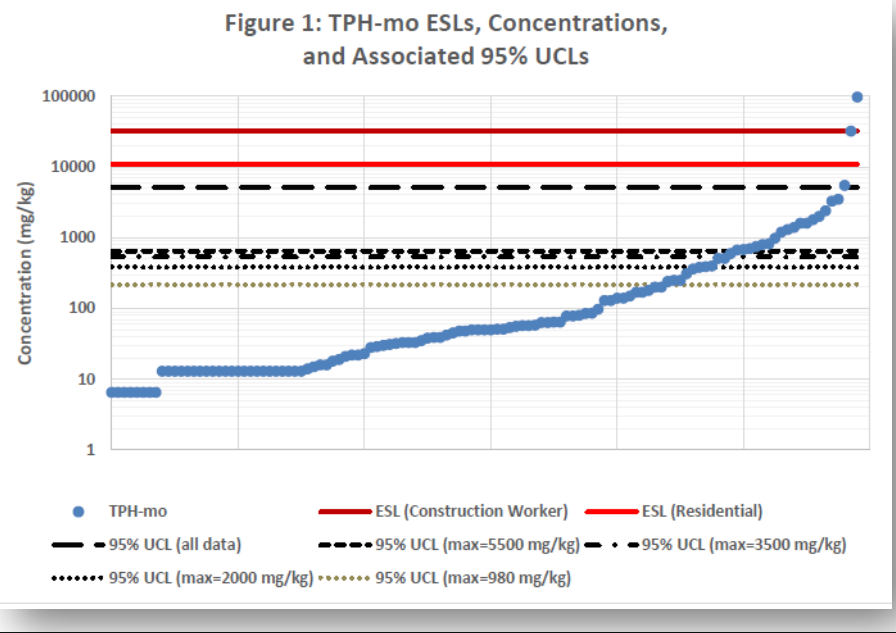
[12]: Upper Confidence Limit (UCL): The upper boundary (or limit) of a confidence interval of a parameter of interest such as the population mean

Chemical	95% UCLs (mg/kg)	Residential Land Use Human Health Risk-Based Benchmark Levels	
Total Lead	220 mg/kg.	80 mg/kg	Basis: RWQCB-ESL (health-risk)

The table shows that Lead is the only *COPC* with a 95% UCL that exceeds its risk benchmark. Use of a 95% UCL would eliminate risk concerns associated with TPH-Diesel and TPH-Motor Oil.

In addition, sample locations were there were elevated concentrations of COCPs (i.e., hot spots) were further evaluated by TH&Co. Specifically, charts were generated for TPH-Motor Oil and Total Lead that quantitatively and visually show the decreasing 95% UCL concentrations associated with sequential hot spot removals (i.e., soil removal of the highest contaminant concentration first and then the next highest concentration, etc.). Clips of these charts showing incremental hot spot removals and the resulting 95% UCL are shown below for both TPH-Motor Oil and Lead (see Appendix C for the originals)

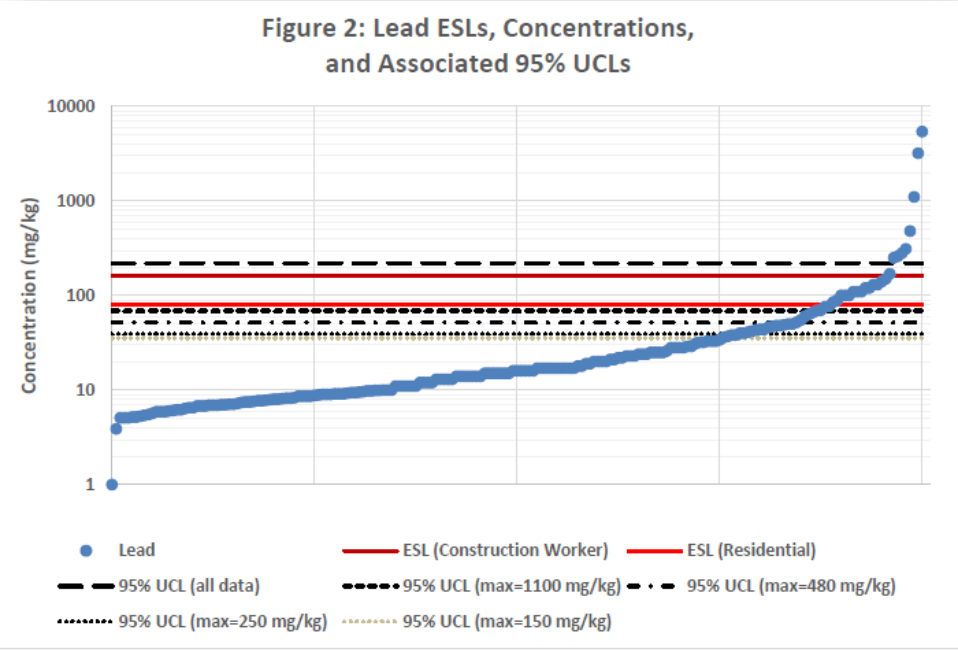
Figure 1: TPH-mo ESLs, Concentrations, and Associated 95% UCLs



The TPH-motor oil chart (above) shows that for the entire dataset (blue) and the 95% UCL (5,143 mg/kg) does not exceed either risk-based ESL threshold of 11,000 mg/kg.
This chart shows that if the two highest TPH-Motor Oil concentrations are removed (both hot spot concentrations exceed the residential ESL), then:

- The resulting dataset has a maximum concentration of 5,500 mg/kg, and
- The 95% UCL decreases from 5,143 to 648 mg/kg

Additional hot spot removals result in comparatively negligible decreases in the 95% UCL.



The Total Lead chart (above) shows that for the entire dataset (blue) and the 95% UCL (220 mg/kg) does exceed the risk-based ESL threshold for residential land use (80 mg/kg) as well as the construction worker (160 mg/kg). This chart shows that if the two highest Total Lead concentrations are removed (i.e., 5,400 & 3,200 mg/kg) then:

- The resulting dataset has a maximum concentration of 1,100 mg/kg, and
- The 95% UCL decreases from 220 to 69 mg/kg (which is below the risk-based ESL for both residential & construction worker.

Additional hot spot removals result in comparatively negligible decreases in the 95% UCL.

- **Shallow Soil Contamination** (less than 2 feet)**:**
  - Total Lead, TPH-diesel, TPH-motor oil, and Napthalene: Based on multiple environmental investigations, shallow soil remediation (<2 feet bgs) will be required across the entire Site to achieve unrestricted land use based on the remedial screening criteria (i.e., residential *Environmental Screening Levels* or *Background Threshold Values* --elevated shallow impacts are shown on Figure 4b). The *ESLs* for these four (4) constituents are the proposed clean-up goals for remedial activities.
- **Deeper Soil Contamination:**
  - Total Lead, Napthalene, and TPH-diesel/Motor Oil: Field investigations indicate that localized, isolated areas of deeper contamination are present around areas of historic high-use operations (see Figure 4c). Any area having a documented exceedance of the established cleanup goals will be over-excavated and confirmation samples obtained in accordance with SC-HSA *Site Mitigation Program Standards* (SC-HSA, 2010), to confirm

residual soils have achieved the established cleanup goals (i.e., residential *Environmental Screening Levels*).

The goal of proposed remedial actions will reduce/eliminate potential for increased health risks posed by the *COPCs* detected in Site soils to future users of the Site that may be exposed to the Site soils. This *Remedial Action Plan* focuses remedy selection on the planned use of a Site (i.e., long term, residential housing, native soil areas, roadways, pedestrian pathways, and associated residential housing appurtenances). Cost-effective remedial action options can best be combined with Site redevelopment, which is planned to include extensive grading to lower the upper elevations at the Site (design plans show there will be a significant surplus of soils that need to be exported from the Site). Current plans are to complete any remedial action plan earthworks as part of the larger phase of Site redevelopment, which will include mass grading of the existing knoll to create buildable terraces.

Based on the relatively random, shallow contaminant exceedances detected across the Site that are associated with Site-wide historical land use as an automotive wrecking/storage yard, remedial efforts would should include shallow soil remediation across the entire Site to conservatively address any missed shallow soil impacts (i.e., address the upper 2 feet of soils across the Site, and some additional, deeper excavation and soil removal from a limited number of isolated "hot spot" areas having documented deeper contamination (Figure 4c). Statistical evaluation described above (i.e., UCL-95%, and cumulative risk analysis) clearly show that removal of the upper two-feet of soil and isolated hot-spots will eliminate both site-wide risk, and potential isolated risk.

A remedial effort designed to reduce elevated concentrations of *COPCs* present in shallow soils and at isolated locations having deeper contamination ("hot spots") is protective of human health and safety. As per standard *Remedial Action Plan* evaluation protocols, the following section describes a number of potential remedial technologies and screens them based on effectiveness, implementability, and cost to satisfy the RAO.

6.0 FEASIBILITY ANALYSIS

6.1 Remedial Action Alternatives

Given Site-wide shallow soil contamination of relatively immobile *COPC*, localized deeper zones containing elevated *COPCs,* and no impacts to groundwater that are present at the Site, the following three (3) remedial action alternatives were identified as reasonable per Site-specific conditions and include:

1. Alternative 1: No Action (with institutional control)
2. Alternative 2: Site-wide Shallow Soil Excavation (2-feet), Targeted Deeper Excavation and Off-Site Disposal.

3. Alternative 3: Burial Envelope with Soil Cap

6.1.1 Alternative 1 - No Further Action

The No Action alternative was evaluated (as required under the NCP) to provide a baseline to which the relative benefits of the other alternatives could be compared. This alternative would not require implementing any measures at the Site, and no costs would be incurred. This action would include institutional controls (deed restriction), no treatment of soil, no sampling, and no monitoring. However, this alternative does not involve any mitigation of the hazard.

The *Land Use Covenant* (LUC) would run-with-the-land and would be required to document existing conditions and future soil management obligations. The LUC would be an agreement between SC-HSA and the property owner and recorded with the Santa Cruz County Recorder's Office to ensure that local agencies, the public, prospective purchasers and tenants are aware of residual, left in place soil contamination at the Site. The LUC is considered an institutional control that is used as a means to limit particular redevelopment activities without preapproval by SC-HSA. Limitations include commercial redevelopment or transitioning to other and/or more sensitive uses such as hospitals, day cares, schools, or single-family residential. The LUC would require adhering to a Site-specific *Soil Management Plan* that places notification and monitoring restrictions on earthworks activities involving excavation/trenching (i.e., for utilities, foundations, grading, and subgrade construction such as an underground parking garage). *Soil Management Plans* typically require notification and approval by SC-HSA prior to earthworks in areas having residual *COPC* impacts and could involve annual submittals (inspection forms) confirming no disturbance has occurred over the reporting year.

6.1.2 Alternative 2 - Site-wide Shallow Soil (2-feet) Excavation & Targeted Deeper Excavation and Disposal

This alternative involves the excavation of soil from across the entire Site to eliminate all potential locations having shallow *COPC*-impacts in soils (see Figure 4b-4c for documented, COPC-impact locations). Excavation would be conducted over an approximately 11.3-acre Site to a depth of 2 feet below ground surface. The depth of 2 feet is based on the results of soil sampling that has been performed during multiple Site investigations and the relatively random, shallow contaminant exceedances detected across the Site that are associated with Site-wide historical land use as an automotive wrecking/storage yard. The primary goal of excavation and removal is to remove soils having *COPCs* concentrations that exceed the cleanup goals presented in Section 5.3 (Site-Specific Remedial Criteria).

It should be noted that current remedial efforts will be restricted to the Fish and Game limits along the existing slough until permits for that area can be obtained (likely in the Spring 2018). However, a remedial effort will occur for areas having elevated concentrations of COPCs once permits are obtained and access is granted.

This alternative combines two phases of work:

Phase I Soil Removal: This initial grubbing, scraping of the initial 6-inches of soil, and removal of any buried debris that is uncovered during the initial grading of soils across the Site. This phase of soil removal is estimated to generate approximately 8,425 cubic yards (~11,795 tons) of soil which would be stockpiled, profiled for landfill acceptance, and transported to the nearest accepting landfill(s). The goal behind this initial round of scrapping is to consolidate/stockpile the worst-case impacts for landfill acceptance and provide a more transparent, unobstructed view of the underlying soils (and debris). Any accessible debris would be unearthed and separately stockpiled and any areas where chemical staining or odors would be mapped and targeted for further assessment. Details of this Phase I soils removal were described in a recent *Limited Interim Remedial Action* report (WHA, 2017 rev.) but is being incorporated into this *Updated* Rap.

Phase II Soil Removal: This second step would involve scraping off and additional 18-inches of soil from across the entire Site and stockpiling it in pre-planned locations. This phase of soil removal is estimated to generate approximately 24,770 cubic yards (~34,678 tons) of soil which would be stockpiled, profiled for landfill acceptance,

In addition, deeper excavations would be completed if any visibly-impacted areas were discovered (i.e., any soils with chemical staining/odors) as well as at locations where previous testing showed deeper contamination (Figures 4c/4d). Specifically, deeper excavations will dig until no visible signs of contamination are present, or one foot below the sample depth of detected *COPC* in exceedance of regulatory screening levels.

- Confirmation Sampling: Confirmation samples will be collected from the base of the deeper excavations and side-walls in accordance with SC-HSA *Site Mitigation Program Standards* (SC-HSA, 2010). In addition, at the completion of grading in each of the ten (10) Site subareas, as shown on Figure 4b and 4c, confirmation base samples will be collected to confirm that removal goals have been achieved.
    - Specifically, two 4-point composite samples per subarea will be tested for the full range of *COPCs* previously detected in that subarea.
    - The two 4-point composite samples (8 samples per subarea) will be collected equidistantly throughout the subarea. The State-certified testing laboratory will complete the compositing at their facility. If the composite sample *COPC* concentration exceeds ¼ the value of applicable screening threshold (i.e., ESL or BTV), then each of the four discreet samples comprising that composite sample be independently analyzed. Additional soil removal will be completed until screening thresholds are achieved.

- Earthworks, Stockpiling and Landfill Disposal: Soil removal would be accomplished using conventional grading equipment. Standard dust suppression methods, stockpiling, and storm water best management practices would be incorporated into the soil removal activities, as required by the grading permit. A stand-alone, environmental *Site Safety & Dust Monitoring Plan* (separate submittal) will be provided, prior to earthworks to address contaminant construction worker & off-site receptor protection for earthworks and sampling activities conducted within impacted areas. Site safety would include continuously recorded dust monitoring in the work area and along the property line for monitoring particulate and respirable dust and calculated *Chemicals of Potential Concern* concentrations in particulates. This plan would complement the earthworks contractor's standard of care safety plan for normal heavy equipment earthworks. It is anticipated that initial Phase I earthworks implementation would take three weeks to complete and the Phase II earthworks another 4 weeks to complete.

  Soils would be stockpiled in pre-planned locations (see figure 4b) and sampled for landfill acceptance. A certified hazardous waste materials operator would manage the earthworks activities including the loading of stockpiled soils.

This remediation alternative would remove soil contaminants to below clean-up goals that are protective of human and environmental health. Confirmation sampling would document a baseline of clean soils, so clean surplus soils could be used for: (1) terrace regrading operations on-site, and/or (2) fill material disposal/reuse at an off-site location (i.e., landfill/private property).

We would employ this representative, confirmation sampling strategy to characterize deeper Site soils (i.e., below the maximum depths of well characterized shallow soil impacts) for reuse as "clean" material to be used for the proposed soil cap. Results of a "clean" soil baseline will be communicated to Environmental Health for reuse approval prior to construction of the soil cap.

6.1.3 Alternative 3 - Burial Envelope with Soil Cap

This alternative would consist of excavating impacted shallow soils (less than 2 feet bgs) and deeper areas with known contamination and burying the soils in an envelope on-site following DTSC "*Area of Containment*" guidelines for remediation of metals in soil (DTSC, 2008). Deeper soils would then be sampled for *COPCs,* and given the absence of contaminant exceedances, would be used to backfill on the burial envelope as a "soil cap." Because some residual contaminants would remain at concentrations exceeding cleanup goals (albeit under conditions that are completely protective of human health and safety), a *Land Use Covenant* (deed restriction) that runs-with-the-land would be required to document existing conditions and future soil management obligations. A *Land Use Covenant* condition for this remedial alternative would include a requirement that the thickness of the fill cover be regularly

checked and maintained as necessary to provide the protective cover that serves to eliminate potential exposure to any underlying impacted soil.

The separation of capped materials to groundwater is designed to be a minimum of 15-feet. In order to defensibly demonstrate long-term protection of shallow groundwater underlying the Site with respect to the burial of the metal impacted soils, a groundwater risk modeling consultant (Thomas Harder & Co Groundwater Consulting) to evaluate Site-specific contaminant transport modeling that includes predications of travel time and future concentrations of solute COPCs that could potentially affect groundwater at the subject property. This *Data Gap Workplan* will be completed to both quantify and confirm the potential for contaminant migration where the AOC footprint will be located. Field sampling for soil classification, hydraulic conductivity and permeability is planned for site-specific input to a simple leachability model (VLeach) that will be used confirm the degree of infiltration control that must be addressed by the cap design.

Experienced, and registered environmental geologists and engineers would manage environmental aspects of this project including agency coordination, environmental site safety (including tail gate safety meetings to address contaminant construction worker & off-site receptor protection for earthworks and sampling activities conducted within impacted areas). Site safety would include continuously recorded dust monitoring in the work area and along the property line for particulate and respirable dust and associated *Chemicals of Potential Concern*. This environmental *Site Safety & Dust Monitoring Plan* (separate submittal) would complement the earthworks contractor's standard of care safety plan for normal heavy equipment earthworks. Confirmation base and sidewall testing would be the basis for determining the limits of the target excavations. Sampling results, soil stockpile management, landfill acceptance profiling disposal documentation would be regularly relayed to the SC-HSA throughout the project. Experienced staff would coordinate all environmental monitoring, oversight, and sampling with licensed earth works contractors who would be tasked with cost-effectively implementing this limited remedial excavation work on a parallel track with the Site redevelopment of the residential housing complex. Earthworks would be conducted using standard earthworks equipment that include graders, excavators and loaders and standard-of-care earthworks practices will be in place for construction site safety and for controlling the generation of dust contact (i.e., wetting soils, monitoring wind speed, particulate dust monitoring, etc.).

6.2 Remedial Action Alternatives Evaluation

Alternative 2 (*Burial Envelope with Soil Cap*) has been selected as the most reasonable and appropriate remedial option because:

- is protective of human health;
- is effective over both the short and the long term;
- is cost effective because it incorporates remedial action with redevelopment grading;

- is implementable; and
- is the most cost effective based on redevelopment plans.

Alternative 1 (*No Further Action*) is not implementable as it would be unacceptable to the overseeing health agency (SC-HSA) and it would prevent redevelopment. The transport and landfill disposal costs to implement Alternative #2 (*Site-wide Shallow Soil (2-feet) Excavation and Targeted Deeper Excavation and Disposal*) are at least double the costs of the recommended "*Burial Envelope with Soil Cap*" alternative (Alternative 3).

7.0 PRELIMINARY REMEDIAL DESIGN

This section describes the tasks that would be conducted to complete the selected remedial action alternative (i.e., Alternative 3, *Burial Envelope* with *Soil Cap*). The proposed consolidation, on-site burial and capping of the metal impacted soils will be completed in general accordance with guidelines provided in the Department of Toxic Substances Control (DTSC) *Proven Technologies and Remedies Guidance – Remediation of Metals in Soil* using the Area of Contamination approach (AOC)[13]. The goal of the proposed capping remedy will be to provide an easy to maintain, health and environmentally protective long-term solution for the Site by completely removing the well-defined Site COCs that exceed residential screening thresholds (ESLs/DTSC Note 3) from direct contact with future on-site receptors. This capping remedy will require an environmental deed restriction and the preparation of an *Environmental Site Management Plan* that will provide clear direction for managing impacted soil beneath the cap during the construction phase of Site development and potential future subsurface utility work that may penetrate or alter the cap. Following the emplacement of the soil cap, completion of the proposed development and recording of the environmental deed restriction, we will request that the County of Santa Cruz Environmental Health Services Agency issue a *No Further Action* letter for the completed remediation. The capping remedy includes the following elements:

1. A study of buried contaminant mobility / leaching with respect to shallow groundwater protection beneath the Site (currently being completed).
2. Remedial excavation and consolidation of the well-defined soil impacts.
3. Preparation of the impacted soils burial envelope, impacted soil burial and cap emplacement, and construction of site improvements.

[13] The Area of Contamination approach "is based on an interpretation of federal guidelines which allow for the movement of hazardous wastes within a contiguous area of generally dispersed contamination without being considered land disposal and without triggering land disposal restrictions". The "placement" of hazardous waste into a land-based unit is not considered land disposal when using the Area of Contamination approach.

4. Environmental land use covenant/deed restriction and *Environmental Site Management Plan* to ensure long-term protection of the cap.

All proposed Site remediation and monitoring tasks will be completed and documented under the direct supervision of a California Registered Professional Geologist with expertise in environmental assessment and remediation.

In general, the proposed capping remedy will involve depositing approximately 18,111-yd^3 of metal and TPH impacted soils to a depth of approximately 35-feet solely beneath select impervious roadway/parking areas in the northeast corner of the property (approximate 17,100-ft^2 area). The soils will be capped with a minimum 6-inch thick, compacted base rock encapsulated by a minimum of 3-inches of asphalt or reinforced concrete. The base of the impacted soils burial envelope is designed to provide a minimum of 15-feet of separation between the impacted soils and historic high shallow groundwater (reported as 11-ft MSL).

Site preparation tasks involve scraping and separate stockpile segregation of the upper 24-inches (2-feet) of soil from across the property. Initial surface/shallow soils removal is designed to uncover/remove accessible, shallow debris accumulated over the years (tires, metal debris), and to more clearly see native soil conditions, especially in areas containing visually-stained soils or debris. A licensed surveyor (Ifland Engineering) will establish pre-excavation grade and the selected earthworks contractor will use laser/GIS technology to control grading depths.

The work proposed in this *Updated RAP* will be conducted with standard-of-care construction practices that will be in place for construction site safety and specifically for controlling the generation of dust contact (i.e., wetting soils, monitoring wind speed, continuous particulate dust monitoring, etc.). Weber, Hayes, and Associates staff will manage environmental aspects of this project including agency coordination, environmental site safety (including daily tail gate safety meetings), determining the limits of the target excavations, collection of base and sidewall samples where necessary for confirmation laboratory testing, soil stockpile management, landfill acceptance profiling and disposal documentation, and summary reporting.

Earthworks: All soil removal, stockpiling, and truck loading work will be conducted using heavy equipment (excavators, backhoes) and the transport of impacted soils to the burial envelope and/or to a Class I/III landfill will use tarped end dumps). There will be no trench work/workers for this grading project and no construction worker entry into the shallow excavations is expected. Site access will be controlled to allow only authorized personnel on-site.

Earthworks will be monitored visually using windsocks, flagging and hand-held wind meters to gauge wind speed, and on-going particulate monitoring to measure and control dust on-site. Soils will be wetted as necessary to prevent visible dust drift and earthworks will be halted if wind gusts exceed

15 mph or if continuously-measured particulate dust in the work area or at the perimeter exceeds regulatory levels documented in the *Site Safety & Dust Monitoring Plan* (separate submittal). Gloves will be used when handling soils. The stand-alone, environmental *Site Safety Plan* will be provided, prior to the startup of earthworks to address contaminant construction worker & off-site receptor protection for earthworks and sampling activities conducted within impacted areas. Site safety will include continuously recorded dust monitoring in the work area (using applicable dust screening levels that are protective of workers) and along the property line (for applicable dust screening levels that are protective of non-workers) for particulate and respirable dust and associated *Chemicals of Potential Concern*. This plan will complement the earthworks contractor's standard of care safety plan for normal heavy equipment earthworks.

Projected soil removal volumes, earthwork removal and stockpiling strategy, landfill acceptance testing, and confirmation sampling protocols are described in the alternates section of this report. Site soils will be removed using standard earthmoving equipment and elevation control/sample locations will confirmed by using a licensed surveyor (Ifland Engineering) to establish pre-excavation grade/sample locations and laser/GIS technology to be used by the earthworks contractor to control grading depths. Excavated soil will be segregated and stockpiled on-site for landfill acceptance testing and then loaded on to trucks for hazardous and non-hazardous transport to a local Class I/III landfill (acceptance pending results of stockpile sample testing and landfill acceptance profile approval).

Any stockpiled soils from the target (impacted) locations will be placed on an impermeable surface (i.e., asphalt, plastic sheeting); if excavated material is placed on native soils, at least 2-to-4 inches of underlying soils will be scraped to prevent leaving cross-contaminated soils at the Site. All stockpiles will be tarped with plastic sheeting that is adequately held down to prevent wind disturbance of the cover or infiltration from rains. It is anticipated that the soil removal will generate approximately 33,195 cubic yards (~46,473 tons) of impacted soil for burial and or off-site disposal at the Class I/III Landfills.

Field Oversight and Confirmation Sampling: Environmental oversight will be completed by experienced geologist and engineers who will manage the environmental aspects of the project, including colleting confirmation samples in the 10 subareas (described in detail in Section 6.1.2 *Remedial Action Alternative #2*) determining the final limits the excavations. Targeted deeper excavation activities will remove soils from areas identified in Figure 4c and 4d, and soil will be removed at least to the defined depth of the sample location [e.g., sample T-11, 6-foot excavation]. Confirmation sampling frequency/location will be collected in accordance with SC-HSA's Site *Mitigation Program Standards* (SC-HSA, 2010). A copy of the required sampling frequency along with sampling protocols is included in Appendix E (Soil Sampling Field Methodology). Additional tasks include managing soil stockpiles of excavated materials, disposal profiling, and correspondence

and reporting to the SC-HSA. As noted above, a site-specific, *Site Safety & Dust Monitoring Plan* (SSP, separate submittal) addresses soil handling/management of contaminated soils and health and safety dust monitoring for both the on-site worker and non-worker at the property line. The SSP will be discussed and updated during daily tailgate reviews.

Reporting: A comprehensive *Remedial Action Implementation Report* will document completion of all remedial excavation, testing, and disposal work tasks proposed in this *Updated Remedial Action Plan*. The report will include tabulated results of all excavation confirmation samples, figures of final excavation limits, laboratory testing and landfill disposal documentation, and recommendation for any additional work tasks, if any.

Note: The northern and eastern perimeter of the property along the slough is part of a protected riparian corridor and is not included in the current *Updated RAP*. These areas are being separately assessed and will be kept accessible for future characterization and remedial action.

8.0 IMPLEMENTATION SCHEDULE

Initial grading and Site preparation tasks for the Hillcrest Subdivision Development project is planned to begin in the summer of 2021. The earthworks contractor is ready to mobilize upon agency approval of this *Updated Remedial Action Plan*. Remedial earthworks (digging, stockpiling, loading, & trucking) will be completed on a parallel track with other Site redevelopment and construction tasks. As described above, impacted soils will be profiled for Class III non-hazardous landfill disposal. SC-HSA will be provided with regular updates, both verbal and written, during the course of remedial earthworks. Following milestone soil removal events, we will also provide updated field documentation that will include a description of any new field indications of previously unidentified soil contamination or areas containing buried areas, location figures, and opinions regarding the need for any additional remedial effort.

Implementation tasks and schedule, upon agency approval of this *Updated Remedial Action Plan*, will be as follows:

Task 1: Structure Demolition and Vehicle off-haul:	Completed
Task 2: Removal of Any Residual Near-Surface Debris:	Summer 2021
Task 3: Shallow and Deep Soil Remediation:	On parallel track with Task 2
Task 4: Final Documentation and Reporting:	6-8 weeks following Task 3

9.0 LIMITATIONS

All work related to the hazardous materials investigation and remediation at this Site has been completed under the direct supervision of a Professional Geologist or Engineer, registered in California, and experienced in environmental remediation

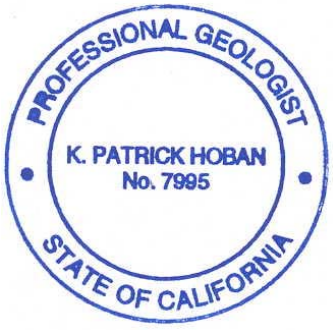
Please contact us if you have any questions/input regarding this project, at 831.722-3580.

Sincerely,

Weber, Hayes and Associates, Inc.

By: Harrison Hucks
Staff Scientist

And: Patrick Hoban, PG
Senior Geologist



10.0 REFERENCES

California Department of Toxic Substances Control (DTSC), Human and Ecological Risk Office, Human Health Risk Assessment:

- (DTSC, 2008), *Proven Technologies and Remedies (PT&R) guidance for Remediation of Metals in Soil,* August 29.
- (DTSC, 2018), *Human Health Risk Assessment (HHRA), Note Number: 3, DTSC-modified Screening Levels*, January < https://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-January-2018.pdf >

California Environmental Protection Agency (CalEPA), *Use of California Human Health Screening Levels in Evaluation of Contaminated Properties,* January 2005.

California Environmental Protection Agency Office of Environmental Health Hazard Assessment (CalEPA/OEHHA) and the Department of Toxic Substances Control (CalEPA/DTSC) LeadSpread Model

California Regional Water Quality Control Board (San Francisco Bay Region) (RWQCB-SFB)

- (RWQCB-SFB, 2016), Guideline document: *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Final version, 2016).

Central Coast Regional Water Quality Control Board (CC-RWQCB):

- (CC-RWQCB, 2011), *Water Quality Control Plan for the Central Coastal Basin*, June.

County of Santa Cruz Environmental Health Services Agency (SC-HSA) guidelines:

- (SC-HSA, 2010), *Site Mitigation Program Standards,* revised August:
  < http://scceh.com/eh/hm/HM08100.pdf >

County of Santa Cruz Environmental Health Services Agency (SC-EHS) correspondence regarding 511 Ohlone Parkway, Watsonville:

- (SC-HSA, 2016), Notice of Intent to Open Remedial Action Case Under Voluntary Cleanup Program, August 9.
- (SC-HSA, 2017): *Response to the Site Preparation Tasks for Redevelopment (SPTR) and the Remedial Action Plan (RAP)*, (County RO# 0000365), dated October 2.
- (SC-HSA, 2018): *Email Approval of Pathway & Peninsula Sampling Plan,* dated March 15.

Huntley Environmental (Huntley) comments regarding 511 Ohlone Parkway, Watsonville:

- (Huntley, 2017a): *Technical Memorandum: Re: Comments on the Remedial Action Plan (RAP), and the Site Preparation Tasks for Redevelopment (SPTR),* dated September 29.
- (Huntley, 2017b): Emailed follow-up comments: Additional Comments by SC-HSA's 3rd-Party Toxicologist: *Comments on the Remedial Action Plan (RAP), and the Site Preparation Tasks for Redevelopment (SPTR),* dated December 5.

Lowney Associates, report on the 511 Ohlone Parkway property (formerly 600 Errington Road):

- (Lowney, 2004), *Soil Quality Evaluation,* Cluster Property, dated September.

Thomas Harder & Company (TH&Co) reports regarding 511 Ohlone Parkway, Watsonville:

- (TH&Co, 2017): *Response to September 29, 2017 Huntley Environmental Comments 2 through 12,* dated October 26.
- (TH&Co, 2018): *Response to Huntley Review of TH&Co's Response to Comments*, dated April 19.

Trinity Source Group, report on the 511 Ohlone Parkway property:

- (Trinity 2016), Additional Phase II Environmental Site Assessment Report, December.

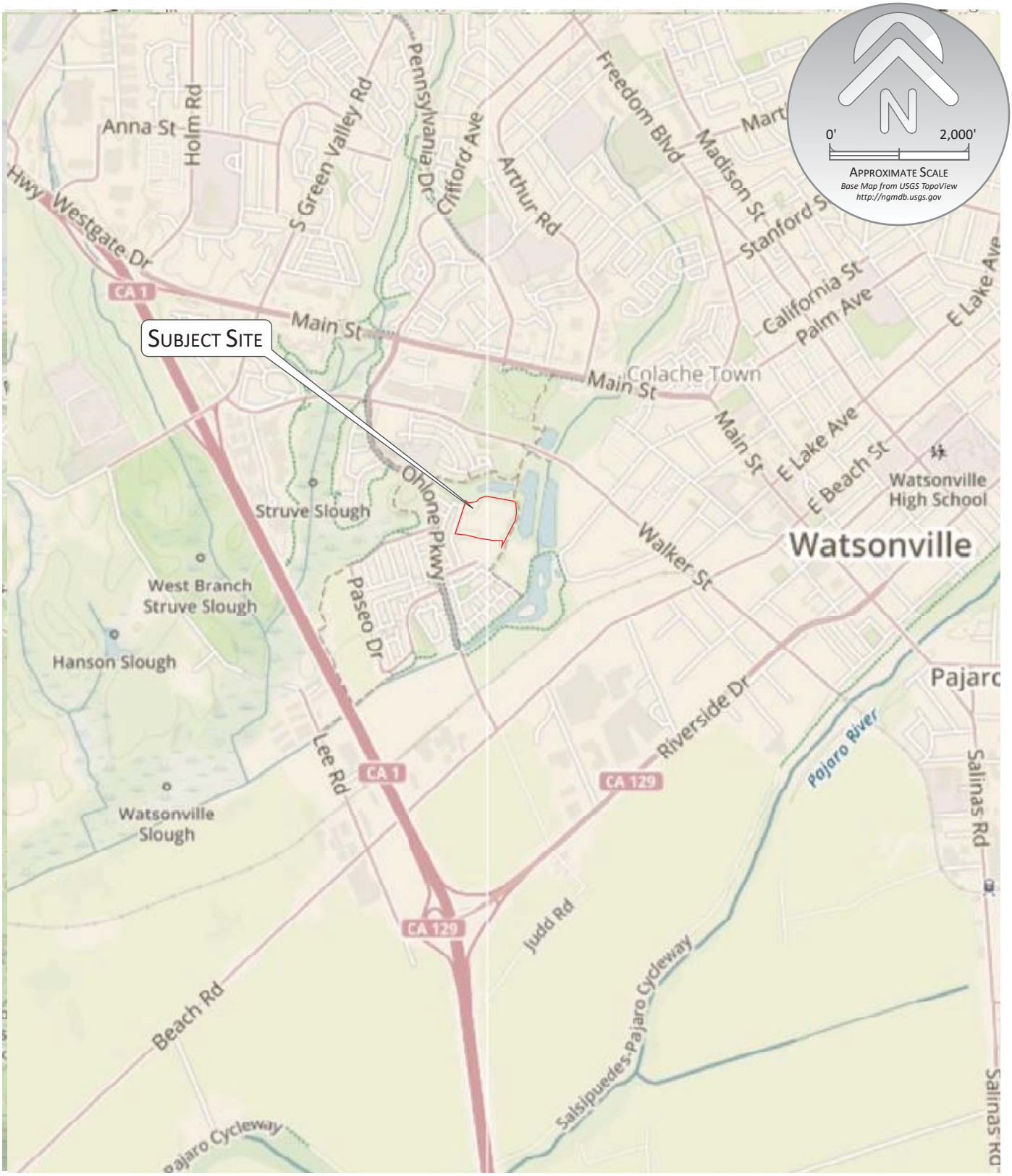
Weber, Hayes & Associates (WHA) reports on the 511 Ohlone Parkway property (formerly 600 Errington Road):

- (WHA, 2004), *Phase I/II Environmental Site Assessment,* 600 Errington Road, February.
- (WHA, 2016), *Phase I/II Environmental Site Assessment*, 511 Ohlone Parkway, July.
- (WHA, 2017a), *Site Preparation Tasks for Redevelopment (SPTR),* dated July 13 (submitted September 17, 2017).
- (WHA, 2017b): *Remedial Action Plan (RAP)* dated September 13.

United States Environmental Protection Agency (US-EPA):

- (US-EPA, 2015), (Ashtok, A.S. and A.K. Singh*). ProUCL Version 5.1.002* (Technical Guide, Statistical Software for Environmental Applications for Data Sets with and Without Nondetect Observations); EPA/600/R-07/041. October.
- (US-EPA, 2018), *Regional Screening Levels for Residential Uses (TR=1-6, HQ=1)*, May
  - http://www.epa.gov/region9/superfund/prg/

Figures



WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

LOCATION MAP
REMEDIAL ACTION PLAN

SITE: CLUSTERS STORAGE YARD
ADDRESS: 511 OHLONE PARKWAY, WATSONVILLE, CA

DATE: JULY 2017

REVISIONS/NOTES:

FIGURE 1
Project 2X623

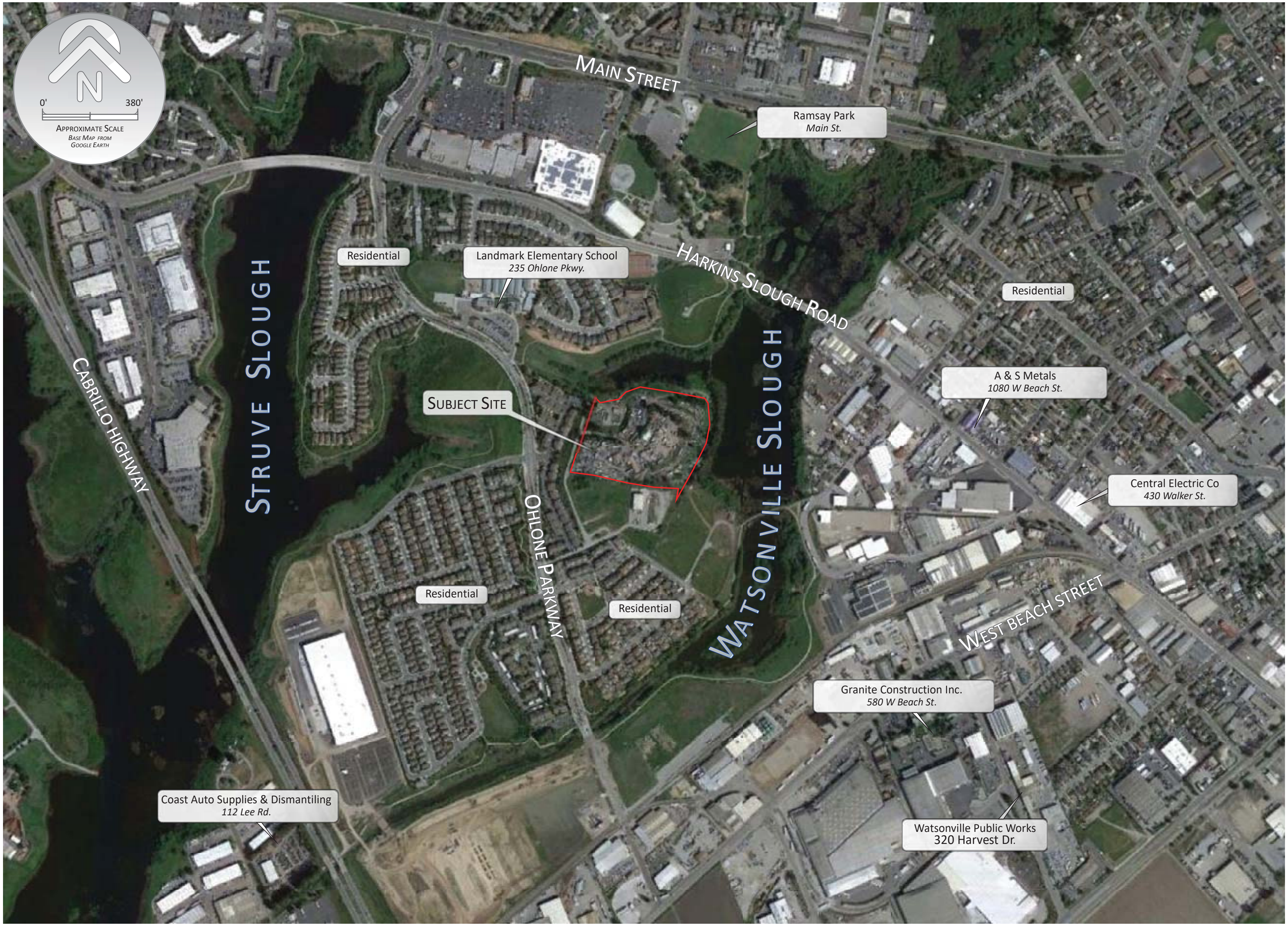


Figure 2
Project 2x623

Vicinity Map
Remedial Action Plan

Site: Clusters Junkyard
Address: 511 Ohlone Parkway, Watsonville, CA

Date: July 2017

Revisions/Notes:

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

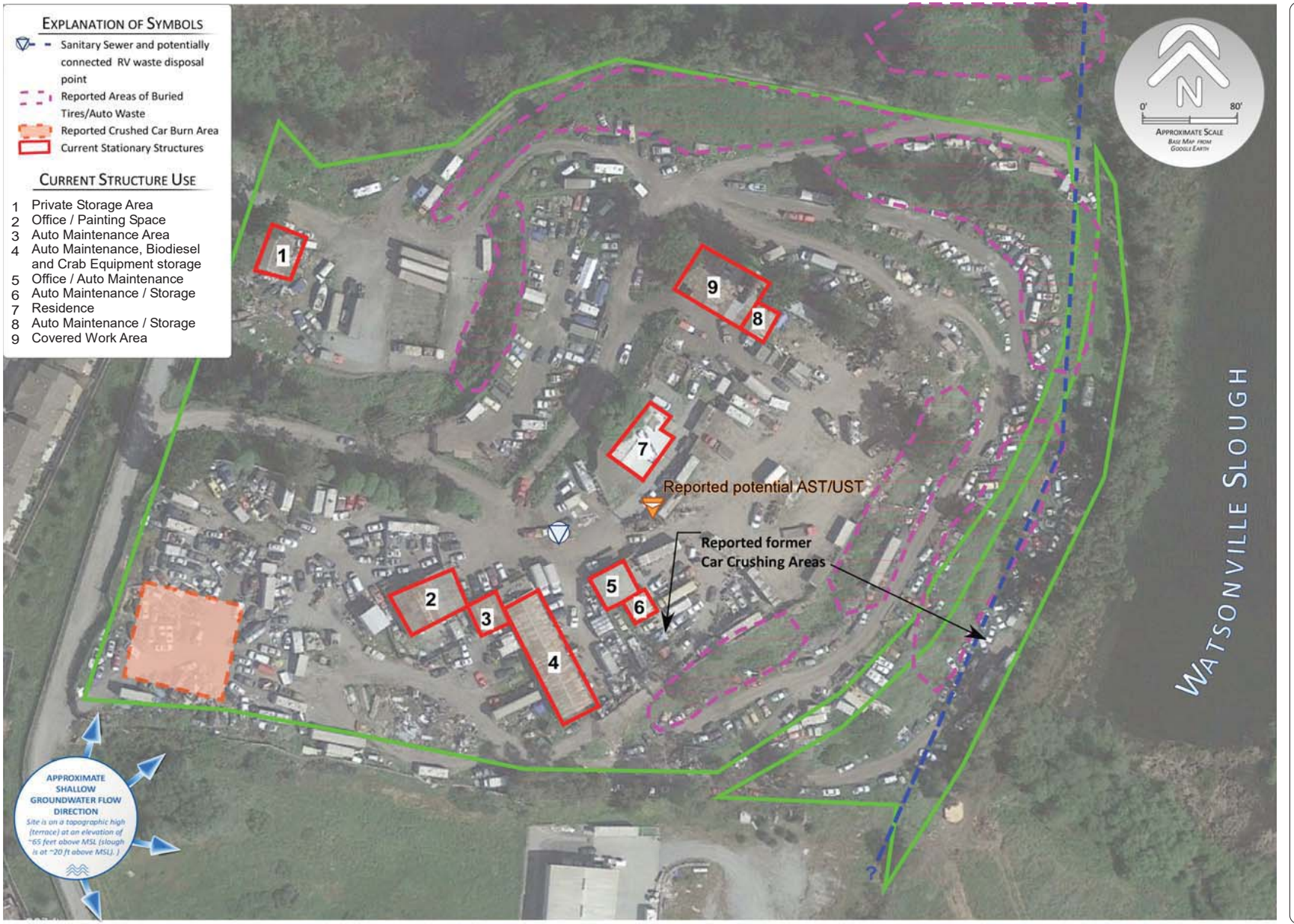


FIGURE 3
Project 2X623

SITE MAP
REMEDIAL ACTION PLAN
SITE: CLUSTER WRECKING YARD
ADDRESS: 511 OHLONE PKWY, WATSONVILLE CA

DATE: JULY 2017

REVISIONS/NOTES:

WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

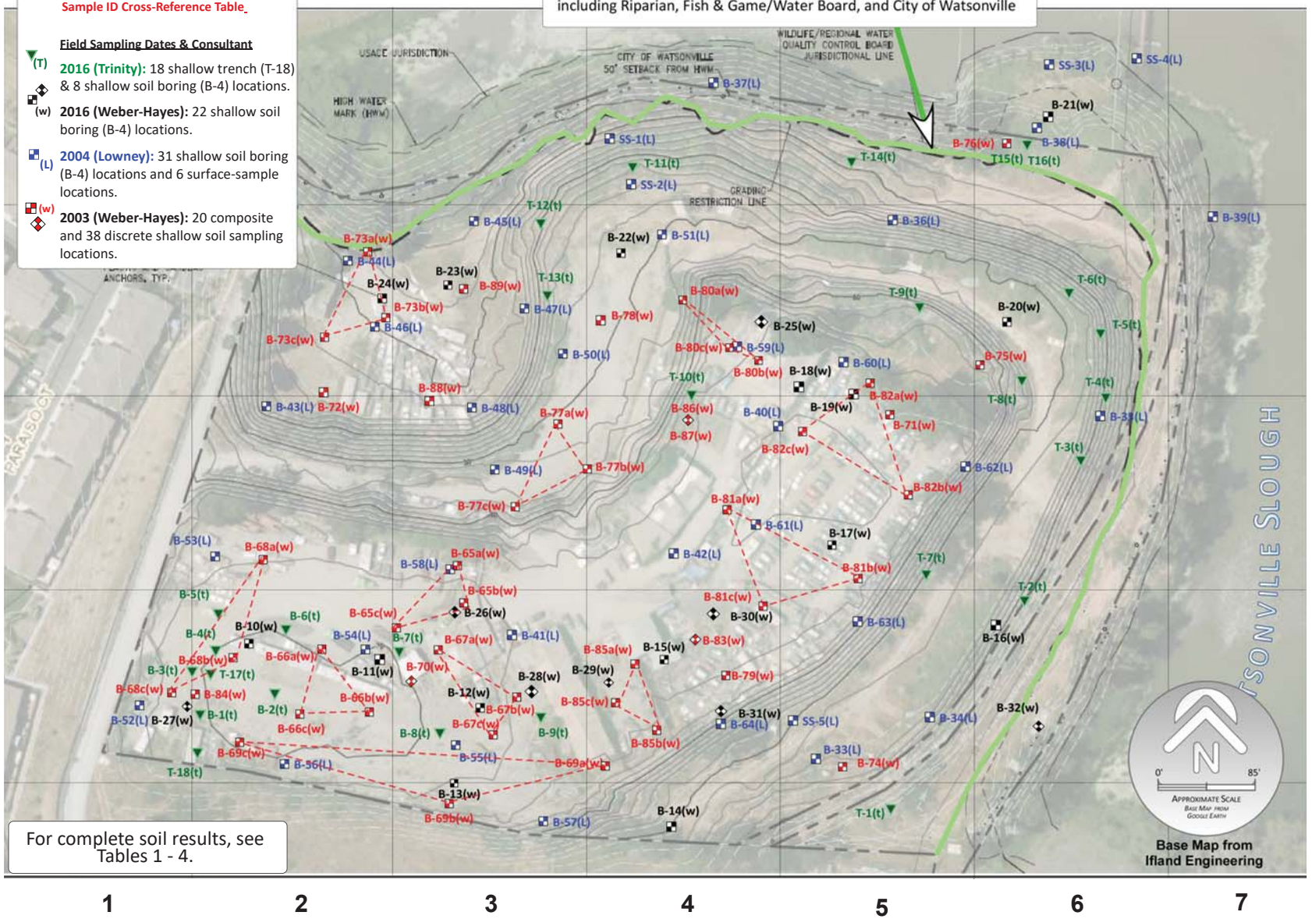


FIGURE 4.A *Project 2X623*

SHALLOW SOIL SAMPLE LOCATIONS REMEDIAL ACTION PLAN

SITE: FORMER CLUSTER WRECKING YARD
ADDRESS: 511 OHLONE PKWY, WATSONVILLE

DATE: JULY 2017

REVISIONS/NOTES:

WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

EXPLANATION

(ALL SOIL CONCENTRATIONS IN MG/KG)

Sample Exceedances	Residential Screening Level
Diesel/Motor Oil =	230/5,200.
Napthalene =	0.33
Total Lead =	80.
Arsenic =	13.97 (Background)

Fish & Game/Water Board Limit

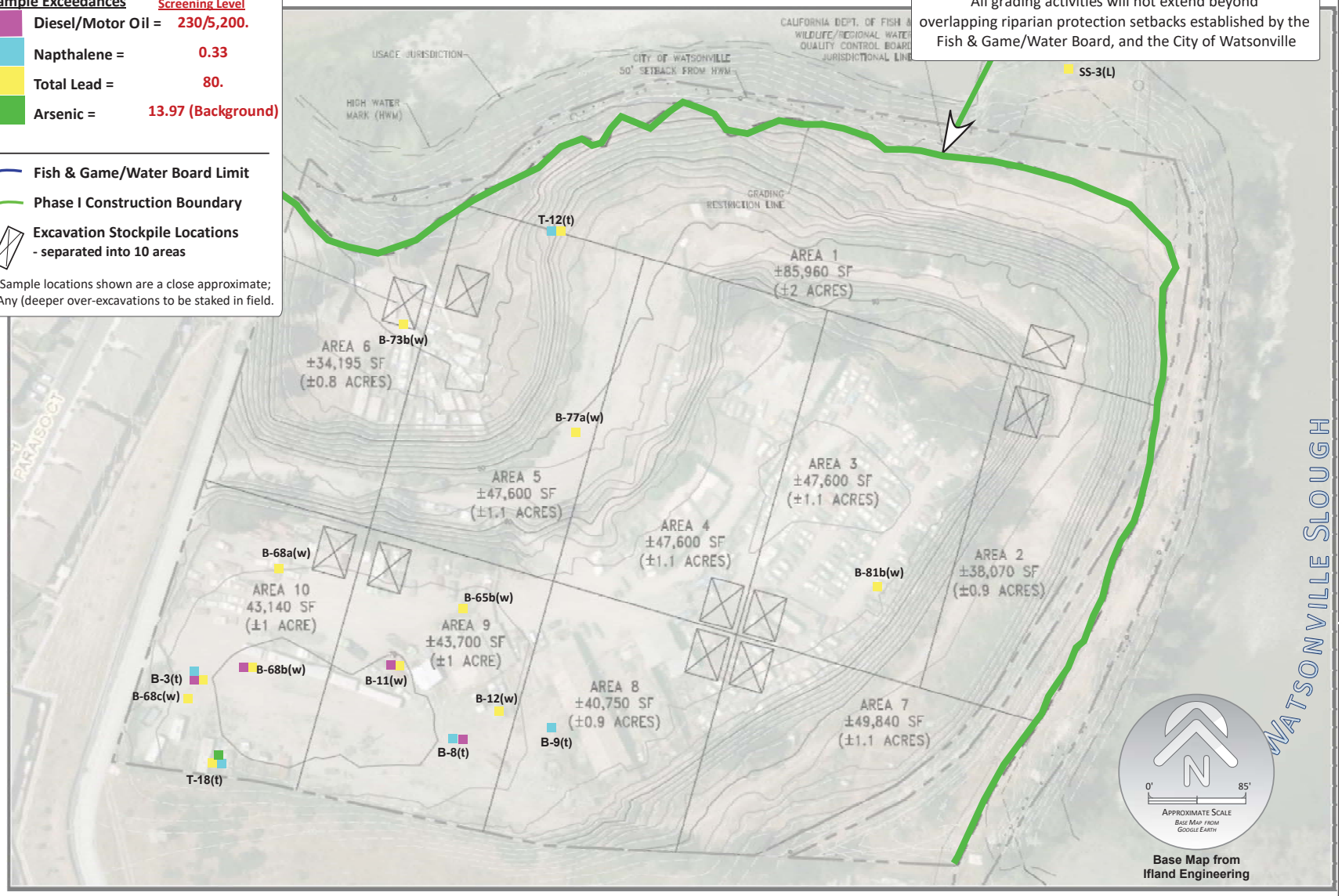
Phase I Construction Boundary

Excavation Stockpile Locations - separated into 10 areas

Sample locations shown are a close approximate; Any (deeper over-excavations to be staked in field.

Limits of Phase 1 Grading

All grading activities will not extend beyond overlapping riparian protection setbacks established by the Fish & Game/Water Board, and the City of Watsonville



Base Map from Ifland Engineering

FIGURE 4.B

Project 2X623

SHALLOW CONTAMINANT EXCEEDANCES (LESS THAN 2 FEET) AND STOCKPILE LAYOUT PLAN

SITE: FORMER CLUSTER WRECKING YARD

ADDRESS: 511 OHLONE PKWY, WATSONVILLE

DATE: APRIL 2018

REVISIONS/NOTES:

WEBER, HAYES & ASSOCIATES

Hydrogeology and Environmental Engineering

120 Westgate Drive, Watsonville, CA

831.722.3580 / www.weber-hayes.com

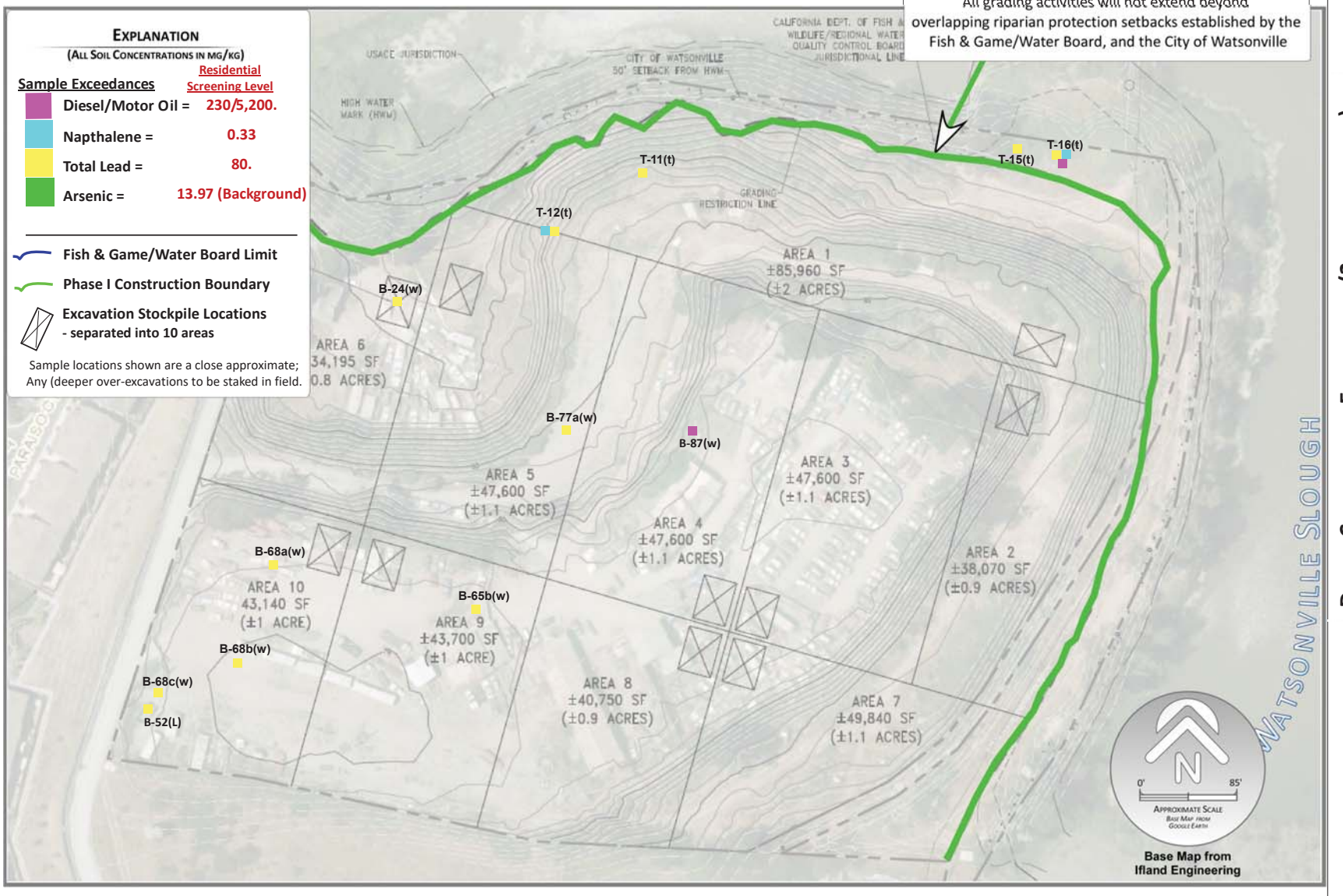


FIGURE 4.c
Project 2X623

DEEPER CONTAMINANT EXCEEDANCES (2 FEET AND BELOW) AND STOCKPILE LAYOUT PLAN

SITE: FORMER CLUSTER WRECKING YARD
ADDRESS: 511 OHLONE PKWY, WATSONVILLE

DATE: APRIL 2018

REVISIONS/NOTES:

WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

FIGURE 4.D
Project 2X623

LOCATIONS REQUIRING ADDITIONAL CONFIRMATION SAMPLING
(EXCEEDANCE LOCATIONS WITHOUT A DEEPER CLEAN SAMPLE)
LEAD, NAPTHALENE, PETROLEUM HYDROCARBONS (DIESEL/MOTOR OIL

SITE: FORMER CLUSTER WRECKING YARD
ADDRESS: 511 OHLONE Parkway, WATSONVILLE

DATE: APRIL 2018

REVISIONS/NOTES:

EXPLANATION

(ALL SOIL CONCENTRATIONS IN MG/KG)

Sample Exceedances	Residential Screening Level
Diesel/Motor Oil =	230/5,200.
Napthalene =	0.33
Total Lead =	80.

Fish & Game/Water Board Limit

Phase I Construction Boundary

Surface/Shallow Sample Exceedence (< 2 ft) having no deeper confirmation sample

Excavation Stockpile Locations - separated into 10 areas

Sample locations shown are a close approximate; Any (deeper over-excavations to be staked in field.

Limits of Phase 1 Grading
All grading activities will not extend beyond overlapping riparian protection setbacks established by the Fish & Game/Water Board, and the City of Watsonville

USACE JURISDICTION
CITY OF WATSONVILLE 50' SETBACK FROM HWM
CALIFORNIA DEPT. OF FISH & WILDLIFE/REGIONAL WATER QUALITY CONTROL BOARD JURISDICTIONAL LINE
HIGH WATER MARK (HWM)
GRADING RESTRICTION LINE
PARASOCT

SS-3(L) @ Surface
T-15(t)
T-16(t) (Motor Oil)
T-11(t) Cadmium
T-12(t)
B-24(w) Cobalt
B-73b(w) @ 0.5 ft
B-73c(w) @ 0.5 ft
B-77a(w)
B-68a(w)
B-65b(w)
B-81b(w) @ 0.5 ft
B-3(t) @1.5ft
B-68b(w)
B-52(L)
(Motor Oil) B-8(t) @ 0.5 ft
B-9(t) @ 0.5 ft
T-18(t) @ Surface Cobalt

AREA 1 ±85,960 SF (±2 ACRES)
AREA 6 ±34,195 SF (±0.8 ACRES)
AREA 5 ±47,600 SF (±1.1 ACRES)
AREA 4 ±47,600 SF (±1.1 ACRES)
AREA 3 ±47,600 SF (±1.1 ACRES)
AREA 2 ±38,070 SF (±0.9 ACRES)
AREA 10 43,140 SF (±1 ACRE)
AREA 9 ±43,700 SF (±1 ACRE)
AREA 8 ±40,750 SF (±0.9 ACRES)
AREA 7 ±49,840 SF (±1.1 ACRES)

WATSONVILLE SLOUGH

N
0' 85'
APPROXIMATE SCALE
BASE MAP FROM GOOGLE EARTH

Base Map from Ifland Engineering

WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

Tables

Table 1: MASTER TABLE of ALL PREVIOUSLY COLLECTED SOIL SAMPLES

(All soil sample locations shown on Figure 2)

Former Clusters Junkyard

511 Ohlone Parkway, Watsonville

Soil Sample Information						
Sample Date	**Sampling Method**	**Quadrant Location** (see Figure 2)	**UPDATED Sample ID**	**ORIGINAL Consultant ID** (from previous reports)		**Sample Depth** (feet below ground surface)
October 2016 (sampled by Trinity Source Group "t")	Exploratory Boring	D2	**B-1(t)**	TB -1		0.5
		D2	**B-2(t)**	TB-2		0.5
		D1	**B-3(t)**	TB-3		0.5
						1.5
						2.5
						4
		D 1-2	**B-4(t)**	TB-4		0.5
		C-D 1-2	**B-5(t)**	TB-5		0.5
		D2	**B-6(t)**	TB-6		0.75
		D3	**B-7(t)**	TB-7		0.5
		D3	**B-8(t)**	TB-8		0.5
						1.5
						2.5
						4
		D3	**B-9 (t)**	TB-9		0.5
						1.5
						2.5
						4
	Trench	E5	**T-1(t)**	Area 1	T4	4
		D6	**T-2(t)**		T6	3.5
		C6	**T-3(t)**		T9	2
		B-C6	**T-4(t)**		T10	1
		B6	**T-5(t)**		T11	1.5
		B6	**T-6(t)**		T12	1
		C5	**T-7(t)**	Area 2	T6	1
		B-C6	**T-8(t)**		T12	2
		B5	**T-9(t)**		T15	2
		B-C4	**T-10(t)**	Area 3	T1	3
		A4	**T-11(t)**	Area 5	T1	6
		B3	**T-12(t)**		T3	2
		B3	**T-13(t)**		T5	3
		A5	**T-14(t)**		T10	4
		A6	**T-15(t)**	Area 6	T1	2
		A6	**T-16(t)**		T1*	8
		D2	**T-17(t)**	Area 8	T1	2
		D1-2	**T-18(t)**		Debris	--
June 2016 (Sampled by Weber Hayes and Associates "w")	Exploratory Boring (Hand Auger)	D2	**B-10(w)**	SB-1		0.5
						2
		D2	**B-11(w)**	SB-2		0.5
						2
		D-E3	**B-12(w)**	SB-3		0.5
						2
		D3	**B-13(w)**	SB-4		0.5
						2

Table 1: MASTER TABLE of ALL PREVIOUSLY COLLECTED SOIL SAMPLES

(All soil sample locations shown on Figure 2)

Former Clusters Junkyard

511 Ohlone Parkway, Watsonville

Soil Sample Information					
Sample Date	***Sampling Method***	***Quadrant Location*** ***(see Figure 2)***	***UPDATED Sample ID***	***ORIGINAL Consultant ID*** **(from previous reports)**	***Sample Depth*** ***(feet below ground surface)***
June 2016 (continued) (Sampled by Weber Hayes and Associates "w")		E4	**B-14(w)**	SB-5	0.5
					2
		D4	**B-15(w)**	SB-6	0.5
					2
		D6	**B-16(w)**	SB-7	0.5
					2
		C5	**B-17(w)**	SB-8	0.5
					2
		B5	**B-18(w)**	SB-9	0.5
					2
		B6	**B-19(w)**	SB-10	0.5
					2
		B6	**B-20(w)**	SB-11	0.5
					2
		A6	**B-21(w)**	SB-12	0.5
					2
		B4	**B-22(w)**	SB-13	0.5
					2
		B3	**B-23(w)**	SB-14	0.5
					2
		B2	**B-24(w)**	SB-15	0.5
					2
		B4	**B-25(w)**	DP-1	2
		D3	**B-26(w)**	DP-2	2
		D1	**B-27(w)**	DP-4	2
		D3	**B-28(w)**	DP-5	2
		D3	**B-29(w)**	DP-6	2
		D4	**B-30(w)**	DP-7	2
		D4	**B-31(w)**	DP-8	2
		D6	**B-32(w)**	DP-9	2
August 2004 (Sampled by Lowney Associates "L")	Exploratory Boring	D5	**B-33(L)**	CL-1	1
					3
		D5	**B-34(L)**	CL-2	2
					3
		C6	**B-35(L)**	CL-3	2
					3
		B5	**B-36(L)**	CL-4	4
		A4	**B-37(L)**	CL-5	1
					3
		A6	**B-38(L)**	CL-6	1
					3
					5
					7
		B7	**B-39(L)**	CL-8	5
		C4	**B-40(L)**	R-1	0.5
					2

Table 1: MASTER TABLE of ALL PREVIOUSLY COLLECTED SOIL SAMPLES

(All soil sample locations shown on Figure 2)

Former Clusters Junkyard

511 Ohlone Parkway, Watsonville

Soil Sample Information					
Sample Date	***Sampling Method***	***Quadrant Location*** ***(see Figure 2)***	***UPDATED Sample ID***	***ORIGINAL Consultant ID*** **(from previous reports)**	***Sample Depth*** ***(feet below ground surface)***
August 2004 **- continued -** (Sampled by Lowney Associates "L")	Exploratory Boring	D3	**B-41(L)**	R-2	0.5
					2
					3
		C4	**B-42(L)**	R-3	1
					3
		C2	**B-43(L)**	GZ-1	2
					3
		B2	**B-44(L)**	GZ-2	1
					3
		B3	**B-45(L)**	BC-1	3
					5
					7
		B2	**B-46(L)**	BC-2	3
					5
					7
		B3	**B-47(L)**	BC-3	3
					5
					7
		C3	**B-48(L)**	BC-4	3
					5
					7
		C3	**B-49(L)**	CZ-1	2
					4
		B3	**B-50(L)**	CZ-2	1
					3
					7
					11
		B4	**B-51(L)**	CZ-3	2
		D1	**B-52(L)**	G+G-1	2
					4
					6
		C1	**B-53(L)**	G+G-2	2
					4
					6
		D2	**B-54(L)**	G+G-3	0.5
					2
		D3	**B-55(L)**	G+G-4	0.5
					2
					3
		D2	**B-56(L)**	G+G-5	2
					4
		E3	**B-57(L)**	G+G-6	2
					4
		C3	**B-58(L)**	G+G-7	2
					3.5
		B4	**B-59(L)**	G-1	2
					3
		B5	**B-60(L)**	G-2	2
					3

Table 1: MASTER TABLE of ALL PREVIOUSLY COLLECTED SOIL SAMPLES

(All soil sample locations shown on Figure 2)

Former Clusters Junkyard

511 Ohlone Parkway, Watsonville

Soil Sample Information					
Sample Date	**Sampling Method**	**Quadrant Location** (see Figure 2)	**UPDATED Sample ID**	**ORIGINAL Consultant ID** (from previous reports)	**Sample Depth** (feet below ground surface)
August 2004 - continued - (Sampled by Lowney Associates "L")	Exploratory Boring	C4	**B-61(L)**	G-3	0.5
					2
					3
		C5	**B-62(L)**	G-4	2
					3
		D5	**B-63(L)**	G-5	2
					4
					6
		D4	**B-64(L)**	G-6	2
					4
					6
	Surface Sample	A4	**SS-1(L)**	SS-1	--
		A4	**SS-2(L)**	SS-2	--
		A6	**SS-3(L)**	SS-3	--
		A6	**SS-4(L)**	SS-4	--
		D5	**SS-5(L)**	SS-5	--
December 2003 (Sampled by Weber Hayes Associates "w")	Exploratory Boring	D2	**B-65(w)**	G&G (composite 1a,1b,1c)	0.5
					2
		C3	**B-65a(w)**	G&G 1a	2
		C-D3	**B-65b(w)**	G&G 1b	2
		D2-3	**B-65c(w)**	G&G 1c	2
		D2	**B-66(w)**	G&G (composite 2a,2b,2c)	0.5
					2
		D2	**B-66a(w)**	G&G 2a	2
		D2	**B-66b(w)**	G&G 2b	2
					4
		D2	**B-66c(w)**	G&G 2c	2
		D3	**B-67(w)**	G&G (composite 3a,3b,3c)	0.5
					2
		D3	**B-67a(w)**	G&G 3a	2
		D3	**B-67b(w)**	G&G 3b	2
		D3	**B-67c(w)**	G&G 3c	2
		D2	**B-68(w)**	G&G (composite 4a,4b,4c)	0.5
					2
		C2	**B-68a(w)**	G&G 4a	0.5
					2
		D2	**B-68b(w)**	G&G 4b	0.5
					2
		D1	**B-68c(w)**	G&G 4c	0.5
					2
		D2	**B-69(w)**	G&G (composite 5a,5b,5c)	0.5
					2
		D3	**B-69a(w)**	G&G 5a	0.5
		E3	**B-69b(w)**	G&G 5b	0.5
		D2	**B-69c(w)**	G&G 5c	0.5
		D3	**B-70(w)**	G&G (Discrete #1	0.5
					2
					4

Table 1: MASTER TABLE of ALL PREVIOUSLY COLLECTED SOIL SAMPLES

(All soil sample locations shown on Figure 2)

Former Clusters Junkyard

511 Ohlone Parkway, Watsonville

Soil Sample Information					
Sample Date	*Sampling Method*	*Quadrant Location (see Figure 2)*	*UPDATED Sample ID*	*ORIGINAL Consultant ID (from previous reports)*	*Sample Depth (feet below ground surface)*
December 2003 - continued - (Sampled by Weber Hayes Associates "w")	Exploratory Boring	C5	**B-71(w)**	EB-1	20 40
		B-C2	**B-72(w)**	Gonzalez (composite 1a, 1b, 1c)	0.5 2
		B2	**B-73(w)**	Gonzalez# (composite 2a, 2b, 2c)	0.5 2
		B2	**B-73a(w)**	Gonzalez 2a	0.5
		B2	**B-73b(w)**	Gonzalez 2b	0.5
		B2	**B-73c(w)**	Gonzalez 2c	0.5
		D5	**B-74(w)**	Clusters (composite 1a,1b,1c)	0.5 2
		B6	**B-75(w)**	Clusters (composite 2a,2b,2c)	0.5 2
		A5	**B-76(w)**	Clusters# (composite 3a,3b,3c)	0.5 2
		C3	**B-77(w)**	Chaz #- 1a,1b,1c	0.5 2
		C3-4	**B-77a(w)**	Chaz 1a	2
		C3	**B-77b(w)**	Chaz 1b	2
		C3	**B-77c(w)**	Chaz 1c	2
		B4	**B-78(w)**	Chaz (composite 2a,2b,2c)	0.5 2
		D4	**B-79(w)**	Gerrys (composite 1a,1b,1c)	0.5 2
		B4	**B-80(w)**	Gerrys (composite 2a,2b,2c)	0.5 2
		B4	**B-80a(w)**	Gerrys 2a	2
		B4	**B-80b(w)**	Gerrys 2b	2 4
		B4	**B-80c(w)**	Gerrys 2c	2
		C4	**B-81(w)**	Gerrys (composite 3a,3b,3c)	0.5 2
		C4	**B-81a(w)**	Gerrys 3a	0.5 2
		C5	**B-81b(w)**	Gerrys 3b	0.5 2
		D4	**B-81c(w)**	Gerrys 3c	0.5 2
		C5	**B-82(w)**	Gerrys (composite 4a,4b,4c)	0.5 2
		C5	**B-82a(w)**	Gerrys 4a	2
		C5	**B-82b(w)**	Gerrys 4b	2
		C5	**B-82c(w)**	Gerrys 4c	2
		D4	**B-83(w)**	Gerrys Discrete	0.5 2 4
		D1	**B-84(w)**	EB-2	20 40

Table 1: MASTER TABLE of ALL PREVIOUSLY COLLECTED SOIL SAMPLES

(All soil sample locations shown on Figure 2)

Former Clusters Junkyard

511 Ohlone Parkway, Watsonville

Soil Sample Information					
Sample Date	***Sampling Method***	***Quadrant Location*** *(see Figure 2)*	***UPDATED Sample ID***	***ORIGINAL Consultant ID*** **(from previous reports)**	***Sample Depth*** *(feet below ground surface)*
December 2003 - continued - (Sampled by Weber Hayes Associates "w")	Exploratory Boring	D3-4	**B-85(w)**	JV (composite 1a,1b,1c)	0.5
					2
		D4	**B-85a(w)**	JV 1a	0.5
		D4	**B-85b(w)**	JV 1b	0.5
		D4	**B-85c(w)**	JV 1c	0.5
		B-C4	**B-86(w)**	Residence (composite 1a,1b,1c)	0.5
					2
		C4	**B-87(w)**	Residence #1 (discrete)	0.5
					2
					4
		B-C3	**B-88(w)**	Bay City (composite 1a,1b,1c)	0.5
					2
		B3	**B-89(w)**	Bay City (composite 2a,2b,2c)	0.5
					2

Note: Table shows only those collected samples that were analyzed at a State-certified laboratory.

TOTAL SAMPLE LOCATIONS	**TOTAL SAMPLES ANALYZED**
145	**249**

SB = Soil Boring (shallow, hand augured)
DP = Driven Probe (GeoProbe rig)
T = Trench Sample (grab soil from backhoe trench)

(w) = Weber-Hayes Associates: Sample depths by Weber-Hayes and Lowney were measured from the top of the collected soil sample (i.e. a "2-ft" sample means the top of the soil sample was at 2-ft). Therefore a "clean" 2-ft sample would indicate soils are unimpacted below a depth of 2-ft.

(L) = and - Lowney Associates:

(t) = Trinity Source Group: Sample depths by Trinity were measured from the base of the collected soil sample (i.e. a "2-ft" sample means the bottom of the soil sample was at 2-ft). Therefore a "clean" 2-ft sample would indicate soils are unimpacted above a depth of 2-ft.

Table 2

Soil Sample Test Results: CAM 17 METALS Analysis

Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info					*CAM 17 Metals Analysis Results (plus Mercury)*																	
Date Sampled	*UPDATED Sample ID*	*ORIGINAL Consultant ID*		*Depth*	LEAD	Cadmium	Chromium	Nickel	Zinc	*Antimony*	Aluminum	Arsenic	Barium	Beryllium	Hexavalent Chromium	Cobalt	Copper	Molybdenum	Selenium	Silver	Thallium	Vanadium	Mercury
					LUFT 5 Metals																	
October 2016 (sampled by Trinity Source Group)	B-1(t)	TB -1		0.5	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
	B-2(t)	TB-2		0.5	--	--	--	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--
	B-3(t)	TB-3		0.5	12	0.37	13	15	71	ND	--	1	95	0.12	0.78	6.5	27	1	ND	0.1	0.12	51	0.044
				1.5	**140**	2.4	23	26	410	0.89	--	1.7	140	0.24	1.1	8.7	85	1.2	ND	0.18	ND	53	0.073
				2.5	--	--	--	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--
				4	--	--	--	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--
	B-4(t)	TB-4		0.5	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--
	B-5(t)	TB-5		0.5	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--
	B-6(t)	TB-6		0.75	--	--	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--
	B-7(t)	TB-7		0.5	--	--	--	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--
	h	TB-8		0.5	23	0.71	9.9	9.9	75	0.75	--	0.77	54	0.14	1	6.6	54	2.4	ND	ND	ND	51	0.053
				1.5	--	--	--	--	--	--	--	--	--	--	3.3	--	--	--	--	--	--	--
				2.5	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--
				4	--	--	--	--	--	--	--	--	--	--	0.61	--	--	--	--	--	--	--
	B-9(t)	TB-9		0.5	40	1.3	29	31	97	0.14	--	2.2	93	0.17	1.1	7.4	82	2.6	ND	0.12	ND	46	0.11
				1.5	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--
				2.5	--	--	--	--	--	--	--	--	--	--	2.7	--	--	--	--	--	--	--
				4	--	--	--	--	--	--	--	--	--	--	0.85	--	--	--	--	--	--	--
	T-1(t)		T4	4	--	--	--	--	--	--	--	5.9^	--	--	2.1	--	--	--	--	--	--	--
	T-2(t)	Area 1	T6	3.5	20^	0.74^	21^	18^	68^	ND	--	4.4^	170^	0.30^	---	5.9^	15^	0.91^	ND	ND	ND	25^	0.39
	T-3(t)		T9	2	29^	1.4^	33^	37^	150^	ND	--	9.2^	110^	0.32^	---	9.6^	69^	1.5^	ND	ND	ND	44^	0.28
	T-4(t)		T10	1	6.8^	0.35^	31^	23^	39^	ND	--	3.3^	120^	0.50^	---	12^	10^	0.48^	ND	ND	ND	43^	0.047
	T-5(t)		T11	1.5	--	--	--	--	--	--	--	5.5^	--	--	1.6	--	--	--	--	--	--	--	--
	T-6(t)		T12	1	76^	0.68^	53^	57^	110^	ND	--	5.6^	170^	0.42^	---	13^	25^	0.60^	ND	ND	ND	49^	0.14
	T-7(t)	Area 2	T6	1	8.6^	0.38^	62^	100^	76^	ND	--	5.8^	210^	0.50^	---	16^	36^	0.27^	ND	ND	ND	42^	0.17
	T-8(t)		T12	2	22^	0.95^	77^	93^	110^	ND	--	5.0^	140^	0.30^	---	13^	31^	0.63^	ND	ND	ND	43^	0.15
	T-9(t)		T15	2	55^	0.53^	47^	52	88^	ND	--	3.5^	83^	0.26^	---	11^	63^	0.72^	ND	ND	ND	52	0.16
	T-10(t)	Area 3	T1	3	--	--	--	--	--	--	--	8.6	--	--	3.5	--	--	--	--	--	--	--	--
	T-11(t)	Area 5	T1	6	**3,200^**	**9.3^**	100^	140^	1,400^	1.5^	--	11^	2,100^	0.48^	---	16^	86^	5.5^	ND	ND	ND	42^	0.14
	T-12(t)		T3	2	**1,100^**	4.3^	57^	84^	380^	6.1^	--	9.4^	250^	0.45^	---	19^	100^	2.8^	ND	ND	ND	50^	0.18
	T-13(t)		T5	3	--	--	--	--	--	--	--	5.8^	--	--	4.9	--	--	--	--	--	--	--	--
	T-14(t)		T10	4	16^	0.44^	70^	110^	69^	ND	--	7.4^	260^	0.64^	---	18^	35^	0.57^	ND	ND	ND	48^	0.09
	T-15(t)	Area 6	T1	2	**130^**	1.2^	45^	59^	160^	0.62^	--	5.4^	130^	0.42^	2.3	12^	73^	1.5^	ND	ND	ND	49^	0.11
	T-16(t)		T1*	8	**310^**	2.6^	35^	74^	380^	1.6^	--	11^	120^	0.22^	---	8.1^	160^	13^	ND	ND	ND	62^	0.18
	T-17(t)	Area 8	T1	2	50^	3.0^	35^	42^	360^	0.56^	--	4.5^	120^	0.37^	---	9.7^	94^	2.6^	ND	0.77^	ND	59^	0.099
	T-18(t)		Debris	--	**120^**	1.6^	110^	150^	150^	ND	--	**14^**	330^	0.92^	---	**28^**	53^	0.83^	ND	ND	ND	61^	0.17
RWQCB Environmental Screening Levels Residential					*80*	*39*	*120,000*	*86* [4]	*23,000*	*31*	*NE*	*0.067* [3]	*15,000*	*42*	*0.3*	*23*	*3,100*	*390*	*390*	*390*	*0.78*	*390*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)					400 / 80	71 / 5.2	120, 000 /36,000	-- / --	23,000 / --	31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	0.3 / --	23 / --	3,100 / --	390 / --	390 / --	390 / 390	0.78 / --	390 / 390	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)								**168.1** [3]				**13.97** [3]			**6.1** [3]								

Table 2

Soil Sample Test Results: CAM 17 METALS Analysis

Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				CAM 17 Metals Analysis Results (plus Mercury)																	
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	LEAD	Cadmium	Chromium	Nickel	Zinc	Antimony	Aluminum	Arsenic	Barium	Beryllium	Hexavalent Chromium	Cobalt	Copper	Molybdenum	Selenium	Silver	Thallium	Vanadium	Mercury
				LUFT 5 Metals																		
June 2016 (Sampled by Weber Hayes and Associates)	B-10(w)	SB-1	0.5	63	1.7	24	22	110	ND	15,000	3.3	65	0.12[J]	---	12	140	2.3[J]	ND	0.41[J]	ND	54	0.060[J]
			2	13	0.29[J]	52	98	66	ND	15,000	6.7	170	0.5	---	13	31	ND	ND	0.31[J]	ND	33	0.056[J]
	B-11(w)	SB-2	0.5	**110**	1.8	28	150	5,500	ND	18,000	2.3	78	0.13[J]	---	9.7	690	2.6	ND	0.45[J]	ND	58	0.063[J]
			2	9.9	0.092[J]	62	89	71	ND	17,000	11	120	0.49[J]	---	14	41	ND	ND	0.44[J]	ND	41	0.083[J]
	B-12(w)	SB-3	0.5	**250**	0.8	39	43	82	ND	17,000	4.1	100	0.19[J]	---	11	170	1.0[J]	ND	1	ND	61	0.076[J]
			2	17	0.15[J]	75	83	71	ND	22,000	1	130	0.48[J]	---	11	35	ND	ND	0.21[J]	ND	23	0.21
	B-13(w)	SB-4	0.5	52	0.62	51	67	61	ND	18000^	5.9	180	0.49[J]	---	12	35	ND	6.2	0.24[J]	ND	43	0.044[J]
			2	14	0.13[J]	57	80	59	ND	21000^	6.2	160	0.51	---	15	34	ND	7.7	0.33[J]	ND	43	ND
	B-14(w)	SB-5	0.5	23	0.34[J]	48	54	71	ND	17,000^	5.3	110	0.29[J]	---	8.8	51	1.3[J]	7	1.1	ND	48	0.052[J]
			2	6.9	ND	53	64	30	ND	19,000^	6.1	210	0.47[J]	---	7.5	22	ND	ND	0.23[J]	ND	40	0.047[J]
	B-15(w)	SB-6	0.5	32	0.29[J]	30	33	77	ND	17,000^	3.1	100	0.25[J]	---	9.8	210	0.21[J]	7.1	0.33[J]	ND	47	0.070[J]
			2	7.5	ND	46	55	26	ND	15,000^	5.3	200	0.5	---	11	20	ND	ND	0.18[J]	ND	36	0.045[J]
	B-16(w)	SB-7	0.5	13	0.15[J]	46	43	51	ND	12,000^	4	76	0.20[J]	---	7.5	50	0.34[J]	ND	0.22[J]	0.50[J]	40	0.077[J]
			2	11	0.085[J]	53	69	40	ND	16,000^	6.3	170	0.43[J]	---	9.6	25	ND	ND	0.23[J]	ND	41	0.045[J]
	B-17(w)	SB-8	0.5	17	0.25[J]	16	18	48	ND	15,000^	2.2	72	0.14[J]	---	5.4	39	0.30[J]	ND	0.26[J]	ND	38	0.053[J]
			2	9.5	ND	57	79	58	ND	16,000^	5.8	130	0.46[J]	---	10	33	ND	ND	0.24[J]	ND	33	0.11[J]
	B-18(w)	SB-9	0.5	38	0.78	19	28	58	ND	22,000^	2.8	71	0.19[J]	---	9.4	87	0.36[J]	ND	0.28[J]	ND	58	0.12[J]
			2	8	ND	51	69	35	ND	16,000^	5.4	170	0.52	---	13	25	ND	ND	0.20[J]	ND	34	0.078[J]
	B-19(w)	SB-10	0.5	15	0.16[J]	76	86	98^	ND	19,000^	6.4	180	0.48[J]	---	13	37	0.067[J]	ND	0.21[J]	ND	36	0.15[J]
			2	8.6	ND	71	91	74^	ND	19,000^	8	66	0.47[J]	---	10	35	ND	ND	0.16[J]	ND	42	0.15[J]
	B-20(w)	SB-11	0.5	24	0.78	27	31	130^	ND	25,000^	3.4	78	0.19[J]	---	11	72	0.41[J]	ND	0.27[J]	ND	66	0.059[J]
			2	12	0.16[J]	68	93	73^	ND	19,000^	8.4	190	0.49[J]	---	14	34	0.088[J]	ND	0.17[J]	ND	51	0.23
	B-21(w)	SB-12	0.5	25	0.22[J]	50	53	88^	ND	17,000^	4.8	85	0.23[J]	---	11	59	0.18[J]	ND	0.29[J]	0.68[J]	58	0.12[J]
			2	15	0.11[J]	54	63	60^	ND	15,000^	4.7	89	0.26[J]	---	10	59	1.7[J]	ND	0.30[J]	ND	48	0.089[J]
	B-22(w)	SB-13	0.5	17	0.087[J]	61	88	64^	ND	18,000^	7.2	180	0.48[J]	---	14	32	0.14[J]	ND	0.20[J]	ND	47	0.079[J]
			2	8.3	0.34[J]	81	95	70^	ND	21,000^	7.8	180	0.5	---	14	35	ND	ND	0.26[J]	ND	46	0.16
	B-23(w)	SB-14	0.5	12	0.077[J]	20	13	63^	ND	14,000^	6.7	120	0.26[J]	---	6.7	12	1.0[J]	ND	0.11[J]	1.3[J]	45	0.044[J]
			2	13	ND	55	67	43^	ND	16,000^	6.3	130	0.48[J]	---	11	23	ND	ND	0.13[J]	ND	37	0.069[J]
	B-24(w)	SB-15	0.5	8.1	0.64	ND	0.76	100^	ND	17,000^	0.60[J]	3.7	0.052	---	6.2	18	0.48[J]	ND	ND	ND	20	0.15[J]
			2	9.6	ND	51	64	49^	ND	15,000^	6.2	100	0.42[J]	---	**26**	21	ND	2.4	0.27[J]	ND	34	0.044[J]
	B-25(w)	DP-1	2	9.1	0.35[J]	61	77	40	ND	--	7.2	260	0.55	---	17	26	ND	ND	0.25[J]	ND	48	ND
	B-26(w)	DP-2	2	9.4	0.083[J]	65	92	49	ND	--	6.6	190	0.61	---	13	31	ND	ND	0.21[J]	ND	46	ND
	B-27(w)	DP-4	2	9	0.056[J]	59	86	48	ND	--	6.4	220	0.50	---	13	29	ND	ND	0.24[J]	ND	41	ND
	B-28(w)	DP-5	2	5.9	ND	51	70	47	ND	--	4.1	11	0.35[J]	---	11	26	ND	ND	ND	ND	29	0.066[J]
	B-29(w)	DP-6	2	7.5	ND	57	87	40	ND	--	5.6	210	0.52	---	15	25	ND	ND	0.18[J]	ND	37	0.063[J]
	B-30(w)	DP-7	2	8.8	0.067[J]	58	82	37	ND	--	6.1	210	0.58	---	16	26	ND	ND	0.15[J]	ND	44	ND
	B-31(w)	DP-8	2	23	0.24[J]	70	100	72	ND	--	11	160	0.48[J]	---	16	40	0.14[J]	ND	0.31[J]	ND	42	0.078[J]
	B-32(w)	DP-9	2	14	0.090[J]	60	83	52	ND	--	5.6	160	0.44[J]	---	12	31	0.55[J]	ND	0.21[J]	ND	41	0.059[J]
RWQCB Environmental Screening Levels Residential				*80*	*39*	*120,000*	*86 [4]*	*23,000*	*31*	*NE*	*0.067 [3]*	*15,000*	*42*	*0.3*	*23*	*3,100*	*390*	*390*	*390*	*0.78*	*390*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)				400 / 80	71 / 5.2	120, 000 /36,000	-- / --	23,000 / --	31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	0.3 / --	23 / --	3,100 / --	390 / --	390 / --	390 / 390	0.78 / --	390 / 390	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)							**168.1 [3]**				**13.97 [3]**			**6.1 [3]**								

Table 2
Soil Sample Test Results: CAM 17 METALS Analysis
Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville
All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				*CAM 17 Metals Analysis Results (plus Mercury)*																	
Date Sampled	*UPDATED Sample ID*	*ORIGINAL Consultant ID*	*Depth*	LEAD	Cadmium	Chromium	Nickel	Zinc	*Antimony*	Aluminum	Arsenic	Barium	Beryllium	Hexavalent Chromium	Cobalt	Copper	Molybdenum	Selenium	Silver	Thallium	Vanadium	Mercury
				LUFT 5 Metals																		
August 2004 (Sampled by Lowney Associates)	B-33(L)	CL-1	1	9.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			3	6.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-34(L)	CL-2	2	9.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			3	7.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-35(L)	CL-3	2	5.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			3	5.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-36(L)	CL-4	4	7.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-37(L)	CL-5	1	9.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			3	7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-38(L)	CL-6	1	8.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			3	7.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			5	12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			7	14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-39(L)	CL-8	5	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-40(L)	R-1	0.5	8.6	---	---	---	---	**Confirmation Lead Testing Investigation** (no other individual metals analyzxed during this mobilization)						---	---	---	---	---	---	---	---
			2	7.8	---	---	---	---							---	---	---	---	---	---	---	---
	B-41(L)	R-2	0.5	6.9	---	---	---	---							---	---	---	---	---	---	---	---
			2	5.5	---	---	---	---							---	---	---	---	---	---	---	---
			3	5.2	---	---	---	---							---	---	---	---	---	---	---	---
	B-42(L)	R-3	1	5.4	---	---	---	---							---	---	---	---	---	---	---	---
			3	5.9	---	---	---	---							---	---	---	---	---	---	---	---
	B-43(L)	GZ-1	2	9.4	---	---	---	---							---	---	---	---	---	---	---	---
			3	5.1	---	---	---	---							---	---	---	---	---	---	---	---
	B-44(L)	GZ-2	1	44	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			3	9.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-45(L)	BC-1	3	13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			5	9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			7	33	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-46(L)	BC-2	3	21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			5	25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			7	8.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-47(L)	BC-3	3	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			5	9.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			7	17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-48(L)	BC-4	3	17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			5	6.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			7	7.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-49(L)	CZ-1	2	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			4	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-50(L)	CZ-2	1	6.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			3	6.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			7	7.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			11	7.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-51(L)	CZ-3	2	8.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RWQCB Environmental Screening Levels Residential				*80*	*39*	*120,000*	*86* [4]	*23,000*	*31*	*NE*	*0.067* [3]	*15,000*	*42*	*0.3*	*23*	*3,100*	*390*	*390*	*390*	*0.78*	*390*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)				400 / 80	71 / 5.2	120, 000 /36,000	-- / --	23,000 / --	31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	0.3 / --	23 / --	3,100 / --	390 / --	390 / --	390 / 390	0.78 / --	390 / 390	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)							**168.1** [3]				**13.97** [3]			**6.1** [3]								

Table 2

Soil Sample Test Results: CAM 17 METALS Analysis

Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				*CAM 17 Metals Analysis Results (plus Mercury)*																		
Date Sampled	*UPDATED Sample ID*	*ORIGINAL Consultant ID*	*Depth*	**LEAD**	**Cadmium**	**Chromium**	**Nickel**	**Zinc**	*Antimony*	**Aluminum**	**Arsenic**	**Barium**	**Beryllium**	**Hexavalent Chromium**	**Cobalt**	**Copper**	**Molybdenum**	**Selenium**	**Silver**	**Thallium**	**Vanadium**	**Mercury**
				LUFT 5 Metals																		
August 2004 - continued - (Sampled by Lowney Associates)	**B-52(L)**	G+G-1	2	8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			4	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			6	**77**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-53(L)	G+G-2	2	6.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			4	6.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			6	3.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-54(L)	G+G-3	0.5	7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	6.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-55(L)	G+G-4	0.5	24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			3	9.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-56(L)	G+G-5	2	5.1	---	---	---	---	**Confirmation Lead Testing Investigation** (no other individual metals analyzxed during this mobilization)					---	---	---	---	---	---	---	---	---
			4	5.1	---	---	---	---						---	---	---	---	---	---	---	---	---
	B-57(L)	G+G-6	2	7.2	---	---	---	---						---	---	---	---	---	---	---	---	---
			4	5.3	---	---	---	---						---	---	---	---	---	---	---	---	---
	B-58(L)	G+G-7	2	8.2	---	---	---	---						---	---	---	---	---	---	---	---	---
			3.5	11	---	---	---	---						---	---	---	---	---	---	---	---	---
	B-59(L)	G-1	2	42	---	---	---	---						---	---	---	---	---	---	---	---	---
			3	5.2	---	---	---	---						---	---	---	---	---	---	---	---	---
	B-60(L)	G-2	2	14	---	---	---	---						---	---	---	---	---	---	---	---	---
			3	14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-61(L)	G-3	0.5	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			3	13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-62(L)	G-4	2	9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			3	7.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-63(L)	G-5	2	16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			4	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			6	6.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-64(L)	G-6	2	6.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			4	24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			6	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	SS-1(L)	SS-1	--	14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	SS-2(L)	SS-2	--	28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	SS-3(L)	SS-3	--	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	SS-4(L)	SS-4	--	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	SS-5(L)	SS-5	--	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RWQCB Environmental Screening Levels Residential				*80*	*39*	*120,000*	*86* [4]	*23,000*	*31*	*NE*	*0.067* [3]	*15,000*	*42*	*0.3*	*23*	*3,100*	*390*	*390*	*390*	*0.78*	*390*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)				400 / 80	71 / 5.2	120, 000 /36,000	-- / --	23,000 / --	31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	0.3 / --	23 / --	3,100 / --	390 / --	390 / --	390 / 390	0.78 / --	390 / 390	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)							**168.1** [3]				**13.97** [3]			**6.1** [3]								

Table 2

Soil Sample Test Results: CAM 17 METALS Analysis

Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				*CAM 17 Metals Analysis Results (plus Mercury)*																		
Date Sampled	*UPDATED Sample ID*	*ORIGINAL Consultant ID*	*Depth*	LEAD	Cadmium	Chromium	Nickel	Zinc	*Antimony*	Aluminum	Arsenic	Barium	Beryllium	Hexavalent Chromium	Cobalt	Copper	Molybdenum	Selenium	Silver	Thallium	Vanadium	Mercury
				LUFT 5 Metals																		
December 2003 (Sampled by Weber Hayes and Associates)	B-65(w)	G&G# - 1a,1b,1c	0.5	49	ND	65	93	99	---	---	---	---	---	---	---	---	---	---	---	---	---	0.076
			2	70	ND	83	130	110	---	---	---	---	---	---	---	---	---	---	---	---	---	--
	B-65a(w)	G&G 1a	2	25	--	64	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	--
	B-65b(w)	G&G 1b	2	**89**	--	85	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	--
	B-65c(w)	G&G 1c	2	50	--	72	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	--
	B-66(w)	G&G# - 2a,2b,2c	0.5	40	ND	50	70	93	---	---	---	---	---	---	---	---	---	---	---	---	---	ND
			2	43	ND	48	75	65	---	---	---	---	---	---	---	---	---	---	---	---	---	--
	B-67(w)	G&G# - 3a,3b,3c	0.5	28	ND	60	82	94	---	---	---	---	---	---	---	---	---	---	---	---	---	0.065
			2	20	ND	71	100	79	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-67a(w)	G&G 3a	2	---	---	74	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-67b(w)	G&G 3b	2	---	---	53	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-67c(w)	G&G 3c	2	---	---	75	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-68(w)	G&G# - 4a,4b,4c	0.5	**5,400**	ND	19	28	370	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	**66**	ND	54	77	280	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-68a(w)	G&G 4a	0.5	**100**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	**260**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-68b(w)	G&G 4b	0.5	**170**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	**150**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-68c(w)	G&G 4c	0.5	**480**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-69(w)	G&G# - 5a,5b,5c	0.5	32	ND	50	67	75	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	17	ND	53	85	47	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-69a(w)	G&G 5a	0.5	37	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-69b(w)	G&G 5b	0.5	33	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-69c(w)	G&G 5c	0.5	69	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-72(w)	Gonzalez# - 1a, 1b, 1c	0.5	17	ND	43	67	45	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	14	ND	55	74	45	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-73(w)	Gonzalez# - 2a, 2b, 2c	0.5	**100**	ND	58	92	110	---	---	---	---	---	---	---	---	---	---	---	---	---	0.083
			2	16	ND	61	88	50	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-73a(w)	Gonzalez 2a	0.5	33	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-73b(w)	Gonzalez 2b	0.5	**120**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-73c(w)	Gonzalez 2c	0.5	**85**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-74(w)	Clusters# - 1a,1b,1c	0.5	16	ND	63	100	54	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	20	ND	59	79	64	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-75(w)	Clusters# - 2a,2b,2c	0.5	16	ND	61	120	58	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	17	ND	61	110	64	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-76(w)	Clusters# - 3a,3b,3c	0.5	41	ND	50	72	62	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	31	ND	46	71	61	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-77(w)	Chaz #- 1a,1b,1c	0.5	34	ND	44	55	69	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	**100**	1.2	53	77	160	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-77a(w)	Chaz 1a	2	**280**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-77b(w)	Chaz 1b	2	36	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-77c(w)	Chaz 1c	2	19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RWQCB Environmental Screening Levels Residential				*80*	*39*	*120,000*	*86* [4]	*23,000*	*31*	*NE*	*0.067* [3]	*15,000*	*42*	*0.3*	*23*	*3,100*	*390*	*390*	*390*	*0.78*	*390*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)				400 / 80	71 / 5.2	120, 000 /36,000	-- / --	23,000 / --	31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	0.3 / --	23 / --	3,100 / --	390 / --	390 / --	390 / 390	0.78 / --	390 / 390	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)							168.1 [3]				13.97 [3]			6.1 [3]								

Table 2

Soil Sample Test Results: CAM 17 METALS Analysis

Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				*CAM 17 Metals Analysis Results (plus Mercury)*																		
Date Sampled	*UPDATED Sample ID*	*ORIGINAL Consultant ID*	*Depth*	**LEAD**	**Cadmium**	**Chromium**	**Nickel**	**Zinc**	*Antimony*	**Aluminum**	**Arsenic**	**Barium**	**Beryllium**	**Hexavalent Chromium**	**Cobalt**	**Copper**	**Molybdenum**	**Selenium**	**Silver**	**Thallium**	**Vanadium**	**Mercury**
				LUFT 5 Metals																		
December 2003 - continued - (Sampled by Weber Hayes and Associates)	**B-78(w)**	Chaz # - 2a,2b,2c	0.5	26	ND	54	84	71	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	38	ND	57	83	69	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-79(w)	Gerrys #- 1a,1b,1c	0.5	29	ND	43	66	81	---	---	---	---	---	---	---	---	---	---	---	---	---	0.068
			2	28	ND	46	74	53	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-80(w)	Gerrys #- 2a,2b,2c	0.5	17	ND	51	100	61	---	---	---	---	---	---	---	---	---	---	---	---	---	0.087
			2	21	ND	56	83	67	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-81(w)	Gerrys # - 3a,3b,3c	0.5	**130**	ND	43	75	130	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	19	ND	71	110	67	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-81a(w)	Gerrys 3a	0.5	46	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	---	---	79	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-81b(w)	Gerrys 3b	0.5	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	---	---	72	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-81c(w)	Gerrys 3c	0.5	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	---	---	71	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-82(w)	Gerrys # - 4a,4b,4c	0.5	47	ND	50	87	86	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	20	ND	**78**	120	78	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-82a(w)	Gerrys 4a	2	---	---	97	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-82b(w)	Gerrys 4b	2	---	---	77	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-82c(w)	Gerrys 4c	2	---	---	77	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-85(w)	JV # - 1a,1b,1c	0.5	**60**	ND	49	91	320	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	22	ND	49	77	58	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-85a(w)	JV 1a	0.5	48	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-85b(w)	JV 1b	0.5	16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-85c(w)	JV 1c	0.5	17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-86(w)	Residence #- 1a,1b,1c	0.5	15	ND	45	68	42	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	18	ND	53	78	51	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-88(w)	Bay City # - 1a,1b,1c	0.5	28	ND	53	63	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	18	ND	56	65	50	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-89(w)	Bay City # - 2a,2b,2c	0.5	44	ND	46	56	120	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2	48	ND	50	98	120	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RWQCB Environmental Screening Levels **(Residential)**				*80*	*39*	*120,000*	*86* [3,4]	*23,000*	*31*	*NE*	*0.067* [3]	*15,000*	*42*	*0.3* [3]	*23*	*3,100*	*390*	*390*	*390*	*0.78*	*390*	*13*
US EPA RLs / DTSC-Modified SLs [2] (Residential)				400 / 80	71 / 5.2	120, 000 /36,000	-- / --	23,000 / --	31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	0.3 / --	23 / --	3,100 / --	390 / --	390 / --	390 / 390	0.78 / --	390 / 390	11 / 1.0
Site Specific, Background Concentrations (naturally-occurring concentration)							168.1 [3]				13.97 [3]			6.1 [3]								

Table 2
Soil Sample Test Results: CAM 17 METALS Analysis
Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville
All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				CAM 17 Metals Analysis Results (plus Mercury)																	
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	LEAD	Cadmium	Chromium	Nickel	Zinc	Antimony	Aluminum	Arsenic	Barium	Beryllium	Hexavalent Chromium	Cobalt	Copper	Molybdenum	Selenium	Silver	Thallium	Vanadium	Mercury
				LUFT 5 Metals																		

Notes

1 = Environmental Screening Levels (ESLs): From the Regional Water Quality Control Board (San Francisco Bay Region) guideline document: *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* (Final version, 2016). The ESLs are agency-stablished threshold concentrations intended to provide quantitative risk-based guidance on whether further assessment or remediation of contamination is warranted based on risk pathways (protection of human heath, groundwater and/or ecological <http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/ESL%20Workbook_ESLs_Interim%20Final_22Feb16_Rev3_PDF.pdf >

2= CA DTSC Modified Soil Screening Levels (DTSC-SLs): These are human health, risk-based values established by the California Department of Toxic Substances Control (DTSC), Office of Human and Ecological Risk (HERO), Human Health Risk Assessment (HHRA) Note Number 3, Table 1 , Jan-2016. <http://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-January-2018.pdf >. Note that for those chemicals not posted on the Note 3 website, DTSC-HERO endorses the soil thesholds established on the USEPAs ***Regional Screening Levels*** (USEPA-RSLs) website: (http://www.epa.gov/region9/superfund/prg/, updated May 2018). Both thresholds are listed for transparancy, but generally speaking, California uses a more conservative toxicity evaluation for a select number of urban chemicals. This assessment uses the lowest (most conservative theshold as a cleanup goal).

3 = Arsenic, Hexavalent Chromium, and Nickel concentrations were statistically evaluated to determine the site specific, naturally occuring (background) concentrations. See Appendix C for details of this evaluation.

4 = The Nickel ESL threshold shown is based on worker health and safety risk parameters -- the risk theshold for residential land use is 840 mg/kg, and the site-specific, naturally occuring (background) concentration is 168 mg/kg. See Appendix C for details of the background analysis for Nickel.

BOLD =	YELLOW box highlight indicates detected metal concentration exceeds the most conservative threshold concentration for Residential land use (i.e., lowest ESL, RSL, or California-modified theshold). The only exceptions are for site-specific (background) concentrations calculated for Arsenic, Hex-Chromium, and Nickel.
BOLD =	GREEN box highlight Indicates the deepest soil sample contains an exceedence (note: a confirmation sample will be .required at this location)
BOLD =	BLUE box highlight indicates a hazardous waste threhold exceedance was detected at this sample location (i.e. greater than the Total (TTLC) or Soluble (TCLP,STLC) threshold concentration (details provided in table below):

			LEAD			Chromium		
UPDATED Sample ID	ORIGINAL Consultant ID	Date sampled	TTLC (mg/kg)	STLC (mg/L)	TCLP (mg/L)	TTLC (mg/kg)	STLC (mg/L)	TCLP (mg/L)
T-6(t)	Area 1-T12	10/13/16	67	3.4	--	--	--	--
T-7(t)	Area 2-T6	10/12/16	--	--	--	54	0.047	--
T-8(t)	Area 2-T12	10/12/16	--	--	--	70	0.13	--
T-9(t)	Area 2-T15	10/12/16	52	2.2	--	--	--	--
T-11(t)	Area 5-T1	10/13/16	2,700	--	2.4	89	0.22	--
T-12(t)	Area 5-T3	10/13/16	780	8.2	0.096	--	--	--
T-14(t)	Area 5-T10	10/13/16	--	--	--	58	0.14	--
T-15(t)	Area 6-T1	10/13/16	110	16	0.037	--	--	--
T-16(t)	Area 6-T1*	10/13/16	280	11	0.52	--	--	--
T-17(t)	Area 8-T1	10/11/16	--	--	--	79	0.3	--
T-18(t)	Area 8-Debris**	10/11/16	110	5.5	0.2	--	--	--
B-3(t)	TB-3	10/13/16	140	31	0.71	--	--	--
Federal/State Haz-Waste Threshold Limit (Title 22) =			**1,000**	**5**	**5**	**1,000**	**5**	**5**

ND = Analyte not detected above the laboratory Method Detection Limit (MDL).
- = Sample was not analyzed for this constituent

J = Laboratory reports that the detection value is between MDL and PQL, and should be considered to be an estimate.

^ = Detection and Quantitation Limits were raised due to sample dilution
***** = Screening Limit for Chromium III is used, as there is no established screening limit for Total Chromium. Chromium IV screening level is 0.3 mg/kg.

(w) = Weber-Hayes Associates: Sample depths by Weber-Hayes and Lowney were measured from the top of the collected soil sample (i.e. a "2-ft" sample means the top of
(L) = Lowney Associates: the soil sample was at 2-ft). Therefore a "clean" 2-ft sample would indicate soils are unimpacted below a depth of 2-ft.

(t) = Trinity Source Group: Sample depths by Trinity were measured from the base of the collected soil sample (i.e. a "2-ft" sample means the bottom of the soil sample was at 2-ft). Therefore a "clean" 2-ft sample would indicate soils are unimpacted above a depth of 2-ft.

Table 3

Total Lead Results (soil sampling analysis)

Former Clusters Junkyard

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info					Lab Results Total Lead
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID		Depth	
October 2016 (Sampled by Trinity Source Group)	B-3(t)	TB-3		0.5	12
				1.5	140
				2.5	--
				4	--
	B-4(t)	TB-4		0.5	--
	B-5(t)	TB-5		0.5	--
	B-6(t)	TB-6		0.75	--
	B-7(t)	TB-7		0.5	--
	B-8(t)	TB-8		0.5	23
				1.5	--
				2.5	--
				4	--
	B-9(t)	TB-9		0.5	40
				1.5	--
				2.5	--
				4	--
	T-1(t)	Area 1	T4	4	--
	T-2(t)		T6	3.5	20^
	T-3(t)		T9	2	29^
	T-4(t)		T10	1	6.8^
	T-5(t)		T11	1.5	--
	T-6(t)		T12	1	76^
	T-7(t)	Area 2	T6	1	8.6^
	T-8(t)		T12	2	22^
	T-9(t)		T15	2	55^
	T-10(t)	Area 3	T1	3	--
	T-11(t)	Area 5	T1	6	3,200^
	T-12(t)		T3	2	1,100^
	T-13(t)		T5	3	--
	T-14(t)		T10	4	16^
	T-15(t)	Area 6	T1	2	130^
	T-16(t)		T1*	8	310^
	T-17(t)	Area 8	T1	2	50
	T-18(t)		Debris	--	120
June 2016 (Sampled by Weber Hayes Associates)	B-10(w)	SB-1		0.5	63
				2	13
	B-11(w)	SB-2		0.5	110
				2	9.9
	B-12(w)	SB-3		0.5	250
				2	17
	B-13(w)	SB-4		0.5	52
				2	14
	B-14(w)	SB-5		0.5	23
				2	6.9
Environmental Screening Levels (1) (Residential)					80
US EPA RLs / DTSC-Modified SLs (2) (Residential)					80

Sample Info				Lab Results Total Lead
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	
June 2016 (Sampled by Weber Hayes Associates)	B-15(w)	SB-6	0.5	32
			2	7.5
	B-16(w)	SB-7	0.5	13
			2	11
	B-17(w)	SB-8	0.5	17
			2	9.5
	B-18(w)	SB-9	0.5	38
			2	8
	B-19(w)	SB-10	0.5	15
			2	8.6
	B-20(w)	SB-11	0.5	24
			2	12
	B-21(w)	SB-12	0.5	25
			2	15
	B-22(w)	SB-13	0.5	17
			2	8.3
	B-23(w)	SB-14	0.5	12
			2	13
	B-24(w)	SB-15	0.5	8.1
			2	9.6
	B-25(w)	DP-1	2	9.1
	B-26(w)	DP-2	2	9.4
	B-27(w)	DP-4	2	9
	B-28(w)	DP-5	2	5.9
	B-29(w)	DP-6	2	7.5
	B-30(w)	DP-7	2	8.8
	B-31(w)	DP-8	2	23
	B-32(w)	DP-9	2	14
August 2004 (Sampled by Lowney Associates)	B-33(L)	CL-1	1	9.9
			3	6.2
	B-34(L)	CL-2	2	9.8
			3	7.7
	B-35(L)	CL-3	2	5.7
			3	5.9
	B-36(L)	CL-4	4	7.1
	B-37(L)	CL-5	1	9.1
			3	7
	B-38(L)	CL-6	1	8.6
			3	7.1
			5	12
			7	14
	B-39(L)	CL-8	5	15
	B-40(L)	R-1	0.5	8.6
			2	7.8
Environmental Screening Levels (1) (Residential)				80
US EPA RLs / DTSC-Modified SLs (2) (Residential)				80

Table 3

Total Lead Results (soil sampling analysis)

Former Clusters Junkyard

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				Lab Results Total Lead
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	
August 2004 (Sampled by Lowney Associates)	B-41(L)	R-2	0.5	6.9
			2	5.5
			3	5.2
	B-42(L)	R-3	1	5.4
			3	5.9
	B-43(L)	GZ-1	2	9.4
			3	5.1
	B-44(L)	GZ-2	1	44
			3	9.8
	B-45(L)	BC-1	3	13
			5	9
			7	33
	B-46(L)	BC-2	3	21
			5	25
			7	8.9
	B-47(L)	BC-3	3	11
			5	9.3
			7	17
	B-48(L)	BC-4	3	17
			5	6.5
			7	7.6
	B-49(L)	CZ-1	2	1
			4	10
	B-50(L)	CZ-2	1	6.9
			3	6.8
			7	7.7
			11	7.9
	B-51(L)	CZ-3	2	8.2
	B-52(L)	G+G-1	2	8
			4	10
			6	77
	B-53(L)	G+G-2	2	6.8
			4	6.5
			6	3.9
	B-54(L)	G+G-3	0.5	7
			2	6.4
	B-55(L)	G+G-4	0.5	24
			2	6
			3	9.1
	B-56(L)	G+G-5	2	5.1
			4	5.1
	B-57(L)	G+G-6	2	7.2
			4	5.3
Environmental Screening Levels [1] (Residential)				80
US EPA RLs / DTSC-Modified SLs [2] (Residential)				80

Sample Info				Lab Results Total Lead
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	
August 2004 (Sampled by Lowney Associates)	B-58(L)	G+G-7	2	8.2
			3.5	11
	B-59(L)	G-1	2	42
			3	5.2
	B-60(L)	G-2	2	14
			3	14
	B-61(L)	G-3	0.5	11
			2	11
			3	13
	B-62(L)	G-4	2	9
			3	7.4
	B-63(L)	G-5	2	16
			4	15
			6	6.2
	B-64(L)	G-6	2	6.1
			4	24
			6	10
	SS-1(L)	SS-1	--	14
	SS-2(L)	SS-2	--	28
	SS-3(L)	SS-3	--	110
	SS-4(L)	SS-4	--	15
	SS-5(L)	SS-5	--	11
December 2003 (Sampled by Weber Hayes Associates)	B-65(w)	G&G (#1a,1b,1c)	--	49
			2	**70**
	B-65a(w)	G&G 1a	2	25
	B-65b(w)	G&G 1b	2	89
	B-65c(w)	G&G 1c	2	50
	B-66(w)	G&G (# 2a,2b,2c)	0.5	40
			2	43
	B-67(w)	G&G (#3a,3b,3c)	0.5	28
			2	20
	B-67a(w)	G&G 3a	2	---
	B-67b(w)	G&G 3b	2	---
	B-67c(w)	G&G 3c	2	---
	B-68(w)	G&G (#4a,4b,4c)	0.5	**5400**
			2	**66**
	B-68a(w)	G&G 4a	0.5	100
			2	**260**
	B-68b(w)	G&G 4b	0.5	**170**
			2	**150**
	B-68c(w)	G&G 4c	0.5	**480**
			2	25
Environmental Screening Levels [1] (Residential)				80
US EPA RLs / DTSC-Modified SLs [2] (Residential)				80

Table 3

Total Lead Results (soil sampling analysis)

Former Clusters Junkyard

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				Lab Results
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	Total Lead
December 2003 (Sampled by Weber Hayes Associates)	B-69(w)	G&G (5a,5b,5c	0.5	32
			2	17
	B-69a(w)	G&G 5a	0.5	37
	B-69b(w)	G&G 5b	0.5	33
	B-69c(w)	G&G 5c	0.5	69
	B-72(w)	Gonzalez (#1a, 1b, 1c)	0.5	17
			2	14
	B-73(w)	Gonzalez (# 2a,2b,2c)	0.5	**100**
			2	16
	B-73a(w)	Gonzalez 2a	0.5	33
	B-73b(w)	Gonzalez 2b	0.5	120
	B-73c(w)	Gonzalez 2c	0.5	85
	B-74(w)	Clusters (#1a, 1b, 1c)	0.5	16
			2	20
	B-75(w)	Clusters (# 2a,2b,2c)	0.5	16
			2	17
	B-76(w)	Clusters# - 3a,3b,3c	0.5	41
			2	31
	B-77(w)	Chaz (#1a, 1b, 1c)	0.5	34
			2	**100**
	B-77a(w)	Chaz 1a	2	**280**
	B-77b(w)	Chaz 1b	2	36
	B-77c(w)	Chaz 1c	2	19
	B-78(w)	Chaz (# 2a,2b,2c)	0.5	26
			2	38
	B-79(w)	Gerrys (#1a, 1b, 1c)	0.5	29
			2	28
	B-80(w)	Gerrys (# 2a,2b,2c)	0.5	17
			2	21
	B-81(w)	Gerrys # - 3a,3b,3c	0.5	**130**
			2	19
	B-81a(w)	Gerrys 3a	0.5	46
			2	---
	B-81b(w)	Gerrys 3b	0.5	110
			2	---
	B-81c(w)	Gerrys 3c	0.5	15
			2	---
	B-82(w)	Gerrys (#4a,4b,4c)	0.5	47
			2	20
	B-82a(w)	Gerrys 4a	2	---
	B-82b(w)	Gerrys 4b	2	---
	B-82c(w)	Gerrys 4c	2	---
	B-85(w)	JV (#1a, 1b, 1c)	0.5	**60**
			2	22
	B-85a(w)	JV 1a	0.5	48
	B-85b(w)	JV 1b	0.5	16
	B-85c(w)	JV 1c	0.5	17
	B-86(w)	Residence (#1a, 1b, 1c)	0.5	15
			2	18
	B-88(w)	Bay City (#1a, 1b, 1c)	0.5	28
			2	18
	B-89(w)	Bay City (# 2a,2b,2c)	0.5	44
			2	48
Environmental Screening Levels [1] **(Residential)**				**80**
US EPA RLs / DTSC-Modified SLs [2] **(Residential)**				**80**

Sample Info				Lab Results
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	Total Lead

Notes

1 = **Environmental Screening Levels (ESLs):** From the Regional Water Quality Control Board (San Francisco Bay Region) guideline document: *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* (Final version, 2016). The ESLs are agency-stablished threshold concentrations intended to provide quantitative risk-based guidance on whether further assessment or remediation of contamination is warranted based on risk pathways (protection of human heath, groundwater and/or ecological <http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/ESL%20Workbook_ESLs_Interim%20Final_22Feb16_Rev3_PDF.pdf >

2= **CA DTSC Modified Soil Screening Levels** (DTSC-SLs): These are human health, risk-based values established by the California Department of Toxic Substances Control (DTSC), Office of Human and Ecological Risk (HERO), Human Health Risk Assessment (HHRA) Note Number 3, Table 1 , Jan-2016. <http://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-January-2018.pdf >. Note that for those chemicals not posted on the Note 3 website, DTSC-HERO endorses the soil thresholds established on the USEPAs *Regional Screening Levels* (USEPA-RSLs) website: (http://www.epa.gov/region9/superfund/prg/, updated May 2018). Both thresholds are listed for transparency, but generally speaking, California uses a more conservative toxicity evaluation for a select number of urban chemicals. This assessment uses the lowest (most conservative threshold as a cleanup goal).

- = Sample was not analyzed for this constituent

^ = Detection and Quantitation Limits are raised due to sample dilution

BOLD = YELLOW box highlight indicates the analytical result exceeds the Risk-based screening threshold (for residential land use).

BOLD = GREEN Box highlight Indicates deepest sample has exceedance (Confirmation sample required at this location)

(w) = Weber-Hayes and Associates: Sample depths by Weber-Hayes and Lowney were measured from the top of the collected soil sample (i.e. a "2-ft" sample means the top of the soil sample was at 2-ft). Therefore a "clean" 2-ft sample would indicate soils are unimpacted below a depth of 2-ft.

(L) = Lowney Associates:

(t) = Trinity Source Group: Sample depths by Trinity were measured from the base of the collected soil sample (i.e. a "2-ft" sample means the bottom of the soil sample was at 2-ft). Therefore a "clean" 2-ft sample would indicate soils are unimpacted above a depth of 2-ft.

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						Comments (& Co-Located Exceedences)
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		
October 2016 (sampled by Trinity Source Group)	B-3(t)	TB-3	0.5	< 30	3,500	< 120	< 0.0050 (ND) (0.31 by 8270C)	--	**Napthalene = 0.31** **Indeno (1,2,3-c,d) pyrene = 0.21** All Others = Trace Detections [3]	
			1.5	< 12	1,800	**220**	**0.036** (1.5 by 8270c)	--	**Napthalene = 1.5** All Others = Trace Detections [3]	Co-located Lead Exceedance
	B-8(t)	TB-8	0.5	< 120	**32,000**	< 500	0.013 (0.22 by 8270c)	--	**Napthalene = 0.22** All Others = Trace Detections [3]	
	B-9(t)	TB-9	0.5	--	--	--	--	--	**Napthalene = 0.067** **Benzo(a)pyrene = 0.12** Benzo(a)anthracene = 0.39 All Others = Trace Detections [3]	
	T-2(t)	Area 1 T6	3.5	< 1.2	85^	--	< 0.0050 (ND)	Freon 11 =.0019	Trace Detections [3]	
	T-3(t)	Area 1 T9	2	94	240^	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-4(t)	Area 1 T10	1	< 1.2	32	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-6(t)	Area 1 T12	1	< 1.2	250^	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-7(t)	Area 2 T6	1	< 1.2	< 6.5	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-8(t)	Area 2 T12	2	< 2.4	400	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-9(t)	Area 2 T15	2	< 2.4	510	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-11(t)	Area 5 T1	6	< 6	680	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-12(t)	Area 5 T3	2	< 2.4	800	--	< 0.0050 (ND)	ND	**Napthalene = 0.043** All Others = Trace Detections [3]	Co-located Lead Exceedance
	T-14(t)	Area 5 T10	4	< 1.2	18^	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-15(t)	Area 6 T1	2	< 24	2,000	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-16(t)	Area 6 T1*	8	< 950	**97,000**	--	< 0.0050 (ND)	ND	**Napthalene = 0.28** All Others = Trace Detections [3]	Co-located Lead Exceedance
	T-17(t)	Area 8 T1	2	< 2.3	51^	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-18(t)	Area 8 Debris	--	< 24	1,600	--	< 0.0050 (ND)	ND	**Napthalene = 0.067** All Others = Trace Detections [3]	Co-located Lead & Arsenic Exceedance
Environmental Screening Levels [1] **Residential**				**230**	**5,100**	**100**	**0.033 (leaching)** **3.3 (human health)**	**Freon 11** = Not Established	**Napthalene =** **0.033 (leaching) & 3.3 (human health)** **Benzo(a)pyrene =** **0.016** **Benzo(a)anthracene = 1.6**	
US EPA RLs / DTSC-Modified SLs				**Not Established**			**3.8 /Not established**	**Freon 11** = **23,000 / 1,200**	**Napthalene =** **0.067 / Not established** **Benzo(a)pyrene =** **0.11 / Not established** **Benzo(a)anthracene =** **1.1 / Not established**	

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						Comments (& Co-Located Exceedences)
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		
June 2016 (Sampled by Weber Hayes and Associates)	B-10(w)	SB-1	0.5	180*[J]	2,400	--	--	--	--	
			2	< 1.2	22	--	--	--	--	
	B-11(w)	SB-2	0.5	**670***	**5,500**	--	--	--	--	Co-located Lead Exceedance
			2	4.8*[J]	39	--	< 0.0050	ND	--	
	B-12(w)	SB-3	0.5	8.3*[J]	80	--	--	--	--	
			2	< 1.2	29	--	--	--	--	
	B-13(w)	SB-4	0.5	3.5*[J]	45	--	--	--	--	
			2	6.2*[J]	38	--	--	--	--	
	B-14(w)	SB-5	0.5	60*^	820^	--	--	--	--	
			2	8.9*[J]	63	--	--	--	--	
	B-15(w)	SB-6	0.5	15*	170	--	--	--	--	
			2	< 1.2	< 6.5	--	--	--	--	
	B-16(w)	SB-7	0.5	6.5*[J]	63	--	--	--	--	
			2	< 1.2	< 6.5	--	--	--	--	
	B-17(w)	SB-8	0.5	53*^	750^	--	--	--	--	
			2	4.9*[J]	51	--	--	--	--	
	B-18(w)	SB-9	0.5	110*[J]	1,300	--	--	--	--	
			2	10*	98	--	--	--	--	
	B-19(w)	SB-10	0.5	7.1*[J]	48	--	--	--	--	
			2	< 1.2	< 6.5	--	--	--	--	
	B-20(w)	SB-11	0.5	12*	150	--	--	--	--	
			2	< 1.2	21	--	--	--	--	
	B-21(w)	SB-12	0.5	33^[J]	380^	--	--	--	--	
			2	18*	78	--	--	--	--	
	B-22(w)	SB-13	0.5	7.1*[J]	64	--	--	--	--	
			2	< 1.2	19*[J]	--	--	--	--	
	B-23(w)	SB-14	0.5	150*[J]	1,600	--	--	--	--	
			2	< 1.2	< 6.5	--	--	--	--	
Environmental Screening Levels [(1)] Residential				**230**	**5,100**	**100**				
US EPA RLs / DTSC-Modified SLs				**Not Established**						

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						Comments (& Co-Located Exceedences)
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		
June 20	B-24(w)	SB-15	0.5	10*	140	--	--	--	--	
			2	< 1.2	28	--	--	--	--	
	B-25(w)	DP-1	2	< 1.2	< 6.5	--	--	--	--	
	B-26(w)	DP-2	2	< 1.2	< 6.5	--	--	--	--	
	B-27(w)	DP-4	2	5.2^J	14^J	--	0.023	sec-Butylbenzene = 0.0017J n-Propylbenzene = 0.0038J 1,2,4-Trimethylbenzene = 0.025 1,3,5-Trimethylbenzene = 0.065	--	
			4	--	--	--	< 0.0050	sec-Butylbenzene = 0.0017J n-Propylbenzene = 0.0038J 1,2,4-Trimethylbenzene = 0.025 1,3,5-Trimethylbenzene = 0.065	--	
	B-28(w)	DP-5	2	< 1.2	< 6.5	--	--	--	--	
	B-29(w)	DP-6	2	5.6^J	23^	--	< 0.0050	ND	--	
	B-30(w)	DP-7	2	7.3^J	42^	--	--	--	--	
	B-31(w)	DP-8	2	5.8^J	33^	--	--	--	--	
	B-32(w)	DP-9	2	43^	180^	--	--	--	--	
August 2004 (Sampled by Lowney Associates)	B-52(L)	G + G -1	2	< 1	< 50	--	--	--	--	
			4	< 1	< 50	--	--	--	--	
			6	160	1,200	--	--	--	--	
	B-55(L)	G + G -4	2	1.7	< 50	--	--	--	--	
			3	< 1	< 50	--	--	--	--	
December 2003 (Sampled by Weber Hayes and Associates)	B-65(w)	G&G# - 1a,1b,1c	0.5	68*	310	< 2.5	--	ND	--	
			2	< 1	< 13	< 2.5	--	ND	--	
	B-66(w)	G&G (2a,2b,2c)	0.5	25*	170	< 2.5	--	ND	--	
			2	110*	360	< 2.5	--	ND	--	
	B-66a(w)	G&G 2a	2	19*	78	---	--	---	--	
	B-66b(w)	G&G 2b	2	11*	33	---	--	---	--	
			4	3.6*	< 13	---	--	---	--	
	B-66c(w)	G&G 2c	2	21*	86	---	--	---	--	
Environmental Screening Levels (1) Residential				**230**	**5,100**	**100**	**0.033 (leaching) 3.3 (human health)**	**sec-Butylbenzene = NE n-Propylbenzene = NE 1,2,4-Trimethylbenzene = NE 1,3,5-Trimethylbenzene = NE**	**Varies**	
US EPA RLs / DTSC-Modified SLs				**Not Established**			**3.8 /Not established**	**sec-Butylbenzene = 7,800 / NE n-Propylbenzene = 58/NE 1,2,4-Trimethylbenzene = 58 /NE 1,3,5-Trimethylbenzene = 780 /210**	**Varies**	

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						Comments (& Co-Located Exceedences)
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		
December 2003 (Sampled by Weber Hayes and Associates)	B-67(w)	G&G (#3a,3b,3c)	0.5	60*	700	< 2.5	--	ND	--	
			2	< 1	< 13	< 2.5	--	ND	--	
	B-68(w)	G&G (#4a,4b,4c)	0.5	**620***	3,300	8.6*	--	**Toluene= 0.085 Ethylbenzene= 0.12 Xylene= 0.82**	--	Co-located with Lead Exceedance
			2	< 1	< 13	< 2.5	--	ND	--	
	B-69(w)	G&G (#5a,5b,5c)	0.5	< 1	< 13	---	--	---	--	
			2	< 1	< 13	---	--	---	--	
	B-70(w)	G&G (Discrete #1)	0.5	110*	510	< 2.5	--	ND	--	
			2	130*	980	< 2.5	--	ND	--	
			4	1.5*	< 13	---	--	---	--	
	B-71(w)	EB-1	20	< 1	< 13	---	--	---	--	
			40	1.1	< 13	---	--	---	--	
	B-72(w)	Gonzalez (# 1a, 1b, 1c)	0.5	6.1*	30	---	--	---	--	
			2	1.6*	< 13	---	--	---	--	
	B-73(w)	Gonzalez (#2a, 2b, 2c)	0.5	8.8*	58	< 2.5	--	ND	--	
			2	1.6*	< 13	< 2.5	--	ND	--	
	B-74(w)	Clusters (#1a,1b,1c)	0.5	< 1	< 13	---	--	---	--	
			2	6.4*	31	---	--	---	--	
	B-75(w)	Clusters (# 2a,2b,2c)	0.5	3.2*	16	---	--	---	--	
			2	< 1	< 13	---	--	---	--	
	B-76(w)	Clusters (#3a,3b,3c)	0.5	5.6*	57	---	--	---	--	
			2	4.0*	39	---	--	---	--	
	B-77(w)	Chaz (#1a,1b,1c)		31*	250	---	--	---	--	
			2	4.5*	35	---	--	---	--	
	B-78(w)	Chaz (#2a,2b,2c)	0.5	15*	130	---	--	---	--	
			2	5.3*	48	---	--	---	--	
Environmental Screening Levels [(1)] **Residential**				**230**	**5,100**	**100**	**0.033 (leaching) 3.3 (human health)**	**Toluene= 2.9 (leaching)/970 (human health) Ethylbenzene= 1.4 (leaching)/5.1 (human health) Xylene=.= 2.3 (leaching)/5.6 (human health)**	**Varies**	
US EPA RLs / DTSC-Modified SLs				**Not Established**			**3.8 /Not established**	**Toluene = 4,900 / 1,100 n-Ethylbenzene = 5.8/not established Xylenes = 580 /not established**	**Varies**	

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						Comments (& Co-Located Exceedences)
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		
December 2003 (Sampled by Weber Hayes and Associates)	B-79(w)	Gerrys (1a,1b,1c)	0.5	45*	200	< 2.5	--	ND	--	
			2	12*	57	< 2.5	--	ND	--	
	B-80(w)	Gerrys (#2a,2b,2c)	0.5	< 1	< 13	< 2.5	--	ND	--	
			2	62*	200	< 2.5	--	ND	--	
	B-80a(w)	Gerrys 2a	2	< 1	< 13	---	--	---	--	
	B-80b(w)	Gerrys 2b	2	190*	600	---	--	---	--	
			4	2.0*	< 13	---	--	---	--	
	B-80c(w)	Gerrys 2c	2	3.2*	16	---	--	---	--	
	B-81(w)	Gerrys (#3a,3b,3c)	0.5	170*	670	---	--	---	--	
			2	< 1	< 13	---	--	---	--	
	B-82(w)	Gerrys (#4a,4b,4c)	0.5	33*	130	---	--	---	--	
			2	< 1	< 13	---	--	---	--	
	B-83(w)	Gerrys (Discrete)	0.5	1.7*	< 13	< 2.5	--	ND	--	
			2	110	390	8.9	--	**Toluene= 0.51 Ethylbenzene= 0.19 Xylene= 0.99**	--	
			4	4.5*	< 13	---	--	---	--	
	B-85(w)	JV (1a,1b,1c)	0.5	8.6*	< 13	---	--	---	--	
			2	2.1*	< 13	---	--	---	--	
	B-86(w)	Residence (1a,1b,1c)	0.5	12*	56	---	--	---	--	
			2	34*	140	---	--	---	--	
	B-87(w)	Residence (#1, discrete)	0.5	14*	22*	< 2.5	--	ND	--	
			2	**500***	1,400*	< 2.5	--	ND	--	
			4	1.5*[6]	< 13	---	--	---	--	
	B-88(w)	Bay City (#1a,1b,1c)	0.5	6.3*	33	---	--	---	--	
			2	1.5*	15	---	--	---	--	
	B-89(w)	Bay City (2a,2b,2c)	0.5	8.9*	54	---	--	---	--	
			2	9.4*	64	---	--	---	--	
RWQCB Environmental Screening Levels [1] (Residential Land Use)				**230**	**5,100**	**100**	**0.033 (leaching) 3.3 (human health)**	**Toluene= 2.9 (leaching)/970 (human health) Ethylbenzene= 1.4 (leaching)/5.1 (human health) Xylene=.= 2.3 (leaching)/5.6 (human health)**	**Varies**	
US EPA RLs / DTSC-Modified SLs [2] (Residential Land Use)				**Not Established**			**3.8 /Not established**	**Toluene = 4,900 / 1,100 n-Ethylbenzene = 5.8/not established Xylenes = 580 /not established**	**Varies**	

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	Comments (& Co-Located Exceedences)
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		

Notes

1 = **Environmental Screening Levels (ESLs): F**rom the Regional Water Quality Control Board (San Francisco Bay Region) guideline document: *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* (Final version, 2016). The ESLs are agency-stablished threshold concentrations intended to provide quantitative risk-based guidance on whether further assessment or remediation of contamination is warranted based on risk pathways (protection of human heath, groundwater and/or ecological <http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/ESL%20Workbook_ESLs_Interim%20Final_22Feb16_Rev3_PDF.pdf >

2 = **CA DTSC Modified Soil Screening Levels (DTSC-SLs):** These are human health, risk-based values established by the California Department of Toxic Substances Control (DTSC), Office of Human and Ecological Risk (HERO), Human Health Risk Assessment (HHRA) Note Number 3, Table 1 , Jan-2016. <http://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-January-2018.pdf >. Note that for those chemicals not posted on the Note 3 website, DTSC-HERO endorses the soil thesholds established on the USEPAs *Regional Screening Levels* (USEPA-RSLs) website: (http://www.epa.gov/region9/superfund/prg/, updated May 2018). Both thresholds are listed for transparancy, but generally speaking, California uses a more conservative toxicity evaluation for a select number of urban chemicals. This assessment uses the lowest (most conservative theshold as a cleanup goal).

3 = Trace concentrations of semi-volatile compounds detected, but all well below agency threshold. See Appendix A for sampling results. Semi-Volatile compounds detected(at treace levels) included : (Anthracene, Benzo(a)anthracene, Benzo(b)flouranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Benzo(g,h,I,)perylene, Chrysene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, Pyrene)

****=** Note individual metals having DTSC-modified SL are identified by ** (All others are based on USEPA RSL's)

ND = Analyte not detected above the laboratory Method Detection Limit (MDL).

-- = Sample was not analyzed for this constituent

B = The same analyte is found in the associated blank.

J = Laboratory reports that the detection value is between MDL and PQL, and should be considered an

^ = Detection and Quantitation Limits are raised due to sample dilution

* = Chromatograph is not typical of Diesel/Motor Oil

BOLD = Analytical result above Residential ESL.

BOLD = Indicates deepest sample has exceedence (Confirmation sample required at this location)

Freon 11 = Trichlorofluoromethane

(w) = Weber-Hayes Associates: . Sample depths by Weber-Hayes and Lowney were measured from the top of the collected soil sample (i.e. a "2-ft" sample means the top of the soil sample was at 2-ft). Therefore

(L) = and Lowney Associates: . a "clean" 2-ft sample would indicate soils are unimpacted below a depth of 2-ft.

(t) = Trinity Source Group: Sample depths by Trinity were measured from the base of the collected soil sample (i.e. a "2-ft" sample means the bottom of the soil sample was at 2-ft). Therefore a "clean" 2-ft sample would indicate soils are unimpacted above a depth of 2-ft.

Appendix A

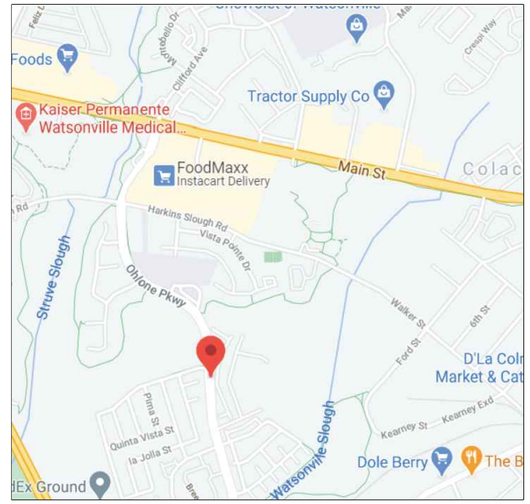
Design Plans for the Hillcrest Subdivision Development

- **Project Description**
- **Jurisdictional Boundary Limits (to be professional survey-staked)**
- **Environmental Grading Plan**
- **Erosion Control Details**
- **Preliminary Site Redevelopment Layout**

SUBDIVISION MAP & IMPROVEMENT PLANS
FOR
HILLCREST SUBDIVISION

511 OHLONE PARKWAY
WATSONVILLE, CALIFORNIA 95076

Vicinity Map



INDEX OF SHEETS

PHASING PLAN

1. PHASE 1 - 30 UNITS
   LOMA VISTA /STREET A (STA: 1+00 - 16+43) STREET C (STA:7+00 - 10+56)
2. PHASE 2 - 20 UNITS
   STREET B (STA: 5+00 - 7+29)
3. PHASE 3 - 33 UNITS
4. PHASE 4 - 30 UNITS
   STREET B (STA: 1+00 - 5+00)
5. PHASE 5 - 30 UNITS
   STREET C (STA: 1+00 - 7+00)

UNIT BREAKDOWN PER PHASE

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	TOTAL/UNIT
UNIT A	2	2	0	0	2	6
UNIT C2	14	12	13	10	12	61
UNIT G	5	6	4	6	6	27
UNIT F	3	5	4	5	4	20
UNIT D	6	4	6	6	6	29
TOTALS	30	29	27	27	30	143

ABBREVIATIONS

APN	ASSESSORS PARCEL NUMBER
BRW	BOTTOM OF RETAINING WALL
BS	BOTTOM OF STAIRS
BW	BOTTOM OF WALL
B/W	BACK OF SIDEWALK
CB	CATCH BASIN
CBC	CALIFORNIA BUILDING CODE
CO	CLEANOUT
CONC	CONCRETE
COTG	CLEANOUT TO GRADE
DS	DOWN SPOUT
DTL	DETAIL
DWG	DRAWING
DWY	DRIVEWAY
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
EV	ELECTRIC VEHICLE
(E)	EXISTING
EX.	EXISTING
FC	FACE OF CURB
FG	FINISH GRADE
FF	FINISH FLOOR
FL	FLOWLINE
FNC	FENCE
FT	FOOT/FEET
GB	GRADE BREAK
GFL	GUTTER FLOW LINE
HDPE	HIGH-DENSITY POLYETHYLENE
HP	HIGH POINT
INV	INVERT
LF	LINEAR FOOT
LOG	LIMIT OF GRADING
LP	LOW POINT
MIN	MINIMUM
MH	MANHOLE
N	NORTH
NE	NORTHEAST
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OCEW	ON CENTER, EACH WAY
OH	OVERHEAD
PCC	PORTLAND CEMENT CONCRETE
PP	POWER POLE
PL	PROPERTY LINE
POC	POINT OF CONNECTION
PV	PAVEMENT
PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS
RC	RELATIVE COMPACTION
S	SOUTH, SLOPE
SD	STORM DRAIN
SE	SOUTHEAST
SFR	SINGLE FAMILY RESIDENCE
SHT	SHEET
SSCO	SANITARY SEWER CLEAN OUT
STD	STANDARD
TC	TOP OF CURB
TFC	TOP OF FLUSH CURB
TRW	TOP OF RETAINING WALL
TS	TOP OF STAIRS
TW	TOP OF WALL
USA	UNDERGROUND SERVICE ALERT
W	WEST, WATER

RAMSEY CIVIL ENGINEERING INC
CIVIL ENGINEERING
LAND PLANNING
PROJECT MANAGEMENT
CONSTRUCTION SUPPORT
QSD AND QSP SERVICES
2905 KRISTIE COURT
SANTA CRUZ, CA 95065
TEL (831) 462-2905
www.ramseycivilengineering.com

REGISTERED PROFESSIONAL ENGINEER — DAVID RAMSEY — NO. C73735 — CIVIL — STATE OF CALIFORNIA

DAVID RAMSEY RCE# 73735 DATE

APN# 018-372-14

PLAN TYPE
RESIDENTIAL
SUBDIVISION

SITE PLAN
HILLCREST SUBDIVISION
510 OHLONE PARKWAY, WATSONVILLE, CA 95076

NUMBER	BY	DESCRIPTION	DATE
		REVISION BLOCK	

DRAWN BY:	DMR
DESIGNED BY:	DMR
DATE:	12/14/2020
SCALE:	AS NOTED
PROJECT NO:	20-021
SHEET:	VE 0.0

811 Know what's below. Call before you dig.

ESTIMATED BURIAL VOLUMES

NOTES:

1. BURIAL AREA = 17,088 SQUARE FEET (ALL UNDER IMPERVIOUS SURFACES)
2. DEPTH FROM BOTTOM OF CONTAMINATED SOILS TO HIGH WATER MARK (ELEV 11) = 15' MIN.
3. TOP BURIAL TAKEN TO BOTTOM ROAD SUBBASE.
4. ASSUMES 15% COMPACTION FACTOR AT 6" LIFTS COMPACTED TO 90% MIN.
5. CUT MATERIAL (NON CONTAMINATED), NOTED BELOW, TO BE USED ELSEWHERE ONSITE.

7,724	CUBIC YARDS EXCAVATION TO BOTTOM BURIAL (ELEV. 26)
18,111	CUBIC YARDS CONTAMINATED FILL

SHADED AREA - CONTAMINATED SOIL BURIAL SITE (17,100± SF @ 35±' DEPTH) GROUND WATER AT ELEV 11' MSL

STORMWATER MITIGATION FACILITY
PAVED NATURE TRAIL
FIRE TRUCK TURN AROUND AREA
STORMWATER MITIGATION FACILITY
RAMP SYSTEM FOR TRAIL ACCESS
OPEN SPACE AREA D (2,673 SF)
PERVIOUS PARKING AREA, TYP.
OHLONE PARKWAY (A CITY STREET 92' WIDE)
STREET A: (24' WIDE)
STREET A: (26' WIDE)
STREET B: ONE-WAY (20' WIDE)
STREET C: ONE-WAY (20' WIDE)
OPEN SPACE AREA C (4,734 SF)
OPEN SPACE AREA B (5,575 SF)
OPEN SPACE AREA A (4,575 SF)
LOMA VISTA: ONE-WAY (30' WIDE)
10' FIRE LANE
STREET A: (34' WIDE)
FIRE ACCESS
ERRINGTON RD. ONE WAY (22' WIDE)
1
2
3
4
5

PHASING PLAN

1. PHASE 1 - 30 UNITS
   LOMA VISTA /STREET A (STA: 1+00 - 16+43) STREET C (STA:7+00 - 10+56)
2. PHASE 2 - 29 UNITS
   STREET B (STA: 5+00 - 7+29)
3. PHASE 3 - 27 UNITS
4. PHASE 4 - 27 UNITS
   STREET B (STA: 1+00 - 5+00)
5. PHASE 5 - 30 UNITS
   STREET A (STA: 1+00 - 7+00)

UNIT BREAKDOWN PER PHASE

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	TOTAL/UNIT
UNIT A	2	2	0	0	2	6
UNIT C2	14	12	13	10	12	61
UNIT G	5	6	4	6	6	27
UNIT F	3	5	4	5	4	20
UNIT D	6	4	6	6	6	29
TOTALS	30	29	27	27	30	143

PLAN VIEW

40' 0 20' 40' 80'
GRAPHIC SCALE: 1 INCH = 40 FEET

Know what's below. Call before you dig.

RAMSEY CIVIL ENGINEERING INC
CIVIL ENGINEERING
LAND PLANNING
PROJECT MANAGEMENT
CONSTRUCTION SUPPORT
QSD AND QSP SERVICES
2905 KRISTIE COURT
SANTA CRUZ, CA 95065
TEL (831) 462-2905
www.ramseycivilengineering.com

REGISTERED PROFESSIONAL ENGINEER DAVID RAMSEY NO. C73735 CIVIL STATE OF CALIFORNIA
DAVID RAMSEY RCE# 73735 DATE

APN# 018-372-14
PLAN TYPE
RESIDENTIAL SUBDIVISION

SITE PLAN: PHASING & UNIT LAYOUT
HILLCREST SUBDIVISION
510 OHLONE PARKWAY, WATSONVILLE, CA 95076

NUMBER	BY	DESCRIPTION	DATE
		REVISION BLOCK	

DRAWN BY:	DMR
DESIGNED BY:	DMR
DATE:	12/14/2020
SCALE:	AS NOTED
PROJECT NO:	20-021
SHEET:	VE 1.0

HATCH LEGEND

- ASPHALT — 3" AC / 10" CLASS 2 AGGREGATE BASE R.C. 95% (TI5.5)
- CONCRETE — 4" CONCRETE / 6"" CL2 AGG. BASE COMPACTED TO 95% R.C.
- PERVIOUS PAVERS — PER MANUFACTURER DETAILS
- SOIL BURIAL AREA — CONTAMINATED SOIL BURIAL AREA
- SWM MITIGATION AREA - RAINGARDEN — BIORETENTION SOIL MIXTURE OVER PERMEABLE STONE MATERIAL
- PARK AREA — OPEN SPACE PARK AREA

NOTE:
1. CONCRETE AT DRIVEWAY APRON AND SIDEWALKS WITHIN DRIVE AISLE, SHALL BE 6.5" PCC / 6" CL 2 AGG BASE COMPACTED TO 95% R.C.

780±LF 5' HIGH WALL

700±LF 5' HIGH WALL

233±LF 16' MAX WALL

END WALL

END WALL

108±LF 5' MAX HIGH WALL

BEGIN 5' MAX HIGH WALL

176±LF 4' MAX HIGH WALL

BEGIN WALL

PRELIMINARY GRADING PLAN

GRAPHIC SCALE: 1 INCH = 40 FEET (40' 0 20' 40' 80')

ESTIMATED EARTHWORK QUANTITIES

65,089	CUBIC YARDS EXCAVATION
51,261	CUBIC YARDS EMBANKMENT
13,828	CUBIC YARDS (OFF HAUL)

NOTES

1. ESTIMATE DOES NOT INCLUDE BUILDING FOOTINGS OR RETAINING WALL FOUNDATIONS, UTILITY TRENCH VOLUMES OR ANY OVEREXCAVATION, IF REQUIRED BY SITE CONDITIONS.
2. ESTIMATE ASSUMES A 15% COMPACTION FACTOR ON ALL FILL MATERIAL AND A 0% EXPANSION FACTOR ON ALL CUT MATERIAL.
3. PRIOR TO COMMENCEMENT OF WORK CONTRACTOR SHALL CONFIRM THAT ESTIMATES ARE CORRECT.

Know what's below. Call before you dig.

RAMSEY CIVIL ENGINEERING INC
CIVIL ENGINEERING
LAND PLANNING
PROJECT MANAGEMENT
CONSTRUCTION SUPPORT
QSD AND QSP SERVICES
2905 KRISTIE COURT
SANTA CRUZ, CA 95065
TEL (831) 462-2905
www.ramseycivilengineering.com

REGISTERED PROFESSIONAL ENGINEER — DAVID RAMSEY — NO. C73735 — CIVIL — STATE OF CALIFORNIA

DAVID RAMSEY DATE
RCE# 73735

APN# 018-372-14

PLAN TYPE
RESIDENTIAL SUBDIVISION

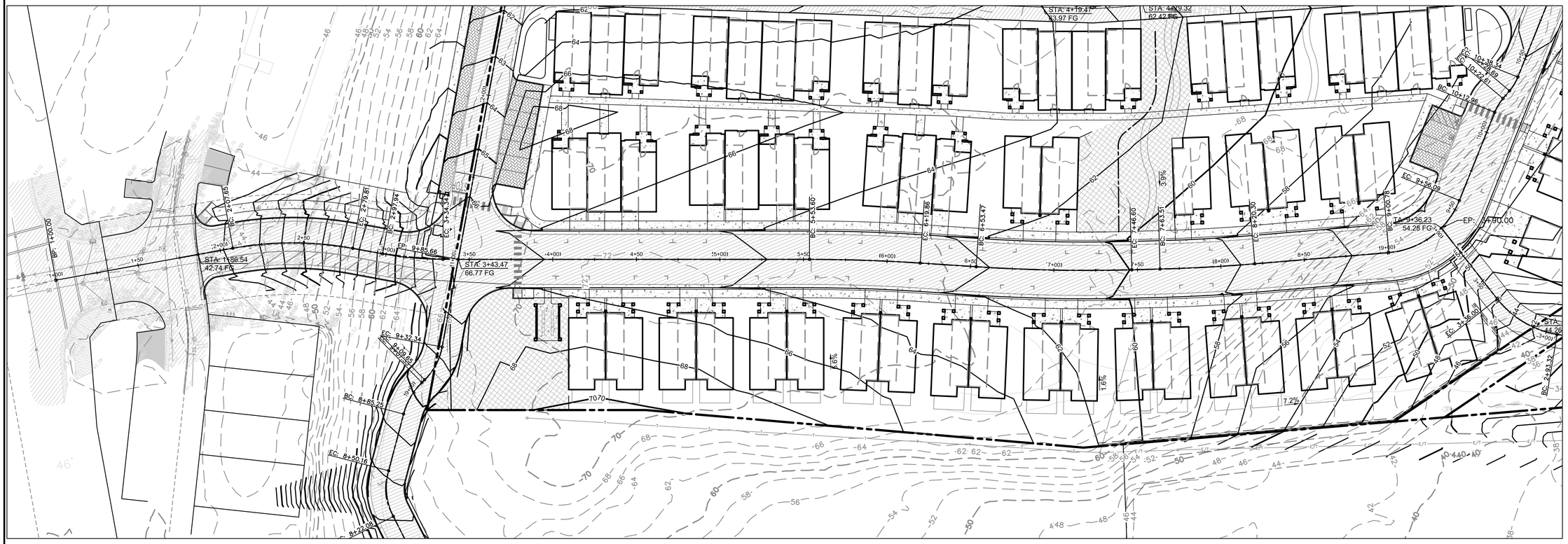
PRELIMINARY GRADING PLAN

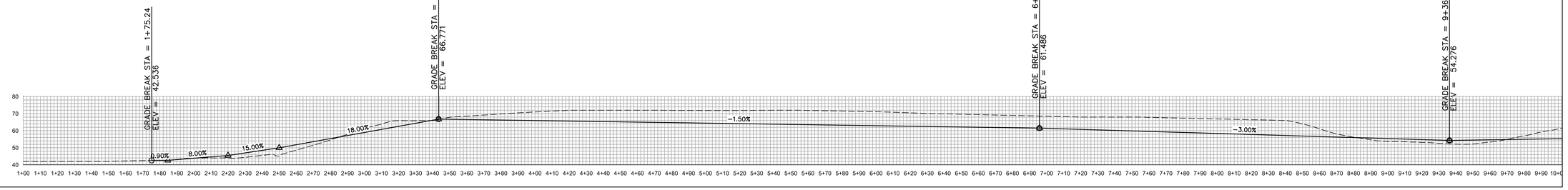
HILLCREST SUBDIVISION

510 OHLONE PARKWAY, WATSONVILLE, CA 95076

NUMBER	BY	DESCRIPTION	DATE
REVISION BLOCK			

DRAWN BY:	DMR
DESIGNED BY:	DMR
DATE:	12/14/2020
SCALE:	AS NOTED
PROJECT NO:	20-021
SHEET:	VE 2.0





STREET A - PLAN & PROFILE
STA: 1+00 - 9+50

GRAPHIC SCALE: 1 INCH = 30 FEET

RAMSEY
CIVIL ENGINEERING INC
CIVIL ENGINEERING
LAND PLANNING
PROJECT MANAGEMENT
CONSTRUCTION SUPPORT
QSD AND QSP SERVICES
2905 KRISTIE COURT
SANTA CRUZ, CA 95065
TEL (831) 462-2905
www.ramseycivilengineering.com

REGISTERED PROFESSIONAL ENGINEER
DAVID RAMSEY
NO. C73735
CIVIL
STATE OF CALIFORNIA

DAVID RAMSEY DATE
RCE# 73735

APN# 018-372-14

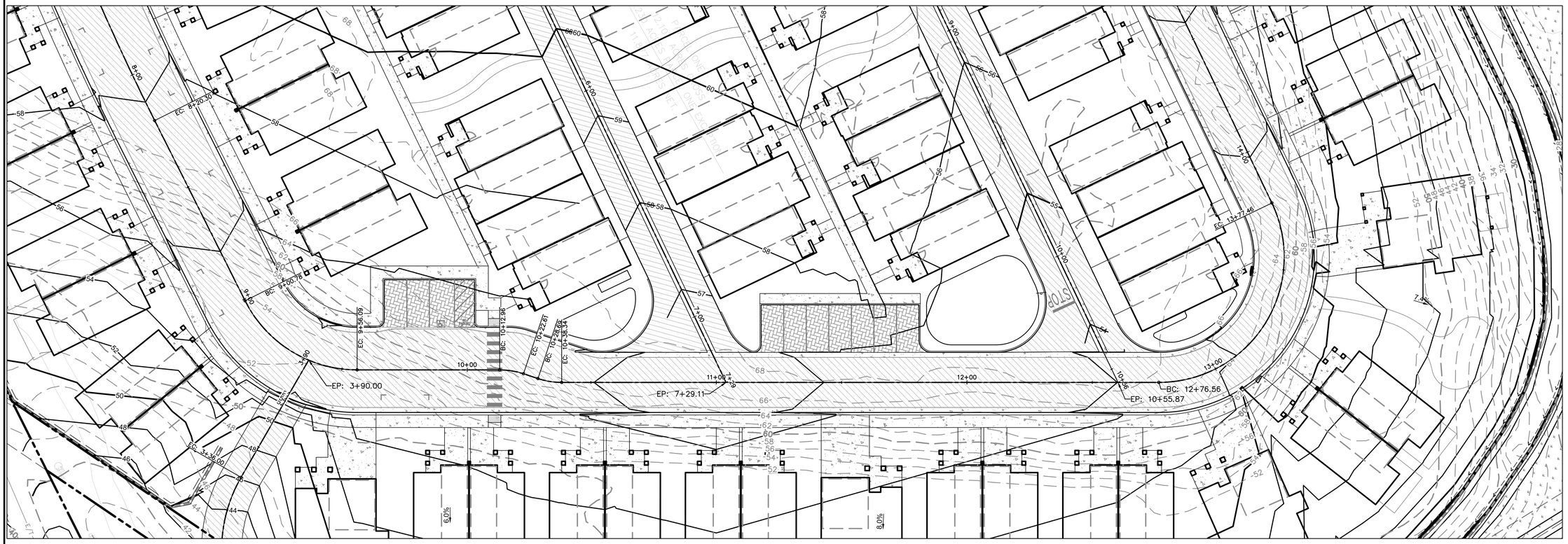
PLAN TYPE
RESIDENTIAL
SUBDIVISION

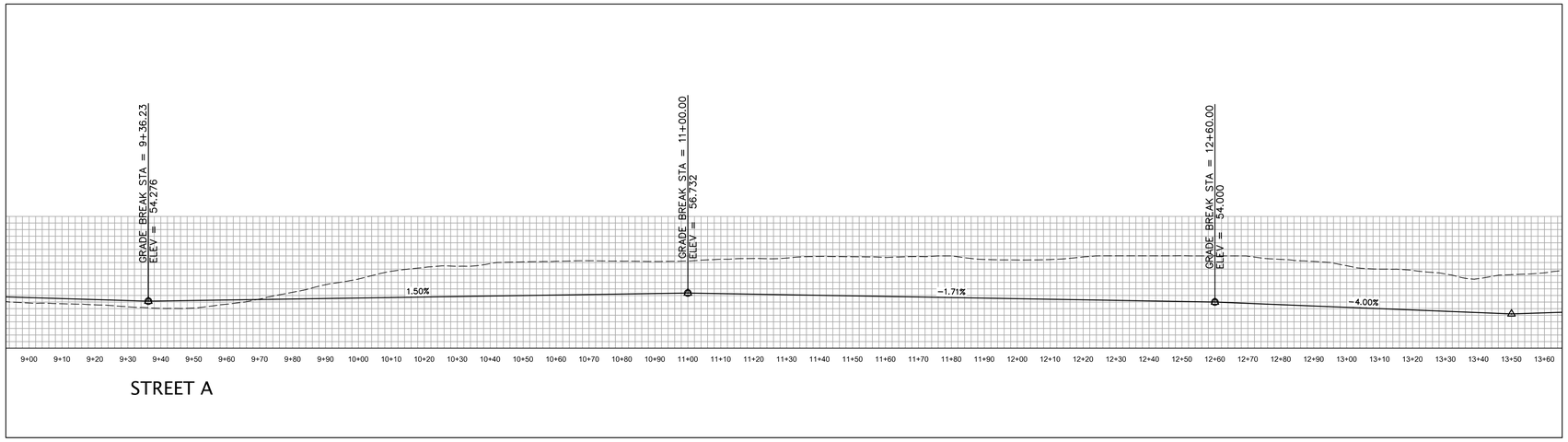
STREET A - PLAN & PROFILE (STA: 1+00 - 9+50)
HILLCREST SUBDIVISION
510 OHLONE PARKWAY, WATSONVILLE, CA 95076

NUMBER	BY	DESCRIPTION	DATE
REVISION BLOCK			

DRAWN BY:	DMR
DESIGNED BY:	DMR
DATE:	12/14/2020
SCALE:	AS NOTED
PROJECT NO:	20-021
SHEET:	VE 2.1

811 Know what's below. Call before you dig.





STREET A - PLAN & PROFILE
STA: 9+50 - 13+60

20' 0 10' 20' 40'
GRAPHIC SCALE: 1 INCH = 20 FEET

Know what's below. Call before you dig.

RAMSEY CIVIL ENGINEERING INC
CIVIL ENGINEERING
LAND PLANNING
PROJECT MANAGEMENT
CONSTRUCTION SUPPORT
QSD AND QSP SERVICES
2905 KRISTIE COURT
SANTA CRUZ, CA 95065
TEL (831) 462-2905
www.ramseycivilengineering.com

REGISTERED PROFESSIONAL ENGINEER DAVID RAMSEY NO. C73735 CIVIL STATE OF CALIFORNIA

DAVID RAMSEY RCE# 73735 DATE

APN# 018-372-14

PLAN TYPE
RESIDENTIAL
SUBDIVISION

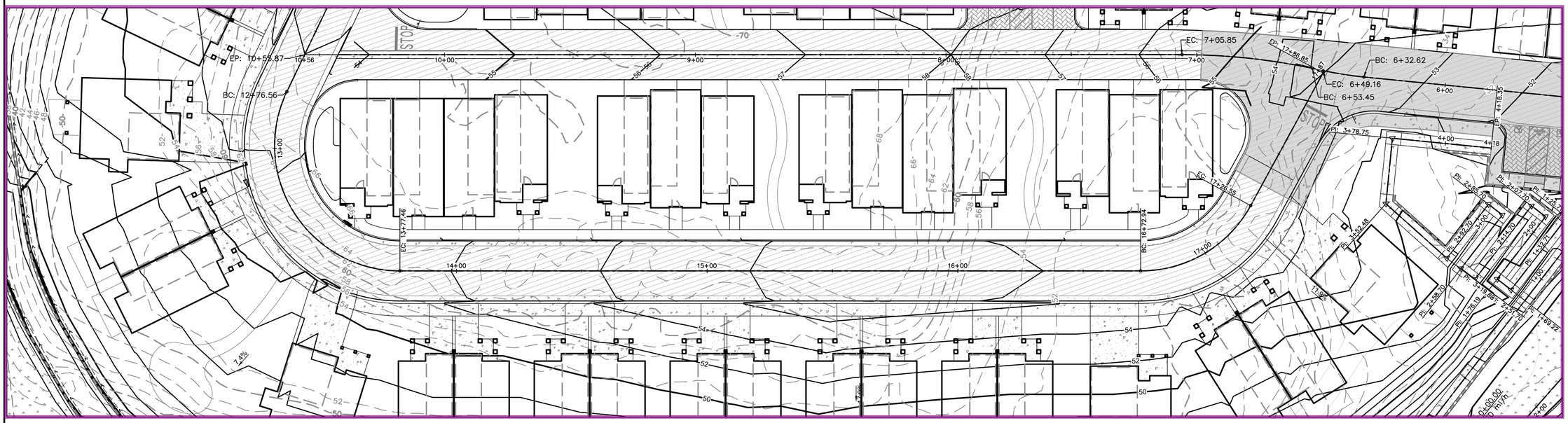
STREET A - PLAN & PROFILE (STA: 8+30 - 13+60)

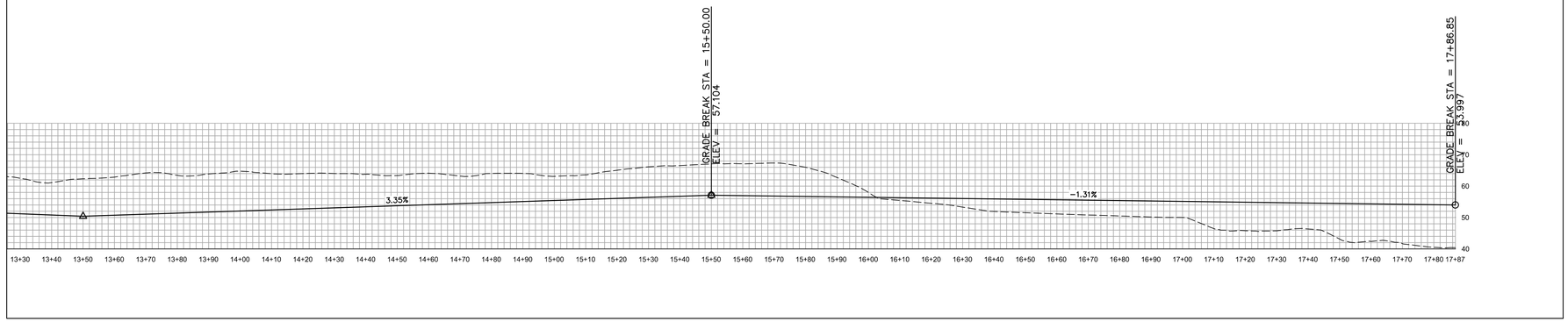
HILLCREST SUBDIVISION

510 OHLONE PARKWAY, WATSONVILLE, CA 95076

NUMBER	BY	DESCRIPTION	DATE
REVISION BLOCK			

DRAWN BY:	DMR
DESIGNED BY:	DMR
DATE:	12/14/2020
SCALE:	AS NOTED
PROJECT NO:	20-021
SHEET:	VE 2.2





STREET A - PLAN & PROFILE
STA: 13+30 - 17+87

20' 0 10' 20' 40'
GRAPHIC SCALE: 1 INCH = 20 FEET

Know what's below. Call before you dig.

RAMSEY CIVIL ENGINEERING INC
CIVIL ENGINEERING
LAND PLANNING
PROJECT MANAGEMENT
CONSTRUCTION SUPPORT
QSD AND QSP SERVICES
2905 KRISTIE COURT
SANTA CRUZ, CA 95065
TEL (831) 462-2905
www.ramseycivilengineering.com

REGISTERED PROFESSIONAL ENGINEER — DAVID RAMSEY — NO. C73735 — CIVIL — STATE OF CALIFORNIA

DAVID RAMSEY DATE
RCE# 73735

APN# 018-372-14

PLAN TYPE
RESIDENTIAL
SUBDIVISION

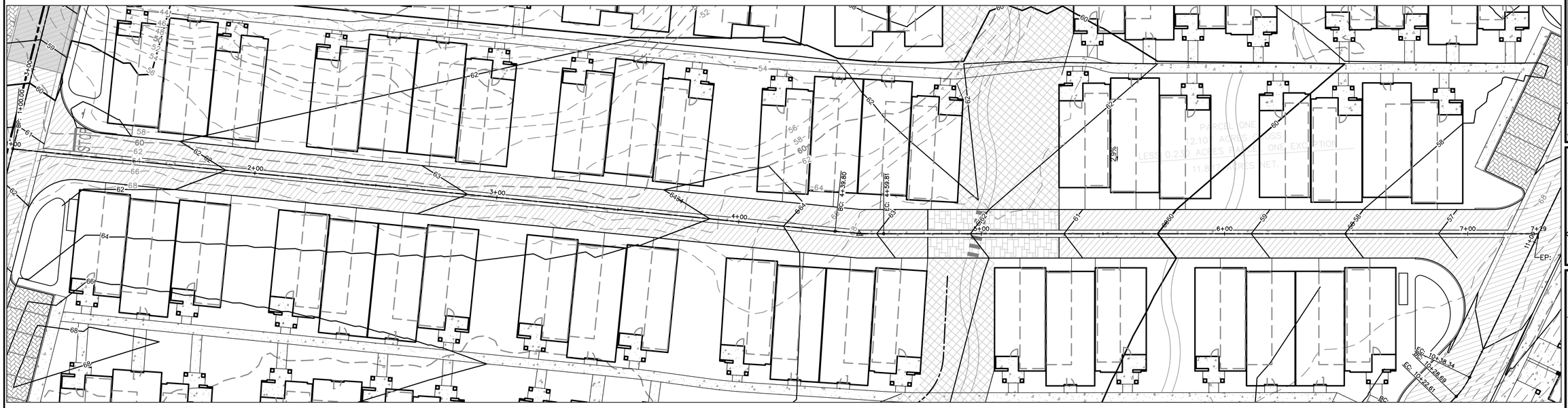
STREET A - PLAN & PROFILE (STA: 13+30 - 17+87)

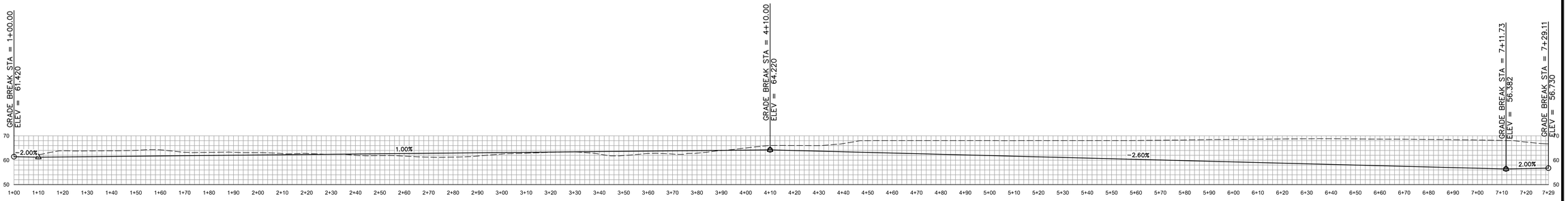
HILLCREST SUBDIVISION

510 OHLONE PARKWAY, WATSONVILLE, CA 95076

NUMBER	BY	DESCRIPTION	DATE
REVISION BLOCK			

DRAWN BY:	DMR
DESIGNED BY:	DMR
DATE:	12/14/2020
SCALE:	AS NOTED
PROJECT NO:	20-021
SHEET:	VE 2.3





STREET B

STREET B - PLAN & PROFILE

20' 0 10' 20' 40'

GRAPHIC SCALE: 1 INCH = 20 FEET

Know what's below. Call before you dig.

RAMSEY CIVIL ENGINEERING INC

CIVIL ENGINEERING
LAND PLANNING
PROJECT MANAGEMENT
CONSTRUCTION SUPPORT
QSD AND QSP SERVICES

2905 KRISTIE COURT
SANTA CRUZ, CA 95065
TEL (831) 462-2905
www.ramseycivilengineering.com

REGISTERED PROFESSIONAL ENGINEER — DAVID RAMSEY — NO. C73735 — CIVIL — STATE OF CALIFORNIA

DAVID RAMSEY RCE# 73735 DATE

APN# 018-372-14

PLAN TYPE
RESIDENTIAL
SUBDIVISION

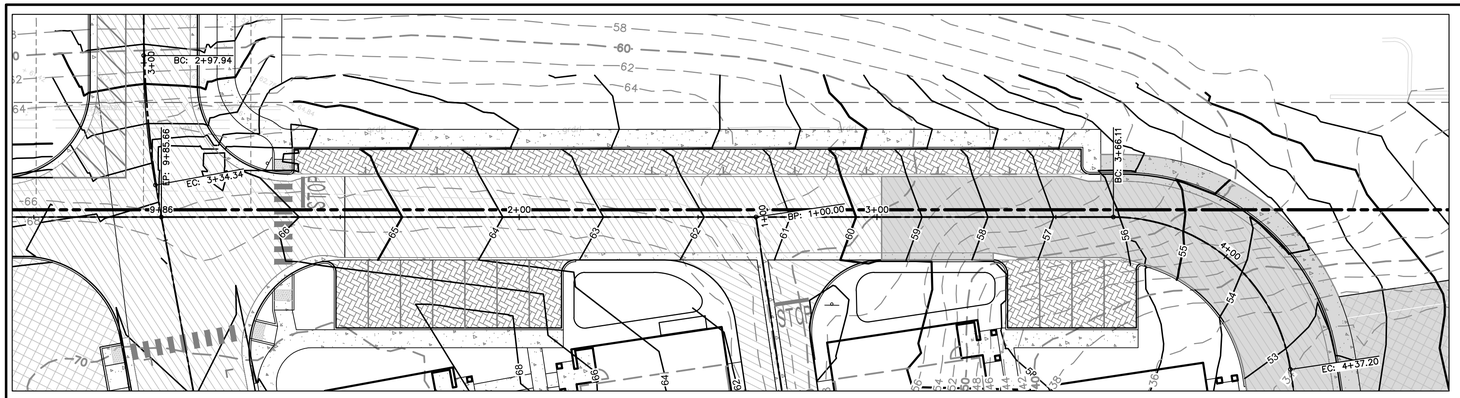
STREET B - PLAN & PROFILE

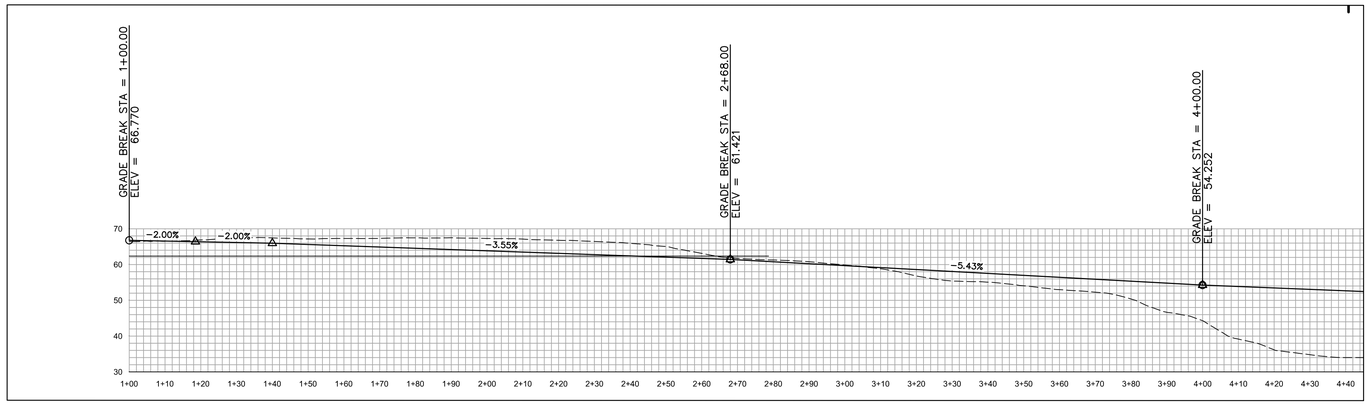
HILLCREST SUBDIVISION

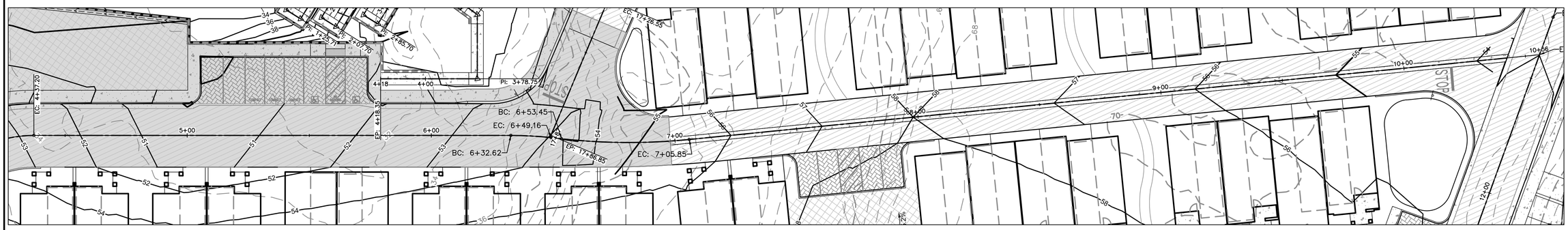
510 OHLONE PARKWAY, WATSONVILLE, CA 95076

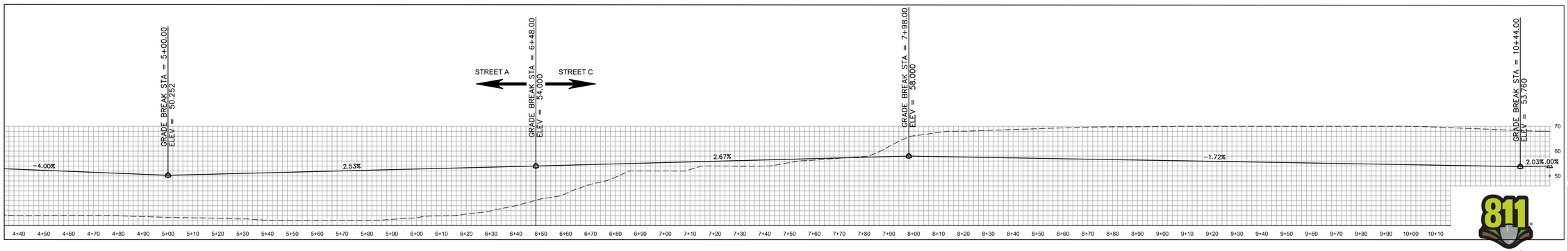
NUMBER	BY	DESCRIPTION	DATE
REVISION BLOCK			

DRAWN BY:	DMR
DESIGNED BY:	DMR
DATE:	12/14/2020
SCALE:	AS NOTED
PROJECT NO:	20-021
SHEET:	VE 2.4









STREET A & C - PLAN & PROFILE

GRAPHIC SCALE: 1 INCH = 20 FEET

Know what's below. Call before you dig.

RAMSEY CIVIL ENGINEERING INC
CIVIL ENGINEERING
LAND PLANNING
PROJECT MANAGEMENT
CONSTRUCTION SUPPORT
QSD AND QSP SERVICES
2905 KRISTIE COURT
SANTA CRUZ, CA 95065
TEL (831) 462-2905
www.ramseycivilengineering.com

REGISTERED PROFESSIONAL ENGINEER — DAVID RAMSEY — NO. C73735 — CIVIL — STATE OF CALIFORNIA

DAVID RAMSEY DATE
RCE# 73735

APN# 018-372-14

PLAN TYPE
RESIDENTIAL
SUBDIVISION

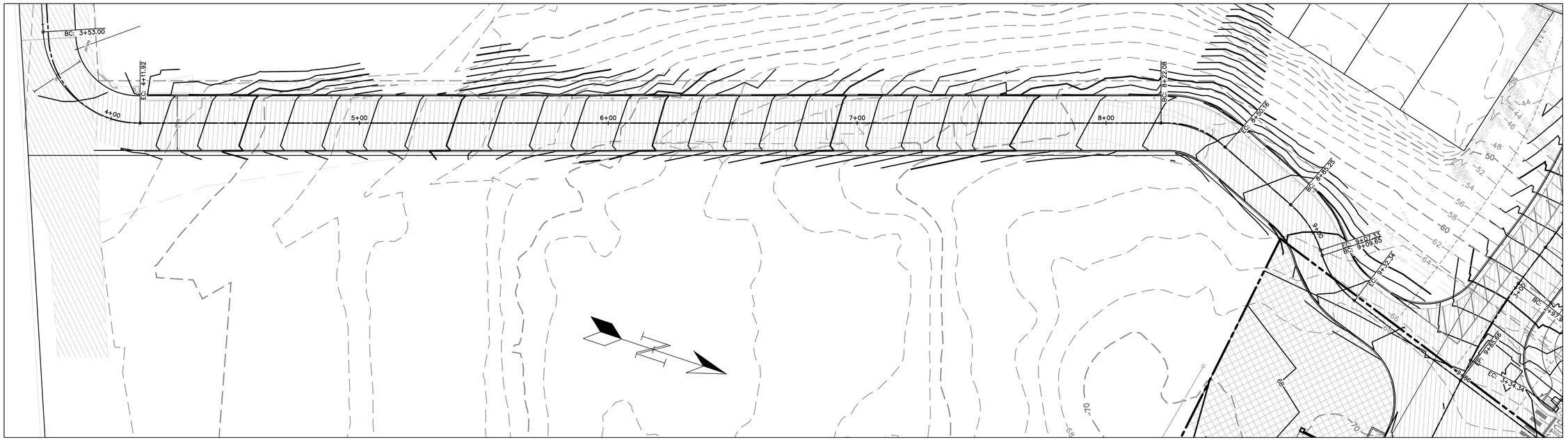
STREET A & C - PLAN & PROFILE

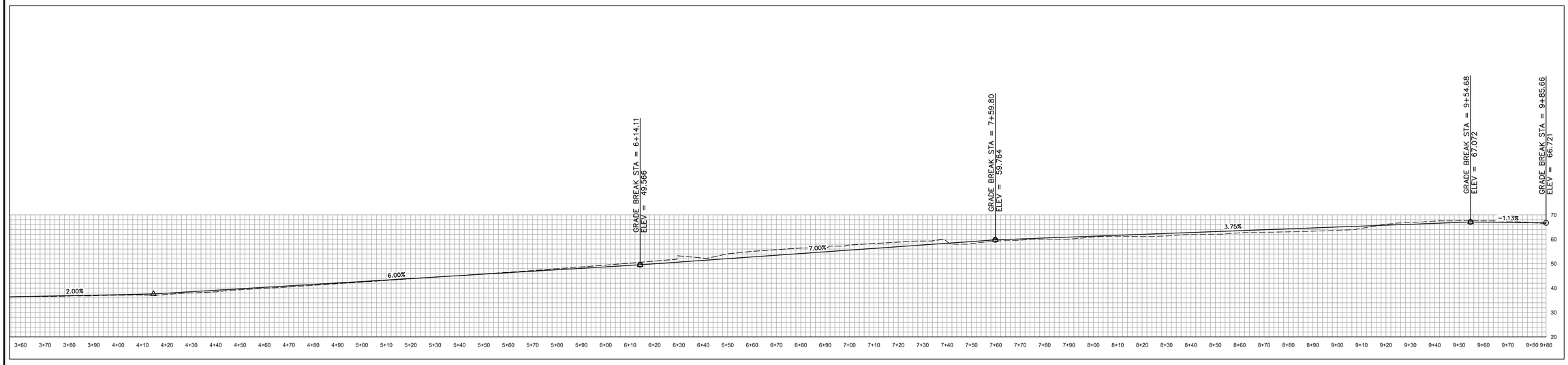
HILLCREST SUBDIVISION

510 OHLONE PARKWAY, WATSONVILLE, CA 95076

NUMBER	BY	DESCRIPTION	DATE
REVISION BLOCK			

DRAWN BY:	DMR
DESIGNED BY:	DMR
DATE:	12/14/2020
SCALE:	AS NOTED
PROJECT NO:	20-021
SHEET:	VE 2.5





ERRINGTON ROAD (ENTRY & FIRE ROAD #1) - PLAN & PROFILE

20' 0 10' 20' 40'

GRAPHIC SCALE: 1 INCH = 20 FEET

Know what's below. Call before you dig.

RAMSEY
CIVIL ENGINEERING INC
CIVIL ENGINEERING
LAND PLANNING
PROJECT MANAGEMENT
CONSTRUCTION SUPPORT
QSD AND QSP SERVICES
2905 KRISTIE COURT
SANTA CRUZ, CA 95065
TEL (831) 462-2905
www.ramseycivilengineering.com

REGISTERED PROFESSIONAL ENGINEER — DAVID RAMSEY — NO. C73735 — CIVIL — STATE OF CALIFORNIA

DAVID RAMSEY DATE
RCE# 73735

APN# 018-372-14

PLAN TYPE
RESIDENTIAL
SUBDIVISION

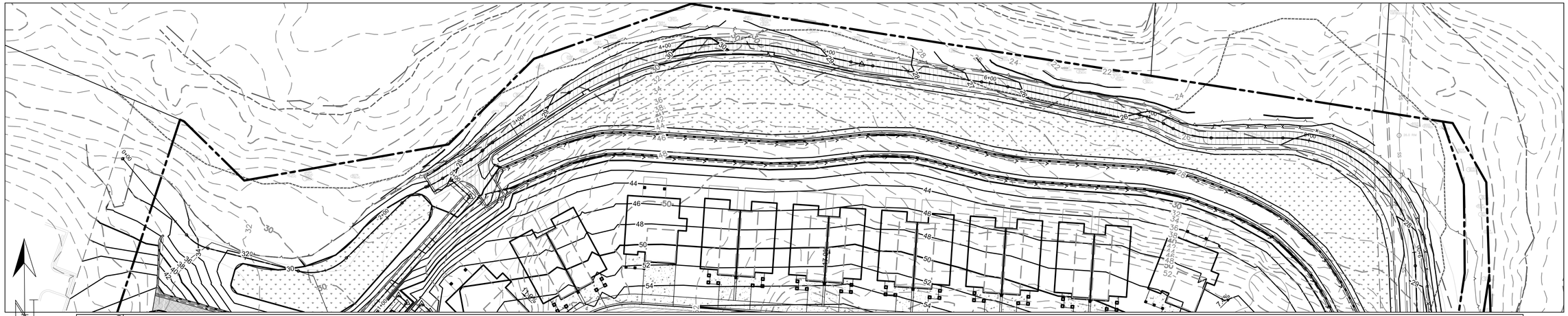
ERRINGTON ROAD (ENTRY & FIRE RD #1)
PLAN & PROFILE

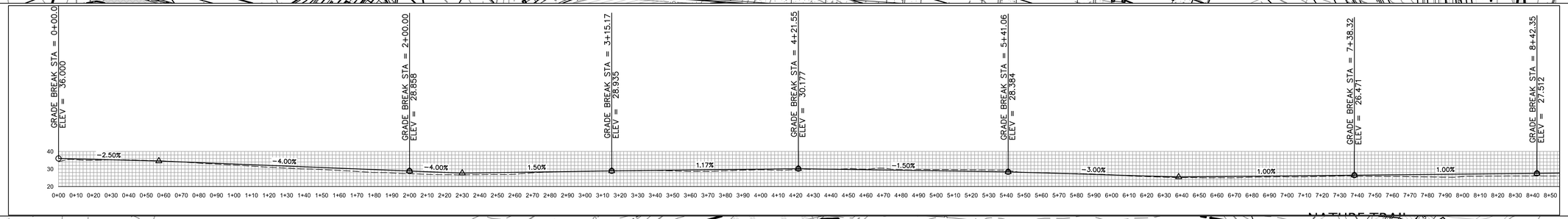
HILLCREST SUBDIVISION

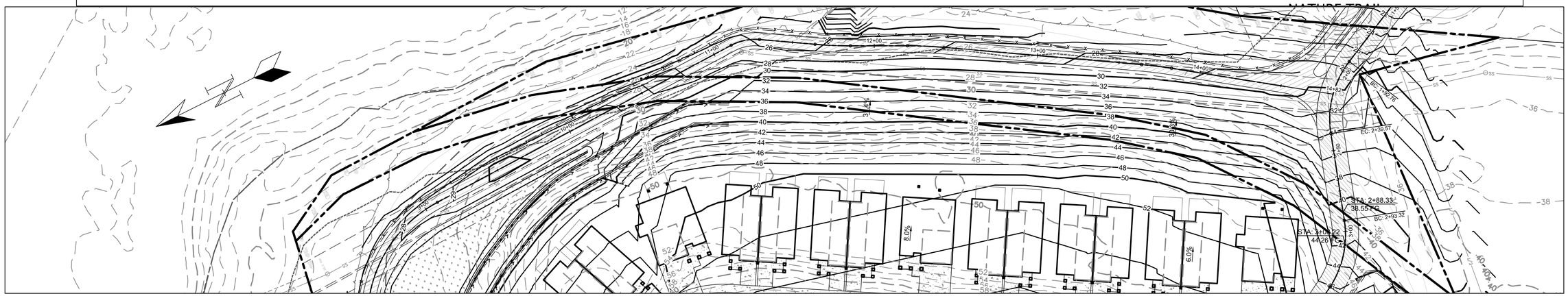
510 OHLONE PARKWAY, WATSONVILLE, CA 95076

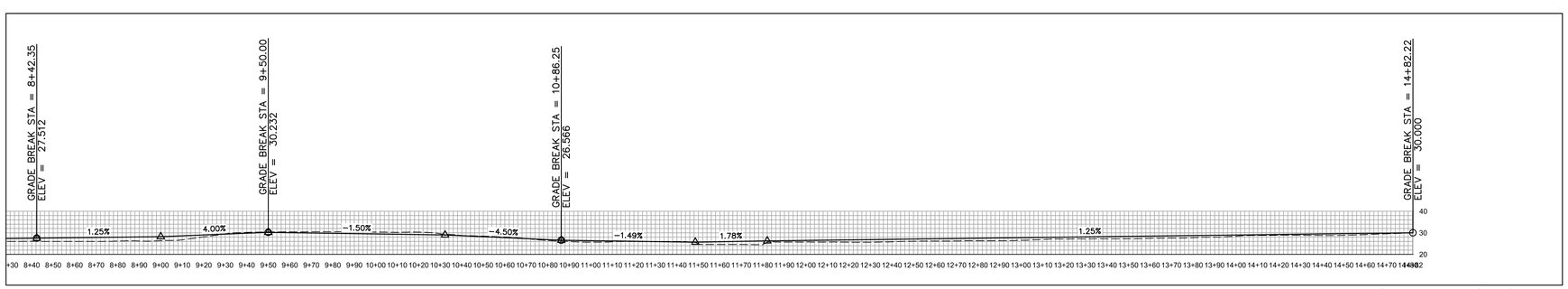
NUMBER	BY	DESCRIPTION	DATE
REVISION BLOCK			

DRAWN BY:	DMR
DESIGNED BY:	DMR
DATE:	12/14/2020
SCALE:	AS NOTED
PROJECT NO:	20-021
SHEET:	VE 3.0









NATURE TRAIL - PLAN & PROFILE

GRAPHIC SCALE: 1 INCH = 30 FEET

Know what's below. Call before you dig.

RAMSEY CIVIL ENGINEERING INC

CIVIL ENGINEERING
LAND PLANNING
PROJECT MANAGEMENT
CONSTRUCTION SUPPORT
QSD AND QSP SERVICES

2905 KRISTIE COURT
SANTA CRUZ, CA 95065
TEL (831) 462-2905
www.ramseycivilengineering.com

REGISTERED PROFESSIONAL ENGINEER — DAVID RAMSEY — NO. C73735 — CIVIL — STATE OF CALIFORNIA

DAVID RAMSEY RCE# 73735 DATE

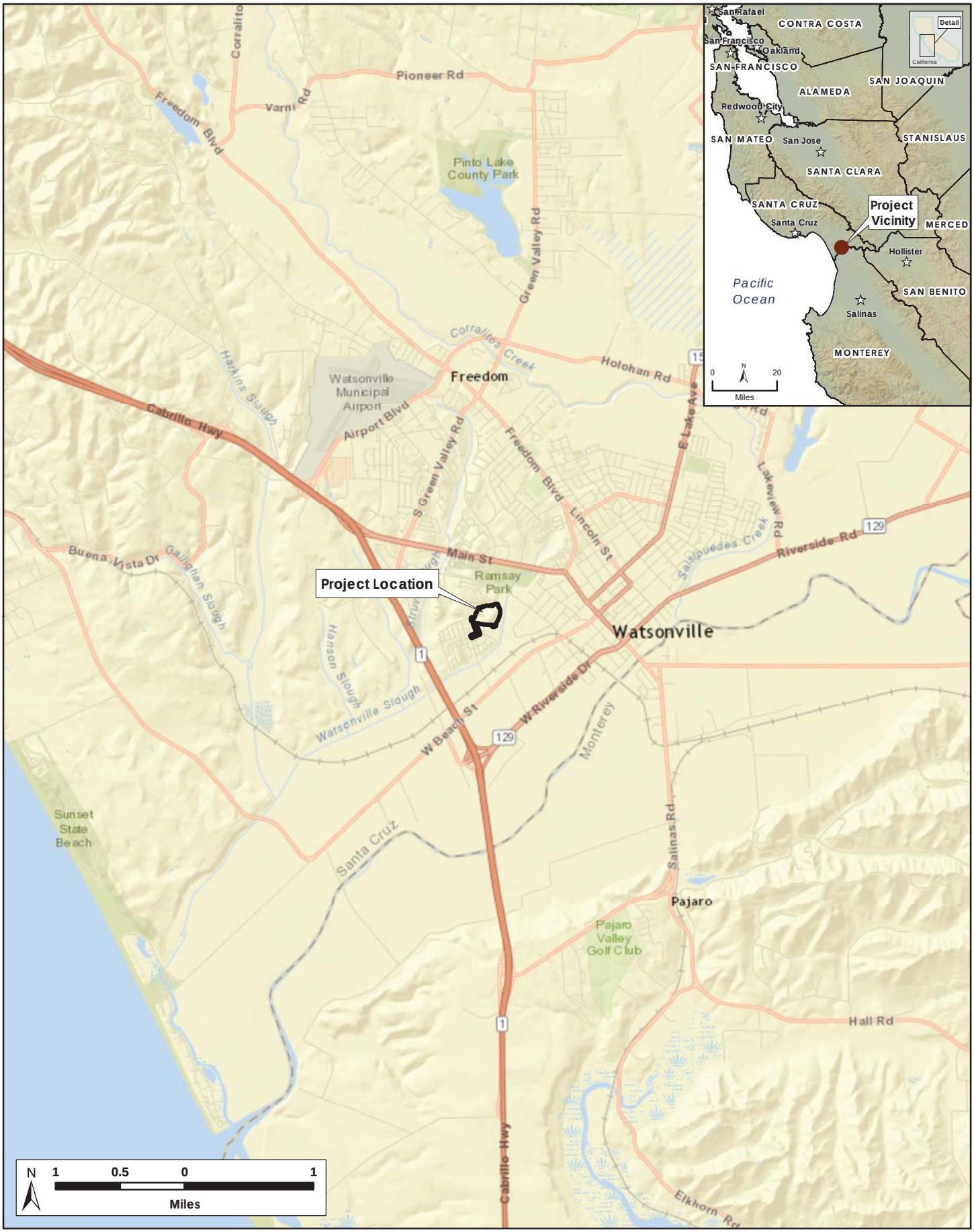
APN# 018-372-14

PLAN TYPE
RESIDENTIAL
SUBDIVISION

NATURE TRAIL - PLAN & PROFILE
HILLCREST SUBDIVISION
510 OHLONE PARKWAY, WATSONVILLE, CA 95076

NUMBER	BY	DESCRIPTION	DATE
		REVISION BLOCK	

DRAWN BY:	DMR
DESIGNED BY:	DMR
DATE:	12/14/2020
SCALE:	AS NOTED
PROJECT NO:	20-021
SHEET:	VE 3.2

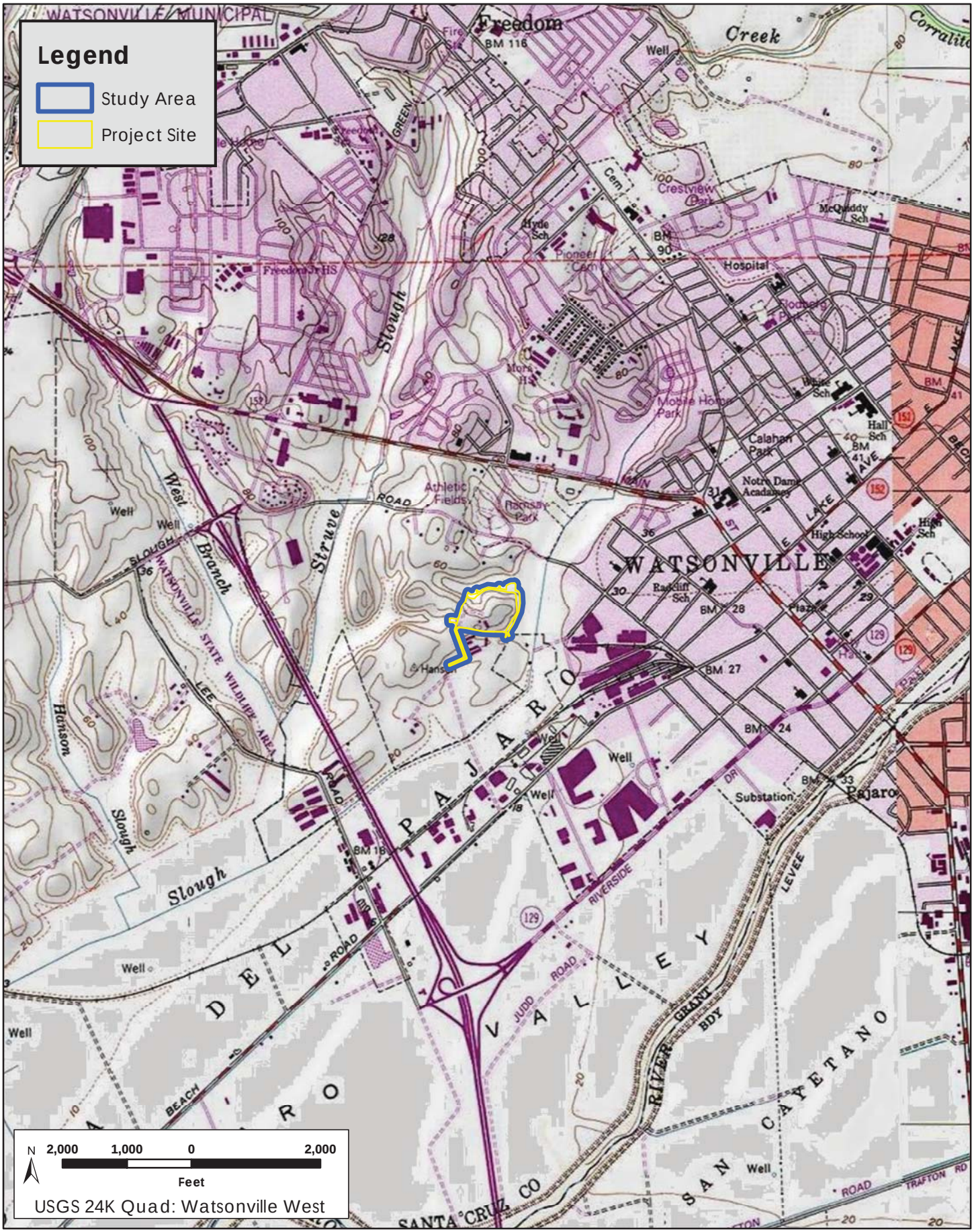


N:\Projects3900\3951-01\Reports\Preliminary ID of Waters\Fig 1 Vicinity Map.mxd swatt

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 1. Vicinity Map

Sunshine Vista Project - Biological Resources Report (3951-01) April 2017



N:\Projects3900\3951-01\Reports\Preliminary ID of Waters\Fig 3 USGS Topographic Map.mxd

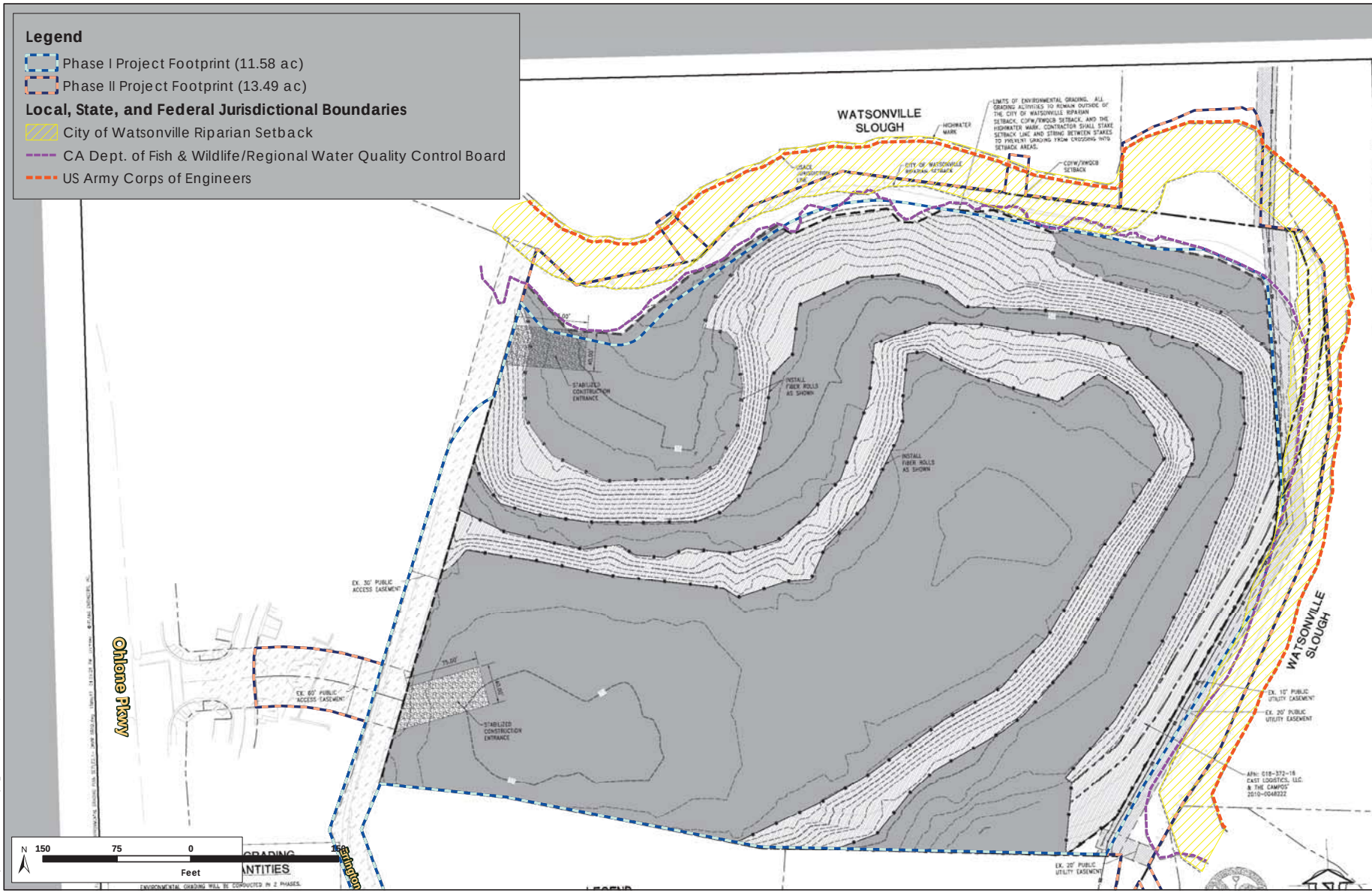
H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 2. USGS Topographic Map

Sunshine Vista Project - Biological Resources Report (3951-01) April 2017

Jurisdictional boundary limits (to be professional survey-staked)

(initial limits of soil removal to 24-inches); subsequent soil removal in easement areas is planned for the spring.



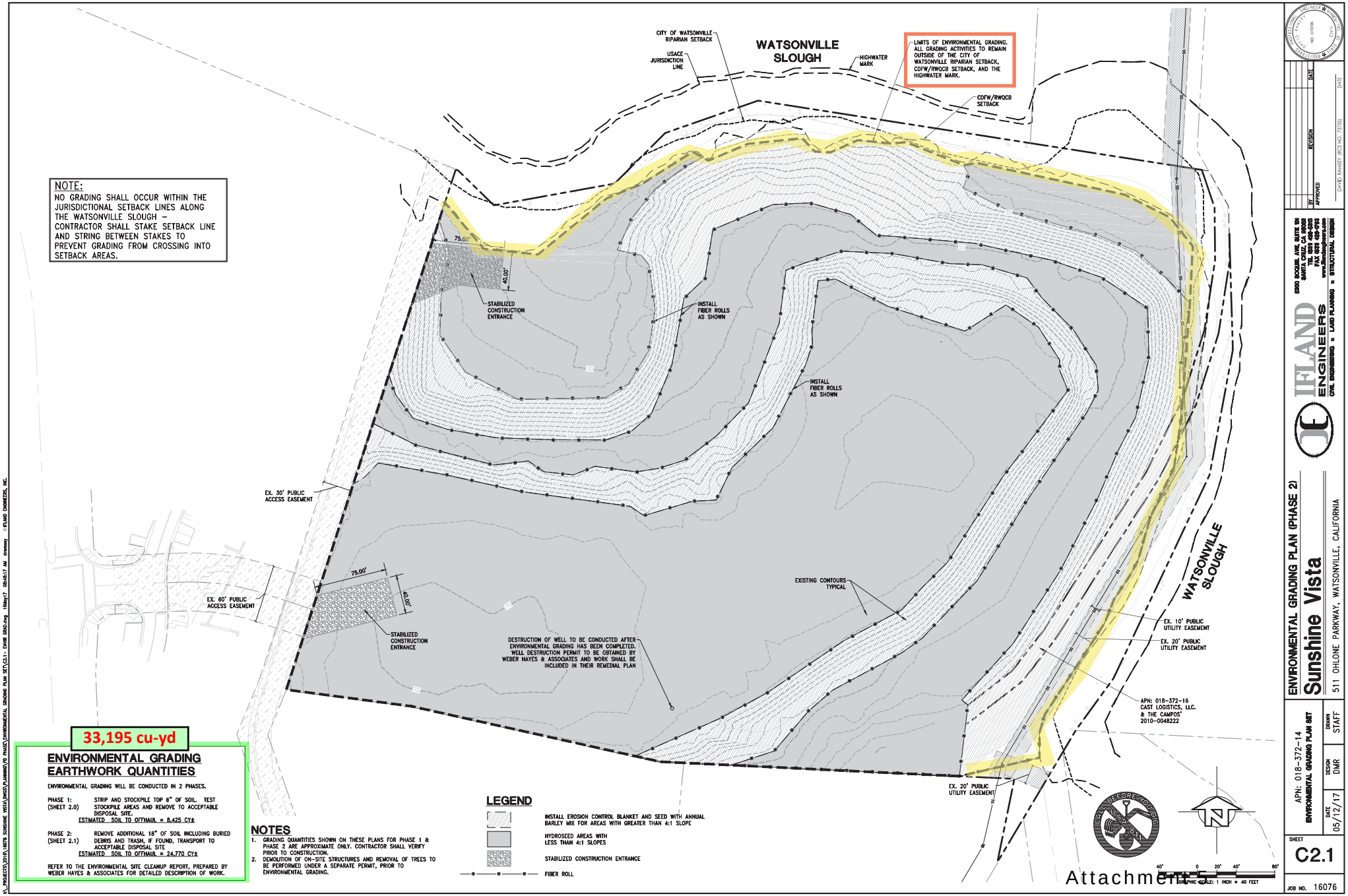
N:\Projects\3900\3951-01\Mxd\May 15_CAD and Jurisdictional Map.mxd

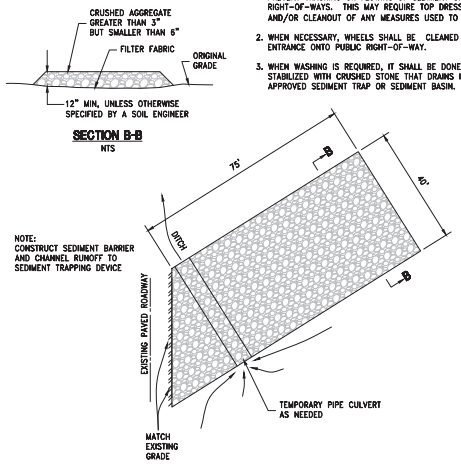
H. T. HARVEY & ASSOCIATES
Ecological Consultants

May 15, 2017 CAD drawings
Sunshine Vista Project (3951-01)
May 2017

Remedial Grading Plan: Site-wide soil removal

(Phase 1 = Grubbing/scraping to 6-inches & debris removal; Phase 2 = Soil removal of an additional 18-inches)





STABILIZED CONSTRUCTION ENTRANCE PART 1

NTS

CONSTRUCTION SPECIFICATIONS:

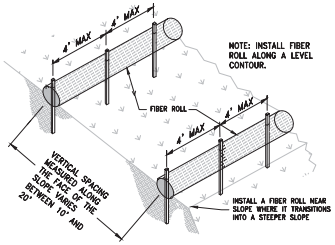
1. THE AGGREGATE SIZE FOR CONSTRUCTION OF THE PAD SHALL BE 2-3 INCH (50-75 MM) STONE. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
2. THE THICKNESS OF THE PAD SHALL NOT BE LESS THAN 6 INCHES (152 MM). USE GEOTEXTILE FABRICS, IF NECESSARY, TO IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.
3. THE WIDTH OF THE PAD SHALL NOT BE LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS AND IN ANY CASE SHALL NOT BE LESS THAN 12 FEET (3.6 M) WIDE.
4. THE LENGTH OF THE PAD SHALL BE AS REQUIRED, BUT NOT LESS THAN 50 FEET (15.2 M).
5. LOCATE CONSTRUCTION ENTRANCES AND EXITS TO LIMIT SEDIMENT LEAVING THE SITE AND TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. AVOID ENTRANCES WHICH HAVE STEEP GRADES AND ENTRANCES AT CURVES IN PUBLIC ROADS.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR MAINTENANCE OF ANY MEASURES USED TO TRAP SEDIMENT.
7. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
8. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
9. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. SEE SEDIMENT BASIN BMP.
10. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, STRAW BALES, OR OTHER APPROVED METHODS.

INSPECTION AND MAINTENANCE:

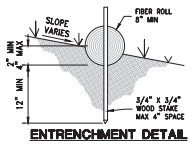
11. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
12. REPLACE GRAVEL MATERIAL WHEN SURFACE VOIDS ARE VISIBLE.
13. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY.
14. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS WITHIN 24 HOURS.

STABILIZED CONSTRUCTION ENTRANCE PART 2

NTS



TYPICAL INSTALLATION



ENTRENCHMENT DETAIL

FIBER ROLLS PART 1

NTS

CONSTRUCTION SPECIFICATIONS

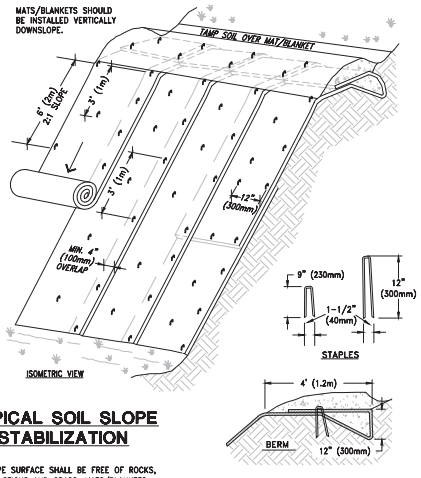
1. PREPARE SLOPE BEFORE THE WATTLING PROCEDURE IS STARTED. SHALLOW GULLIES SHOULD BE SMOOTHED AS WORK PROGRESSES.
2. DIG SMALL TRENCHES ACROSS SLOPE ON CONTOUR, TO PLACE WATTLES IN. THE TRENCH SHOULD BE DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE WATTLE. WHEN THE SOIL IS LOOSE AND UNCOMPACTED, THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE WATTLE 2/3 OF ITS THICKNESS BECAUSE THE GROUND WILL SETTLE. IT IS CRITICAL THAT WATTLES ARE INSTALLED PERPENDICULAR TO WATER MOVEMENT, PARALLEL TO THE SLOPE CONTOUR.
3. START BUILDING TRENCHES AND INSTALL WATTLES FROM THE BOTTOM OF THE SLOPE AND WORK UP.
4. CONSTRUCT TRENCHES AT CONTOUR INTERVALS OF THREE TO EIGHT FEET APART DEPENDING ON STEEPNESS OF SLOPE. THE STEEPER THE SLOPE, THE CLOSER TOGETHER THE TRENCHES.
5. LAY THE WATTLE ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE STRAW WATTLE. USE A STRAIGHT BAR TO DRIVE HOLES THROUGH THE WATTLE AND INTO THE SOIL FOR THE WOODEN STAKES.
6. DRIVE THE STAKE THROUGH THE PREPARED HOLE INTO THE SOIL. LEAVE ONLY ONE OR TWO INCHES OF STAKE EXPOSED ABOVE WATTLE. IF USING WILLOW STAKES REFER TO USDA SOIL CONSERVATION SERVICE TECHNICAL GUIDE, BIOENGINEERING, FOR GUIDELINES TO PREPARING LIVE WILLOW MATERIAL.
7. INSTALL STAKES AT LEAST EVERY FOUR FEET APART THROUGH WATTLE. ADDITIONAL STAKES MAY BE DRIVEN ON THE DOWNSLOPE SIDE OF THE TRENCHES ON HIGHLY EROSIVE OR VERY STEEP SLOPES.

INSTALLATION AND MAINTENANCE

8. INSPECT THE STRAW WATTLE AND THE SLOPES AFTER SIGNIFICANT STORMS. MAKE SURE THE WATTLES ARE IN CONTACT WITH THE SOIL.
9. REPAIR ANY RILLS OR GULLIES PROMPTLY.
10. RESEED OR REPLANT VEGETATION IF NECESSARY UNTIL THE SLOPE IS STABILIZED.

FIBER ROLLS PART 2

NTS



TYPICAL SOIL SLOPE STABILIZATION

NOTES

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION BLANKET SLOPE SOIL STABILIZATION

NTS

IFLAND ENGINEERS
CIVIL ENGINEERING ■ LAND PLANNING ■ STRUCTURAL DESIGN
8500 SOQUEL AVE, SUITE 101
SANTA CRUZ, CA 95062
PH: (831) 426-9555
FAX: (831) 426-9182
www.ifandengineers.com

DAVID TAMAYE (RCE NO. 73351)

BY	APPROVED	REVISION	DATE

DATE

EROSION CONTROL DETAILS
Sunshine Vista
511 OHLONE PARKWAY, WATSONVILLE, CALIFORNIA

APN: 018-372-14
ENVIRONMENTAL GRADING PLAN SET

DATE	DESIGN	DRAWN
05/12/17	DMR	STAFF

SHEET
C2.2

JOB NO. 16076

Earthworks Housekeeping and Erosion Control Requirements

SITE HOUSEKEEPING NOTES

EQUIPMENT AND VEHICLE MAINTENANCE AND CLEANING

- INSPECT EQUIPMENT AND VEHICLES FREQUENTLY AND REPAIR ANY LEAKS AS SOON AS POSSIBLE. CONTAIN AND CLEAN UP LEAKS, SPILLS, AND DRIPS OF HAZARDOUS MATERIALS AND CHEMICALS AS QUICKLY AS POSSIBLE TO MINIMIZE RUN-OFF OR SOAK IN. THIS INCLUDES FUEL AND MOTOR OIL, HYDRAULIC FLUID, AND GLYCOL BASED ANTI-FREEZE FROM VEHICLES. USE DRY CLEANUP METHODS IF POSSIBLE. PERFORM MAJOR MAINTENANCE AND REPAIRS OFF-SITE.
- REMOVE ENCOUNTERED ABANDONED FUEL/OIL TANKS (AND THEIR CONTENTS) IN A MANNER CONSISTENT WITH METHODOLOGY APPROVED BY BOTH THE CITY OF WATSONVILLE AND THE SANTA CRUZ COUNTY ENVIRONMENTAL HEALTH DEPARTMENT.
- IF REPAIR OR REFUELING OF VEHICLES AND EQUIPMENT MUST BE DONE ON-SITE, USE A DESIGNATED LOCATION AWAY FROM STORM DRAIN INLETS, WATER BODIES, AND OTHER SENSITIVE AREAS.
- IF EQUIPMENT IS WASHED ON-SITE, WASH WATER MAY NOT BE DISCHARGED TO THE STORM DRAIN SYSTEM. IF POSSIBLE, WASH VEHICLES AT AN APPROPRIATE OFF-SITE FACILITY.
- RECYCLE USED MOTOR OIL, OTHER VEHICLE FLUIDS, AND VEHICLE PARTS WHENEVER POSSIBLE.

MATERIAL STORAGE AND SOIL STOCKPILES

- LOCATE SOIL STOCKPILES AWAY FROM GUTTERS, STORM DRAIN INLETS, AND WATER BODIES. IN ADDITION, KEEP STOCKPILES AWAY FROM STEEP SLOPES AND UNSTABLE SOIL IN ORDER TO MINIMIZE THE CHANCE OF AN ACCIDENTAL RELEASE TO THE ENVIRONMENT. STOCKPILES MAY NEVER BE STORED ON A STREET OR IN AN ALLEY UNLESS SPECIFICALLY APPROVED BY THE PUBLIC WORKS DEPARTMENT.
- STORE STOCKPILES AND EXCAVATION SPOILS UNDER COVERS AND PROTECTED FROM WIND, RAIN, AND RUNOFF. COVER PILES OF SOIL, CONSTRUCTION MATERIALS AND WASTES WITH PLASTIC SHEETING OR TARPS.
- DURING THE RAINY SEASON, AFTER OCTOBER 1ST OR SOONER IF RAIN IS FORECAST, IMPLEMENT CONTROL MEASURES FOR THE ITEMS LISTED BELOW IF STORED OUTSIDE IN ORDER TO PREVENT SEDIMENT, LITTER, AND OTHER POLLUTANTS FROM LEAVING THE SITE AND/OR BEING DISCHARGED INTO THE STORM DRAIN SYSTEM.

  *MATERIAL STOCKPILES
  *SOIL STOCKPILES
  *EXCAVATION SPOILS
  *CONSTRUCTION MATERIALS

- KEEP DUMPSTER LIDS CLOSED AND SECURED. FOR DUMPSTERS OR BINS THAT DON'T HAVE A LID, COVER THEM WITH PLASTIC SHEETING OR A TARP DURING RAINY OR WINDY WEATHER.

WASTE MANAGEMENT: BLDG. MATERIALS, DEMO. WASTE AND VEGETATION

- ONSITE STORAGE OF CONSTRUCTION MATERIALS. STORE WASTES IN CONTAINERS OR A DUMPSTER WHENEVER POSSIBLE. COVER PILES OF UNCONTAINED WASTES AND WASTES STORED IN OPEN CONTAINERS DURING WINDY CONDITIONS AND PRIOR TO SIGNIFICANT FORECASTED RAIN (0.25 INCHES IN A 24-HOUR PERIOD). DO NOT HOSE DUMPSTERS OUT ON THE CONSTRUCTION SITE.
- NEVER LEAVE OR ABANDON EXCAVATION SPOILS AT A PROJECT SITE. AT THE END OF A CONSTRUCTION PROJECT, COLLECT ALL UNUSED WASTE MATERIALS AND DISPOSE OF PROPERLY. DO NOT LEAVE DISCARDED WASTE VEGETATION IN A STREET, GULLY, OR WATERWAY.
- HAZARDOUS MATERIALS. ASBESTOS AND OTHER DEBRIS CONTAINING HAZARDOUS MATERIALS MUST BE DISPOSED OF AS HAZARDOUS WASTE. FOR MORE INFORMATION ABOUT HAZARDOUS WASTE DISPOSAL, PLEASE CONTACT THE COUNTY ENVIRONMENTAL HEALTH DEPARTMENT AT (831) 454-2022.

PORTABLE TOILET FACILITIES

ALL SANITARY WASTES SHALL BE COLLECTED AND MANAGED THROUGH THE USE OF PORTABLE TOILET FACILITIES, SERVICED WITH DISPOSAL IN THE SANITARY SEWER SYSTEM, OR PERMANENT TOILET FACILITIES PLUMBED TO THE SANITARY SEWER.

- IF PORTABLE TOILETS ARE USED, ENSURE THAT THE LEASING COMPANY PROPERLY MAINTAINS THE TOILETS AND PROMPTLY MAKES REPAIRS AS NEEDED. CONDUCT VISUAL INSPECTIONS FOR LEAKS.
- PLACE PORTABLE TOILETS ON A LEVEL SURFACE AND AT A SAFE DISTANCE AWAY FROM PAVED AREAS AND, TO THE EXTENT PRACTICAL, STORM DRAIN INLETS. SECURE THEM TO PREVENT BLOWING OVER.
- PROVIDE SECONDARY CONTAINMENT FOR PORTABLE TOILETS LOCATED WITHIN 20 FEET OF A STREAM, STORM DRAIN, OR STREET.
- DURING PUMP-OUT, TAKE APPROPRIATE MEASURES TO AVOID SPILLAGE. IF SPILLAGE OCCURS IT SHALL BE CLEANED UP IMMEDIATELY.

SITE CLEANUP

- WHEN CLEANING UP, SWEEP WHENEVER POSSIBLE. LITTER AND DEBRIS MUST BE PICKED UP AND DISPOSED OF PROPERLY.
- ROAD OR SIDEWALK WORK. IN THE ROADWAY OR ON THE SIDEWALK, MATERIAL STOCKPILES MUST BE REMOVED AND CLEANED UP BY THE END OF EACH DAY.
- SEDIMENT CONTROL DEVICES. SWEEP AND REMOVE ANY SOLID WASTE THAT ACCUMULATES AT EROSION AND SEDIMENT CONTROL DEVICES AS SOON AS POSSIBLE.

EROSION CONTROL NOTES

1. THE EROSION CONTROL PLANS IN THIS SET SHALL BE REVIEWED AND IMPLEMENTED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK.
2. NO LAND CLEARING, GRADING OR EXCAVATION SHALL BE DONE BETWEEN OCTOBER 15TH AND APRIL 15TH. ANY DEVIATION FROM THIS CONDITION REQUIRES REVIEW AND APPROVAL BY THE CITY OF WATSONVILLE PUBLIC WORKS DEPARTMENT. THE DEVELOPER SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING SITE EROSION CONTROL AT ALL TIMES.
3. IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE PERMITTEE TO ENSURE THAT EROSION DOES NOT OCCUR FROM ANY ACTIVITY DURING OR AFTER PROJECT CONSTRUCTION. ADDITIONAL MEASURES, BEYOND THOSE SPECIFIED, MAY BE REQUIRED BY THE CITY OF WATSONIVLLE PUBLIC WORKS DEPARTMENT, AS DEEMED NECESSARY TO CONTROL ACCELERATED EROSION.
4. PRIOR TO ANY FORECAST RAIN AND ANYTIME BETWEEN OCTOBER 15 AND APRIL 15, AT THE END OF EACH WORKDAY, AT THE END OF EACH WORKWEEK, THE DEVELOPER SHALL IMPLEMENT ALL TEMPORARY MEASURES NECESSARY TO PREVENT EROSION AND SILTATION, UNTIL THE PROJECT HAS BEEN FINALIZED. THESE MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, DIRECT SEEDING OF THE AFFECTED AREAS, STRAW MULCHING, AND/OR INSTALLATION OF STRAW BALES DAMS/SILT FENCES.
5. DURING CONSTRUCTION, NO TURBID WATER SHALL BE PERMITTED TO LEAVE THE SITE. USE OF FILTER BERMS, HAY BALES OR SILT FENCES MAY BE NECESSARY TO PREVENT SUCH DISCHARGE.
6. ALL AREAS ON- AND OFF-SITE EXPOSED DURING CONSTRUCTION ACTIVITIES, IF NOT PERMANENTLY LANDSCAPED PER PLAN, SHALL BE PROTECTED BY MULCHING AND/OR SEEDING WITH ANNUAL WINTER BARLEY.
7. ALL EXCAVATED MATERIAL SHALL BE REMOVED TO AN APPROVED DISPOSAL SITE OR DISPOSED OF ON-SITE IN A MANNER THAT WILL NOT CAUSE EROSION.
8. ANY MATERIAL STOCKPILED, FOR LONGER THAN 14 DAYS, DURING CONSTRUCTION SHALL BE COVERED WITH PLASTIC.
9. UPON COMPLETION OF GRADING ACTIVITIES, ALL EXPOSED SOILS SHALL BE HYDROSEEDED, PER SHEET C2.1. SUCH PROTECTION SHALL BE MAINTAINED FOR AT LEAST ONE WINTER UNTIL PERMANENT PROTECTION IS ESTABLISHED OR PHASE 2 OF THE PROJECT COMMENCES.
10. EXPOSED SOIL ON SLOPES GREATER THAN 20% SHALL BE HYDROSEEDED, AND AN EROSION CONTROL BLANKET OR COCOMAT INSTALLED. THE EROSION CONTROL BLANKET SHALL BE STAKED IN PLACE.
11. IT IS THE DEVELOPER'S RESPONSIBILITY TO SEE THAT ADDITIONAL MEASURES, NECESSARY TO CONTROL SITE EROSION AND PREVENT SEDIMENT TRANSPORT OFF-SITE ARE IMPLEMENTED.
12. ALL SPILLS AND/OR LEAKS SHALL BE IMMEDIATELY CLEANED UP AND MITIGATED PER THE SPILL RESPONSE REQUIREMENTS SPECIFIED IN THE SWPPP DOCUMENT AND THE CONTRACTORS O&M STANDARDS.

Appendix B

Summary of Subsurface Conditions Documented in Previously Completed Environmental Investigations

(Summary Figures & Tables)

Weber, Hayes & Associates	*Phase I/II Environmental Site Assessment* (February 2004)
Lowney Associates	*Soil Quality Evaluation* (September 2004).
Weber, Hayes & Associates	*Phase I/II Environmental Site Assessment* (July 2016)
Trinity Source Group	*Additional Phase II Environmental Site Assessment Report* (December 2016)

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA 95076
(831) 722-3580 // www.weber-hayes.com

Summary of Subsurface Conditions and Previously Completed Environmental Investigations

511 Ohlone Parkway, Watsonville ("Site", Figure 1)
Assessor Parcel Number 018-372-14

The 11.2-acre subject Site has historically been used for car salvaging and repair businesses for the last 49 years. Recently, business operations have been shut down and the entire property has been cleared of all vehicles and all stored materials. Soils and groundwater beneath the site have been extensively tested as part of four (4) separate environmental assessment investigations, which have shown groundwater to be free of chemical impacts and soil impacts to be generally limited to shallow depths (i.e., less than 2 feet). The Sunshine Vista Development project proposes to remediate residual contamination at the site and construct a residential development in this location.

1.0 INFORMATION SOURCES

Information described in this summary of Site conditions was obtained from the following four (4) environmental testing reports that evaluated soil and groundwater conditions on the subject Site (511 Ohlone Parkway, which had a former address as 600 Errington Road).

1. (WHA[1], 2004), *Phase I/II Environmental Site Assessment,* 600 Errington Road, dated February 2004
2. (Lowney[2] 2004), *Soil Quality Evaluation,* Cluster Property, dated September 2004.
3. (WHA, 2016), *Phase I/II Environmental Site Assessment*, 511 Ohlone Parkway, dated July 2016.
4. (Trinity[3] 2016) *Additional Phase II Environmental Site Assessment Report*, dated December 2016.

2.0 GENERAL LAND USE INFORMATION (CURRENT/HISTORICAL)

2.1 Site Description and Background

The irregularly-shaped, 11.27-acre subject parcel is a small, terraced hilltop having approximately 120 feet of elevation change that extends from the Watsonville slough up to the upper terrace (elevations range from 10 to 140 feet above Mean Sea Level, see clip below). Aside from a few structures, the property is dirt covered and the tiers of flat-lying terraces are connected by dirt and gravel access roads. Remaining areas are vegetated, which include the steeper contoured hillsides and areas adjacent to the slough.

Up until recently, the open terraces were primarily occupied by various automotive wrecking/dismantling and vehicle storage businesses (i.e., junkyard salvaging of vehicles, sales of dismantled parts, and towing company storage). As shown on the terrain clip (below), the Site contained a few commercial structures that are scheduled for demolition. They are generally constructed as simple, steel-sided structures with slab on grade foundations and they were used to support the vehicle storage and salvaging operations. The Site also contained a long-term residence.

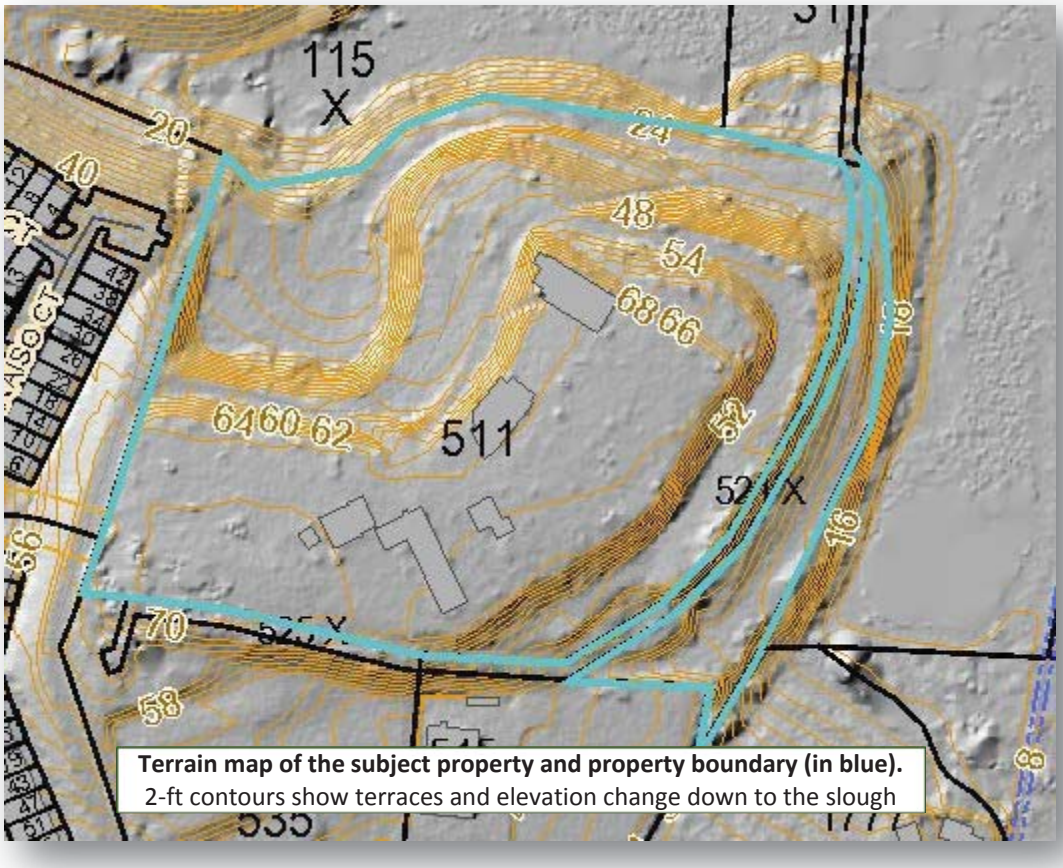
---

[1]: WHA: Weber, Hayes & Associates

[2]: Lowney: Lowney Associates

[3]: Trinity: Trinity Source Group

The Site is bordered to the north and east by Watsonville Slough, to the south by a trucking and hauling company, to the southeast by vacant land recently approved for residential development (i.e., Sunshine Gardens Residential Project), and to the west by an access road (former Errington Road) and residential developments.



Terrain map of the subject property and property boundary (in blue).
2-ft contours show terraces and elevation change down to the slough

The long history of junkyard operations included vehicle storage, dismantling, crushing, burning, repair, and bodywork and automotive waste fluids storage. Based on this commercial-industrial land use, four (4) separate environmental sampling and testing investigations were conducted to evaluate potential impacts to soil and groundwater. Drilling and trenching investigations included the analysis of 249 soil samples from 145 locations across the Site. A detailed description of the four investigations is presented in the following section, and summary figures and tables are attached to this Appendix. The sampling and testing investigations revealed that contaminant impacts are generally limited to shallow soils (i.e., less than 2 feet), and groundwater has not been impacted by the commercial operations conducted and the chemicals used at this Site.

2.2 Land-Use History

Historical aerial photographs taken between 1937 and 2012 indicate that the subject Site was undeveloped, possibly used as grazing lands, in the 1930s and remained so until sometime between 1958 and 1968. By 1968, the Site began automotive wrecking and salvage activities on the western and central portions of the Site. These activities appear to have peaked by the mid-1970s, when the most vehicles were present. Between 1993 and 2005, Site activities as auto wrecking and salvage appear to have

decreased, as evidenced by the significant reduction in vehicles being stored at the Site. The Site appears in more or less its current configuration, with the same buildings and roadways as present day, beginning around 1981. Multiple automotive wrecking/dismantling and auto repair businesses have operated on the Site during the past sixty (60) years. More recently, several areas of the Site have ceased to be utilized for commercial businesses and have transitioned to private storage and work spaces. This includes areas in the northwest of the Site and in the south-central buildings.

2.3 Site Infrastructure (Utilities, Wells and Storage Tanks

The site is undergoing demolition for redevelopment which will include demolition of existing site infrastructure (septic tanks, water distribution system) and installation of new utility infrastructure that will tie into municipal utilities. Existing utilities are no longer active aside from an active water supply well that will continue to be used as a construction water source. This well will be destroyed under permit prior to the end of redevelopment activities.

2.4 Local Geologic and Hydrogeologic Conditions

The Site is a topographic knob, flanked to the north and east by the Watsonville Slough, with three distinct terraces, including the upper terrace which has an elevation of ~70 feet MSL, the middle terrace at ~50 feet MSL, and the lowest terrace at ~25 feet MSL. Historic grading at the Site included cutting (lowering) and filling. Fill areas reportedly include soils from onsite graded materials and debris (abundant tires, vehicle parts, and concrete rubble).

Numerous exploratory borings were cored over the years which generally encountered clay in the surface and shallow soils to depths of approximately 4 to 8 feet bgs, underlain with silty sand. These shallow soil conditions are relatively consistent across the site, regardless of elevation. Non-native surficial fill material was encountered in the majority of borings ranging in thickness of about 0.5 to 2 feet. First groundwater was encountered at depths ranging from 19.7 to 33.7 feet bgs (not necessarily stabilized water table conditions).

3.0 SUMMARY OF PREVIOUS SOIL & GROUNDWATER INVESTIGATIONS

3.1 Initial Investigation (2004): *Phase I/II Environmental Site Assessment (ESA)* [4]

A *Phase I land use evaluation* identified the following potential liabilities associated with Site use:

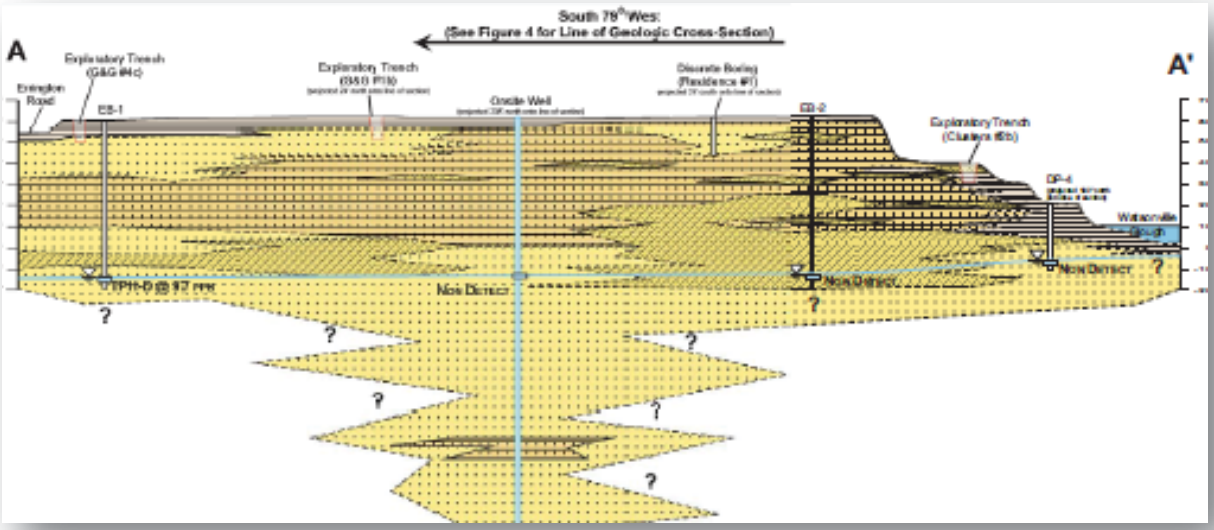
- Long term storage and dismantling of vehicles on native soils.
- Long term handling, containerization, and disposal of hazardous material waste streams generated from dismantling, crushing operations. On-site storage included non-secondarily contained wastes including used oils, used transmission fluid, used antifreeze, used fuels (diesel and gasoline), used batteries, degreasers, cleaning fluids, thinners, paints, tires, fixtures (mercury), and scrap metals.
- A number of fill wedges containing tires, debris and non-native fill soils.

Based on these potential liabilities, a *Phase II soil and groundwater testing program* was implemented that included the collection and laboratory analysis of soil collected at sixty-five (65) locations across the Site. Samples were selectively composited and analyzed for:

[4]: WHA report: *Phase I /II Environmental Site Assessment*, dated February 13, 2004.

- *Fuels and Oils*: Total Petroleum Hydrocarbons (TPH) as diesel, motor oil, and gasoline (TPH-d and TPH-mo, TPH-g)
- Volatiles: Volatile solvent compounds (halogenated volatile organic compounds, HVOCs) and volatile constituent fuel compounds (benzene, toluene, ethylbenzene, xylenes and methyl-tertbutyl ether, BTEX-MTBE)
- Metals: Leaking underground fuel tank metals suite (LUFT 5: cadmium, chromium, lead, nickel, zinc), and mercury.
- Antifreeze: Ethylene glycol.

Tabulated results and figures of this assessment are attached to this Appendix. The 2004 Phase II sampling and testing results indicated:



WHA (2004), Site Cross-Section

Shallow Soils: Isolated areas of shallow soil contamination were identified, but generally limited to relatively low-level, motor oil-range petroleum hydrocarbons. The results did not indicate evidence of any significant chemical release at the site. In addition, isolated pockets of elevated lead contamination were identified on the western portion of the Site.

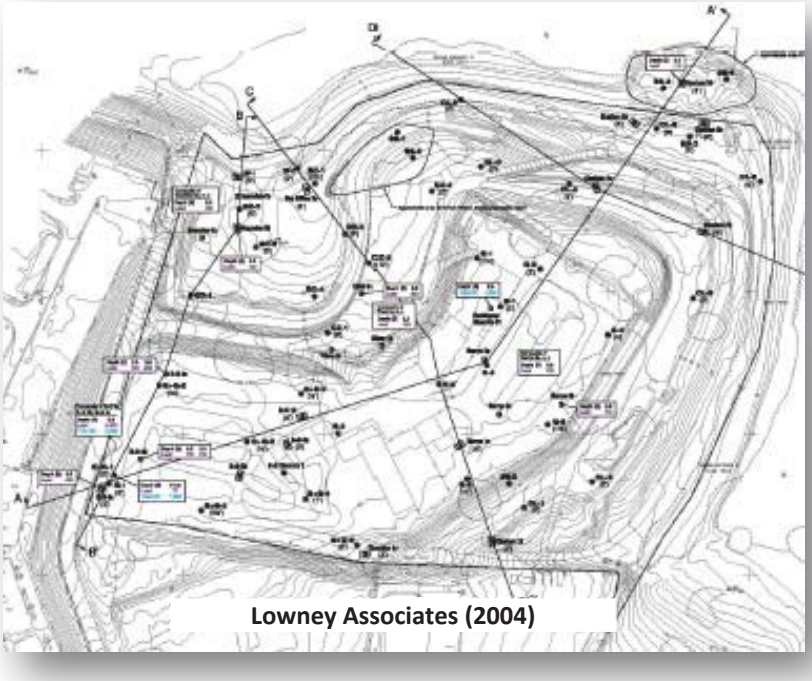
Groundwater: *Trace* concentrations of TPH Diesel and 1,1,1-Trichloroethane (1,1,1-TCA) were detected in groundwater, however at concentrations well below their respective MCL threshold limits. The trace detections did not warrant agency-required investigative actions by the Central Coast Regional Water Quality Control Board.

Results of this earlier assessment indicated that relatively minor, localized shallow soil contamination was present at the Site as TPH and Lead, and that groundwater was not significantly impacted.

3.2 Follow-up *Soil Quality Evaluation* (2004)[5]:

A follow-up, *Soil Quality Evaluation* was completed to further evaluate the Lead and Total Petroleum Hydrocarbon impacts detected in the initial property transaction screening of soils and groundwater described in Section 3.1, above. Specifically, Lowney sampled thirty-three (33) soil boring throughout the Site ranging in depth from 4 to 16 feet bgs. Tabulated results and figures of this assessment are attached to this Appendix.

The Lowney report found only one (1) of seventy-six (76) total samples had an exceedance of Lead (110 mg/Kg) above conservative health risk screening levels with no exceedances of TPH-diesel or motor oil (by current 2016 standards). The report concluded that the Lead contamination was not widespread.



Lowney Associates (2004)

3.3 Subsequent Phase I/II ESA (2016)[6]

Twelve years after the initial soil and groundwater testing described above, WHA conducted a second *Phase I/II ESA* to evaluate whether there were apparent changes since the earlier assessment was completed. The Phase I land use evaluation identified the same potential liabilities identified in the earlier 2004 *Phase I ESA*. And similarly, a *Phase II soil and groundwater testing program* was implemented that included the collection and laboratory analysis of soil collected at twenty-three (23) locations across the Site, and grab-groundwater samples collected from 6 borings positioned around the perimeter of the Site.

[5]: Lowney Associates report, *Soil Quality Evaluation*, Cluster Property September 2004.

[6]: WHA report: *Phase I/II Environmental Site Assessment*, 511 Ohlone Parkway, dated July 2016

WHA (2016), Exploratory Boring Location Map Showing Elevated Detections

Specifically, samples were collected from fill and native soils and analyzed for TPH-g, TPH-d and TPH-mo, CAM 17 metals, and selected samples were analyzed for volatile organic compounds. Tabulated results and figures of this assessment are attached to this Appendix. Exploratory borings targeted:

- Shallow Soil Inspection and Sampling: Fifteen (15) shallow soil borings (SB-1 through SB-15) were continuously-cored throughout the Site and collected samples at depths 0.5, 2 and 4 feet below the ground surface (bgs). These shallow soil borings were intended to provide cost-effective, broad coverage that would be representative of near surface soils at vehicle storage / dismantling areas and other heavy land use areas adjacent to established Site structures/workshops. Initially, all shallow soil samples collected at 0.5 feet bgs were analyzed by a State-certified laboratory for the potential contaminates of potential concern. Deeper soil samples were subsequently tested if shallow soil contamination was detected.
- Deeper Soil Inspection and Sampling: In addition, eight (8) deeper soil borings were cored to depths of 8 to 12 feet bgs. Soil cores were collected using a pneumatically driven, direct push drill rig (i.e., samples DB-1 through DB-9; note: DB-3 not installed to drill rig access limitations). The borings targeted industrial/commercial land use areas adjacent to established Site structures/ workshops, with a few of the borings targeting vehicle dismantling areas, a reported potential UST/AST location, and a reported vehicle burn area. Soil samples collected from a depth of 2 feet bgs from each boring were initially analyzed by a State-certified laboratory for potential contaminates of potential concern.
- Grab Groundwater Sampling: Grab groundwater samples at six (6) boring locations that were positioned around the perimeter of the Site, in the apparent downgradient direction from the

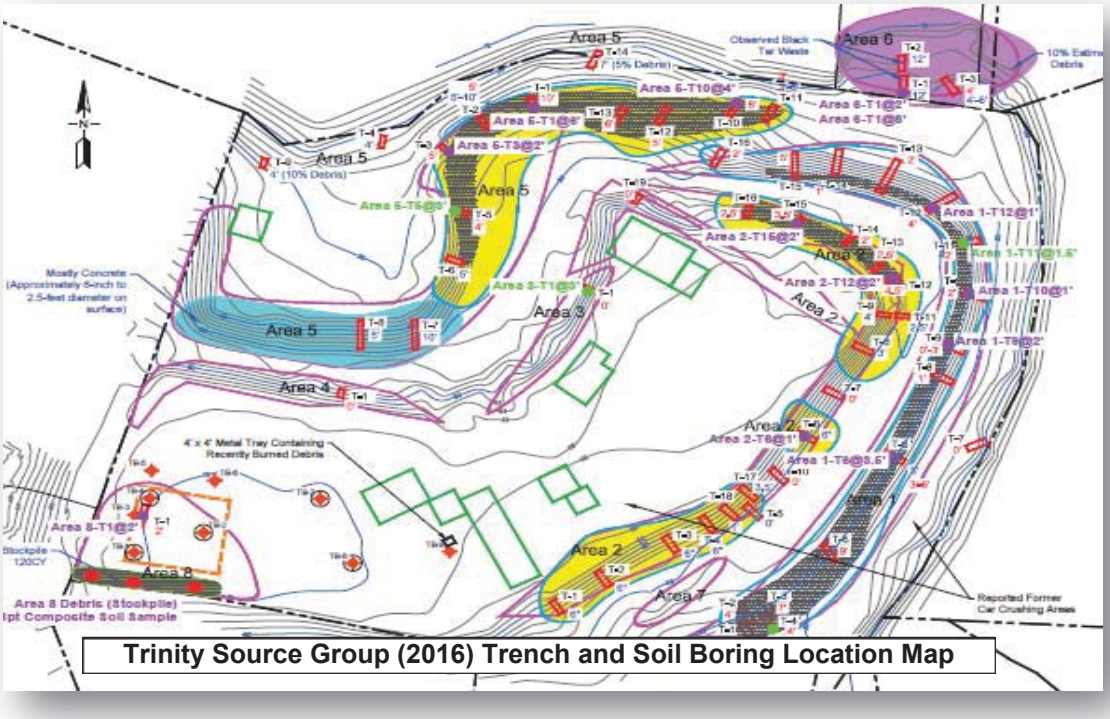
automotive salvage facilities (GW-1 through GW-6). Depth to groundwater in these borings ranged from 19.7 to 33.7 feet bgs. A water quality sample was also obtained from the onsite production well (PW-1).

The Phase I/II ESA concluded that based on field observations and laboratory results (which were designed to provide a representative indication of the environmental quality of shallow soil conditions), the long-term automotive maintenance, salvaging/wrecking activities have not caused significant negative impacts to Site soils, and that impacted soils are likely limited to the top one to two feet bgs. In addition, laboratory testing again confirmed that groundwater was not impacted by current/historical land use site activities.

3.4 Additional Phase II Sampling Report (2016)[7]

Trinity Source Group completed additional exploratory trenching and soil testing activities to address perceived data gaps that included:

- Debris fill slopes along the edges of the cut-and-fill terraces;
- Additional chemicals of potential concern targeting agricultural land use (i.e., organochlorine pesticides. OCPs), additional junkyard wastes (i.e., polychlorinated biphenyls, PCBs and polynuclear aromatic hydrocarbons, PNAs), and vehicle burn areas (dioxins).



Trinity Source Group (2016) Trench and Soil Boring Location Map

Tabulated results and figures of this assessment are attached to this Appendix. The assessment identified the following:

[7]: Trinity Source Group: *Additional Phase II Environmental Site Assessment Report*, dated December 2016.

- Debris Fill Areas: Backhoe trenching was used to assess subsurface debris areas containing tires, vehicle parts, and concrete. The assessment concluded that debris fill areas are typically located on steep slopes separating the terraces and that Site redevelopment grading plans already address the removal of this debris prior to construction.
- No Pesticides, PCBs or Dioxins: Testing showed that native soils did not contain organochlorine (persistent) pesticides or PCBs above screening levels. In addition, testing for Dioxins adjacent to worst case fire pit location showed that concentrations did not the exceed residential screening threshold established by the Department of Toxic Substances Control (DTSC).
- Shallow Soil Contamination: As expected, stained surface soils at some locations contained concentrations of PNAs, TPH-mo, VOCs, and hexavalent chromium above agency screening levels. Development grading plans show these soils to be part of surplus soils that will be off-hauled (and property disposed of) as part of the new development plans.
    - ***Chemicals of Potential Concern* (COPC) for the Site based on researched land use, were detected at concentrations exceeding Tier 1 agency threshold limits but the detections are typically localized and appear to be limited to shallow soil in the top 2 feet below ground surface.**
    - Site-wide, Lead is the most widespread COPC. Hexavalent chromium and arsenic are present in presumed native soils, and may represent background conditions.
- Adjoining Parcel: An adjoining parcel assessed as part of the Phase II evaluation is located outside of the residential development footprint (identified as "Area 6). This area was documented to contain debris fill and soil impacts that exceed agency screening thresholds. This adjoining parcel is located within a sensitive habitat area and will need to be further delineated for future remedial planning.

3.5 Upcoming Tasks

Site redevelopment will involve extensive grading to lower the upper elevations at the Site so there is a net surplus of soils. Therefore, a *Remedial Action Plan* will evaluate and identify cost-effective earthwork options that will abate known shallow contaminated areas.

4.0 REFERENCES

California Department of Toxic Substances Control (DTSC). Human and Ecological Risk Office, Human Health Risk Assessment

- (DTSC, 2016) *Note Number 3*, June 2016.

Central Coast Regional Water Quality Control Board (CC-RWQCB)

- Water Quality Control Plan for the Central Coastal Basin, June 2011.

Lowney Associates, report on the 511 Ohlone Parkway property (formerly 600 Errington Road):

- (Lowney 2004), *Soil Quality Evaluation,* Cluster Property, dated September 2004.

Trinity Source Group, report on the 511 Ohlone Parkway property:

- (Trinity 2016), Additional Phase II Environmental Site Assessment Report, dated December 2016.

Weber, Hayes & Associates reports on the 511 Ohlone Parkway property (formerly 600 Errington Road):

- (WHA, 2004), *Phase I/II Environmental Site Assessment,* 600 Errington Road, dated February 2004.

- (WHA, 2016), *Phase I/II Environmental Site Assessment*, 511 Ohlone Parkway, dated July 2016.

United States Environmental Protection Agency (US-EPA)

- *Regional Screening Levels for Chemical Contaminants at Superfund Sites, Users Guide* https://www.epa.gov/risk/regional-screening-levels-rsls-users-guide-may-2016 ,

December 2016:

Additional Phase II Environmental Site Assessment Report

Trinity Source Group

Weber Hayes and Associates

Table 1
Trench Soil Sample Polynuclear Aromatic Hydrocarbons and Volatile Organic Compound Analytical Data
Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

Sample ID	Sample Date	Sample Depth (ft bgs)	EPA Method 8270C-SIM												8260B
			Anthracene (mg/kg)	Benzo(a) anthracene (mg/kg)	Benzo(b) fluoranthene (mg/kg)	Benzo(k) fluoranthene (mg/kg)	Benzo(a) pyrene (mg/kg)	Benzo (g,h,i) perylene (mg/kg)	Chrysene (mg/kg)	Fluoranthene (mg/kg)	Indeno (1,2,3-cd) pyrene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)	VOCs (mg/kg)
Area 1-T6	10/12/2016	3.5	<0.0050	**0.014**[a]	<0.0050	<0.0050	<0.0050	<0.0050	**0.0082**[a]	**0.0097**[a]	<0.0050	**0.016**[a]	<0.0050	**0.021**	A
Area 1-T9	10/12/2016	2	**0.015**[a]	**0.017**	<0.0050	<0.0050	<0.0050	**0.013**[a]	**0.0077**[a]	**0.014**[a]	<0.0050	**0.017**	**0.014**[a]	**0.038**	ND
Area 1-T10	10/13/2016	1	**0.0037**	**0.0023**	**0.0042**	**0.0011**	<0.0010	<0.0010	<0.0010	**0.0012**	<0.0010	<0.0010	**0.0016**	**0.0025**	ND
Area 1-T12	10/13/2016	1	<0.0010	**0.0034**	**0.0079**	**0.0019**	**0.0038**	**0.0045**	**0.0034**	**0.0064**	**0.0030**	<0.0010	**0.0042**	**0.0064**	ND
Area 2-T6	10/12/2016	1	**0.0030**	**0.0020**	**0.0026**	<0.0010	<0.0010	<0.0010	<0.0010	<0.0011	<0.0010	<0.0010	<0.0010	<0.0016	ND
Area 2-T12	10/12/2016	2	<0.0010	<0.0013	**0.0078**	<0.0010	**0.0021**	**0.0032**	**0.0021**	**0.0021**	**0.0032**	<0.0010	<0.0010	**0.0021**	ND
Area 2-T15	10/12/2016	2	**0.013**	**0.017**	<0.0050	<0.0050	<0.0050	**0.019**	**0.0072**	**0.012**	<0.0050	**0.020**	**0.011**	**0.032**	ND
Area 5-T1	10/13/2016	6	**0.015**[a]	**0.022**	<0.0050	<0.0050	<0.0050	**0.014**[a]	**0.0081**[a]	**0.018**	**0.012**[a]	**0.018**	**0.016**	**0.039**	ND
Area 5-T3	10/13/2016	2	<0.0098	**0.046**	**0.051**	<0.0098	<0.0098	**0.030**	**0.034**	**0.029**	<0.0098	**0.043**	**0.026**	**0.079**	ND
Area 5-T10	10/13/2016	4	**0.0030**[a]	**0.0024**[a]	**0.0033**[a]	<0.0010	<0.0010	<0.0010	<0.0010	<0.0011	<0.0010	<0.0010	<0.0010	<0.0016	ND
Area 6-T1	10/13/2016	2	<0.010[b]	<0.013[b]	<0.010[b]	<0.010[b]	<0.010[b]	**0.022**[a,b]	<0.010[b]	<0.011[b]	<0.010[b]	**0.018**[a,b]	<0.010[b]	**0.025**[a,b]	ND
Area 6-T1*	10/13/2016	8	<0.16[b]	<0.21[b]	<0.16[b]	<0.16[b]	<0.16[b]	<0.16[b]	<0.16[b]	<0.17[b]	<0.16[b]	**0.28**[a,b]	<0.16[b]	<0.25[b]	ND
Area 8-Debris**	10/11/2016	--	<0.010[b]	<0.013[b]	<0.010[b]	<0.010[b]	<0.010[b]	<0.010[b]	<0.010[b]	<0.011[b]	<0.010[b]	**0.067**[b]	<0.010[b]	<0.016[b]	ND
Area 8-T1	10/11/2016	2	**0.0049**[a]	**0.0055**[a]	**0.011**	**0.0032**[a]	<0.0019	**0.0060**[a]	<0.0019	<0.0021	<0.0019	<0.0019	<0.0019	**0.0069**[a]	ND
SFBRWQCB Tier 1 ESLs for Soils			2.8	0.16	0.16	1.6	0.016	2.5	3.8	60	0.16	0.03	11	85	NLE
SFBRWQCB Shallow Soil ESLs - Direct Exposure Residential Land Use			18,000	0.16	0.16	1.60	0.016	NLE	15	2,400	0.16	3.3	NLE	1,800	NLE
SFBRWQCB Construction Worker ESLs - Any Land Use/Any Depth Soil Exposure			50,000	16	16	150	1.6	NLE	1,500	6,700	16	350	NLE	5,000	NLE

Notes:

EPA = Environmental Protection Agency
ID = Identification
ft bgs = Feet below ground surface
< = Less than indicated detection limit
mg/kg = Milligrams per kilogram
VOCs = Volatile organic compounds
ND = Not detected at or above laboratory detection limit
NLE = No limit established; not applicable
NA = Not analyzed
A = Trichlorofluoromethane detected at 0.0019 mg/kg concentration; estimated value (CLP Flag)

a = Estimated value (CLP Flag)
b = Detection and quantitation limits are raised due to sample dilution
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
ESLs = Environmental Screening Levels; http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml (Feb.2016, Rev. 3)
Bold = Analyte detected at or above laboratory detection limit
* = Sample collected from solid black tar waste observed within soil, not representative of soil in Area 6
** = 3-point composite soil sample collected from stockpile
Highlighted Value = Exceeds at least one ESL
All concentrations are in dry weight

Table 2
Trench Soil Sample Polychlorinated Biphenyls, Organochlorine Pesticide and Petroleum Hydrocarbon Analytical Data
Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

Sample ID	Sample Date	Sample Depth (ft bgs)	EPA Method 8082 PCB-1016 (mg/kg)	8082 PCB-1254 (mg/kg)	8082 PCB-1260 (mg/kg)	8082 Total PCBs (mg/kg)	8081A 4,4'-DDE (mg/kg)	8081A Other Organochlorine Pesticides (mg/kg)	Luft/FFP TPHd (mg/kg)	Luft/FFP TPHmo (mg/kg)
Area 1-T6	10/12/2016	3.5	**0.015**	<0.0032	**0.021**	**0.021**	NA	NA	<1.2	**85**[b]
Area 1-T9	10/12/2016	2	<0.0039	<0.0032	<0.0029	<0.0050	NA	NA	**94**[c]	**240**[b]
Area 1-T4	10/12/2016	4	NA	NA	NA	NA	<0.000083	ND	NA	NA
Area 1-T10	10/13/2016	1	<0.0039	<0.0032	<0.0029	<0.0050	NA	NA	<1.2	**32**
Area 1-T11	10/13/2016	1.5	NA	NA	NA	NA	<0.000083	ND	NA	NA
Area 1-T12	10/13/2016	1	<0.0039	<0.0032	<0.0029	<0.0050	NA	NA	<1.2	**250**[b]
Area 2-T6	10/12/2016	1	<0.0039	<0.0032	<0.0029	<0.0050	NA	NA	<1.2	<6.5
Area 2-T12	10/12/2016	2	<0.0039	<0.0032	<0.0029	<0.0050	NA	NA	<2.4	**400**
Area 2-T15	10/12/2016	2	<0.0039	<0.0032	**0.029**	**0.029**	NA	NA	<2.4	**510**
Area 3-T1	10/12/2016	3	NA	NA	NA	NA	<0.000083	ND	NA	NA
Area 5-T1	10/13/2016	6	<0.0039	<0.0032	<0.0029	<0.0050	NA	NA	<6.0[d]	**680**[d]
Area 5-T3	10/13/2016	2	<0.0076	<0.0063	<0.0057	<0.0098	NA	NA	<6.8	**800**
Area 5-T5	10/13/2016	3	NA	NA	NA	NA	**0.00055**	ND	NA	NA
Area 5-T10	10/13/2016	4	<0.0039	<0.0032	<0.0029	<0.0050	NA	NA	<1.2	**18**[ab]
Area 6-T1	10/13/2016	2	<0.0039	<0.0032	<0.0029	<0.0050	NA	NA	<24[d]	**2,000**[d]
Area 6-T1*	10/13/2016	8	<0.0065	<0.0053	<0.0048	<0.0083	NA	NA	<950[d]	**97,000**[d]
Area 8-Debris**	10/11/2016	--	<0.0039	**0.0077**[a]	**0.0055**[a]	**0.013**	NA	NA	<24[d]	**1,600**[d]
Area 8-T1	10/11/2016	2	<0.0078	<0.0064	**0.0083**[a]	<0.010	NA	NA	<2.3	**51**[a,b]
					SFBRWQCB Tier 1 ESLs for Soils					
			NLE	NLE	NLE	0.25	1.9	NLE	230	5,100
					SFBRWQCB Shallow Soil ESLs - Direct Exposure Residential Land Use					
			NLE	NLE	NLE	0.25	1.9	NLE	230	11,000
					SFBRWQCB Construction Worker ESLs - Any Land Use/Any Depth Soil Exposure					
			NLE	NLE	NLE	5.6	57	NLE	880	32,000

Notes:

EPA = Environmental Protection Agency
ID = Identification
ft bgs = Feet below ground surface
< = Less than indicated detection limit
mg/kg = Milligrams per kilogram
ND = Not detected at or above laboratory detection limit
NLE = No limit established; not applicable
NA = Not analyzed
-- = Not applicable
DDE = Dichlorodiphenyldichloroethylene
PCB(s) = Polychlorinated Biphenyl(s)
TPHd = Total Petroleum Hydrocarbons - Diesel
TPHmo = Total Petroleum Hydrocarbons - Motor Oil

a = Estimated value (CLP Flag)
b = Chromatogram not typical of motor oil
c = Chromatogram not typical of diesel
d = Detection and quantitation limits are raised due to sample dilution
ESLs = Environmental Screening Levels; http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml (Feb. 2016, Rev 3)
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
Bold = Analyte detected at or above laboratory detection limit
* = Sample collected from solid black tar waste observed within soil, not representative of soil in Area 6
** = 3-point composite soil sample collected from stockpile
Highlighted Value = Exceeds at least one ESL
All concentrations are in dry weight
Luft/FFP = Leaking Underground Fuel Tank/Fuel Fingerprint

Table 3
Trench Soil Sample Metals Analytical Data
Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

Sample ID	Sample Date	Sample Depth (ft bgs)	EPA Method																	
			6020																7199	7471A
			Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Total Chromium (mg/kg)	Hexavalent Chromium (mg/kg)	Mercury (mg/kg)
Area 1-T6	10/12/2016	3.5	<0.40[b]	4.4[b]	170[b]	0.30[a,b]	0.74[a,b]	5.9[b]	15[b]	20[b]	0.91[a,b]	18[b]	<0.55[b]	<0.26[b]	<0.24[b]	25[b]	68[b]	21[b]	NA	0.39
Area 1-T9	10/12/2016	2	<0.40[b]	9.2[b]	110[b]	0.32[a,b]	1.4[b]	9.6[b]	69[b]	29[b]	1.5[b]	37[b]	<0.55[b]	<0.26[b]	<0.24[b]	44[b]	150[b]	33[b]	NA	0.28
Area 1-T4	10/12/2016	4	NA	5.9[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1	NA
Area 1-T10	10/13/2016	1	<0.40[b]	3.3[b]	120[b]	0.50[a,b]	0.35[a,b]	12[b]	10[b]	6.8[b]	0.48[a,b]	23[b]	<0.55[b]	<0.26[b]	<0.24[b]	43[b]	39[b]	31[b]	NA	0.047[a]
Area 1-T11	10/13/2016	1.5	NA	5.5[b]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.6	NA
Area 1-T12	10/13/2016	1	<0.40[b]	5.6[b]	170[b]	0.42[a,b]	0.68[a,b]	13[b]	25[b]	76[b]	0.60[a,b]	57[b]	<0.55[b]	<0.26[b]	<0.24[b]	49[b]	110[b]	53[b]	NA	0.14[a]
Area 2-T6	10/12/2016	1	<0.40[b]	5.8[b]	210[b]	0.50[a,b]	0.38[a,b]	16[b]	36[b]	8.6[b]	0.27[a,b]	100[b]	<0.55[b]	<0.26[b]	<0.24[b]	42[b]	76[b]	62[b]	NA	0.17[a]
Area 2-T12	10/12/2016	2	<0.40[b]	5.0[b]	140[b]	0.30[a,b]	0.95[a,b]	13[b]	31[b]	22[b]	0.63[a,b]	93[b]	<0.55[b]	<0.26[b]	<0.24[b]	43[b]	110[b]	77[b]	NA	0.15[a]
Area 2-T15	10/12/2016	2	<0.40[b]	3.5[b]	83[b]	0.26[a,b]	0.53[a,b]	11[b]	63[b]	55[b]	0.72[a,b]	52	<0.55[b]	<0.26[b]	<0.24[b]	52	88[b]	47[b]	NA	0.16[a]
Area 3-T1	10/12/2016	3	NA	8.6[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.5	NA
Area 5-T1	10/13/2016	6	1.5[b]	11[b]	2,100[b]	0.48[a,b]	9.3[b]	16[b]	86[b]	3,200[b]	5.5[b]	140[b]	<0.55[b]	<0.26[b]	<0.24[b]	42[b]	1,400[b]	100[b]	NA	0.14[a]
Area 5-T3	10/13/2016	2	6.1[b]	9.4[b]	250[b]	0.45[a,b]	4.3[b]	19[b]	100[b]	1,100[b]	2.8[b]	84[b]	<0.55[b]	<0.26[b]	<0.24[b]	50[b]	380[b]	57[b]	NA	0.18[a]
Area 5-T5	10/13/2016	3	NA	5.8[b]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.9	NA
Area 5-T10	10/13/2016	4	<0.40[b]	7.4[b]	260[b]	0.64[a,b]	0.44[a,b]	18[b]	35[b]	16[b]	0.57[b]	110[b]	<0.55[b]	<0.26[b]	<0.24[b]	48[b]	69[b]	70[b]	NA	0.090[a]
Area 6-T1	10/13/2016	2	0.62[a,b]	5.4[b]	130[b]	0.42[a,b]	1.2[a,b]	12[b]	73[b]	130[b]	1.5[b]	59[b]	<0.55[b]	<0.26[b]	<0.24[b]	49[b]	160[b]	45[b]	2.3	0.11[a]
Area 6-T1*	10/13/2016	8	1.6[a,b]	11[b]	120[b]	0.22[a,b]	2.6[b]	8.1[b]	160[b]	310[b]	13[b]	74[b]	<0.55[b]	<0.26[b]	<0.24[b]	62[b]	380[b]	35[b]	NA	0.18[a]
Area 8-Debris**	10/11/2016	--	0.56[a,b]	4.5[b]	120[b]	0.37[a,b]	3.0[a,b]	9.7[b]	94[b]	120[b]	2.6[b]	42[b]	<0.55	0.77[a,b]	<0.24[b]	59[b]	360[b]	35[b]	NA	0.099[a]
Area 8-T1	10/11/2016	2	<0.40[b]	14[b]	330[b]	0.92[a,b]	1.6[b]	28[b]	53[b]	50[b]	0.83[b]	150[b]	<0.55[b]	<0.26[b]	<0.24[b]	61[b]	150[b]	110[b]	NA	0.17[a]
SFBRWQCB ESLs Soil-Tier 1			31	0.067	3,000	42	39	23	3,100	80	390	86	390	390	0.78	390	23,000	NLE	0.3	13
SFBRWQCB Shallow Soil ESLs - Direct Exposure Residential Land Use			31	0.067	15,000	150	39	23	3,100	80	390	820	390	390	0.78	390	23,000	NLE	0.3	13
SFBRWQCB Any Land Use / Any Depth Soil Exposure - Construction Worker ESLs			140	0.98	3,000	42	43	28	14,000	160	1,800	86	1,700	1,800	3.5	470	110,000	NLE	2.8	44

Notes:

EPA = Environmental Protection Agency
ID = Identification
ft bgs = Feet below ground surface
< = less than indicated detection limit
mg/kg = Milligrams per kilogram
NA = Not analyzed
NLE = No limit established
-- = Not applicable
All concentrations are in dry weight

a = Estimated value (CLP Flag)
b = Detection and quantitation limits are raised due to sample dilution caused by high analyte concentration or matrix interference
ESLs = Environmental Screening Levels;
Taken from *Screening for Environmental Concerns at Sites with Contaminated Groundwater and Soils* (Feb. 2016, Rev 3)
http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
Bold = Analyte detected at or above laboratory detection limit
* = Sample collected from solid black tar waste observed within soil, not representative of soil in Area 6
** = 3-point composite soil sample collected from stockpile
Highlighted Value = Value exceeds at least one ESL

Table 4
Soil Boring Volatile Organic Compounds Analytical Data
Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

Sample ID	Sample Date	Sample Depth (ft bgs)	EPA Method 8260B													
			n-Butyl benzene (mg/kg)	sec-Butyl benzene (mg/kg)	Ethylbenzene (mg/kg)	Isopropyl benzene (mg/kg)	p-Isopropyl toluene (mg/kg)	Methylene chloride (mg/kg)	Naphthalene (mg/kg)	n-Propyl benzene (mg/kg)	Toluene (mg/kg)	1,2,4-Trimethyl benzene (mg/kg)	1,3,5-Trimethyl benzene (mg/kg)	o-Xylene (mg/kg)	p-& m-Xylenes (mg/kg)	Total Xylenes (mg/kg)
TB-3	10/16/2016	0.5	<0.0015	<0.0012	<0.0015	<0.0013	<0.0013	<0.0024	<0.0014	<0.0013	<0.0012	<0.0013	<0.0015	<0.0012	<0.0022	<0.0034
TB-3	10/16/2016	1.5	**0.0088**	**0.0038**[a]	**0.038**	**0.0079**	**0.0024**	**0.011**	**0.036**	**0.039**	<0.0012	**0.33**	**0.12**	**0.061**	**0.16**	**0.22**
TB-8	10/16/2016	0.5	<0.0015	<0.0012	**0.0015**[a]	<0.0013	<0.0013	<0.0024	**0.013**	**0.0013**[a]	**0.044**	**0.031**	**0.0088**	**0.012**	**0.021**	**0.033**
			SFBRWQCB ESLs Soil - Tier 1													
			NLE	NLE	1.4	NLE	NLE	0.077	0.033	NLE	2.9	NLE	NLE	NLE	NLE	2.3
			SFBRWQCB Shallow Soil ESLs - Direct Exposure Residential Land Use													
			NLE	NLE	5.1	NLE	NLE	1.9	3.3	NLE	970	NLE	NLE	NLE	NLE	560
			SFBRWQCB Any Land Use/Any Depth Soil - Construction Worker Exposure ESLs													
			NLE	NLE	480	NLE	NLE	500	350	NLE	4,100	NLE	NLE	NLE	NLE	2,400

Notes:

EPA = Environmental Protection Agency
ID = Identification
ft bgs = Feet below ground surface
< = Less than indicated detection limit
mg/kg = Milligrams per kilogram
NLE = No limit established; not applicable
All concentrations are in dry weight

a = Estimated value (CLP Flag)
ESLs = Environmental Screening Levels;
http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml (Feb. 2016, Rev 3)
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
Bold = Analyte detected at or above laboratory detection limit
Highlighted Value = Value exceeds at least one screening level

Table 5
Soil Boring Polynuclear Aromatic Hydrocarbons, Polychlorinated Biphenyls, and Petroleum Hydrocarbon Analytical Data
Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

Sample ID	Sample Date	Sample Depth (ft bgs)	EPA Method 8270C												8082	Luft/FFP		
			Anthracene (mg/kg)	Benzo(a) anthracene (mg/kg)	Benzo(b) fluoranthene (mg/kg)	Benzo(k) fluoranthene (mg/kg)	Benzo(a) pyrene (mg/kg)	Benzo(g,h,i) perylene (mg/kg)	Chrysene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3-c,d) pyrene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)	Total PCBs (mg/kg)	TPHd (mg/kg)	TPHg (mg/kg)	TPHmo (mg/kg)
TB-3	10/16/2016	0.5	<0.093[b]	<0.12[b]	<0.093[b]	<0.093[b]	<0.093[b]	**0.14**[a,b]	<0.093[b]	<0.10[b]	<0.093[b]	**0.21**[a,b]	**0.31**[b]	<0.093[b]	**0.15**[b]	<0.025[c]	<30	<120	**3,500**
TB-3	10/16/2016	1.5	<0.010[b]	<0.013[b]	<0.010[b]	<0.010[b]	<0.010[b]	**0.022**[a,b]	<0.010[b]	**0.024**[a,b]	**0.028**[a,b]	<0.010[b]	**1.5**[b]	**0.066**[b]	**0.048**[b]	<0.025[c]	<12[b]	**220**[b]	**1,800**[b]
TB-8	10/16/2016	0.5	<0.010[b]	<0.013[b]	<0.010[b]	<0.010[b]	<0.010[b]	**0.029**[a,b]	<0.010[b]	**0.028**[a,b]	<0.010[b]	<0.010[b]	**0.22**[b]	**0.058**[b]	**0.056**[b]	<0.025[c]	<120[b]	<500[b]	**32,000**[b]
TB-9	10/13/2016	0.5	<0.010[b]	**0.39**[b]	<0.010[b]	<0.010[b]	**0.12**[b]	**0.18**[b]	**0.093**[b]	**0.095**[b]	<0.010[b]	**0.093**[b]	**0.067**[b]	<0.010[b]	**0.41**[b]	<0.025[c]	NA	NA	NA
			SFBRWQCB Tier 1 ESLs for Soils																
			2.80	0.16	0.16	1.6	0.016	2.5	3.8	60	8.9	0.16	0.033	11	85	0.25	230	100	5,100
			SFBRWQCB Shallow Soil ESLs - Direct Exposure Residential Land Use																
			18,000	0.16	0.16	1.6	0.016	NLE	15	2,400	2,400	0.16	3.3	NLE	1,800	0.25	230	740	11,000
			SFBRWQCB Any Land Use/Any Depth Soil - Construction Worker Exposure ESLs																
			50,000	16	16	150	1.60	NLE	1,500	6,700	6,700	16	350	NLE	5,000	5.6	880	2,800	32,000

Notes:

ID = Identification
ft bgs = Feet below ground surface
< = Analyte not detected above laboratory detection limit
mg/kg = Milligrams per kilogram
NLE = No limit established; not applicable
NA = Not analyzed
TPHd = Total Petroleum Hydrocarbons - Diesel
TPHg = Total Petroleum Hydrocarbons - Gasoline
TPHmo = Total Petroleum Hydrocarbons - Motor Oil
PCBs = Polychlorinated Biphenyl(s)

a = Estimated value (CLP Flag)
b = Detection and quantitation limits are raised due to sample dilution
c = Detection and quantitation limits were raised due to matrix interference
Bold = Analyte detected at or above laboratory detection limit
EPA = Environmental Protection Agency;
ESLs = Environmental Screening Levels
http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml (Feb. 2016, Rev 3)
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board, California EPA
Highlighted Value = Value exceeds at least one ESL
Luft/FFP = Leaking underground fuel tank/Fuel Fingerprint
All concentrations are in dry weight

Table 6
Soil Boring Metals Analytical Data
Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

Sample ID	Sample Date	Sample Depth (ft bgs)	EPA Method																
			6020															7199	7471A
			Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Total Chromium (mg/kg)	Hexavalent Chromium (mg/kg)	Mercury (mg/kg)
TB-1	10/13/2016	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.4	NA
TB-2	10/13/2016	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5	NA
TB-3	10/16/2016	0.5	<0.080	1.0	95	0.12[a]	0.37	6.5	27	12	1.0	15	<0.11	0.10[a]	0.12[a]	51	71	13	0.78[a]	0.044[a]
TB-3	10/16/2016	1.5	0.89	1.7	140	0.24[a]	2.4	8.7	85	140	1.2	26	<0.11	0.18[a]	<0.049	53	410	23	1.1	0.073[a]
TB-3	10/16/2016	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.6	NA
TB-3	10/16/2016	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.6	NA
TB-4	10/14/2016	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.0	NA
TB-5	10/13/2016	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1	NA
TB-6	10/16/2016	0.75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.8	NA
TB-7	10/16/2016	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.6	NA
TB-8	10/16/2016	0.5	0.75	0.77	54	0.14[a]	0.71	6.6	54	23	2.4	9.9	<0.11	<0.051	<0.049	51	75	9.9	1.0	0.053[a]
TB-8	10/16/2016	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.3	NA
TB-8	10/16/2016	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9	NA
TB-8	10/16/2016	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.61	NA
TB-9	10/13/2016	0.5	0.14[a]	2.2	93	0.17[a]	1.3	7.4	82	40	2.6	31	<0.11	0.12[a]	<0.049	46	97	29	1.1[a]	0.11[a]
TB-9	10/13/2016	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0[a]	NA
TB-9	10/13/2016	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7	NA
TB-9	10/13/2016	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.85[a]	NA
			SFBRWQCB ESLs Tier 1 ESLs for Soils																
			31	0.067	3,000	42	39	23	3,100	80	390	86	390	390	0.78	390	23,000	NLE	0.3	13
			SFBRWQCB Shallow Soil ESLs - Direct Exposure Residential Land Use																
			31	0.067	15,000	150	39	23	3,100	80	390	820	390	390	0.78	390	23,000	NLE	0.3	13
			SFBRWQCB Any Land Use / Any Depth Soil Exposure - Construction Worker ESLs																
			140	0.98	3,000	42	43	28	4,000	160	1,800	86	1,700	1,800	3.5	470	110,000	NLE	2.8	44

Notes:

EPA = Environmental Protection Agency
ID = Identification
ft bgs = Feet below ground surface
< = Less than indicated detection limit
mg/kg = Milligrams per kilogram
NLE = No limit established; not applicable
NA = Not analyzed

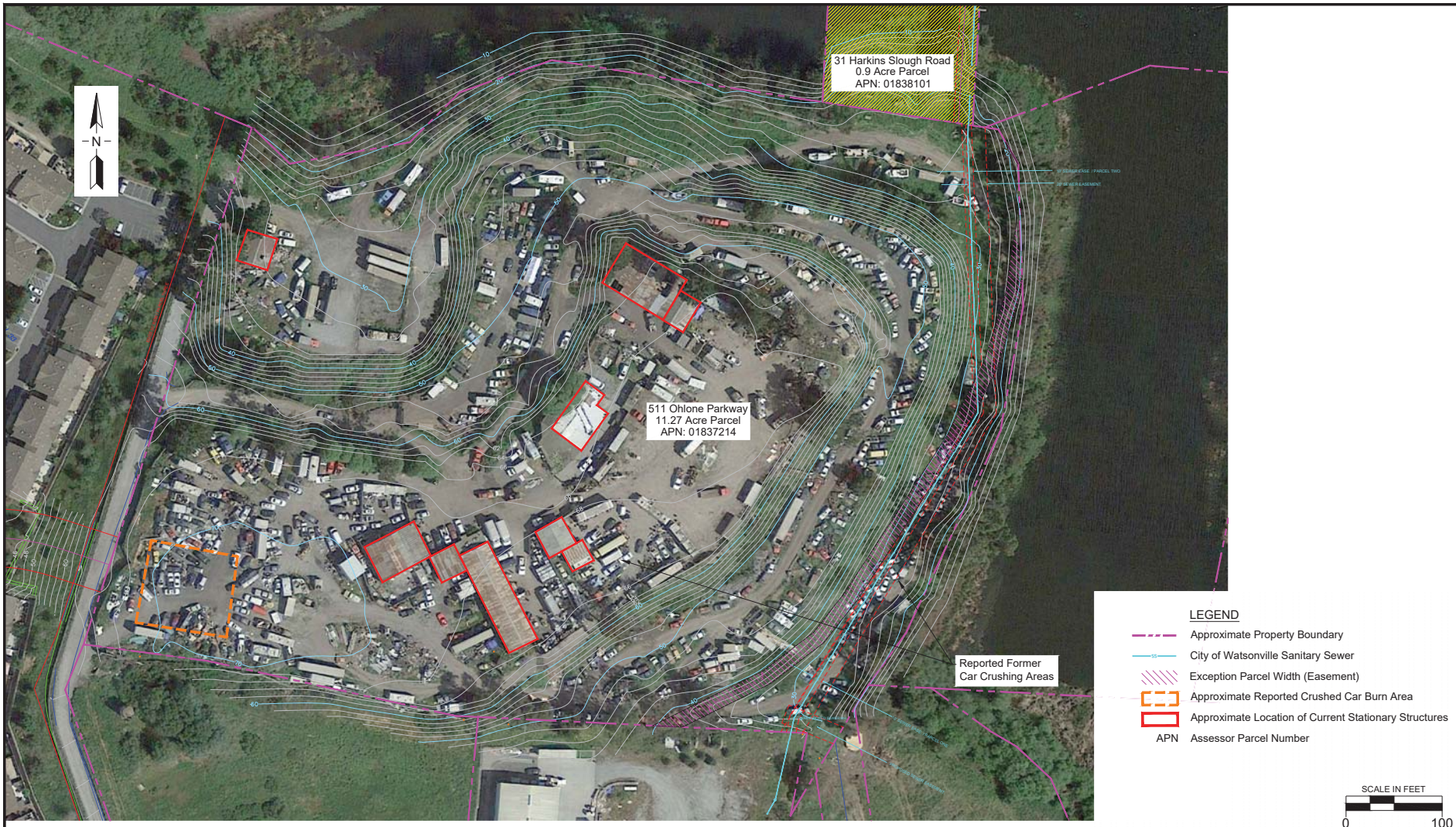
a = Estimated value (CLP Flag)
ESLs = Environmental Screening Levels;
Taken from *Screening for Environmental Concerns at Sites with Contaminated Groundwater and Soils* (Feb. 2016, Rev 3)
http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
Bold = Analyte detected above laboratory detection limit
Highlighted Value = Value exceeds at least one ESL
All concentrations are in dry weight

Table 7
TCLP, STLC, and TTLC Soil Analytical Data
Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

Sample ID	Sample Date	Sample Depth (ft bgs)	Metals	TCLP (mg/L)	STLC (mg/L)	TTLC (mg/kg)
Area 1-T12	10/13/2016	1	Lead	NA	3.4	67[a]
Area 2-T6	10/12/2016	1	Chromium	NA	0.047[b]	54[a]
Area 2-T12	10/12/2016	2	Chromium	NA	0.13	70[a]
Area 2-T15	10/12/2016	2	Lead	NA	2.2	52[a]
Area 5-T1	10/13/2016	6	Lead	2.4	NA	2,700[a]
			Chromium	NA	0.22	89[a]
Area 5-T3	10/13/2016	2	Lead	0.096	8.2	780[a]
Area 5-T10	10/13/2016	4	Chromium	NA	0.14	58[a]
Area 6-T1	10/13/2016	2	Lead	0.037	16	110[a]
Area 6-T1*	10/13/2016	8	Lead	0.52	11	280[a]
Area 8-T1	10/11/2016	2	Chromium	NA	0.30	79[a]
Area 8-Debris**	10/11/2016	--	Lead	0.2	5.5	110[a]
TB-3	10/13/2016	1.5	Lead	0.71	31	140[a]
			Federal and State (Title 22) Hazardous Waste Criteria			
			Lead	5	5	1,000
			Chromium	5	5	1,000

Notes

ID =	Identification number
ft bgs =	Feet below ground surface
mg/L =	Milligrams per liter
mg/kg =	Milligrams per kilogram
TCLP =	Toxicity Characteristic Leaching Procedure (Resource Conservation and Recovery Act Federal Waste Criteria)
STLC =	Soluble Threshold Limit Concentration (State Hazardous Waste Criteria)
TTLC =	Total Threshold Limit Concentration (State Hazardous Waste Criteria)
a =	Detection and quantitation limits are raised due to sample dilution
b =	Estimated Value (CLP Flag)
NA =	Not analyzed
-- =	Not applicable
* =	Sample collected from solid black tar waste observed within soil, not representative of soil in Area 6
** =	3-point composite soil sample collected from stockpile
Highlighted Value =	Value exceeds at least one hazardous screening level
Note	TTLC concentrations are reported in wet weight



REF. 549_001\549.002.005 figures.dwg – 12/16/2016 11:39 AM
Base Map from MCE, Inc., June 2016

PREPARED BY

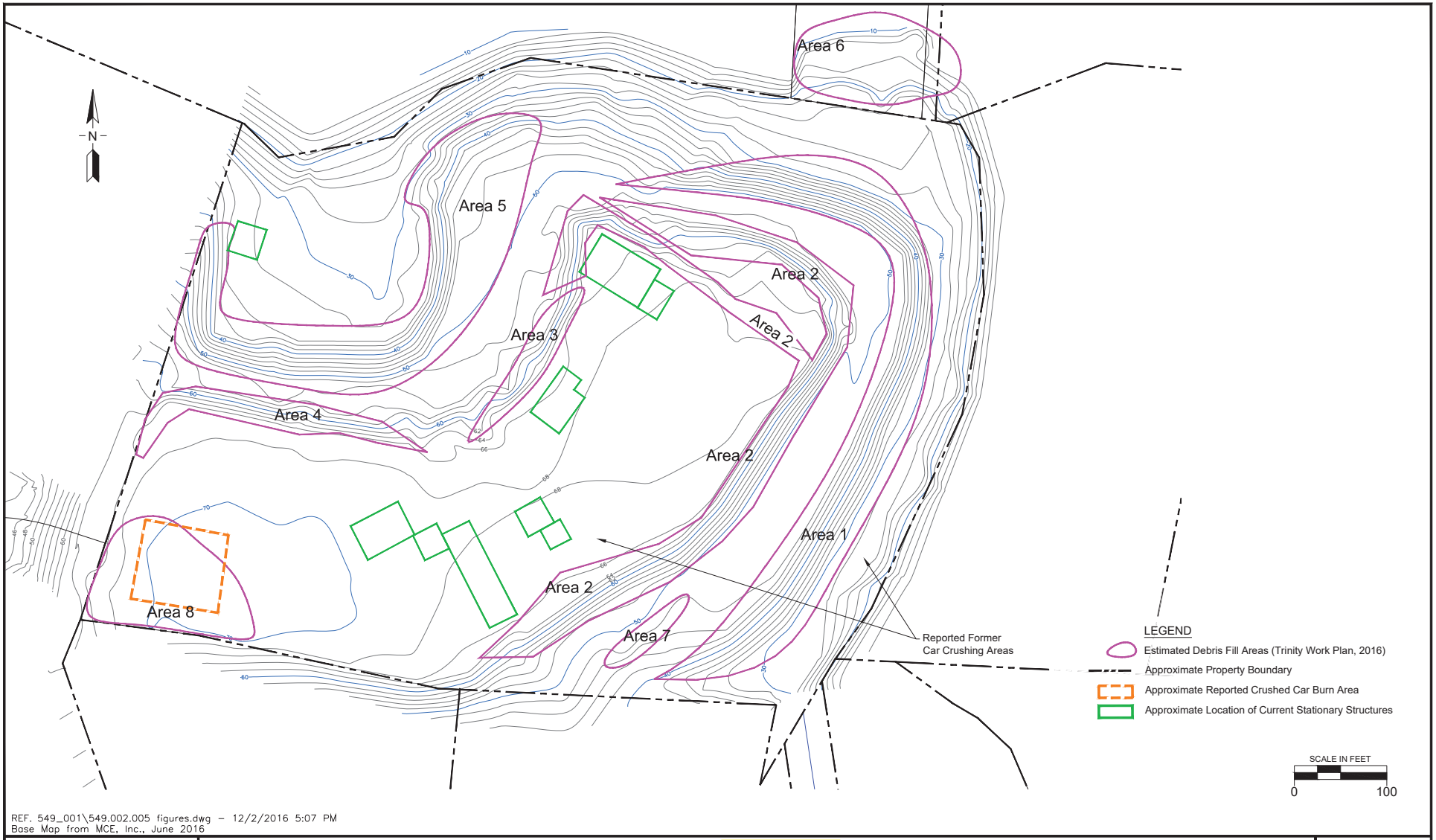
TRINITY source group, inc.
Environmental Consultants
119 Encinal Street
Santa Cruz, California 95060
v: 831.426.5600
f: 831.426.5602

SITE LAYOUT MAP

Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

PROJECT: 549.002.005

FIGURE: 2



REF. 549_001\549.002.005 figures.dwg – 12/2/2016 5:07 PM
Base Map from MCE, Inc., June 2016

PREPARED BY

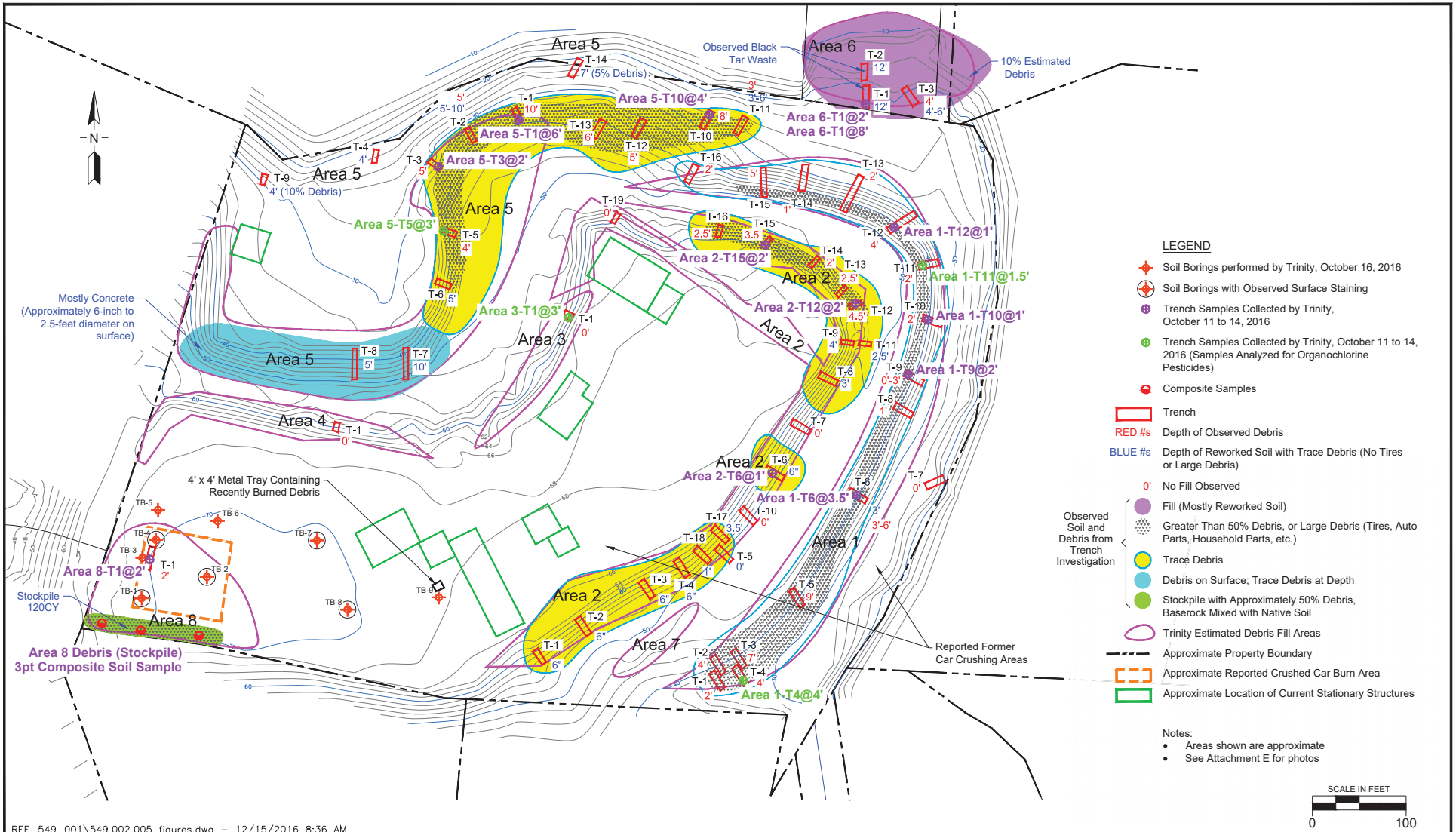
TRINITY source group, inc.
Environmental Consultants
119 Encinal Street
Santa Cruz, California 95060
v: 831.426.5600
f: 831.426.5602

SUSPECTED DEBRIS FILL AREA MAP

Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

PROJECT:
549.002.005

FIGURE:
3



REF. 549_001\549.002.005 figures.dwg – 12/15/2016 8:36 AM
Base Map from MCE, Inc., June 2016

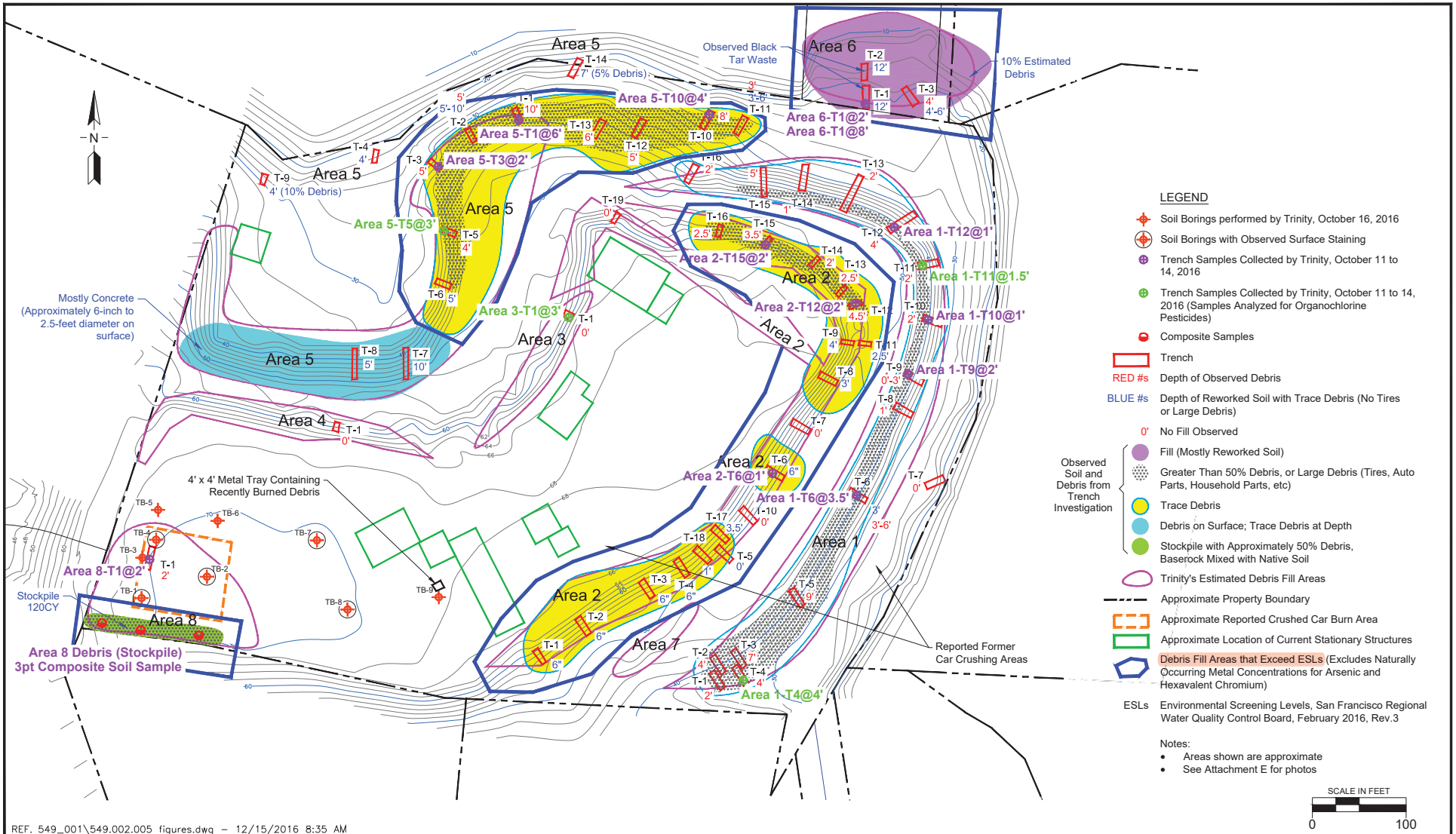
PREPARED BY
TRINITY source group, inc.
Environmental Consultants
119 Encinal Street
Santa Cruz, California 95060
v: 831.426.5600
f: 831.426.5602

DEBRIS FILL TRENCH SOIL SAMPLE AND SOIL BORING LOCATION MAP

Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

PROJECT: 549.002.005

FIGURE: 4



REF. 549_001\549.002.005 figures.dwg – 12/15/2016 8:35 AM
Base Map from MCE, Inc., June 2016

PREPARED BY
TRINITY source group, inc.
Environmental Consultants
119 Encinal Street
Santa Cruz, California 95060
v: 831.426.5600
f: 831.426.5602

DEBRIS FILL AREAS THAT EXCEED ENVIRONMENTAL SCREENING LEVELS

Clusters Junkyard
511 Ohlone Parkway
Watsonville, California

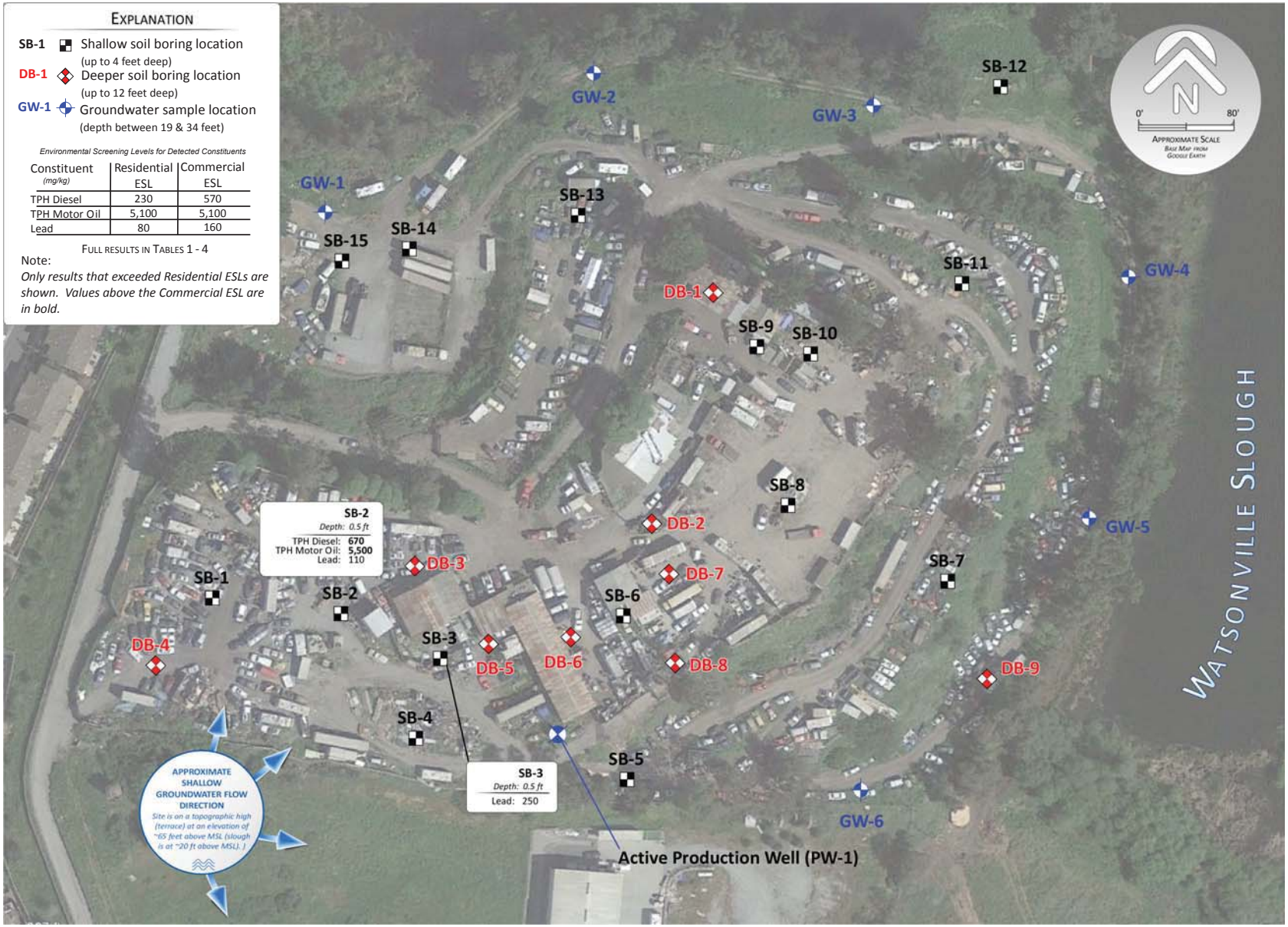
PROJECT: 549.002.005

FIGURE: 5

July 2016:

***Phase I/II Environmental Site Assessment*,**

Weber, Hayes & Associates



SITE MAP WITH BORING LOCATIONS & SOIL SAMPLE ANALYTICAL RESULTS EXCEEDING SCREENING THRESHOLDS

PHASE I/II ENVIRONMENTAL SITE ASSESSMENT

SITE: CLUSTER WRECKING YARD

ADDRESS: 511 OHLONE PKWY, WATSONVILLE CA

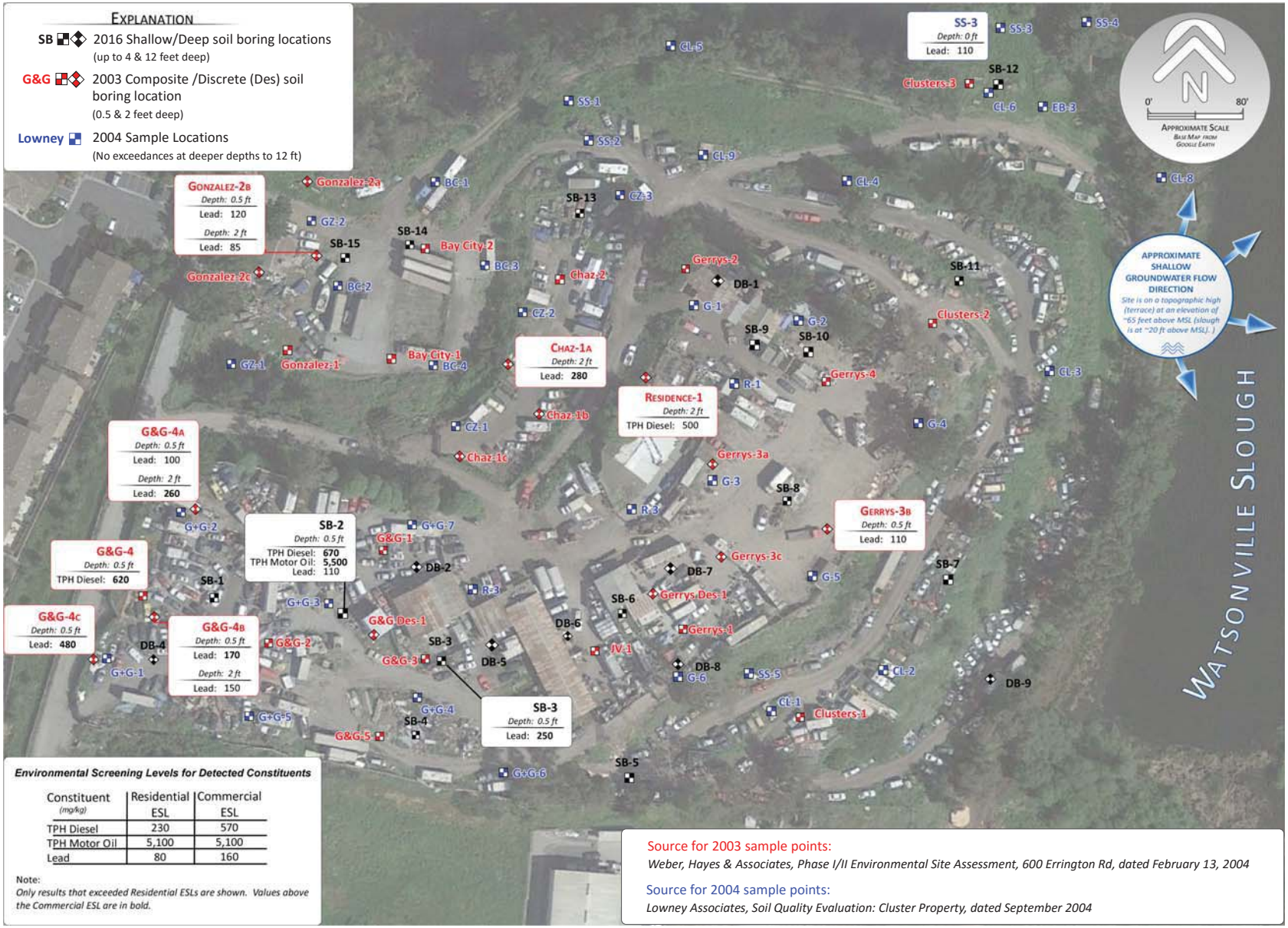
DATE: JUNE 2016

REVISIONS/NOTES:

FIGURE 5

Project 2X623

WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com



Environmental Screening Levels for Detected Constituents

Constituent (mg/kg)	Residential ESL	Commercial ESL
TPH Diesel	230	570
TPH Motor Oil	5,100	5,100
Lead	80	160

Note:
Only results that exceeded Residential ESLs are shown. Values above the Commercial ESL are in bold.

Source for 2003 sample points:
Weber, Hayes & Associates, Phase I/II Environmental Site Assessment, 600 Errington Rd, dated February 13, 2004

Source for 2004 sample points:
Lowney Associates, Soil Quality Evaluation: Cluster Property, dated September 2004

FIGURE 6
Project 2X623

SITE MAP WITH CURRENT & PREVIOUS BORING LOCATIONS & SOIL SAMPLE ANALYTICAL RESULTS EXCEEDING SCREENING THRESHOLDS

PHASE I/II ENVIRONMENTAL SITE ASSESSMENT
SITE: CLUSTER WRECKING YARD
ADDRESS: 511 OHLONE PKWY, WATSONVILLE CA

DATE: JULY 2016

REVISIONS/NOTES:

WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

Table 1 - Soil Sample Analytical Results

Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information		Laboratory Analytical results				
		Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B	
Sample ID	Depth (feet below ground surface)	Total Petroleum Hydrocarbons as DIESEL	Total Petroleum Hydrocarbons as MOTOR OIL	All other TPH	Napthalene	All other VOCs
SB-1	0.5	180*[J]	2,400	All Others ND	--	--
	2	ND	22	All Others ND	--	--
SB-2	0.5	**670***	**5,500**	All Others ND	--	--
	2	4.8*[J]	39	All Others ND	ND	All others ND
SB-3	0.5	8.3*[J]	80	All Others ND	--	--
	2	ND	29	All Others ND	--	--
SB-4	0.5	3.5*[J]	45	All Others ND	--	--
	2	6.2*[J]	38	All Others ND	--	--
SB-5	0.5	60*^	820^	All Others ND	--	--
	2	8.9*[J]	63	All Others ND	--	--
SB-6	0.5	15*	170	All Others ND	--	--
	2	ND	ND	All Others ND	--	--
SB-7	0.5	6.5*[J]	63	All Others ND	--	--
	2	ND	ND	All Others ND	--	--
SB-8	0.5	53*^	750^	All Others ND	--	--
	2	4.9*[J]	51	All Others ND	--	--
Laboratory's *Practical Quantitation Limit (PQL)*		10	20	Varies		Varies
Environmental Screening Levels [(1)] **Residential / Industrial** (Shallow Soils = < 10 ft)		**230 / 1,100**	**5,100 / 5,100**	**Varies**	**0.033 / 0.033**	sec-Butylbenzene = NE n-Propylbenzene = NE 1,2,4-Trimethylbenzene = NE 1,3,5-Trimethylbenzene = NE
Regional Screening Levels [(1)] **Residential / Industrial**		**NE**	**NE**	**Varies**	**3.8/ 17**	sec-Butylbenzene = 7,800 / 120,000 n-Propylbenzene = NE 1,2,4-Trimethylbenzene = 58 / 240 1,3,5-Trimethylbenzene = 780 / 12,000

- Fifteen (15) shallow soil borings (SB-1 through SB-15) were sampled from throughout the Site via hand auger and power auger equipment. And,
- Eight (8) deeper, driven probe soil borings (DP-1 through DP-9) were cored at locations throughout the Site via a direct push drill rig (note: DB-3 not installed to drill rig access limitations).

Table 1 - Soil Sample Analytical Results

Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information		Laboratory Analytical results				
		Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B	
Sample ID	Depth (feet below ground surface)	Total Petroleum Hydrocarbons as DIESEL	Total Petroleum Hydrocarbons as MOTOR OIL	All other TPH	Napthalene	All other VOCs
SB-9	0.5	110*[J]	1,300	All Others ND	--	--
	2	10*	98	All Others ND	--	--
SB-10	0.5	7.1*[J]	48	All Others ND	--	--
	2	ND	ND	All Others ND	--	--
SB-11	0.5	12*	150	All Others ND	--	--
	2	ND	21	All Others ND	--	--
SB-12	0.5	33^[J]	380^	All Others ND	--	--
	2	18*	78	All Others ND	--	--
SB-13	0.5	7.1*[J]	64	All Others ND	--	--
	2	ND	19*[J]	All Others ND	--	--
SB-14	0.5	150*[J]	1,600	All Others ND	--	--
	2	ND	ND	All Others ND	--	--
SB-15	0.5	10*	140	All Others ND	--	--
	2	ND	28	All Others ND	--	--
Laboratory's *Practical Quantitation Limit (PQL)*		10	20	Varies		Varies
Environmental Screening Levels [(1)] **Residential / Industrial** (Shallow Soils = < 10 ft)		**230 / 1,100**	**5,100 / 5,100**	**Varies**	**0.033 / 0.033**	sec-Butylbenzene = NE n-Propylbenzene = NE 1,2,4-Trimethylbenzene = NE 1,3,5-Trimethylbenzene = NE
Regional Screening Levels [(1)] **Residential / Industrial**		**NE**	**NE**	**Varies**	**3.8/ 17**	sec-Butylbenzene = 7,800 / 120,000 n-Propylbenzene = NE 1,2,4-Trimethylbenzene = 58 / 240 1,3,5-Trimethylbenzene = 780 / 12,000

Table 1 - Soil Sample Analytical Results

Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information		Laboratory Analytical results				
		Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B	
Sample ID	**Depth (feet below ground surface)**	Total Petroleum Hydrocarbons as **DIESEL**	Total Petroleum Hydrocarbons as **MOTOR OIL**	**All other TPH**	**Napthalene**	**All other VOCs**
DP-1	2	ND	ND	All Others ND	--	--
DP-2	2	ND	ND	All Others ND	--	--
DP-3	Note: DP-3 was not sampled due to access limitations					
DP-4	2	5.2^J	14^J	All others ND	0.023	sec-Butylbenzene = 0.0017^J n-Propylbenzene = 0.0038^J 1,2,4-Trimethylbenzene = 0.025 1,3,5-Trimethylbenzene = 0.065
	4	--	--	--	ND	All others ND
DP-5	2	ND	ND	All others ND	--	--
DP-6	2	5.6^J	23^	All others ND	ND	All others ND
DP-7	2	7.3^J	42^	All others ND	--	--
DP-8	2	5.8^J	33^	All others ND	--	--
DP-9	2	43^	180^	All others ND	--	--
Laboratory's *Practical Quantitation Limit (PQL)*		10	20	Varies		Varies
Environmental Screening Levels (1) **Residential / Industrial** (Shallow Soils = < 10 ft)		**230 / 1,100**	**5,100 / 5,100**	**Varies**	**0.033 / 0.033**	sec-Butylbenzene = NE n-Propylbenzene = NE 1,2,4-Trimethylbenzene = NE 1,3,5-Trimethylbenzene = NE
Regional Screening Levels (2) **Residential / Industrial**		**NE**	**NE**	**Varies**	**3.8/ 17**	sec-Butylbenzene = 7,800 / 120,000 n-Propylbenzene = NE 1,2,4-Trimethylbenzene = 58 / 240 1,3,5-Trimethylbenzene = 780 / 12,000

Notes

1 = **Environmental Screening Levels (ESLs):** Regional Water Quality Control Board (San Francisco Bay Region) guideline document: *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* (Final version, 2016). The ESLs are intended to provide quantitative risk-based guidance on whether further assessment or remediation of contamination is warranted < http://www.swrcb.ca.gov/rwqcb2/water_issues/programs/ESL/ESL%20Users%20Guide_22Feb16.pdf >

2 = **US EPA Region 9 Regional Screening Levels (RSLs):** guideline tables presented at < http://www.epa.gov/region9/superfund/prg/ >). USPA Region 9 RSLs are based on Carcinogenic Target Risk (TR) =1E-6, Noncancer Hazard Index (HI) =1.0] November 2015.

ND = Analyte not detected above the laboratory Method Detection Limit (MDL).

- = Sample was not analyzed for this constituent

J = Laboratory reports that the detection value is between MDL and PQL, and should be considered an estimate.

^ = Detection and Quantitation Limits are raised due to sample dilution

* = Chromatograph is not typical of Diesel/Motor Oil

BOLD = Analytical result above Residential ESL.

BOLD = Analytical result above Commercial ESL.

Table 2 - Soil Sample Analytical Results

Metals

511 Ohlone Parkway, Watsonville, CA

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information		Laboratory Results																
		Metals (TTLC) by EPA Method 6010B																Total Mercury by EPA 7471A
Sample ID	Depth (feet below ground surface)	Aluminum	Arsenic [3]	Barium	Beryllium	Cadmium	Chromium*	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
SB-1	0.5	15,000	3.3	65	0.12[J]	1.7	24	12	140	63	2.3[J]	22	< 2.0	0.41[J]	< 1.3	54	110	0.060[J]
	2	15,000	6.7	170	0.5	0.29[J]	52	13	31	13	ND	98	ND	0.31[J]	ND	33	66	0.056[J]
SB-2	0.5	18,000	2.3	78	0.13[J]	1.8	28	9.7	690	**110**	2.6	150	< 2.0	0.45[J]	< 1.3	58	5,500	0.063[J]
	2	17,000	11	120	0.49[J]	0.092[J]	62	14	41	9.9	ND	89	< 4.9	0.44[J]	< 3.2	41	71	0.083[J]
SB-3	0.5	17,000	4.1	100	0.19[J]	0.8	39	11	170	**250**	1.0[J]	43	< 2.0	1	< 1.3	61	82	0.076[J]
	2	22,000	1	130	0.48[J]	0.15[J]	75	11	35	17	ND	83	< 2.0	0.21[J]	ND	23	71	0.21
SB-4	0.5	18000^	5.9	180	0.49[J]	0.62	51	12	35	52	ND	67	6.2	0.24[J]	ND	43	61	0.044[J]
	2	21000^	6.2	160	0.51	0.13[J]	57	15	34	14	ND	80	7.7	0.33[J]	ND	43	59	ND
SB-5	0.5	17,000^	5.3	110	0.29[J]	0.34[J]	48	8.8	51	23	1.3[J]	54	7	1.1	ND	48	71	0.052[J]
	2	19,000^	6.1	210	0.47[J]	ND	53	7.5	22	6.9	ND	64	ND	0.23[J]	ND	40	30	0.047[J]
SB-6	0.5	17,000^	3.1	100	0.25[J]	0.29[J]	30	9.8	210	32	0.21[J]	33	7.1	0.33[J]	ND	47	77	0.070[J]
	2	15,000^	5.3	200	0.5	ND	46	11	20	7.5	ND	55	ND	0.18[J]	ND	36	26	0.045[J]
SB-7	0.5	12,000^	4	76	0.20[J]	0.15[J]	46	7.5	50	13	0.34[J]	43	< 0.98	0.22[J]	0.50[J]	40	51	0.077[J]
	2	16,000^	6.3	170	0.43[J]	0.085[J]	53	9.6	25	11	ND	69	< 2.0	0.23[J]	ND	41	40	0.045[J]
SB-8	0.5	15,000^	2.2	72	0.14[J]	0.25[J]	16	5.4	39	17	0.30[J]	18	< 2.0	0.26[J]	ND	38	48	0.053[J]
	2	16,000^	5.8	130	0.46[J]	ND	57	10	33	9.5	ND	79	< 2.0	0.24[J]	ND	33	58	0.11[J]
Laboratory's *Practical Quantitation Limit (PQL)*		5.0	1	0.5	0.5	0.5	0.5	2.5	1	2.5	2.5	0.5	1	0.5	5	0.5	2.5	0.16
Environmental Screening Levels [1] **Residential / Industrial** (Shallow Soils = < 10 ft)		***NE***	***0.067 / 0.31***	***150,000 / 2,200,000 *****	***150 / 2,200 *****	***39 / 580***	***120,000 / 1,800,000***	***23 / 350***	***3,100 / 47,000***	***80 / 320***	***390 / 5,800***	***820 / 11,000 *****	***390 / 5,800***	***390 / 5,800***	***0.78 / 12***	***390 / 5,800***	***23,000 / 350,000***	***13 / 190***
Regional Screening Levels [1] **Residential / Industrial**		***77,000 / 1,100,000***	***0.68 / 3.0***	***15,000 / 220,000***	***160 / 2,300***	***71 / 980***	***120,000 / 1,800,000***	***23 / 350***	***3,100 / 47,000***	***400 / 800***	***390 / 5,800***	***NE***	***390 / 5,800***	***390 / 5,800***	***0.78 / 12***	***390 / 5,800***	***23,000 / 350,000***	***11 / 46***

- Fifteen (15) shallow soil borings (SB-1 through SB-15) were sampled from throughout the Site via hand auger and power auger equipment. And,
- Eight (8) deeper, driven probe soil borings (DP-1 through DP-9) were cored at locations throughout the Site via a direct push drill rig (note: DB-3 not installed to drill rig access limitations).

Table 2 - Soil Sample Analytical Results

Metals

511 Ohlone Parkway, Watsonville, CA

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information		Laboratory Results																
		Metals (TTLC) by EPA Method 6010B																Total Mercury by EPA 7471A
Sample ID	Depth (feet below ground surface)	Aluminum	Arsenic [3]	Barium	Beryllium	Cadmium	Chromium*	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
SB-9	0.5	22,000^	2.8	71	0.19[J]	0.78	19	9.4	87	38	0.36[J]	28	< 2.0	0.28[J]	ND	58	58	0.12[J]
	2	16,000^	5.4	170	0.52	ND	51	13	25	8	ND	69	< 2.0	0.20[J]	ND	34	35	0.078[J]
SB-10	0.5	19,000^	6.4	180	0.48[J]	0.16[J]	76	13	37	15	0.067[J]	86	< 2.0	0.21[J]	ND	36	98^	0.15[J]
	2	19,000^	8	66	0.47[J]	ND	71	10	35	8.6	ND	91	< 2.0	0.16[J]	ND	42	74^	0.15[J]
SB-11	0.5	25,000^	3.4	78	0.19[J]	0.78	27	11	72	24	0.41[J]	31	ND	0.27[J]	ND	66	130^	0.059[J]
	2	19,000^	8.4	190	0.49[J]	0.16[J]	68	14	34	12	0.088[J]	93	< 2.0	0.17[J]	ND	51	73^	0.23
SB-12	0.5	17,000^	4.8	85	0.23[J]	0.22[J]	50	11	59	25	0.18[J]	53	< 2.0	0.29[J]	0.68[J]	58	88^	0.12[J]
	2	15,000^	4.7	89	0.26[J]	0.11[J]	54	10	59	15	1.7[J]	63	< 2.0	0.30[J]	ND	48	60^	0.089[J]
SB-13	0.5	18,000^	7.2	180	0.48[J]	0.087[J]	61	14	32	17	0.14[J]	88	< 2.0	0.20[J]	ND	47	64^	0.079[J]
	2	21,000^	7.8	180	0.5	0.34[J]	81	14	35	8.3	ND	95	< 2.0	0.26[J]	ND	46	70^	0.16
SB-14	0.5	14,000^	6.7	120	0.26[J]	0.077[J]	20	6.7	12	12	1.0[J]	13	< 2.0	0.11[J]	1.3[J]	45	63^	0.044[J]
	2	16,000^	6.3	130	0.48[J]	ND	55	11	23	13	ND	67	< 2.0	0.13[J]	ND	37	43^	0.069[J]
SB-15	0.5	17,000^	0.60[J]	3.7	0.052	0.64	ND	6.2	18	8.1	0.48[J]	0.76	< 2.0	ND	ND	20	100^	0.15[J]
	2	15,000^	6.2	100	0.42[J]	ND	51	26	21	9.6	ND	64	2.4	0.27[J]	ND	34	49^	0.044[J]
Laboratory's *Practical Quantitation Limit (PQL)*		5.0	1	0.5	0.5	0.5	0.5	2.5	1	2.5	2.5	0.5	1	0.5	5	0.5	2.5	0.16
Environmental Screening Levels [1] Residential / Industrial (Shallow Soils = < 10 ft)		NE	0.067 / 0.31	150,000 / 2,200,000 **	150 / 2,200 **	39 / 580	120,000 / 1,800,000	23 / 350	3,100 / 47,000	80 / 320	390 / 5,800	820 / 11,000 **	390 / 5,800	390 / 5,800	0.78 / 12	390 / 5,800	23,000 / 350,000	13 / 190
Regional Screening Levels [1] Residential / Industrial		77,000 / 1,100,000	0.68 / 3.0	15,000 / 220,000	160 / 2,300	71 / 980	120,000 / 1,800,000	23 / 350	3,100 / 47,000	400 / 800	390 / 5,800	NE	390 / 5,800	390 / 5,800	0.78 / 12	390 / 5,800	23,000 / 350,000	11 / 46

Table 2 - Soil Sample Analytical Results

Metals

511 Ohlone Parkway, Watsonville, CA

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information		Laboratory Results																
		Metals (TTLC) by EPA Method 6010B																Total Mercury by EPA 7471A
Sample ID	Depth (feet below ground surface)	Aluminum	Arsenic [3]	Barium	Beryllium	Cadmium	Chromium*	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
DP-1	2	--	7.2	260	0.55	0.35[J]	61	17	26	9.1	ND	77	ND	0.25[J]	ND	48	40	ND
DP-2	2	--	6.6	190	0.61	0.083[J]	65	13	31	9.4	ND	92	ND	0.21[J]	ND	46	49	ND
DP-3	Note: DP-3 was not sampled due to access limitations																	
DP-4	2	--	6.4	220	0.50	0.056[J]	59	13	29	9	ND	86	ND	0.24[J]	ND	41	48	ND
DP-5	2	--	4.1	11	0.35[J]	ND	51	11	26	5.9	ND	70	ND	ND	ND	29	47	0.066[J]
DP-6	2	--	5.6	210	0.52	ND	57	15	25	7.5	ND	87	ND	0.18[J]	ND	37	40	0.063[J]
DP-7	2	--	6.1	210	0.58	0.067[J]	58	16	26	8.8	ND	82	ND	0.15[J]	ND	44	37	ND
DP-8	2	--	11	160	0.48[J]	0.24[J]	70	16	40	23	0.14[J]	100	ND	0.31[J]	ND	42	72	0.078[J]
DP-9	2	--	5.6	160	0.44[J]	0.090[J]	60	12	31	14	0.55[J]	83	ND	0.21[J]	ND	41	52	0.059[J]
Laboratory's *Practical Quantitation Limit (PQL)*		5.0	1	0.5	0.5	0.5	0.5	2.5	1	2.5	2.5	0.5	1	0.5	5	0.5	2.5	0.16
Environmental Screening Levels [1] **Residential / Industrial** (Shallow Soils = < 10 ft)		***NE***	***0.067 / 0.31***	***150,000 / 2,200,000 *****	***150 / 2,200 *****	***39 / 580***	***120,000 / 1,800,000***	***23 / 350***	***3,100 / 47,000***	***80 / 320***	***390 / 5,800***	***820 / 11,000 *****	***390 / 5,800***	***390 / 5,800***	***0.78 / 12***	***390 / 5,800***	***23,000 / 350,000***	***13 / 190***
Regional Screening Levels [1] **Residential / Industrial**		***77,000 / 1,100,000***	***0.68 / 3.0***	***15,000 / 220,000***	***160 / 2,300***	***71 / 980***	***120,000 / 1,800,000***	***23 / 350***	***3,100 / 47,000***	***400 / 800***	***390 / 5,800***	***NE***	***390 / 5,800***	***390 / 5,800***	***0.78 / 12***	***390 / 5,800***	***23,000 / 350,000***	***11 / 46***

Notes

1 = **Environmental Screening Levels (ESLs):** Regional Water Quality Control Board (San Francisco Bay Region) guideline document: *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* (Final version, 2016). The ESLs are intended to provide quantitative risk-based guidance on whether further assessment or remediation of contamination is warranted < http://www.swrcb.ca.gov/rwqcb2/water_issues/programs/ESL/ESL%20Users%20Guide_22Feb16.pdf >

2 = **US EPA Region 9 Regional Screening Levels (RSLs):** guideline tables presented at < http://www.epa.gov/region9/superfund/prg/ >). USPA Region 9 RSLs are based on Carcinogenic Target Risk (TR) =1E-6, Noncancer Hazard Index (HI) =1.0] November 2015.

3 = A 2003 background assessment for metals in shallow soil was completed for the Watsonville area by Uribe & Associates: *Remedial Investigation Report, Watsonville 2 Former Manufactured Gas Plant Site, Pacific Gas and Electric Company, GC Yard 11, Walker Street, Watsonville, California* , September 4, 2003. Analysis of the 95% Upper Confidence Limit for arsenic in 14 shallow soil samples that were collected to establish background concentrations for metals in the Watsonville area yields a concentration of 7.48 mg/kg.

ND = Analyte not detected above the laboratory Method Detection Limit (MDL).

- = Sample was not analyzed for this constituent

J = Laboratory reports that the detection value is between MDL and PQL, and should be considered to be an estimate.

^ = Detection and Quantitation Limits are raised due to sample dilution

* = Screening Limit for Chromium III is used, as there is no established screening limit for Total Chromium. Chromium IV screening level is 0.3 / 6.2

** = Note: Tier 1 Screening Threshold values for Barium, Beryllium, & Nickel are set at x,x and x, respectively, which are protective of Construction Worker healther and safety and are driven by inhalation risk, rather than direct exposure.

BOLD = Analytical result above Residential ESL.

BOLD = Analytical result above Commercial ESL.

Table 3: Grab Groundwater Analytical Results
Volatile Organic Compounds (VOC)
511 Ohlone Parkway, Watsonville, CA

All groundwater analytical results presented in micrograms per liter (ug/L)

Sample Information					
Sample Identification	*Screened Sampling Interval (feet, bgs)*	**Depth to Groundwater (feet bgs)*	*Volatile Organic Compounds (VOCs by EPA 8260)*		
			Benzene	*Toluene*	*All other VOCs*
GW-1	32-36	22.6	0.16[J]	ND	All others = ND
GW-2	28-32	27.4	0.21[J]	0.15[J]	All others = ND
GW-3	28-32	21.2	0.10[J]	ND	All others = ND
GW-4	28-32	26.3	ND	ND	All others = ND
GW-5	28-32	19.7	0.19[J]	0.17[J]	All others = ND
GW-6	32-36	33.7	0.19[J]	0.15[J]	Styrene = 0.080[J] All others = ND
PW-1 (drinking water well)	228-268	not measured	ND	ND	All others = ND
Laboratory Practical Quantitation Limit:			*0.50*	*0.50*	*Varies*
Maximum Contaminant Levels (MCLs)[1]			**1**	**150**	***Styrene = 100***

Notes:

1 = **Maximum Contaminant Levels (MCLs)**: the groundwater cleanup goals based on the Water Quality Control Plan (Basin Plan) established by the Central Coast Regional Water Quality Control Board (CCRWQCB).

bgs = below ground surface.

ND = Not detected at or above the laboratory's practical quantitation limit

*** =** Groundwater depth not necessarily stabilized.

J = Estimated Value

NE = Not Established

-- = Not analyzed for in this sample

TABLE 4

On-Site Production Well (PW-1) - Water Quality Monitoring Analytical Results

(General Mineral, Physical, Inorgainic, and Bacteriological Parameters)

511 Ohlone Pkwy, Watsonville, CA

Analysis	*Units*	Results 7/1/2016	Maximum Contaminant Level (MCL)[1]
pH	*pH Units*	7.6	Best between 6.5-8.5
Specific Conductance (EC)	*uS/cm*	840	1,600
Hydroxide (as OH)	*mg/L*	ND	Not Established
Carbonate Alk. (as CO_3)	*mg/L*	ND	Not Established
Bicarbonate Alk. (as HCO_3)	*mg/L*	280	Not Established
Total Alkalinity (as $CaCO_3$)	*mg/L*	230	Not Established
Hardness	*mg/L*	330	Not Established
Total Dissolved Solids	*mg/L*	470	1,000
Nitrate (as N)	*mg/L*	2	45
Chloride (Cl)	*mg/L*	93	500
Sulfate (SO_4)	*mg/L*	63	500
Fluoride (F)	*mg/L*	0.11	2
Calcium (Ca)	*mg/L*	74	Not Established
Magnesium (Mg)	*mg/L*	34	Not Established
Potassium (K)	*mg/L*	2.6	Not Established
Sodium (Na)	*mg/L*	26	Not Established
Total Iron (Fe)	*ug/L*	ND	300*
Manganese (Mn)	*ug/L*	ND	50*
Arsenic (As)	*ug/L*	ND	10
Barium (Ba)	*ug/L*	ND	1000
Boron (B)	*ug/L*	ND	Not Established
Cadmium (Cd)	*ug/L*	ND	5
Total Chromium (Cr)	*ug/L*	4.4	50
Copper (Cu)	*ug/L*	ND	1,000
Cyanide (CN)	*ug/L*	ND	200
Lead (Pb)	*ug/L*	ND	15
Mercury (Hg)	*ug/L*	ND	2
Selenium (Se)	*ug/L*	ND	50
Silver (Ag)	*ug/L*	ND	100*
Zinc (Zn)	*ug/L*	ND	5,000*
MBAS (Surfactants)	*mg/L*	ND	0.5
Aluminum (Al)	*ug/L*	ND	1,000
Antimony (Sb)	*ug/L*	ND	6
Beryllium (Be)	*ug/L*	ND	4
Nickel (Ni)	*ug/L*	ND	100
Thallium (Tl)	*ug/L*	ND	2
Nitrate + Nitrite (as N)	*mg/L*	2	10
Nitrite (as N)	*mg/L*	ND	1
Color	*Color Units*	ND	Not Established
Odor	*T.O.N.*	ND	Not Established
Turbidity	*NTU*	0.19	Not Established
Total Coliform		Absent	Not Established
E. coli		Absent	Not Established

NOTES:

1 = Title 22 Standards - California Administrative Code, Title 22, Chapter 15, Article 4, Primary Standards – Inorganic Chemicals/Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards. Last Updated September 23, 2015.

Bold FONT = indicates concentration above the Standard for which this sample is compared against.

* = Indicates a secondary MCL. Secondary MCLs are not health related, but are based on aesthetics (i.e, taste, odor, color).

ND= Not Detected at or above the laboratory PQL.

September 2004:

Soil Quality Evaluation

Lowney Associates, and

Weber Hayes and Associates

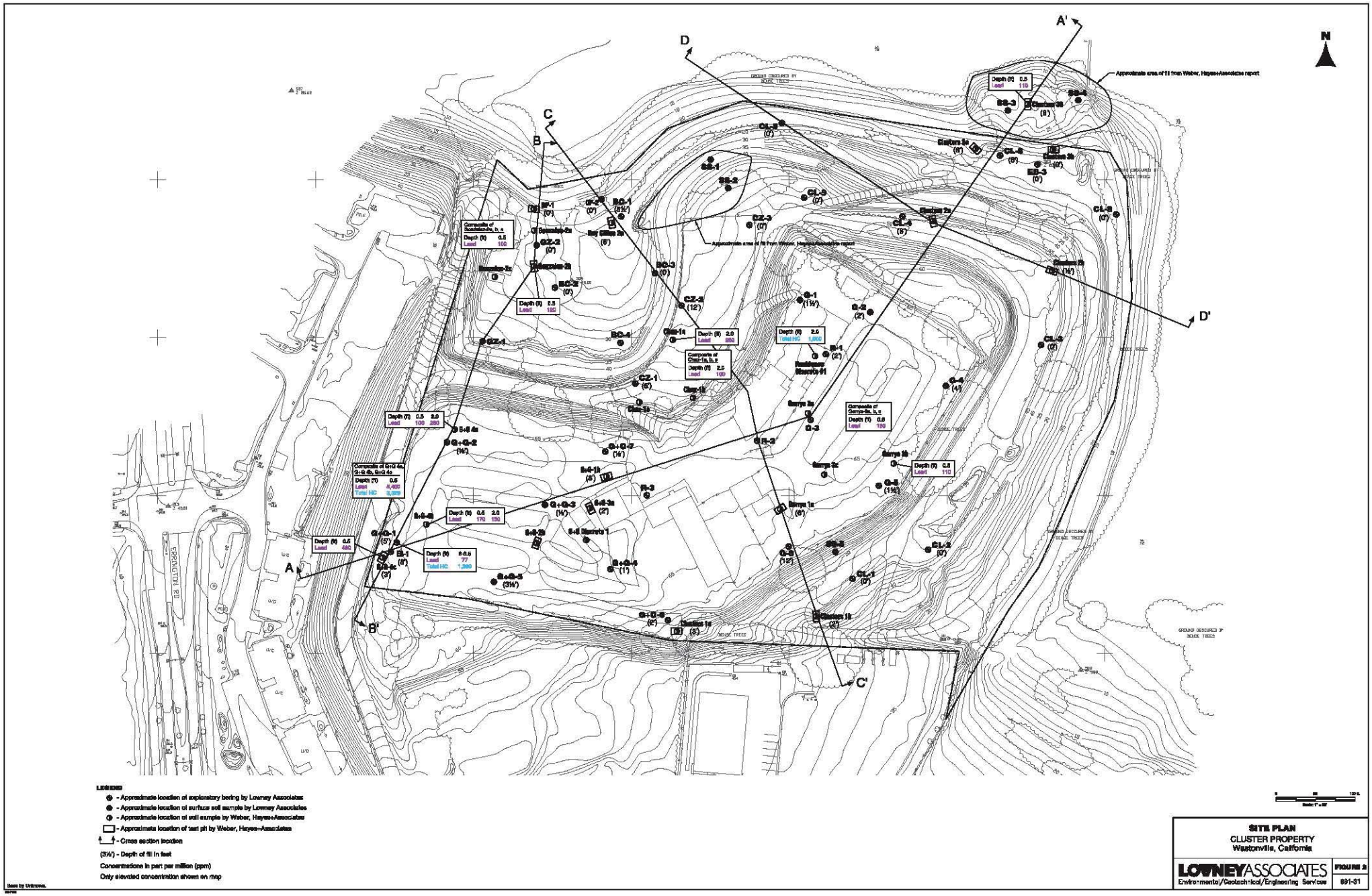

A
A'
B
B'
C
C'
D
D'
N
Approximate area of fill from Weber, Hayes+Associates report
Approximate area of fill from Weber, Hayes+Associates report
GROUND OBSCURED BY DENSE TREES
LEGEND
- Approximate location of exploratory boring by Lowney Associates
- Approximate location of surface soil sample by Lowney Associates
- Approximate location of soil sample by Weber, Hayes+Associates
- Approximate location of test pit by Weber, Hayes+Associates
- Cross section location
(3½') - Depth of fill in feet
Concentrations in part per million (ppm)
Only elevated concentration shown on map
SITE PLAN
CLUSTER PROPERTY
Watsonville, California
LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services
FIGURE 2
691-01

Table 1. Boring and Sampling Results

(concentrations in parts per million)

Boring	Total Depth (feet)	Fill Depth (feet)	Sampling Depth (feet)	Total Lead (mg/Kg)
CL-1	4	2	1-1 ½	9.9
CL-1			3-3 ½	6.2
CL-2	4	-	2-2 ½	9.8
CL-2			3 ½-4	7.7
CL-3	4	-	2-2 ½	5.7
CL-3			3 ½-4	5.9
CL-4	12	8	4-4 ½	7.1
CL-5	4	-	1-1 ½	9.1
CL-5			3-3 ½	7.0
CL-6	12	6	1-1 ½	8.6
CL-6			3-3 ½	7.1
CL-6			5-5 ½	12
CL-6			7-7 ½	14
CL-8	12	-	5-5 ½	15
R-1	4	2	½-1	8.6
R-1			2-2 ½	7.8
R-2	4	3	½-1	6.9
R-2			2-2 ½	5.5
R-2			3 ½-4	5.2
R-3	4	-	1-1 ½	5.4
R-3			3-3 ½	5.9
GZ-1	4	-	2-2 ½	9.4
GZ-1			3 ½-4	5.1
GZ-2	4	-	1-1 ½	44
GZ-2			3-3 ½	9.8
BC-1	12	5 ½	3-3 ½	13
BC-1			5-5 ½	9.0
BC-1			7-7 ½	33
BC-2	12	-	3-3 ½	21
BC-2			5-5 ½	25
BC-2			7-7 ½	8.9
BC-3	8	-	3-3 ½	11
BC-3			5-5 ½	9.3
BC-3			7-7 ½	17
BC-4	12	-	3-3 ½	17
BC-4			5-5 ½	6.5
BC-4			7-7 ½	7.6
CZ-1	12	5	2-2 ½	1.0
CZ-1			4-4 ½	10
CZ-2	16	12	1-1 ½	6.9
CZ-2			3-3 ½	6.8
CZ-2			7-7 ½	7.7
CZ-2			11 ½-12	7.9
CZ-3	8	-	2-2 ½	8.2
PRGs - residential use*				~~150~~ 80

< Indicates that the constituent was not detected at or above stated laboratory detection limits

* PRGs – USEPA Region 9 - "CAL-Modified" Preliminary Remedition Goals for residential soil

Table 1. Boring and Sampling Results
(Continued)
(concentrations in parts per million)

Boring	Total Depth (feet)	Fill Depth (feet)	Sampling Depth (feet)	Total Lead (mg/Kg)	Soluble Lead (mg/L)	TPHd (mg/Kg)	TPHmo (mg/Kg)
G+G-1	12	5	2-2 ½	8.0	-	<1.0	<50
G+G-1			4-4 ½	10	-	<1.0	<50
G+G-1			6-6 ½	**77**	7.0	160	1200
G+G-2	12	1 ½	2-2 ½	6.8	-	-	-
G+G-2			4-4 ½	6.5	-	-	-
G+G-2			6-6 ½	3.9	-	-	-
G+G-3	4	½	½-1	7.0	-	-	-
G+G-3			2-2 ½	6.4	-	-	-
G+G-4	4	1	½-1	24	-	-	-
G+G-4			2-2 ½	6.0	-	1.7	<50
G+G-4			3 ½-4	9.1	-	<1.0	<50
G+G-5	8	3 ½	2-2 ½	5.1		-	-
G+G-5			4-4 ½	5.1	-	-	-
G+G-6	8	3	2-2 ½	7.2	-	-	-
G+G-6			4-4 ½	5.3	-	-	-
G+G-7	4	4	2-2 ½	8.2	-	-	-
G+G-7			3 ½-4	11	-	-	-
G-1	4	1 ½	2-2 ½	42	-	-	-
G-1			3 ½-4	5.2	-	-	-
G-2	4	2	2-2 ½	14	-	-	-
G-2			3 ½-4	14	-	-	-
G-3	4	4	½-1	11	-	-	-
G-3			2-2 ½	11	-	-	-
G-3			3 ½-4	13	-	-	-
G-4	4	4	2-2 ½	9.0	-	-	-
G-4			3 ½-4	7.4	-	-	-
G-5	8	1 ½	2-2 ½	16	-	-	-
G-5			4-4 ½	15	-	-	-
G-5			6-6 ½	6.2	-	-	-
G-6	16	12	2-2 ½	6.1	-	-	-
G-6			4-4 ½	24	-	-	-
G-6			6-6 ½	10	-	-	-
SS-1	-	-	-	14	-	-	-
SS-2	-	-	-	28	-	-	-
SS-3	-	-	-	**110**	7.7	-	-
SS-4	-	-	-	15	-	-	-
SS-5	-	-	-	11	-	-	-
PRGs – residential use*				~~150~~ 80		-	

< Indicates that the constituent was not detected at or above stated laboratory detection limits

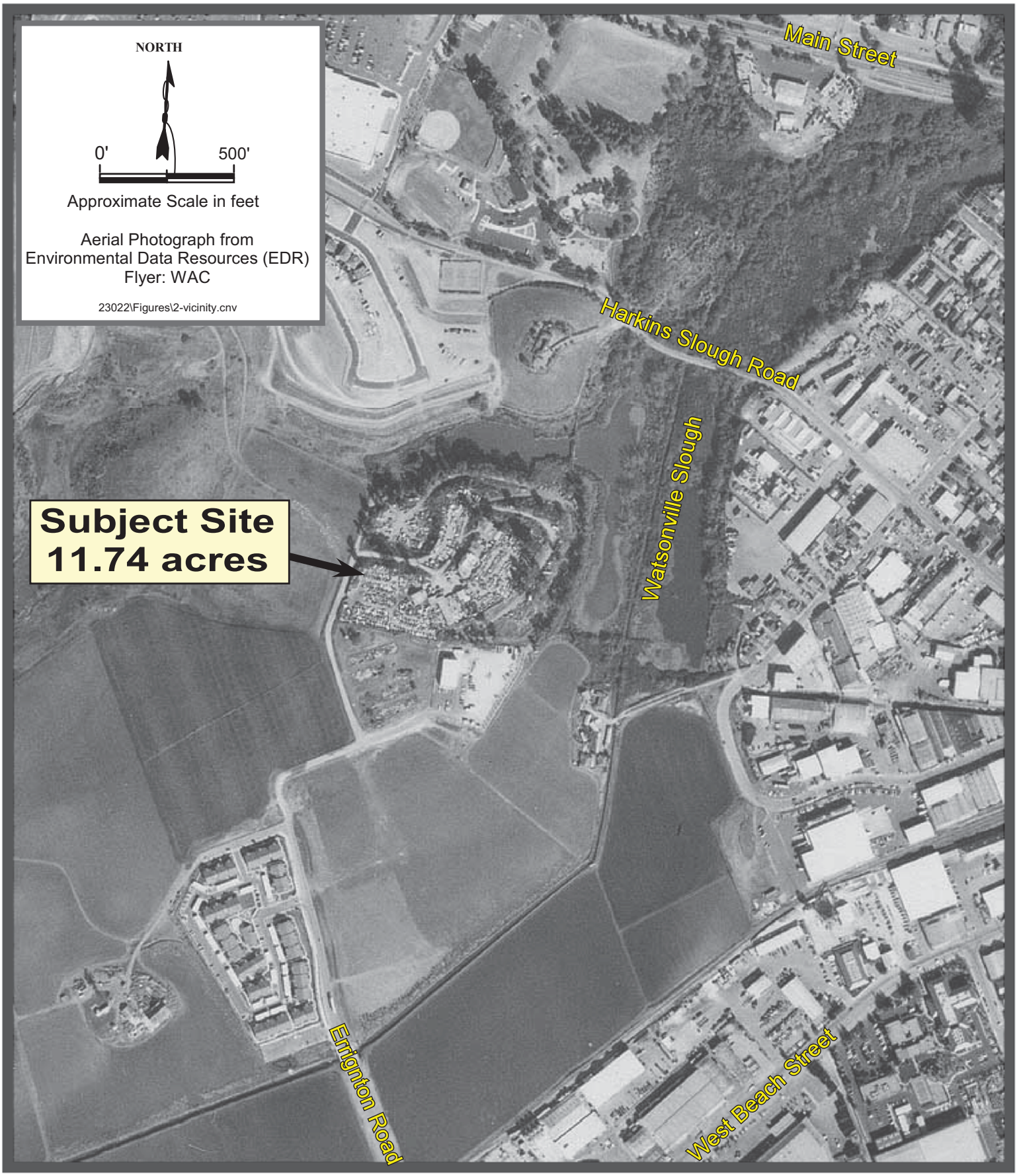
* PRGs – USEPA Region 9 - "CAL-Modified" Preliminary Remediation Goals for residential soil

BOLD – Indicates sample tested for Soluble Lead (STLC) and exceeds hazardous waste threshold of 5 mg/L

February 2004:

Phase I/II Environmental Site Assessment

Weber, Hayes & Associates



Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, Ca. 95076
(831) 722 - 3580 (831) 662 - 3100

Vicinity Map
Phase I/II ESA
Errington Auto Yard
600 Errington Rd, Watsonville, CA

FIGURE
3
Job #
23022


EXPLANATION
Dismantled Vehicle Parts
A/DS Axial/Drive Shafts
B Batteries: Used/Recycled
BP Brake Parts
EB Engine Blocks
FT Fuel Tank (abandoned)
MVP Miscellaneous Vehicle Parts
RP Radiator's & Parts
S Shocks
TR Tires and/or Rims
TP Transmission Parts
Debris, Rubble
cr Concrete Rubble
dv Dead Vegetation
ip Irrigation Pipe
g Garbage
sm Scrap Metal
wd Wood Debris
Chemical Storage
FC Fuel Cans
PT Paint and Thinners
HMS Hazardous Materials Storage
Storage Bins
Abandoned Mobile Home
Abandoned Heavy Equipment
Parts Storage Rack (partially covered)
Parts Storage Shed (covered)
55-gallon Drums (abandoned)
55-gallon Drums (in use)
Water Tank
Agricultural or Domestic Well
NORTH
0'
80'
Approximate Scale in feet
Base Map drafted from Aerial Flight (below)
23022\figures\3-site-land-use
Watsonville Slough
Marsh Area
Cluster's 55-gallon Drum Storage Container (U-Haul Truck Shell)
Cluster's Truck & Equipment Storage
Approximate Area of Fill
Earthen fill mixed with used tires, scrap metal, concrete rubble, vehicle parts, garbage, etc.
Access Road
40% slope with vegetation & mixed fill with used tires, car parts, car frames, drums, tanks, garbage, etc.
Bay City Towing Yard
Gonzalez Autobody & Towing Yard
Chaz Towing Yard
Entry Access Road
Gate
Residence
Gerry's Foreign Auto Wreckers
Horse Corral
Area Being Developed with Residential Homes
ERRINGTON ROAD
G&G Auto Wreckers
Central Customer Parking Area (dirt and gravel surface)
Covered Office & Parts Storage (concrete pad)
Office
HazMat Storage
Parts Washer
JV Towing Yard
Cluster's Misc. Vehicles Storage
Recycled Vehicle Parts Storage Area
Covered Fluid Draining Area (concrete sump to 1.0' bgs)
Abandoned Production Well
Active Production Well
Water Tank
Abandoned Production Well
Undeveloped Area
Fallow Field
Santa Cruz Engineering
(520 Errington Road)
Ag Well
Ag Field
(519 Ford Street)
Sewer Manholes
Aerial Photo Map
Errington Road Site (11.74 acres)
FIGURE 4
Job # 23022
Site Map
Current Land Uses
Phase I/II Environmental Site Assessment
600 Errington Road
Watsonville, California
Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, Ca. 95076
(831) 722 - 3580 (831) 662 - 3100

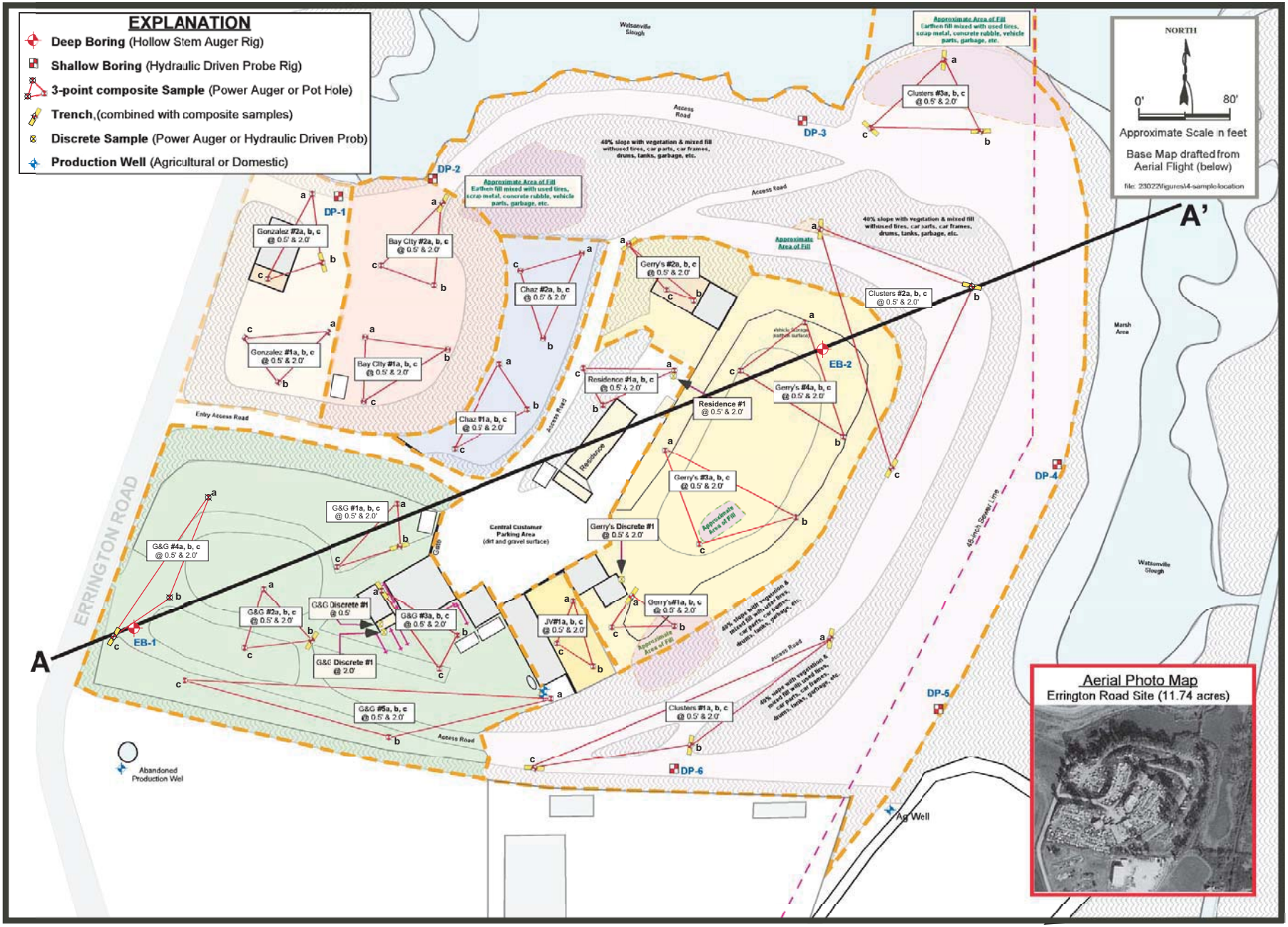


FIGURE 5
Job # 23022

Site Map
Soil and Groundwater Sampling Locations
Phase I/II Environmental Site Assessment
600 Errington Road
Watsonville, California

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, Ca. 95076
(831) 722 - 3580 (831) 662 - 3100

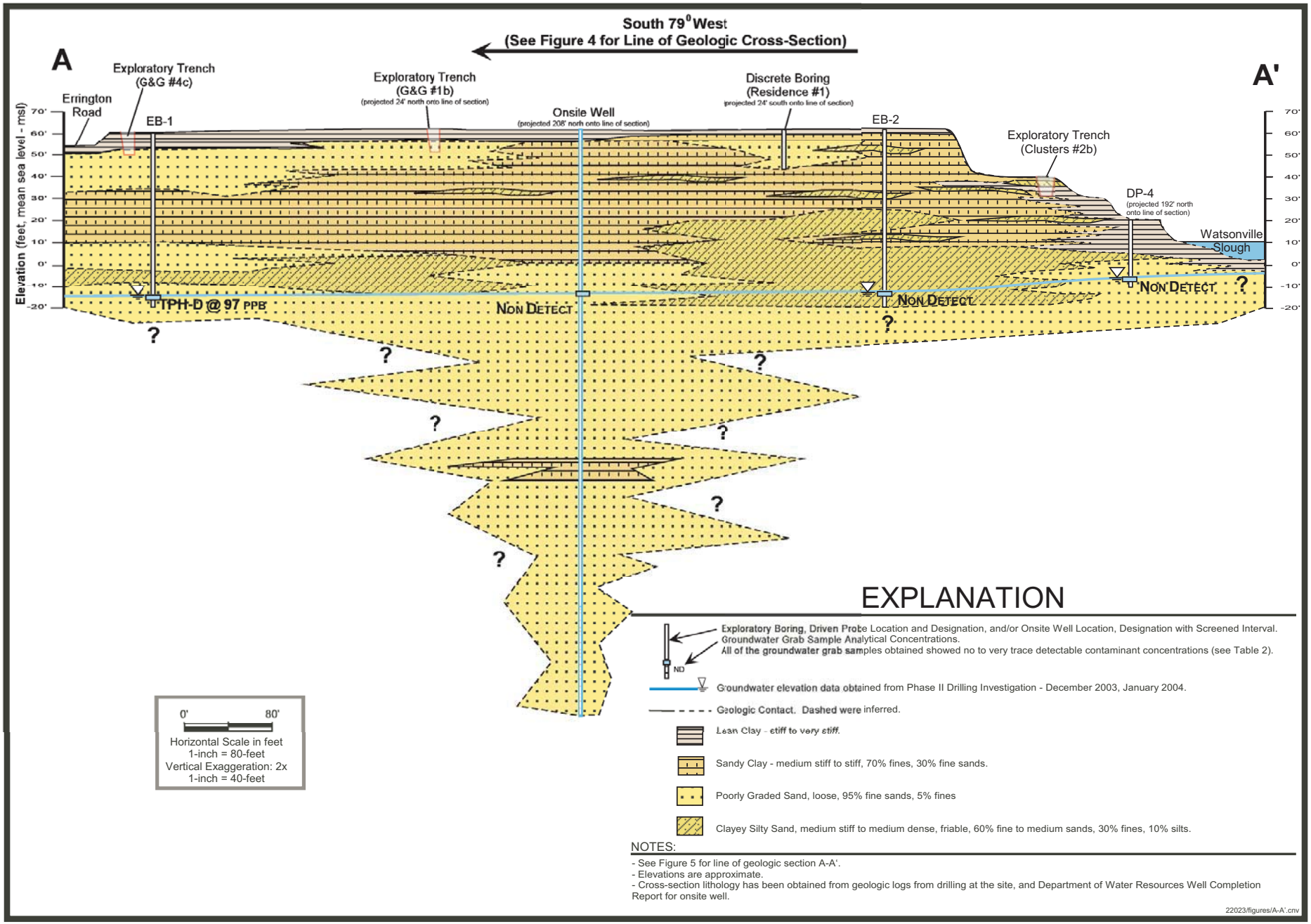


FIGURE 6
Job # 22023

Geologic Cross Section A-A'
Phase I/II Environmental Site Assessment
600 Errington Road
Watsonville, California

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, Ca. 95076
(831) 722 - 3580 (831) 662 - 3100

Table 1
Soil Sample Analytical Results
600 Errington Road, Watsonville, California
All soil results are in parts per million (mg/kg).

SOIL SAMPLE DETAILS					LABORATORY RESULTS														
Current Business at Sample Location	General Land-Use at Sample Location	Sample Identification		Sample Depth (feet, bgs)	Total Petroleum Hydrocarbons			Volatile Organic Compounds (VOC's)					Solvent Compounds	Mercury	Ethylene Glycol	LUFT 5 Metals				
		3-point Composite	Discrete Sample		Diesel	Motor Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Halogenated Volatile Organic Compounds (HVOC's)			Cadmium	Chromium	Lead	Nickel	Zinc
G & G Auto Wreckers	Hazardous Materials Storage & Vehicle Inventory Storage	G&G# - **1a, b, c**		0.5	**68*** [3]	**310**[3]	ND	ND	ND	ND	ND	ND	ND	0.076	---	ND	65	49	93	99
				2.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	**83**[3]	**70**[3]	130	110
			1a	2.0	---	---	---	---	---	---	---	---	---	---	---	---	64	25	---	---
			1b	2.0	---	---	---	---	---	---	---	---	---	---	---	---	85	89	---	---
			1c	2.0	---	---	---	---	---	---	---	---	---	---	---	---	72	50	---	---
	Vehicle Dismantling, Fluid Draining & Vehicle Inventory Storage	G&G# - **2a, b, c**		0.5	25*	**170**[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50	40	70	93
				2.0	**110*** [3]	**360**[3]	ND	ND	ND	ND	ND	ND	---	---	---	ND	48	43	75	65
			2a	2.0	19*	78	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2b	2.0	11*	33	---	---	---	---	---	---	---	---	---	---	---	---	---	---
				4.0	3.6*[5]	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2c	2.0	21*	86	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Fluid Draining, Parts Storage & Vehicle Inventory Storage	G&G# - **3a, b, c**		0.5	**60*** [3]	**700**[3]	ND	ND	ND	ND	ND	ND	ND	0.065	ND	ND	60	28	82	94
				2.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	**71**[3]	20	100	79
			3a	2.0	---	---	---	---	---	---	---	---	---	---	---	---	74	---	---	---
			3b	2.0	---	---	---	---	---	---	---	---	---	---	---	---	53	---	---	---
			3c	2.0	---	---	---	---	---	---	---	---	---	---	---	---	75	---	---	---
	Fluid Draining, Parts Storage, Vehicle Crushing & Off-Hauling	G&G# - **4a, b, c**		0.5	**620*** [3]	**3,300**[3]	8.6*[2]	ND	0.085	0.12	0.82	ND	ND	---	---	ND	19	**5,400**[3]	28	370
				2.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	54	**66**[3]	77	280
			4a	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	100	---	---
				2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	**260**[4]	---	---
			4b	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	**170**	---	---
				2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	**150**[4]	---	---
			4c	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	**480**	---	---
				2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	25	---	---
	Vehicle Inventory Storage	G&G# - **5a, b, c**		0.5	ND	ND	---	---	---	---	---	---	---	---	---	---	50	32	67	75
				2.0	ND	ND	---	---	---	---	---	---	---	---	---	ND	53	17	85	47
			5a	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	37	---	---
			5b	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	33	---	---
			5c	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	69	---	---
	Fluid Draining & Hazardous Materials Storage		**G&G Discrete #1**	0.5	**110***	**510**	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---
				2.0	**130***	**980**	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	---
				4.0	1.5*[6]	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Fluid Draining, Parts Storage, Vehicle Crushing & Off-Hauling		**EB-1**	20.0	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---
				40.0	1.1	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 1
Soil Sample Analytical Results
600 Errington Road, Watsonville, California
All soil results are in parts per million (mg/kg).

SOIL SAMPLE DETAILS					LABORATORY RESULTS															
Current Business at Sample Location	General Land-Use at Sample Location	Sample Identification		Sample Depth (feet, bgs)	Total Petroleum Hydrocarbons			Volatile Organic Compounds (VOC's)					Solvent Compounds	Mercury	Ethylene Glycol	LUFT 5 Metals				
		3-point Composite	Discrete Sample		Diesel	Motor Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Halogenated Volatile Organic Compounds (HVOC's)			Cadmium	Chromium	Lead	Nickel	Zinc
GONZALEZ Towing Yard & Autobody	Vehicle Inventory Storage	Gonzalez# **- 1a, b, c**		0.5	6.1*	30	---	---	---	---	---	---	---	---	---	ND	43	17	67	45
				2.0	1.6*	ND	---	---	---	---	---	---	---	---	---	ND	55	14	74	45
	Hazardous Materials Storage, Paint Shop & Auto Body Shop	Gonzalez# **- 2a, b, c**		0.5	8.8*	58	ND	ND	ND	ND	ND	ND	ND	0.083	ND	ND	58	**100(3)**	92	110
				2.0	1.6*	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	61	16	88	50
			2a	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	33	---	---
			2b	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	120	---	---
			2c	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	85	---	---
CLUSTER'S Vehicle Storage Yard	Vehicle Inventory Storage & Misc. Debris Storage	Clusters**# - 1a, b, c**		0.5	ND	ND	---	---	---	---	---	---	---	---	---	ND	63	16	100	54
				2.0	6.4*	31	---	---	---	---	---	---	---	---	---	ND	59	20	79	64
		Clusters# - **2a, b, c**		0.5	3.2*	16	---	---	---	---	---	---	---	---	---	ND	61	16	120	58
				2.0	ND	ND	---	---	---	---	---	---	---	---	---	ND	61	17	110	64
	Misc. Debris Storage & Earthen Fill Area	Clusters# - 3**a, b, c**		0.5	5.6*	57	---	---	---	---	---	---	---	---	---	ND	50	41	72	62
				2.0	4.0*	39	---	---	---	---	---	---	---	---	---	ND	46	31	71	61
CHAZ Towing Yard	Vehicle Inventory Storage Impound Yard	Chaz # - **1a, b, c**		0.5	31*	**250(3)**	---	---	---	---	---	---	---	---	---	ND	44	34	55	69
				2.0	4.5*	35	---	---	---	---	---	---	---	---	---	1.2	53	**100(3)**	77	160
			1a	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	**280(4)**	---	---
			1b	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	36	---	---
			1c	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	19	---	---
		Chaz # - **2a, b, c**		0.5	15*	130	---	---	---	---	---	---	---	---	---	ND	54	26	84	71
				2.0	5.3*	48	---	---	---	---	---	---	---	---	---	ND	57	38	83	69

Table 1
Soil Sample Analytical Results
600 Errington Road, Watsonville, California
All soil results are in parts per million (mg/kg).

SOIL SAMPLE DETAILS					LABORATORY RESULTS															
Current Business at Sample Location	General Land-Use at Sample Location	Sample Identification		Sample Depth (feet, bgs)	Total Petroleum Hydrocarbons			Volatile Organic Compounds (VOC's)					Solvent Compounds	Mercury	Ethylene Glycol	LUFT 5 Metals				
		3-point Composite	Discrete Sample		Diesel	Motor Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Halogenated Volatile Organic Compounds (HVOC's)			Cadmium	Chromium	Lead	Nickel	Zinc
GERRY'S FOREIGN Auto Wreckers and Transport	Hazardous Materials Storage, Parts Storage & Vehicle Crushing Area	Gerry's # - **1a, b, c**		0.5	45*	**200**[3]	ND	ND	ND	ND	ND	ND	ND	0.068	ND	ND	43	29	66	81
				2.0	12*	57	ND	ND	ND	ND	ND	ND	---	---	---	ND	46	28	74	53
	Paint Shop & Auto Body Shop	Gerry's # - **2a, b, c**		0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.087	ND	ND	51	17	100	61
				2.0	62*	**200**[3]	ND	ND	ND	ND	ND	ND	---	---	---	ND	56	21	83	67
			2a	2.0	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2b	2.0	**190***	**600**	---	---	---	---	---	---	---	---	---	---	---	---	---	---
				4.0	2.0*[6]	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---
			2c	2.0	3.2*	16	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Vehicle Dismantling, Fluid Draining & Vehicle Inventory Storage	Gerry's # - **3a, b, c**		0.5	**170**[*(3)]	**670**[3]	---	---	---	---	---	---	---	---	---	ND	43	**130**[3]	75	130
				2.0	ND	ND	---	---	---	---	---	---	---	---	---	ND	**71**[3]	19	110	67
			3a	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	46	---	---
				2.0	---	---	---	---	---	---	---	---	---	---	---	---	79	---	---	---
			3b	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	110	---	---
				2.0	---	---	---	---	---	---	---	---	---	---	---	---	72	---	---	---
			3c	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	15	---	---
				2.0	---	---	---	---	---	---	---	---	---	---	---	---	71	---	---	---
	Vehicle Dismantling, Fluid Draining & Vehicle Inventory Storage	Gerry's # - **4a, b, c**		0.5	33*	130	---	---	---	---	---	---	---	---	---	ND	50	47	87	86
				2.0	ND	ND	---	---	---	---	---	---	---	---	---	ND	**78**[3]	20	120	78
			4a	2.0	---	---	---	---	---	---	---	---	---	---	---	---	97	---	---	---
			4b	2.0	---	---	---	---	---	---	---	---	---	---	---	---	77	---	---	---
			4c	2.0	---	---	---	---	---	---	---	---	---	---	---	---	77	---	---	---
	Hazardous Materials Storage & Engine Block/Parts Storage		**Gerry's Discrete #1**	0.5	1.7*	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---
				2.0	**110**	390	8.9	ND	0.51	0.19	0.99	ND	---	---	---	---	---	---	---	---
				4.0	4.5*[6]	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Vehicle Inventory Storage		**EB-2**	20.0	THERE WERE NO DETECTIONS IN THE EB-2 WATER SAMPLE, THEREFORE THESE SAMPLES ARE TO REMAIN ON HOLD															
				40.0																
JV Towing Yard	Vehicle Inventory Storage Impound Yard	JV # - **1a, b, c**		0.5	8.6*	ND	---	---	---	---	---	---	---	---	---	ND	49	**60**[3]	91	320
				2.0	2.1*	ND	---	---	---	---	---	---	---	---	---	ND	49	22	77	58
			1a	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	48	---	---
			1b	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	16	---	---
			1c	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	17	---	---

Table 1
Soil Sample Analytical Results
600 Errington Road, Watsonville, California
All soil results are in parts per million (mg/kg).

SOIL SAMPLE DETAILS					LABORATORY RESULTS															
Current Business at Sample Location	General Land-Use at Sample Location	Sample Identification		Sample Depth (feet, bgs)	Total Petroleum Hydrocarbons			Volatile Organic Compounds (VOC's)					Solvent Compounds	Mercury	Ethylene Glycol	LUFT 5 Metals				
		3-point Composite	Discrete Sample		Diesel	Motor Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Halogenated Volatile Organic Compounds (HVOC's)			Cadmium	Chromium	Lead	Nickel	Zinc
Onsite Residence (no business)	Batteries Storage & Misc. Parts Storage	Residence# - **1a, b, c**		0.5	12*	56	---	---	---	---	---	---	---	---	---	ND	45	15	68	42
				2.0	34*	140	---	---	---	---	---	---	---	---	---	ND	53	18	78	51
	Batteries & Used Motor Oil Storage		**Residence #1 (discrete)**	0.5	14*3	22*3	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---
				2.0	**500***3	**1,400***4	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	---
				4.0	1.5*6	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---
BAY CITY Towing Yard	Vehicle Inventory Storage	Bay City# - **1a, b, c**		0.5	6.3*	33	---	---	---	---	---	---	---	---	---	ND	53	28	63	110
				2.0	1.5*	15	---	---	---	---	---	---	---	---	---	ND	56	18	65	50
	Vehicle Inventory Storage	Bay City# - **1a, b, c**		0.5	8.9*	54	---	---	---	---	---	---	---	---	---	ND	46	44	56	120
				2.0	9.4*	64	---	---	---	---	---	---	---	---	---	ND	50	48	98	120
Laboratory Practical Quantitation Limit (PQL):					**1**	**13**	**2.5**	**0.025**	**0.025**	**0.025**	**0.05**	**0.25**	**Varies**	**0.05**	**200**	**1**	**1**	**1**	**1**	**1**
Preliminary Remediation Goals (PRGs)(1):				**Residential Sites:**	**100** (2)	**500**(2)	**100** (2)	**0.6**	**520**	**8.9**	**270**	**17**	**Varies**	**23**	**100,000**	**37**	**210**	**150**	**1,600**	**23,000**
				Industrial Sites:	**100** (2)	**1000** (2)	**100** (2)	**1.3**	**520**	**20**	**420**	**36**	**Varies**	**310**	**100,000**	**450**	**460**	**750**	**20,000**	**100,000**
Target Concentration for the 3-point Composite Samples that would require Laboratory Analysis of the individual Discrete Samples (3)					**33**	**165**	**33**	**0.2**	**173**	**3**	**90**	**5**	**Any Detection**	**7**	**33,000**	**12**	**70**	**50**	**533**	**7,666**

NOTES:

All soil results are in parts per million (ppm), equivalent to milligrams per kilogram (mg/kg).

ND = Not Detected at or above the laboratory PQL.

NA = Not Applicable. No discrete soil samples were analyzed for Mercury, Ethylene Glycol, or LUFT 5 Metals.

Bold FONT = Indicates analytical concentration is above ESL's (for TPH constituents), PRG's or SC-HSA Regulatory Action Levels.

--- = Sample not analyzed for these constituents.

< # = Detection limit elevated due to sample dilution and compound not detected at or above detection limit reported.

1 = **Preliminary Remediation Goals (PRG's)** for residential & industrial sites are listed. US-EPA Region 9 has provided these values for sites having elevated levels of contaminants in soil and tap-water. The PRGs are toxicological-based contaminant concentration limits which are used as a guidance to protect human health and safety, including sensitive groups, over a lifetime. PRGs are for relative comparison purposes (guidance) and should be evaluated using site-specific conditions.

2 = **Environmental Screening Levels (ESL's) are used as a guidance value for Total Petroleum Hydrocarbon detections as there are no established PRG values for petroleum hydrocarbons.** ESL's have been prepared by California Regional Water Quality Control Board (CRWQCB) - San Francisco Bay Region, entilted: *Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater* (Interim Final - July 2003). This document is a update to the December 2001 edition document entilted: *Application of Risk-Based Screening Levels (RBSL's) and Decision Making to Sites With Impacted Soil and Groundwater.* The ESL's are intended to provide guidance on whether or not a risk to human health exist and whether or not remediation should be warranted. The guidance values for TPH were obtained for "Shallow Soils (≤ 3m) where groundwater is a current or potential source of drinking water" (Table A) .

3 = **Target Concentration Exceeded for Composite Samples**: 3-point composite samples were selected for inital screening of this 10.9 acre industrial site for cost effective assessment (discrete analysis across the site would be cost prohibitive). Because a portion of the 3 samples that make up the "composite" are mixed at the lab for a single analysis, there is a potential dillution effect if one of the samples has an elevated concentration. We therefore use a "worst case" target concentration for these composite samples that works out to be one-third of the PRG value for residential sites. If this conservative, worst-case target concentration is exceeded in the composite sample, then each of the three samples that make up the composite sample are then individually analyzed as discrete samples and again checked against the PRG values to determine whether a health-risk exists in shallow soils. ANY COMPOSITE SAMPLE THAT EXCEEDS A TARGET CONCENTRATION IS HIGHLIGHTED IN ORANGE.

4 = Concentration of Discrete Sample Remains above Residential Preliminary Remediation Goal for compound identified.

*** =** Laboratory indicates that the reported TPH-Diesel value is the result of overlapping Motor Oil into the Diesel quantitation range.

***2 =** Laboratory indicates that the reported TPH-Gasoline value is the result of heavy hydrocarbons within the TPH-Gasoline quantitation range.

***3 =** Laboratory indicates that the reported TPH-Diesel value is the result of overlapping Hydraulic / Motor Oil into the Diesel quantitation range.

***4 =** Laboratory indicates that although TPH-Motor Oil is present, a second fuel overlapping from the TPH-Hydraulic Oil range into the Motor Oil quantitation range, has resulted in an elevated final TPH-Motor Oil value.

***5 =** Laboratory indicates that the reported TPH-Diesel value is the result of discrete peak that is not typical of TPH-diesel but is within the Diesel quantitation range.

***6 =** Laboratory indicates that the reported TPH-Diesel value is the result of discrete peak and overlapping Motor Oil into the Diesel quantitation range.

Table 2

Groundwater Grab Sample Analytical Results

600 Errington Road, Watsonville, California

(All groundwater results are in micrograms per liter (*u* g/L).

Sampling Information		Analytical Results														
Sample Identification	Sample Depth (ft, bgs)	Total Petroleum Hydrocarbons			Volatile Organic Compounds (VOC's)					Solvent Compounds (Halogenated VOC's)	Ethylene Glycol	Title 22			Bacterialogical	
		Diesel	Motor Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylene	MTBE			General Mineral	General Physical	Inorganics	E-Coli	Total Coliforms
Onsite Well	80.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	All Concentrations Detected Are Below Public Health Drinking Water Limits[3] (see appropriate Appendix for details)			Absent	Present
EB-1	71.03	97*	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---
EB-2	71.67	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---
DP-1	DRY	No Groundwater Sample Obtained														
DP-2	26.8'	<63	<313	ND	ND	ND	ND	ND	ND	1,1,1-Trichloroethane @ 0.5 ppb	ND	---	---	---	---	---
DP-3	25.9'	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
DP-4	24.67'	<82	<410	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
DP-5	24.74'	<62	<309	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
DP-6	27.42'	<82	<410	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Laboratory Practical Quantitation Limit (PQL):		**50**	**250**	**50**	**0.5**	**0.5**	**0.5**	**1**	**1**	**Varies**	**NA**	**Varies (see appropriate Appendix for details)**			**Absent/Present**	
Regulatory Action Levels (AL's)[1]:		**1,000[2]**		**100[2]**	**1**	**150**	**700**	**1750**	**5[2]**	**Varies**	**Not Established**	**Varies**			**Absent[1]**	**Absent[1]**

NOTES:

All grab groundwater analytical results are in micrograms per liter (ug/L) equivalent to parts per billion (ppb).

1 = **Regulatory Action Levels** for groundwater are based on Primary or Secondary Maximum Contaminant Levels (MCL's) or Action Levels. These levels have been established in the California Code of Regulations (Title 22) set by Department of Health Services (DHS), or Water Quality Goals (WQG's) established by the Central Coast Region of the California Regional Water Quality Control Board (CRWQCB).

2 = All compounds have MCL's except Lead, Zinc, MTBE and Total Petroleum Hydrocarbons (i.e. Extractables/Purgeables). Total Petroleum Hydrocarbons are Water Quality Goals; Lead is an Action Level; MTBE and Zinc are Secondary MCL's.

3 = California Administrative Code; Title 22.

*** =** Laboratory indicates that the reported TPH-Diesel value is the result of overlapping Stoddard into the Diesel quantitation range.

ND = Not Detected at or above the laboratory PQL.

NA = Not Applicable. No grab groundwater samples were analyzed for Mercury, Ethylene Glycol, or Luft 5 Metals.

Bold FONT = Indicates analytical concentration is above ESL's (for TPH constituents), PRG's or SC-HSA Regulatory Action Levels.

--- = Sample not analyzed for these constituents.

< # = Detectino Limit Reported (DLR): Detection limit elevated due to sample dilution or limited sample volume and, compound not detected at or above detection limit reported.

Appendix C

Risk Evaluation
Technical Reference Documents

Sub-Section	**Risk Assessment Document/Reference** **(Thomas Harder & Company)**	**(Response Date)**
Appendix C-1:	***Response to SC-HSA's 3rd-Party Toxicologist's* September 29, 2017 *Technical Comments***	**October 26, 2017**
Appendix C-1:	***Response to Follow-up Technical Comments, issued by SC-HSA's 3rd-Party Toxicologist***	**April 19, 2018**

Appendix C-1:

2017, October 26:

Thomas Harder & Company

Response to Initial Technical Comments issued by SC-HSA's 3rd-Party Toxicologist
(agency comment letter dated September 29th)

Thomas Harder & Co.
Groundwater Consulting

October 26, 2017

Mr. Pat Hoban, PG
Weber, Hayes & Associates
120 Westgate Drive
Watsonville, California 95076

Re: Response to September 29, 2017 Huntley Environmental Comments 2 through 12 to:
***Remedial Action Plan (RAP)* dated September 13, 2017**
***Site Preparation Tasks for Redevelopment (SPTR)* dated July 13, 2017**
Former Clusters Storage Yard
511 Ohlone Parkway
Watsonville, California

Dear Mr. Hoban:

As you requested, this letter provides Thomas Harder & Company's (TH&Co's) responses to Comment 2 through Comment 12 provided by Huntley Environmental (Huntley) to the Remedial Action Plan (RAP) and Site Preparation Tasks for Redevelopment (SPTR) for the Former Clusters Storage Yard located at 511 Ohlone Parkway in Watsonville, California. Both documents were prepared by Weber, Hayes & Associates (WHA) and submitted to the Santa Cruz County Environmental Health Service (SCCEHS). Our responses immediately follow each of the Huntley comments, which are shown in italics and were copied and pasted directly from the electronic portable document file (pdf) provided to TH&Co by WHA via electronic mail on October 2, 2017.

Huntley Comment 2: *The basis for making the decision to remediate soils to 2 ft is not clear in the RAP. Potential health risks in soils at 0-2 ft are not presented in the RAP for the COPCs identified. Moreover, cumulative noncancer and cancer risks are not presented in the RAP as the basis for remediating the upper 2 ft of soil or leaving soil deeper than 2 ft in place. While the decision to remediate soils to a depth of 2 ft can be made based on COPC exceedances of ESLs, the decision to leave soils in place at 2 ft and deeper should be supported by calculated cumulative noncancer and cancer risks, noting that four carcinogens (arsenic, hexavalent chromium, naphthalene, and nickel) were identified as COPCs. I would recommend that estimated cumulative noncancer and*

cancer risks for residential and construction worker exposures to post-remediation residual soils be included in the RAP to ensure that the planned remediation is adequate to protect human health.

TH&Co Response to Huntley Comment 2

The requested cumulative noncancer and cancer risks for the residential receptor are provided in **Table 1a** and **Table 1b**, respectively, whereas the cumulative noncancer and cancer risks for the construction worker receptor are provided in **Table 2a** and **Table 2b**, respectively. It is noted that the risk values provided in this attachment are based on:

- total petroleum hydrocarbons as diesel (TPH-diesel), total petroleum hydrocarbons as motor oil (TPH-motor oil), and naphthalene as the only COPCs for which cumulative risk values are calculated for the residential and construction worker receptors in accordance with RWQCB guidance; and
- comparison tables for lead for the residential and construction worker receptors are included as **Table 3a** and **Table 3b**, respectively.

We also note that, where two concentration values are reported for a given COPC (e.g., B-3(t) and B-8(t) for naphthalene), the higher value is used to provide a conservative analysis. Finally, all qualified ("flagged") and non-qualified values as noted in the summary tables provided in the RAP are included in the risk estimates provided herein.

(In addition to the COPCs listed in the above bullet items, arsenic, hexavalent chromium, and nickel were also identified as COPCs in the RAP. The exclusion of these three metals as COPCs through statistical analysis is presented as **Attachment 1** to this response letter.)

Residential Receptor (TPH-diesel, TPH-motor oil, and naphthalene risk values)

The residential environmental screening levels (ESLs) for TPH-diesel, TPH-motor oil, and naphthalene are the those associated with direct soil exposure (i.e., via incidental ingestion, dermal contact, and particulate inhalation) as listed in Table S-1 of the February 2016 ESL guidance as posted at https://www.waterboards.ca.gov/rwqcb2/water_issues/programs/esl.html and are as follows:

COPC	Residential RSL (mg/kg)	
	Noncancer	Cancer
TPH-diesel	2.3×10^2	Non-carcinogenic
TPH-motor oil	1.1×10^4	Non-carcinogenic
Naphthalene	1.1×10^2	3.3×10^0

As shown in **Table 1a**, there are six instances in which the HI value exceeds 1.0.[1] As shown in **Table 1b**, the maximum ILCR value (5×10^{-7}) is less than the *de minimis* level of 1×10^{-6}.

Construction Worker Receptor (TPH-diesel, TPH-motor oil, and naphthalene risk values)
The construction worker environmental screening levels (ESLs) for TPH-diesel, TPH-motor oil, and naphthalene are the those associated with direct soil exposure (i.e., via incidental ingestion, dermal contact, and particulate inhalation) as listed in Table S-1 of the February 2016 ESL guidance as posted at https://www.waterboards.ca.gov/rwqcb2/water_issues/programs/esl.html and are as follows:

COPC	Construction Worker RSL (mg/kg)	
	Noncancer	Cancer
TPH-diesel	8.8×10^{2}	Non-carcinogenic
TPH-motor oil	3.2×10^{4}	Non-carcinogenic
Naphthalene	4.4×10^{2}	3.5×10^{2}

As shown in **Table 2a**, the HI value exceeds 1.0 at one location (T-16(t)). Given the HQ values at this location is driven by TPH-motor oil, segregation of the HI values by target organs was not warranted. The risk-driving exposure pathways for TPH-motor oil are soil ingestion and dermal contact. As such, precautionary measures associated with these pathways near this locations may be warranted. As shown in **Table 2b**, the maximum ILCR value (4×10^{-9}) is less than the *de minimis* level of 1×10^{-6}. An ILCR value less than the *de minimis* level is generally considered to be without potential adverse health effects.

Lead
The residential and construction worker ESLs for lead (80 and 160 mg/kg, respectively) are associated with blood lead levels calculated using a blood lead model developed by the California Environmental Protection Agency Office of Environmental Health Hazard Assessment (CalEPA/OEHHA) and the Department of Toxic Substances Control (CalEPA/DTSC) LeadSpread Model rather than the standard USEPA algorithms. As such, the risk values associated with lead are neither calculated nor combined with that for the other COPCs but, rather, a direct comparison to the ESLs is conducted as shown in **Table 3a** and **Table 3b** for the residential and construction worker receptor, respectively.

The fact that the vast majority of the TPH/naphthalene- and lead-impacted soil is confined within the upper 2 feet provides the basis for the removal depth of 2 feet. As noted in our response to

[1] One of these 6 samples (B-10(w) at 0.5 feet) has HQ values less than 1.0 for both TPH fractions and, as such, a target organ analysis may reveal that this sample would not result in an adverse noncancer health effect. Given that the HI for the underlying sample at 2 feet is less than 1.0 and soils will be removed to a depth of 2 feet, a target organ analysis is not presented here.

Huntley Comment 8 below, over-excavation and subsequent confirmation sampling will be conducted at those locations at which ESL exceedances were not vertically defined.

Huntley Comment 3: *At the bottom of Section 3.9 on pg. 13, the RAP states that the screening level for cadmium is 5.2 mg/kg. However, the lowest ESL (e.g., the Tier 1 ESL) for cadmium is 39 mg/kg which is equal to the residential ESL. I recommend that this apparent error should be corrected in a revised RAP.*

TH&Co Response to Huntley Comment 3

The error will be corrected in the revised RAP to the Tier 1 ESL for cadmium (39 mg/kg). (It is noted that the screening level noted in the RAP [5.2 mg/kg] is the California Environmental Protection Agency Department of Toxic Substances Control [CalEPA/DTSC] residential soil screening level.)

Huntley Comment 4: *On pg. 14 of the RAP, reference is made to a 2003 background study for soil arsenic and based on that study the 95% UCL for arsenic is 7.48 mg/kg. No reference is given here for the background study. At the end of the arsenic discussion it states, "This site-specific, UCL-95% derived concentration of 7.27 mg/kg is in very close magnitude to the background Arsenic concentration established for the Watsonville area, is therefore assumed to be ambient/naturally occurring. Therefore, use of the site-specific, UCL-95% of 7.27 mg/kg appears to be a justifiable clean-up goal." As discussed on pg. 14 and shown on the table on pg. 14 the background threshold value (BTV) for arsenic is 7.48 mg/kg, not 7.27 mg/kg. Note that on pg. 18, the RAP correctly identifies 7.48 mg/kg as the Remedial Criteria for soils. I recommend that this apparent error should be corrected in a revised RAP. After reading a similar discussion regarding hexavalent chromium, I am not sure this was an error, but it is likely incorrect. See Huntley Comment 6 regarding hexavalent chromium. Assuming that arsenic was handled in the same manner, then I recommend that the RAP be revised accordingly following the applicable regulatory guidance.*

TH&Co Response to Huntley Comment 4

See response to Huntley Comment 2 above and **Attachment 1**. As noted in our response and associated attachment, it is recommended that arsenic, along with hexavalent chromium and nickel, be eliminated as COPCs.

Huntley Comment 5: *In the second paragraph of pg. 14 of the RAP, it states, "Simply stated, the 95% UCL is an upper bound estimate of the representative soil chemical concentration found at the Site." And, in footnote 10 on the same page, it states, "A 95th percentile upper-confidence limit (UCL-95%) is a risk based calculation establishing the upper (maximum) concentration that will be encountered within a sampling footprint, 95% of the time." Both these definitions are incorrect. The 95%UCL is an upperbound estimate of the average concentration. By definition,*

the 95%UCL is a value for which there is only a five percent chance that the true average (mean) concentration would exceed that value. This concept is explained in detail in USEPA (2002a) as referenced at the end of this memo. I recommend that the definition of the 95%UCL be corrected in a revised RAP.

TH&Co Response to Huntley Comment 5

The definition will be corrected in the revised RAP.

Huntley Comment 6: *At the end of the discussion of hexavalent chromium on pg. 15, it states, "As noted, the site-specific, UCL-95% Hex-Chrome concentration of 2.2 mg/kg is lower than the background concentration obtained at a nearby agricultural parcel. This indicates that use of the site-specific, UCL- 95% of 2.2 mg/kg appears to be a justifiable clean-up goal." I do not understand the logic of why the site 95%UCL for hexavalent chromium of 2.2 mg/kg, if less than the "background" concentration of 2.34 mg/kg, is a "justifiable cleanup goal". The cleanup goal should be the upper-bound background concentration as determined following DTSC (1997) and USEPA (2002) guidance. I recommend that the RAP be revised accordingly. Additional comments regarding background are provided below in Huntley Comments 10 through 12.*

TH&Co Response to Huntley Comment 6

See responses to Huntley Comments 2 and 4 above.

Huntley Comment 7: *At the bottom of pg. 15 of the RAP, the point is made that the maximum detected nickel concentration of 150 mg/kg is below the residential ESL of 820 mg/kg but exceeds the construction worker ESL of 86 mg/kg. The RAP then discusses that the 95%UCL value for nickel in soil at 2 ft and below is 86.02 mg/kg, essentially the same value as the construction worker ESL which is also the Tier 1 ESL. I concur with the analysis, that is, the 95%UCL is the appropriate metric for comparison to the ESLs. The fact that 95%UCL is equal to the lowest ESL (e.g., the construction worker ESL) indicates that nickel should not pose an unacceptable risk to any receptors exposed to soil currently at 2 ft and below. However, please see Huntley Comment 2, above, regarding cumulative risks.*

TH&Co Response to Huntley Comment 7

See responses to Huntley Comments 2 and 4 above.

Huntley Comment 8: *Over-excavation and confirmation sampling are discussed at the bottom of pg. 19 and at the bottom pg. 21. Currently, there appear to be numerous sampling locations shallower than 2 ft with COPC concentrations exceeding ESLs, but no deeper samples to confirm that concentrations at or below 2 ft are less than ESLs. I would recommend that in all cases where there is the absence of a sample deeper than the deepest sample with an ESL exceedance within the 0-2 ft interval that a discreet confirmation sample should be collected following excavation. If*

there is sample-specific justification for not collecting a discreet confirmation sample at a particular location with these conditions, then I would recommend that the consultant communicate such justification to SCCEHS and receive approval before proceeding. I would also recommend that an excavation plan (figure) be included in the RAP to show where over-excavation is planned based on ESL exceedances of deeper soils.

TH&Co Response to Huntley Comment 8

See response to Huntley Comment 2 above. The RAP will be revised to clarify that over-excavation and subsequent confirmation sampling will be conducted at those locations in which impacts were not vertically delineated in accordance with the reviewer's comment.

Huntley Comment 9: *With respect to the 4-point composite samples discussed at the top of pg. 22, I would recommend that if the resulting composite sample COPC concentration exceeds ¼ the value of applicable ESL, then each of the four discreet samples comprising that composite sample would also need to be independently analyzed. I recommend that the RAP be revised accordingly.*

TH&Co Response to Huntley Comment 9

The RAP will be revised in accordance with the reviewer's comment.

Huntley Comments on RAP Appendix C, Background Evaluation

Note that cleanup criteria for arsenic and hexavalent chromium are based on background. Cleanup criteria for all other COPCs are based on ESLs.

Huntley Comment 10: *The reference for the soil arsenic background study used to derive a soil arsenic background benchmark for use at the site is "Remedial Investigation Report: Watsonville 2 Former Manufactured Gas Plant Site, 11 Walker Street, Watsonville, Uribe and Associates, dated September 4, 2003." This study is not provided in the RAP and the RAP provided no information on the background study design or methods or whether it was approved by SCCEHS. I cannot determine if these background Watsonville data are representative of the subject site. I recommend that the study report be added as an appendix to the RAP, and a discussion be included in the body of the RAP explaining why these background data should be considered representative of background conditions at the 511 Ohlone Pkwy site. If this is not possible, then I would suggest that DTSC (1997) guidance may be followed to derive a site-specific background soil arsenic benchmark.*

TH&Co Response to Huntley Comment 10

Based on our review, the applicability of the Uribe and Associates background dataset to the Site is uncertain. Given this uncertainty, the analysis included as **Attachment 1** herein prepared in response to Huntley Comment 2 above does not rely on the Uribe and Associates background dataset.

Huntley Comment 11: *There are only 14 samples in the background dataset for arsenic. This is a relatively small sample size. Based on the data provided in Appendix C of the RAP I was able to verify that the 95%UCL for this background data set is 7.48 mg/kg as stated in the RAP. However, I also note that use of the 95%UCL background concentration as a remedial goal or cleanup level is highly unusual and inconsistent with the key regulatory guidance documents (DTSC 1997 and USEPA 2002b) that present the methods and rationale for the derivation and application of background benchmarks. Following these guidelines, the soil background benchmark is intended to be an upper-bound estimate, generally within the range of the 90th to the 99th percentiles of the background data distribution. For a small sample size such as 14 samples, DTSC (1997) would recommend using the lower value in this range (e.g., the 90th percentile concentration). I calculated the 90th percentile concentration of the Watsonville background data set to be 10.0 mg/kg. Use of the 95%UCL background value of 7.48 to cleanup all site soils is very conservative (assuming that the use of the Watsonville background data set is appropriate for this site). However, because it is more conservative and more health protective than the 90th percentile value and is well below the typical range of upper-bound background soil arsenic concentrations in California of about 11 to 12 mg/kg, as noted in the RAP, I don't necessarily recommend that use of the 95%UCL value be changed in the RAP. However, I believe the RAP should be revised to clarify these points and definitions, and most importantly, justification needs to be provided in the body of the RAP that shows that the background dataset is representative of 511 Ohlone Pkwy site conditions.*

TH&Co Response to Huntley Comment 11

See response to Huntley Comment 2 above.

Huntley Comment 12: *The background soil hexavalent chromium concentration proposed as the cleanup criteria is 2.34 mg/kg based on a "Local Site Confirmation Testing to Receive Surplus Soils" apparently conducted in July 2017. No report reference is given for this study. No information is provided about the study design or methods employed or the basis for assuming these data are representative of background conditions for the 511 Ohlone Pkwy site. I recommend that the hexavalent chromium soil background study report be included in the RAP as an appendix, and most importantly, justification needs to be provided in the body of the RAP that shows that the background dataset is representative of 511 Ohlone Pkwy site conditions.*

TH&Co Response to Huntley Comment 12

See response to Huntley Comment 2 above.

Closing

The most common issue in the comments addressed herein is associated with the calculation of metals background concentrations. Based on the attached statistical analysis, arsenic, hexavalent

chromium, and nickel are not COPCs. If you have any questions, please contact me on my cellphone at 949 795-0855 via text or voice, my office telephone at 714 779-3875, or via electronic mail at jimvdw@thomashardercompany.com.

Sincerely,

Jim Van de Water, P.G., C.HG.
Principal Hydrogeologist
949 795-0855 (cell)
949 779-3875 (office)
jimvdw@thomashardercompany.com

TABLES

TABLE 1a
Hazard Quotient (HQ) and Hazard Index (HI) Values
~ Default Residential Receptor ~

				Concentrations (in mg/kg)			Residential ESLs for Noncancer Endpoint (in mg/kg)			HQ Values (unitless)			
UPDATED Sample ID	ORIGINAL Consultant ID		Depth	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	Σ HQ = HI
B-3(t)	TB-3		0.5	ND	3,500	0.31	2.3E+02	1.1E+04	1.1E+02	-	3E-01	3E-03	**3E-01**
			1.5	ND	1,800	1.50	2.3E+02	1.1E+04	1.1E+02	-	2E-01	1E-02	**2E-01**
B-8(t)	TB-8		0.5	ND	32,000	0.22	2.3E+02	1.1E+04	1.1E+02	-	3E+00	2E-03	**3E+00**
B-9(t)	TB-9		0.5	--	--	0.067	2.3E+02	1.1E+04	1.1E+02	-	-	6E-04	**6E-04**
T-2(t)	Area 1	T6	3.5	ND	85	0.016	2.3E+02	1.1E+04	1.1E+02	-	8E-03	1E-04	**8E-03**
T-3(t)		T9	2	94	240	0.017	2.3E+02	1.1E+04	1.1E+02	4E-01	2E-02	2E-04	**4E-01**
T-4(t)		T10	1	ND	32	ND	2.3E+02	1.1E+04	1.1E+02	-	3E-03	-	**3E-03**
T-6(t)		T12	1	ND	250	ND	2.3E+02	1.1E+04	1.1E+02	-	2E-02	-	**2E-02**
T-7(t)	Area 2	T6	1	ND	ND	ND	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
T-8(t)		T12	2	ND	400	ND	2.3E+02	1.1E+04	1.1E+02	-	4E-02	-	**4E-02**
T-9(t)		T15	2	ND	510	0.02	2.3E+02	1.1E+04	1.1E+02	-	5E-02	2E-04	**5E-02**
T-11(t)	Area 5	T1	6	ND	680	0.018	2.3E+02	1.1E+04	1.1E+02	-	6E-02	2E-04	**6E-02**
T-12(t)		T3	2	ND	800	0.043	2.3E+02	1.1E+04	1.1E+02	-	7E-02	4E-04	**7E-02**
T-14(t)		T10	4	ND	18	ND	2.3E+02	1.1E+04	1.1E+02	-	2E-03	-	**2E-03**
T-15(t)	Area 6	T1	2	ND	2,000	0.018	2.3E+02	1.1E+04	1.1E+02	-	2E-01	2E-04	**2E-01**
T-16(t)		T1	8	ND	97,000	0.28	2.3E+02	1.1E+04	1.1E+02	-	9E+00	2E-03	**9E+00**
T-17(t)	Area 8	T1	2	ND	51	ND	2.3E+02	1.1E+04	1.1E+02	-	5E-03	-	**5E-03**
T-18(t)		Debris	--	ND	1,600	0.067	2.3E+02	1.1E+04	1.1E+02	-	1E-01	6E-04	**1E-01**
B-10(w)	SB-1		0.5	180	2,400	--	2.3E+02	1.1E+04	1.1E+02	8E-01	2E-01	-	**1E+00**
			2	ND	22	--	2.3E+02	1.1E+04	1.1E+02	-	2E-03	-	**2E-03**
B-11(w)	SB-2		0.5	670	5,500	--	2.3E+02	1.1E+04	1.1E+02	3E+00	5E-01	-	**3E+00**
			2	4.8	39	ND	2.3E+02	1.1E+04	1.1E+02	2E-02	4E-03	-	**2E-02**
B-12(w)	SB-3		0.5	8.3	80	--	2.3E+02	1.1E+04	1.1E+02	4E-02	7E-03	-	**4E-02**
			2	ND	29	--	2.3E+02	1.1E+04	1.1E+02	-	3E-03	-	**3E-03**
B-13(w)	SB-4		0.5	3.5	45	--	2.3E+02	1.1E+04	1.1E+02	2E-02	4E-03	-	**2E-02**
			2	6.2	38	--	2.3E+02	1.1E+04	1.1E+02	3E-02	4E-03	-	**3E-02**
B-14(w)	SB-5		0.5	60	820	--	2.3E+02	1.1E+04	1.1E+02	3E-01	8E-02	-	**3E-01**
			2	8.9	63	--	2.3E+02	1.1E+04	1.1E+02	4E-02	6E-03	-	**5E-02**
B-15(w)	SB-6		0.5	15	170	--	2.3E+02	1.1E+04	1.1E+02	7E-02	2E-02	-	**8E-02**
			2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-16(w)	SB-7		0.5	6.5	63	--	2.3E+02	1.1E+04	1.1E+02	3E-02	6E-03	-	**3E-02**
			2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-17(w)	SB-8		0.5	53	750	--	2.3E+02	1.1E+04	1.1E+02	2E-01	7E-02	-	**3E-01**
			2	4.9	51	--	2.3E+02	1.1E+04	1.1E+02	2E-02	5E-03	-	**3E-02**
B-18(w)	SB-9		0.5	110	1,300	--	2.3E+02	1.1E+04	1.1E+02	5E-01	1E-01	-	**6E-01**
			2	10	98	--	2.3E+02	1.1E+04	1.1E+02	4E-02	9E-03	-	**5E-02**
B-19(w)	SB-10		0.5	7.1	48	--	2.3E+02	1.1E+04	1.1E+02	3E-02	4E-03	-	**4E-02**
			2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-20(w)	SB-11		0.5	12	150	--	2.3E+02	1.1E+04	1.1E+02	5E-02	1E-02	-	**7E-02**
			2	ND	21	--	2.3E+02	1.1E+04	1.1E+02	-	2E-03	-	**2E-03**

TABLE 1a
Hazard Quotient (HQ) and Hazard Index (HI) Values
~ Default Residential Receptor ~

			Concentrations (in mg/kg)			Residential ESLs for Noncancer Endpoint (in mg/kg)			HQ Values (unitless)			
UPDATED Sample ID	**ORIGINAL Consultant ID**	**Depth**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**Σ HQ = HI**
B-21(w)	SB-12	0.5	33	380	--	2.3E+02	1.1E+04	1.1E+02	1E-01	4E-02	-	**2E-01**
		2	18	78	--	2.3E+02	1.1E+04	1.1E+02	8E-02	7E-03	-	**9E-02**
B-22(w)	SB-13	0.5	7.1	64	--	2.3E+02	1.1E+04	1.1E+02	3E-02	6E-03	-	**4E-02**
		2	ND	19	--	2.3E+02	1.1E+04	1.1E+02	-	2E-03	-	**2E-03**
B-23(w)	SB-14	0.5	150	1,600	--	2.3E+02	1.1E+04	1.1E+02	7E-01	1E-01	-	**8E-01**
		2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-24(w)	SB-15	0.5	10	140	--	2.3E+02	1.1E+04	1.1E+02	4E-02	1E-02	-	**6E-02**
		2	ND	28	--	2.3E+02	1.1E+04	1.1E+02	-	3E-03	-	**3E-03**
B-25(w)	DP-1	2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-26(w)	DP-2	2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-27(w)	DP-4	2	5.2	14	0.023	2.3E+02	1.1E+04	1.1E+02	2E-02	1E-03	2E-04	**2E-02**
B-28(w)	DP-5	2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-29(w)	DP-6	2	5.6	23	ND	2.3E+02	1.1E+04	1.1E+02	2E-02	2E-03	-	**3E-02**
B-30(w)	DP-7	2	7.3	42	--	2.3E+02	1.1E+04	1.1E+02	3E-02	4E-03	-	**4E-02**
B-31(w)	DP-8	2	5.8	33	--	2.3E+02	1.1E+04	1.1E+02	3E-02	3E-03	-	**3E-02**
B-32(w)	DP-9	2	43	180	--	2.3E+02	1.1E+04	1.1E+02	2E-01	2E-02	-	**2E-01**
B-52(L)	G + G -1	2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
		4	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
		6	160	1,200	--	2.3E+02	1.1E+04	1.1E+02	7E-01	1E-01	-	**8E-01**
B-55(L)	G + G -4	2	1.7	ND	--	2.3E+02	1.1E+04	1.1E+02	8E-03	-	-	**8E-03**
		3	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-65(w)	G&G# - 1a,1b,1c	0.5	68	310	--	2.3E+02	1.1E+04	1.1E+02	3E-01	3E-02	-	**3E-01**
		2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-66(w)	G&G# - 2a,2b,2c	0.5	25	170	--	2.3E+02	1.1E+04	1.1E+02	1E-01	2E-02	-	**1E-01**
		2	110	360	--	2.3E+02	1.1E+04	1.1E+02	5E-01	3E-02	-	**5E-01**
B-66a(w)	G&G 2a	2	19	78	--	2.3E+02	1.1E+04	1.1E+02	8E-02	7E-03	-	**9E-02**
B-66b(w)	G&G 2b	2	11	33	--	2.3E+02	1.1E+04	1.1E+02	5E-02	3E-03	-	**5E-02**
		4	3.6	ND	--	2.3E+02	1.1E+04	1.1E+02	2E-02	-	-	**2E-02**
B-66c(w)	G&G 2c	2	21	86	--	2.3E+02	1.1E+04	1.1E+02	9E-02	8E-03	-	**1E-01**
B-67(w)	G&G# - 3a,3b,3c	0.5	60	700	--	2.3E+02	1.1E+04	1.1E+02	3E-01	7E-02	-	**3E-01**
		2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-68(w)	G&G# - 4a,4b,4c	0.5	620	3,300	--	2.3E+02	1.1E+04	1.1E+02	3E+00	3E-01	-	**3E+00**
		2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-69(w)	G&G# - 5a,5b,5c	0.5	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
		2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-70(w)	G&G Discrete #1	0.5	110	510	--	2.3E+02	1.1E+04	1.1E+02	5E-01	5E-02	-	**5E-01**
		2	130	980	--	2.3E+02	1.1E+04	1.1E+02	6E-01	9E-02	-	**7E-01**
		4	1.5	ND	--	2.3E+02	1.1E+04	1.1E+02	7E-03	-	-	**7E-03**
B-71(w)	EB-1	20	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
		40	1.1	ND	--	2.3E+02	1.1E+04	1.1E+02	5E-03	-	-	**5E-03**

TABLE 1a
Hazard Quotient (HQ) and Hazard Index (HI) Values
~ Default Residential Receptor ~

			Concentrations (in mg/kg)			Residential ESLs for Noncancer Endpoint (in mg/kg)			HQ Values (unitless)			
UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	Σ HQ = HI
B-72(w)	Gonzalez# - 1a, 1b, 1c	0.5	6.1	30	--	2.3E+02	1.1E+04	1.1E+02	3E-02	3E-03	-	**3E-02**
		2	1.6	ND	--	2.3E+02	1.1E+04	1.1E+02	7E-03	-	-	**7E-03**
B-73(w)	Gonzalez# - 2a, 2b, 2c	0.5	8.8	58	--	2.3E+02	1.1E+04	1.1E+02	4E-02	5E-03	-	**4E-02**
		2	1.6	ND	--	2.3E+02	1.1E+04	1.1E+02	7E-03	-	-	**7E-03**
B-74(w)	Clusters# - 1a,1b,1c	0.5	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
		2	6.4	31	--	2.3E+02	1.1E+04	1.1E+02	3E-02	3E-03	-	**3E-02**
B-75(w)	Clusters# - 2a,2b,2c	0.5	3.2	16	--	2.3E+02	1.1E+04	1.1E+02	1E-02	1E-03	-	**2E-02**
		2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-76(w)	Clusters# - 3a,3b,3c	0.5	5.6	57	--	2.3E+02	1.1E+04	1.1E+02	2E-02	5E-03	-	**3E-02**
		2	4	39	--	2.3E+02	1.1E+04	1.1E+02	2E-02	4E-03	-	**2E-02**
B-77(w)	Chaz #- 1a,1b,1c	0.5	31	250	--	2.3E+02	1.1E+04	1.1E+02	1E-01	2E-02	-	**2E-01**
		2	4.5	35	--	2.3E+02	1.1E+04	1.1E+02	2E-02	3E-03	-	**2E-02**
B-78(w)	Chaz # - 2a,2b,2c	0.5	15	130	--	2.3E+02	1.1E+04	1.1E+02	7E-02	1E-02	-	**8E-02**
		2	5.3	48	--	2.3E+02	1.1E+04	1.1E+02	2E-02	4E-03	-	**3E-02**
B-79(w)	Gerrys #- 1a,1b,1c	0.5	45	200	--	2.3E+02	1.1E+04	1.1E+02	2E-01	2E-02	-	**2E-01**
		2	12	57	--	2.3E+02	1.1E+04	1.1E+02	5E-02	5E-03	-	**6E-02**
B-80(w)	Gerrys #- 2a,2b,2c	0.5	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
		2	62	200	--	2.3E+02	1.1E+04	1.1E+02	3E-01	2E-02	-	**3E-01**
B-80a(w)	Gerrys 2a	2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-80b(w)	Gerrys 2b	2	190	600	--	2.3E+02	1.1E+04	1.1E+02	8E-01	6E-02	-	**9E-01**
		4	2	ND	--	2.3E+02	1.1E+04	1.1E+02	9E-03	-	-	**9E-03**
B-80c(w)	Gerrys 2c	2	3.2	16	--	2.3E+02	1.1E+04	1.1E+02	1E-02	1E-03	-	**2E-02**
B-81(w)	Gerrys # - 3a,3b,3c	0.5	170	670	--	2.3E+02	1.1E+04	1.1E+02	8E-01	6E-02	-	**8E-01**
		2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-82(w)	Gerrys # - 4a,4b,4c	0.5	33	130	--	2.3E+02	1.1E+04	1.1E+02	1E-01	1E-02	-	**2E-01**
		2	ND	ND	--	2.3E+02	1.1E+04	1.1E+02	-	-	-	**0E+00**
B-83(w)	Gerrys Discrete	0.5	1.7	ND	--	2.3E+02	1.1E+04	1.1E+02	8E-03	-	-	**8E-03**
		2	110	390	--	2.3E+02	1.1E+04	1.1E+02	5E-01	4E-02	-	**5E-01**
		4	4.5	ND	--	2.3E+02	1.1E+04	1.1E+02	2E-02	-	-	**2E-02**
B-85(w)	JV # - 1a,1b,1c	0.5	8.6	ND	--	2.3E+02	1.1E+04	1.1E+02	4E-02	-	-	**4E-02**
		2	2.1	ND	--	2.3E+02	1.1E+04	1.1E+02	9E-03	-	-	**9E-03**
B-86(w)	Residence #- 1a,1b,1c	0.5	12	56	--	2.3E+02	1.1E+04	1.1E+02	5E-02	5E-03	-	**6E-02**
		2	34	140	--	2.3E+02	1.1E+04	1.1E+02	2E-01	1E-02	-	**2E-01**
B-87(w)	Residence #1 (discrete)	0.5	14	22	--	2.3E+02	1.1E+04	1.1E+02	6E-02	2E-03	-	**6E-02**
		2	500	1,400	--	2.3E+02	1.1E+04	1.1E+02	2E+00	1E-01	-	**2E+00**
		4	1.5	ND	--	2.3E+02	1.1E+04	1.1E+02	7E-03	-	-	**7E-03**
B-88(w)	Bay City # - 1a,1b,1c	0.5	6.3	33	--	2.3E+02	1.1E+04	1.1E+02	3E-02	3E-03	-	**3E-02**
		2	1.5	15	--	2.3E+02	1.1E+04	1.1E+02	7E-03	1E-03	-	**8E-03**
B-89(w)	Bay City # - 2a,2b,2c	0.5	8.9	54	--	2.3E+02	1.1E+04	1.1E+02	4E-02	5E-03	-	**4E-02**
		2	9.4	64	--	2.3E+02	1.1E+04	1.1E+02	4E-02	6E-03	-	**5E-02**

Maximum HI => **9E+00**

TABLE 1b
Incremental Lifetime Cancer Risk (ILCR) Values
~ Default Residential Receptor ~

				Concentrations (in mg/kg)			Residential ESLs for Cancer Endpoint (in mg/kg)			ILCR Values (unitless)			
UPDATED Sample ID	**ORIGINAL Consultant ID**		**Depth**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**Σ ILCR = $ILCR_{total}$**
B-3(t)	TB-3		0.5	ND	3,500	0.31	NC	NC	3.3E+00	NC	NC	9E-08	**9E-08**
			1.5	ND	1,800	1.50	NC	NC	3.3E+00	NC	NC	5E-07	**5E-07**
B-8(t)	TB-8		0.5	ND	32,000	0.22	NC	NC	3.3E+00	NC	NC	7E-08	**7E-08**
B-9(t)	TB-9		0.5	--	--	0.067	NC	NC	3.3E+00	NC	NC	2E-08	**2E-08**
T-2(t)	Area 1	T6	3.5	ND	85	0.016	NC	NC	3.3E+00	NC	NC	5E-09	**5E-09**
T-3(t)		T9	2	94	240	0.017	NC	NC	3.3E+00	NC	NC	5E-09	**5E-09**
T-4(t)		T10	1	ND	32	ND	NC	NC	3.3E+00	NC	NC	-	**0E+00**
T-6(t)		T12	1	ND	250	ND	NC	NC	3.3E+00	NC	NC	-	**0E+00**
T-7(t)	Area 2	T6	1	ND	ND	ND	NC	NC	3.3E+00	NC	NC	-	**0E+00**
T-8(t)		T12	2	ND	400	ND	NC	NC	3.3E+00	NC	NC	-	**0E+00**
T-9(t)		T15	2	ND	510	0.02	NC	NC	3.3E+00	NC	NC	6E-09	**6E-09**
T-11(t)	Area 5	T1	6	ND	680	0.018	NC	NC	3.3E+00	NC	NC	5E-09	**5E-09**
T-12(t)		T3	2	ND	800	0.043	NC	NC	3.3E+00	NC	NC	1E-08	**1E-08**
T-14(t)		T10	4	ND	18	ND	NC	NC	3.3E+00	NC	NC	-	**0E+00**
T-15(t)	Area 6	T1	2	ND	2,000	0.018	NC	NC	3.3E+00	NC	NC	5E-09	**5E-09**
T-16(t)		T1	8	ND	97,000	0.28	NC	NC	3.3E+00	NC	NC	9E-08	**9E-08**
T-17(t)	Area 8	T1	2	ND	51	ND	NC	NC	3.3E+00	NC	NC	-	**0E+00**
T-18(t)		Debris	--	ND	1,600	0.067	NC	NC	3.3E+00	NC	NC	2E-08	**2E-08**
B-10(w)	SB-1		0.5	180	2,400	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	ND	22	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-11(w)	SB-2		0.5	670	5,500	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	4.8	39	ND	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-12(w)	SB-3		0.5	8.3	80	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	ND	29	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-13(w)	SB-4		0.5	3.5	45	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	6.2	38	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-14(w)	SB-5		0.5	60	820	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	8.9	63	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-15(w)	SB-6		0.5	15	170	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-16(w)	SB-7		0.5	6.5	63	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-17(w)	SB-8		0.5	53	750	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	4.9	51	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-18(w)	SB-9		0.5	110	1,300	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	10	98	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-19(w)	SB-10		0.5	7.1	48	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-20(w)	SB-11		0.5	12	150	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
			2	ND	21	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**

TABLE 1b
Incremental Lifetime Cancer Risk (ILCR) Values
~ Default Residential Receptor ~

			Concentrations (in mg/kg)			Residential ESLs for Cancer Endpoint (in mg/kg)			ILCR Values (unitless)			
UPDATED Sample ID	**ORIGINAL Consultant ID**	**Depth**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**Σ ILCR = $ILCR_{total}$**
B-21(w)	SB-12	0.5	33	380	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	18	78	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-22(w)	SB-13	0.5	7.1	64	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	ND	19	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-23(w)	SB-14	0.5	150	1,600	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-24(w)	SB-15	0.5	10	140	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	ND	28	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-25(w)	DP-1	2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-26(w)	DP-2	2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-27(w)	DP-4	2	5.2	14	0.023	NC	NC	3.3E+00	NC	NC	7E-09	**7E-09**
B-28(w)	DP-5	2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-29(w)	DP-6	2	5.6	23	ND	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-30(w)	DP-7	2	7.3	42	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-31(w)	DP-8	2	5.8	33	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-32(w)	DP-9	2	43	180	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-52(L)	G + G -1	2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		4	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		6	160	1,200	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-55(L)	G + G -4	2	1.7	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		3	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-65(w)	G&G# - 1a,1b,1c	0.5	68	310	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-66(w)	G&G# - 2a,2b,2c	0.5	25	170	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	110	360	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-66a(w)	G&G 2a	2	19	78	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-66b(w)	G&G 2b	2	11	33	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		4	3.6	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-66c(w)	G&G 2c	2	21	86	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-67(w)	G&G# - 3a,3b,3c	0.5	60	700	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-68(w)	G&G# - 4a,4b,4c	0.5	620	3,300	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-69(w)	G&G# - 5a,5b,5c	0.5	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-70(w)	G&G Discrete #1	0.5	110	510	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	130	980	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		4	1.5	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-71(w)	EB-1	20	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		40	1.1	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**

TABLE 1b
Incremental Lifetime Cancer Risk (ILCR) Values
~ Default Residential Receptor ~

			Concentrations (in mg/kg)			Residential ESLs for Cancer Endpoint (in mg/kg)			ILCR Values (unitless)			
UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	Σ ILCR = $ILCR_{total}$
B-72(w)	Gonzalez# - 1a, 1b, 1c	0.5	6.1	30	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	1.6	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-73(w)	Gonzalez# - 2a, 2b, 2c	0.5	8.8	58	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	1.6	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-74(w)	Clusters# - 1a,1b,1c	0.5	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	6.4	31	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-75(w)	Clusters# - 2a,2b,2c	0.5	3.2	16	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-76(w)	Clusters# - 3a,3b,3c	0.5	5.6	57	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	4	39	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-77(w)	Chaz #- 1a,1b,1c	0.5	31	250	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	4.5	35	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-78(w)	Chaz # - 2a,2b,2c	0.5	15	130	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	5.3	48	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-79(w)	Gerrys #- 1a,1b,1c	0.5	45	200	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	12	57	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-80(w)	Gerrys #- 2a,2b,2c	0.5	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	62	200	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-80a(w)	Gerrys 2a	2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-80b(w)	Gerrys 2b	2	190	600	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		4	2	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-80c(w)	Gerrys 2c	2	3.2	16	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-81(w)	Gerrys # - 3a,3b,3c	0.5	170	670	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-82(w)	Gerrys # - 4a,4b,4c	0.5	33	130	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-83(w)	Gerrys Discrete	0.5	1.7	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	110	390	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		4	4.5	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-85(w)	JV # - 1a,1b,1c	0.5	8.6	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	2.1	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-86(w)	Residence #- 1a,1b,1c	0.5	12	56	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	34	140	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-87(w)	Residence #1 (discrete)	0.5	14	22	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	500	1,400	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		4	1.5	ND	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-88(w)	Bay City # - 1a,1b,1c	0.5	6.3	33	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	1.5	15	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
B-89(w)	Bay City # - 2a,2b,2c	0.5	8.9	54	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**
		2	9.4	64	--	NC	NC	3.3E+00	NC	NC	-	**0E+00**

Maximum $ILCR_{total}$ => **5E-07**

TABLE 2a
Hazard Quotient (HQ) and Hazard Index (HI) Values
~ Default Construction Worker Receptor ~

				Concentrations (in mg/kg)			Construction Worker ESLs for Noncancer Endpoint (in mg/kg)			HQ Values (unitless)			
UPDATED Sample ID	**ORIGINAL Consultant ID**		**Depth**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**Σ HQ = HI**
B-3(t)	TB-3		0.5	ND	3,500	0.31	8.8E+02	3.2E+04	4.4E+02	-	1E-01	7E-04	**1E-01**
			1.5	ND	1,800	1.50	8.8E+02	3.2E+04	4.4E+02	-	6E-02	3E-03	**6E-02**
B-8(t)	TB-8		0.5	ND	32,000	0.22	8.8E+02	3.2E+04	4.4E+02	-	1E+00	5E-04	**1E+00**
B-9(t)	TB-9		0.5	--	--	0.067	8.8E+02	3.2E+04	4.4E+02	-	-	2E-04	**2E-04**
T-2(t)	Area 1	T6	3.5	ND	85	0.016	8.8E+02	3.2E+04	4.4E+02	-	3E-03	4E-05	**3E-03**
T-3(t)		T9	2	94	240	0.017	8.8E+02	3.2E+04	4.4E+02	1E-01	7E-03	4E-05	**1E-01**
T-4(t)		T10	1	ND	32	ND	8.8E+02	3.2E+04	4.4E+02	-	1E-03	-	**1E-03**
T-6(t)		T12	1	ND	250	ND	8.8E+02	3.2E+04	4.4E+02	-	8E-03	-	**8E-03**
T-7(t)	Area 2	T6	1	ND	ND	ND	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
T-8(t)		T12	2	ND	400	ND	8.8E+02	3.2E+04	4.4E+02	-	1E-02	-	**1E-02**
T-9(t)		T15	2	ND	510	0.02	8.8E+02	3.2E+04	4.4E+02	-	2E-02	5E-05	**2E-02**
T-11(t)	Area 5	T1	6	ND	680	0.018	8.8E+02	3.2E+04	4.4E+02	-	2E-02	4E-05	**2E-02**
T-12(t)		T3	2	ND	800	0.043	8.8E+02	3.2E+04	4.4E+02	-	2E-02	1E-04	**2E-02**
T-14(t)		T10	4	ND	18	ND	8.8E+02	3.2E+04	4.4E+02	-	6E-04	-	**6E-04**
T-15(t)	Area 6	T1	2	ND	2,000	0.018	8.8E+02	3.2E+04	4.4E+02	-	6E-02	4E-05	**6E-02**
T-16(t)		T1	8	ND	97,000	0.28	8.8E+02	3.2E+04	4.4E+02	-	3E+00	6E-04	**3E+00**
T-17(t)	Area 8	T1	2	ND	51	ND	8.8E+02	3.2E+04	4.4E+02	-	2E-03	-	**2E-03**
T-18(t)		Debris	--	ND	1,600	0.067	8.8E+02	3.2E+04	4.4E+02	-	5E-02	2E-04	**5E-02**
B-10(w)	SB-1		0.5	180	2,400	--	8.8E+02	3.2E+04	4.4E+02	2E-01	7E-02	-	**3E-01**
			2	ND	22	--	8.8E+02	3.2E+04	4.4E+02	-	7E-04	-	**7E-04**
B-11(w)	SB-2		0.5	670	5,500	--	8.8E+02	3.2E+04	4.4E+02	8E-01	2E-01	-	**9E-01**
			2	4.8	39	ND	8.8E+02	3.2E+04	4.4E+02	5E-03	1E-03	-	**7E-03**
B-12(w)	SB-3		0.5	8.3	80	--	8.8E+02	3.2E+04	4.4E+02	9E-03	2E-03	-	**1E-02**
			2	ND	29	--	8.8E+02	3.2E+04	4.4E+02	-	9E-04	-	**9E-04**
B-13(w)	SB-4		0.5	3.5	45	--	8.8E+02	3.2E+04	4.4E+02	4E-03	1E-03	-	**5E-03**
			2	6.2	38	--	8.8E+02	3.2E+04	4.4E+02	7E-03	1E-03	-	**8E-03**
B-14(w)	SB-5		0.5	60	820	--	8.8E+02	3.2E+04	4.4E+02	7E-02	3E-02	-	**9E-02**
			2	8.9	63	--	8.8E+02	3.2E+04	4.4E+02	1E-02	2E-03	-	**1E-02**
B-15(w)	SB-6		0.5	15	170	--	8.8E+02	3.2E+04	4.4E+02	2E-02	5E-03	-	**2E-02**
			2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-16(w)	SB-7		0.5	6.5	63	--	8.8E+02	3.2E+04	4.4E+02	7E-03	2E-03	-	**9E-03**
			2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-17(w)	SB-8		0.5	53	750	--	8.8E+02	3.2E+04	4.4E+02	6E-02	2E-02	-	**8E-02**
			2	4.9	51	--	8.8E+02	3.2E+04	4.4E+02	6E-03	2E-03	-	**7E-03**
B-18(w)	SB-9		0.5	110	1,300	--	8.8E+02	3.2E+04	4.4E+02	1E-01	4E-02	-	**2E-01**
			2	10	98	--	8.8E+02	3.2E+04	4.4E+02	1E-02	3E-03	-	**1E-02**
B-19(w)	SB-10		0.5	7.1	48	--	8.8E+02	3.2E+04	4.4E+02	8E-03	1E-03	-	**1E-02**
			2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-20(w)	SB-11		0.5	12	150	--	8.8E+02	3.2E+04	4.4E+02	1E-02	5E-03	-	**2E-02**
			2	ND	21	--	8.8E+02	3.2E+04	4.4E+02	-	6E-04	-	**6E-04**

TABLE 2a
Hazard Quotient (HQ) and Hazard Index (HI) Values
~ Default Construction Worker Receptor ~

			Concentrations (in mg/kg)			Construction Worker ESLs for Noncancer Endpoint (in mg/kg)			HQ Values (unitless)			
UPDATED Sample ID	**ORIGINAL Consultant ID**	**Depth**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**Σ HQ = HI**
B-21(w)	SB-12	0.5	33	380	--	8.8E+02	3.2E+04	4.4E+02	4E-02	1E-02	-	**5E-02**
		2	18	78	--	8.8E+02	3.2E+04	4.4E+02	2E-02	2E-03	-	**2E-02**
B-22(w)	SB-13	0.5	7.1	64	--	8.8E+02	3.2E+04	4.4E+02	8E-03	2E-03	-	**1E-02**
		2	ND	19	--	8.8E+02	3.2E+04	4.4E+02	-	6E-04	-	**6E-04**
B-23(w)	SB-14	0.5	150	1,600	--	8.8E+02	3.2E+04	4.4E+02	2E-01	5E-02	-	**2E-01**
		2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-24(w)	SB-15	0.5	10	140	--	8.8E+02	3.2E+04	4.4E+02	1E-02	4E-03	-	**2E-02**
		2	ND	28	--	8.8E+02	3.2E+04	4.4E+02	-	9E-04	-	**9E-04**
B-25(w)	DP-1	2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-26(w)	DP-2	2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-27(w)	DP-4	2	5.2	14	0.023	8.8E+02	3.2E+04	4.4E+02	6E-03	4E-04	5E-05	**6E-03**
B-28(w)	DP-5	2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-29(w)	DP-6	2	5.6	23	ND	8.8E+02	3.2E+04	4.4E+02	6E-03	7E-04	-	**7E-03**
B-30(w)	DP-7	2	7.3	42	--	8.8E+02	3.2E+04	4.4E+02	8E-03	1E-03	-	**1E-02**
B-31(w)	DP-8	2	5.8	33	--	8.8E+02	3.2E+04	4.4E+02	7E-03	1E-03	-	**8E-03**
B-32(w)	DP-9	2	43	180	--	8.8E+02	3.2E+04	4.4E+02	5E-02	6E-03	-	**5E-02**
B-52(L)	G + G -1	2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
		4	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
		6	160	1,200	--	8.8E+02	3.2E+04	4.4E+02	2E-01	4E-02	-	**2E-01**
B-55(L)	G + G -4	2	1.7	ND	--	8.8E+02	3.2E+04	4.4E+02	2E-03	-	-	**2E-03**
		3	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-65(w)	G&G# - 1a,1b,1c	0.5	68	310	--	8.8E+02	3.2E+04	4.4E+02	8E-02	1E-02	-	**9E-02**
		2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-66(w)	G&G# - 2a,2b,2c	0.5	25	170	--	8.8E+02	3.2E+04	4.4E+02	3E-02	5E-03	-	**3E-02**
		2	110	360	--	8.8E+02	3.2E+04	4.4E+02	1E-01	1E-02	-	**1E-01**
B-66a(w)	G&G 2a	2	19	78	--	8.8E+02	3.2E+04	4.4E+02	2E-02	2E-03	-	**2E-02**
B-66b(w)	G&G 2b	2	11	33	--	8.8E+02	3.2E+04	4.4E+02	1E-02	1E-03	-	**1E-02**
		4	3.6	ND	--	8.8E+02	3.2E+04	4.4E+02	4E-03	-	-	**4E-03**
B-66c(w)	G&G 2c	2	21	86	--	8.8E+02	3.2E+04	4.4E+02	2E-02	3E-03	-	**3E-02**
B-67(w)	G&G# - 3a,3b,3c	0.5	60	700	--	8.8E+02	3.2E+04	4.4E+02	7E-02	2E-02	-	**9E-02**
		2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-68(w)	G&G# - 4a,4b,4c	0.5	620	3,300	--	8.8E+02	3.2E+04	4.4E+02	7E-01	1E-01	-	**8E-01**
		2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-69(w)	G&G# - 5a,5b,5c	0.5	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
		2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-70(w)	G&G Discrete #1	0.5	110	510	--	8.8E+02	3.2E+04	4.4E+02	1E-01	2E-02	-	**1E-01**
		2	130	980	--	8.8E+02	3.2E+04	4.4E+02	1E-01	3E-02	-	**2E-01**
		4	1.5	ND	--	8.8E+02	3.2E+04	4.4E+02	2E-03	-	-	**2E-03**
B-71(w)	EB-1	20	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
		40	1.1	ND	--	8.8E+02	3.2E+04	4.4E+02	1E-03	-	-	**1E-03**

TABLE 2a

Hazard Quotient (HQ) and Hazard Index (HI) Values

~ Default Construction Worker Receptor ~

			Concentrations (in mg/kg)			Construction Worker ESLs for Noncancer Endpoint (in mg/kg)			HQ Values (unitless)			
UPDATED Sample ID	**ORIGINAL Consultant ID**	**Depth**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**Σ HQ = HI**
B-72(w)	Gonzalez# - 1a, 1b, 1c	0.5	6.1	30	--	8.8E+02	3.2E+04	4.4E+02	7E-03	9E-04	-	**8E-03**
		2	1.6	ND	--	8.8E+02	3.2E+04	4.4E+02	2E-03	-	-	**2E-03**
B-73(w)	Gonzalez# - 2a, 2b, 2c	0.5	8.8	58	--	8.8E+02	3.2E+04	4.4E+02	1E-02	2E-03	-	**1E-02**
		2	1.6	ND	--	8.8E+02	3.2E+04	4.4E+02	2E-03	-	-	**2E-03**
B-74(w)	Clusters# - 1a,1b,1c	0.5	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
		2	6.4	31	--	8.8E+02	3.2E+04	4.4E+02	7E-03	1E-03	-	**8E-03**
B-75(w)	Clusters# - 2a,2b,2c	0.5	3.2	16	--	8.8E+02	3.2E+04	4.4E+02	4E-03	5E-04	-	**4E-03**
		2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-76(w)	Clusters# - 3a,3b,3c	0.5	5.6	57	--	8.8E+02	3.2E+04	4.4E+02	6E-03	2E-03	-	**8E-03**
		2	4	39	--	8.8E+02	3.2E+04	4.4E+02	5E-03	1E-03	-	**6E-03**
B-77(w)	Chaz #- 1a,1b,1c	0.5	31	250	--	8.8E+02	3.2E+04	4.4E+02	4E-02	8E-03	-	**4E-02**
		2	4.5	35	--	8.8E+02	3.2E+04	4.4E+02	5E-03	1E-03	-	**6E-03**
B-78(w)	Chaz # - 2a,2b,2c	0.5	15	130	--	8.8E+02	3.2E+04	4.4E+02	2E-02	4E-03	-	**2E-02**
		2	5.3	48	--	8.8E+02	3.2E+04	4.4E+02	6E-03	1E-03	-	**7E-03**
B-79(w)	Gerrys #- 1a,1b,1c	0.5	45	200	--	8.8E+02	3.2E+04	4.4E+02	5E-02	6E-03	-	**6E-02**
		2	12	57	--	8.8E+02	3.2E+04	4.4E+02	1E-02	2E-03	-	**2E-02**
B-80(w)	Gerrys #- 2a,2b,2c	0.5	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
		2	62	200	--	8.8E+02	3.2E+04	4.4E+02	7E-02	6E-03	-	**8E-02**
B-80a(w)	Gerrys 2a	2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-80b(w)	Gerrys 2b	2	190	600	--	8.8E+02	3.2E+04	4.4E+02	2E-01	2E-02	-	**2E-01**
		4	2	ND	--	8.8E+02	3.2E+04	4.4E+02	2E-03	-	-	**2E-03**
B-80c(w)	Gerrys 2c	2	3.2	16	--	8.8E+02	3.2E+04	4.4E+02	4E-03	5E-04	-	**4E-03**
B-81(w)	Gerrys # - 3a,3b,3c	0.5	170	670	--	8.8E+02	3.2E+04	4.4E+02	2E-01	2E-02	-	**2E-01**
		2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-82(w)	Gerrys # - 4a,4b,4c	0.5	33	130	--	8.8E+02	3.2E+04	4.4E+02	4E-02	4E-03	-	**4E-02**
		2	ND	ND	--	8.8E+02	3.2E+04	4.4E+02	-	-	-	**0E+00**
B-83(w)	Gerrys Discrete	0.5	1.7	ND	--	8.8E+02	3.2E+04	4.4E+02	2E-03	-	-	**2E-03**
		2	110	390	--	8.8E+02	3.2E+04	4.4E+02	1E-01	1E-02	-	**1E-01**
		4	4.5	ND	--	8.8E+02	3.2E+04	4.4E+02	5E-03	-	-	**5E-03**
B-85(w)	JV # - 1a,1b,1c	0.5	8.6	ND	--	8.8E+02	3.2E+04	4.4E+02	1E-02	-	-	**1E-02**
		2	2.1	ND	--	8.8E+02	3.2E+04	4.4E+02	2E-03	-	-	**2E-03**
B-86(w)	Residence #- 1a,1b,1c	0.5	12	56	--	8.8E+02	3.2E+04	4.4E+02	1E-02	2E-03	-	**2E-02**
		2	34	140	--	8.8E+02	3.2E+04	4.4E+02	4E-02	4E-03	-	**4E-02**
B-87(w)	Residence #1 (discrete)	0.5	14	22	--	8.8E+02	3.2E+04	4.4E+02	2E-02	7E-04	-	**2E-02**
		2	500	1,400	--	8.8E+02	3.2E+04	4.4E+02	6E-01	4E-02	-	**6E-01**
		4	1.5	ND	--	8.8E+02	3.2E+04	4.4E+02	2E-03	-	-	**2E-03**
B-88(w)	Bay City # - 1a,1b,1c	0.5	6.3	33	--	8.8E+02	3.2E+04	4.4E+02	7E-03	1E-03	-	**8E-03**
		2	1.5	15	--	8.8E+02	3.2E+04	4.4E+02	2E-03	5E-04	-	**2E-03**
B-89(w)	Bay City # - 2a,2b,2c	0.5	8.9	54	--	8.8E+02	3.2E+04	4.4E+02	1E-02	2E-03	-	**1E-02**
		2	9.4	64	--	8.8E+02	3.2E+04	4.4E+02	1E-02	2E-03	-	**1E-02**

Maximum HI => **3E+00**

TABLE 2b
Incremental Lifetime Cancer Risk (ILCR) Values
~ Default Construction Worker Receptor ~

				Concentrations (in mg/kg)			Construction Worker ESLs for Cancer Endpoint (in mg/kg)			ILCR Values (unitless)			
UPDATED Sample ID	ORIGINAL Consultant ID		Depth	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	Σ ILCR = $ILCR_{total}$
B-3(t)	TB-3		0.5	ND	3,500	0.31	NC	NC	3.5E+02	NC	NC	9E-10	**9E-10**
			1.5	ND	1,800	1.50	NC	NC	3.5E+02	NC	NC	4E-09	**4E-09**
B-8(t)	TB-8		0.5	ND	32,000	0.22	NC	NC	3.5E+02	NC	NC	6E-10	**6E-10**
B-9(t)	TB-9		0.5	--	--	0.067	NC	NC	3.5E+02	NC	NC	2E-10	**2E-10**
T-2(t)	Area 1	T6	3.5	ND	85	0.016	NC	NC	3.5E+02	NC	NC	5E-11	**5E-11**
T-3(t)		T9	2	94	240	0.017	NC	NC	3.5E+02	NC	NC	5E-11	**5E-11**
T-4(t)		T10	1	ND	32	ND	NC	NC	3.5E+02	NC	NC	-	**0E+00**
T-6(t)		T12	1	ND	250	ND	NC	NC	3.5E+02	NC	NC	-	**0E+00**
T-7(t)	Area 2	T6	1	ND	ND	ND	NC	NC	3.5E+02	NC	NC	-	**0E+00**
T-8(t)		T12	2	ND	400	ND	NC	NC	3.5E+02	NC	NC	-	**0E+00**
T-9(t)		T15	2	ND	510	0.02	NC	NC	3.5E+02	NC	NC	6E-11	**6E-11**
T-11(t)	Area 5	T1	6	ND	680	0.018	NC	NC	3.5E+02	NC	NC	5E-11	**5E-11**
T-12(t)		T3	2	ND	800	0.043	NC	NC	3.5E+02	NC	NC	1E-10	**1E-10**
T-14(t)		T10	4	ND	18	ND	NC	NC	3.5E+02	NC	NC	-	**0E+00**
T-15(t)	Area 6	T1	2	ND	2,000	0.018	NC	NC	3.5E+02	NC	NC	5E-11	**5E-11**
T-16(t)		T1	8	ND	97,000	0.28	NC	NC	3.5E+02	NC	NC	8E-10	**8E-10**
T-17(t)	Area 8	T1	2	ND	51	ND	NC	NC	3.5E+02	NC	NC	-	**0E+00**
T-18(t)		Debris	--	ND	1,600	0.067	NC	NC	3.5E+02	NC	NC	2E-10	**2E-10**
B-10(w)	SB-1		0.5	180	2,400	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	ND	22	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-11(w)	SB-2		0.5	670	5,500	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	4.8	39	ND	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-12(w)	SB-3		0.5	8.3	80	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	ND	29	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-13(w)	SB-4		0.5	3.5	45	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	6.2	38	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-14(w)	SB-5		0.5	60	820	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	8.9	63	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-15(w)	SB-6		0.5	15	170	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-16(w)	SB-7		0.5	6.5	63	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-17(w)	SB-8		0.5	53	750	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	4.9	51	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-18(w)	SB-9		0.5	110	1,300	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	10	98	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-19(w)	SB-10		0.5	7.1	48	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-20(w)	SB-11		0.5	12	150	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
			2	ND	21	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**

TABLE 2b
Incremental Lifetime Cancer Risk (ILCR) Values
~ Default Construction Worker Receptor ~

			Concentrations (in mg/kg)			Construction Worker ESLs for Cancer Endpoint (in mg/kg)			ILCR Values (unitless)			
UPDATED Sample ID	**ORIGINAL Consultant ID**	**Depth**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**TPH as DIESEL**	**TPH as MOTOR OIL**	**Naphthalene**	**Σ ILCR = $ILCR_{total}$**
B-21(w)	SB-12	0.5	33	380	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	18	78	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-22(w)	SB-13	0.5	7.1	64	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	ND	19	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-23(w)	SB-14	0.5	150	1,600	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-24(w)	SB-15	0.5	10	140	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	ND	28	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-25(w)	DP-1	2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-26(w)	DP-2	2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-27(w)	DP-4	2	5.2	14	0.023	NC	NC	3.5E+02	NC	NC	7E-11	**7E-11**
B-28(w)	DP-5	2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-29(w)	DP-6	2	5.6	23	ND	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-30(w)	DP-7	2	7.3	42	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-31(w)	DP-8	2	5.8	33	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-32(w)	DP-9	2	43	180	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-52(L)	G + G -1	2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		4	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		6	160	1,200	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-55(L)	G + G -4	2	1.7	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		3	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-65(w)	G&G# - 1a,1b,1c	0.5	68	310	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-66(w)	G&G# - 2a,2b,2c	0.5	25	170	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	110	360	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-66a(w)	G&G 2a	2	19	78	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-66b(w)	G&G 2b	2	11	33	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		4	3.6	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-66c(w)	G&G 2c	2	21	86	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-67(w)	G&G# - 3a,3b,3c	0.5	60	700	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-68(w)	G&G# - 4a,4b,4c	0.5	620	3,300	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-69(w)	G&G# - 5a,5b,5c	0.5	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-70(w)	G&G Discrete #1	0.5	110	510	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	130	980	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		4	1.5	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-71(w)	EB-1	20	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		40	1.1	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**

TABLE 2b

Incremental Lifetime Cancer Risk (ILCR) Values

~ Default Construction Worker Receptor ~

			Concentrations (in mg/kg)			Construction Worker ESLs for Cancer Endpoint (in mg/kg)			ILCR Values (unitless)			
UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	TPH as DIESEL	TPH as MOTOR OIL	Naphthalene	Σ ILCR = $ILCR_{total}$
B-72(w)	Gonzalez# - 1a, 1b, 1c	0.5	6.1	30	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	1.6	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-73(w)	Gonzalez# - 2a, 2b, 2c	0.5	8.8	58	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	1.6	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-74(w)	Clusters# - 1a,1b,1c	0.5	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	6.4	31	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-75(w)	Clusters# - 2a,2b,2c	0.5	3.2	16	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-76(w)	Clusters# - 3a,3b,3c	0.5	5.6	57	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	4	39	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-77(w)	Chaz #- 1a,1b,1c	0.5	31	250	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	4.5	35	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-78(w)	Chaz # - 2a,2b,2c	0.5	15	130	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	5.3	48	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-79(w)	Gerrys #- 1a,1b,1c	0.5	45	200	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	12	57	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-80(w)	Gerrys #- 2a,2b,2c	0.5	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	62	200	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-80a(w)	Gerrys 2a	2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-80b(w)	Gerrys 2b	2	190	600	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		4	2	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-80c(w)	Gerrys 2c	2	3.2	16	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-81(w)	Gerrys # - 3a,3b,3c	0.5	170	670	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-82(w)	Gerrys # - 4a,4b,4c	0.5	33	130	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	ND	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-83(w)	Gerrys Discrete	0.5	1.7	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	110	390	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		4	4.5	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-85(w)	JV # - 1a,1b,1c	0.5	8.6	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	2.1	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-86(w)	Residence #- 1a,1b,1c	0.5	12	56	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	34	140	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-87(w)	Residence #1 (discrete)	0.5	14	22	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	500	1,400	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		4	1.5	ND	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-88(w)	Bay City # - 1a,1b,1c	0.5	6.3	33	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	1.5	15	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
B-89(w)	Bay City # - 2a,2b,2c	0.5	8.9	54	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**
		2	9.4	64	--	NC	NC	3.5E+02	NC	NC	-	**0E+00**

Maximum $ILCR_{total}$ => **4E-09**

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID		Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-1(t)	TB-1		0.5	--	80	-	-
B-2(t)	TB-2		0.5	--	80	-	-
B-3(t)	TB-3		0.5	12	80	No	-
			1.5	140	80	Yes	1.5
			2.5	--	80	-	-
			4	--	80	-	-
B-4(t)	TB-4		0.5	--	80	-	-
B-5(t)	TB-5		0.5	--	80	-	-
B-6(t)	TB-6		0.75	--	80	-	-
B-7(t)	TB-7		0.5	--	80	-	-
B-8(t)	TB-8		0.5	23	80	No	-
			1.5	--	80	-	-
			2.5	--	80	-	-
			4	--	80	-	-
B-9(t)	TB-9		0.5	40	80	No	-
			1.5	--	80	-	-
			2.5	--	80	-	-
			4	--	80	-	-
T-1(t)	Area 1	T4	4	--	80	-	-
T-2(t)		T6	3.5	20	80	No	-
T-3(t)		T9	2	29	80	No	-
T-4(t)		T10	1	6.8	80	No	-
T-5(t)		T11	1.5	--	80	-	-
T-6(t)		T12	1	76	80	No	-
T-7(t)	Area 2	T6	1	8.6	80	No	-
T-8(t)		T12	2	22	80	No	-
T-9(t)		T15	2	55	80	No	-
T-10(t)	Area 3	T1	3	--	80	-	-
T-11(t)	Area 5	T1	6	3,200	80	Yes	6
T-12(t)		T3	2	1,100	80	Yes	2
T-13(t)		T5	3	--	80	-	-
T-14(t)		T10	4	16	80	No	-
T-15(t)	Area 6	T1	2	130	80	Yes	2
T-16(t)		T1*	8	310	80	Yes	8
T-17(t)	Area 8	T1	2	120	80	Yes	2
T-18(t)		Debris	--	50	80	No	-
B-10(w)	SB-1		0.5	63	80	No	-
			2	13	80	No	-
B-11(w)	SB-2		0.5	110	80	Yes	0.5
			2	9.9	80	No	-
B-12(w)	SB-3		0.5	250	80	Yes	0.5
			2	17	80	No	-
B-13(w)	SB-4		0.5	52	80	No	-
			2	14	80	No	-

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-14(w)	SB-5	0.5	23	80	No	-
		2	6.9	80	No	-
B-41(L)	R-2	0.5	6.9	80	No	-
		2	5.5	80	No	-
		3	5.2	80	No	-
B-42(L)	R-3	1	5.4	80	No	-
		3	5.9	80	No	-
B-43(L)	GZ-1	2	9.4	80	No	-
		3	5.1	80	No	-
B-44(L)	GZ-2	1	44	80	No	-
		3	9.8	80	No	-
B-45(L)	BC-1	3	13	80	No	-
		5	9	80	No	-
		7	33	80	No	-
B-46(L)	BC-2	3	21	80	No	-
		5	25	80	No	-
		7	8.9	80	No	-
B-47(L)	BC-3	3	11	80	No	-
		5	9.3	80	No	-
		7	17	80	No	-
B-48(L)	BC-4	3	17	80	No	-
		5	6.5	80	No	-
		7	7.6	80	No	-
B-49(L)	CZ-1	2	1	80	No	-
		4	10	80	No	-
B-50(L)	CZ-2	1	6.9	80	No	-
		3	6.8	80	No	-
		7	7.7	80	No	-
		11	7.9	80	No	-
B-51(L)	CZ-3	2	8.2	80	No	-
B-52(L)	G+G-1	2	8	80	No	-
		4	10	80	No	-
		6	77	80	No	-
B-53(L)	G+G-2	2	6.8	80	No	-
		4	6.5	80	No	-
		6	3.9	80	No	-
B-54(L)	G+G-3	0.5	7	80	No	-
		2	6.4	80	No	-
B-55(L)	G+G-4	0.5	24	80	No	-
		2	6	80	No	-
		3	9.1	80	No	-
B-56(L)	G+G-5	2	5.1	80	No	-
		4	5.1	80	No	-

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-57(L)	G+G-6	2	7.2	80	No	-
		4	5.3	80	No	-
B-69(w)	G&G# - 5a,5b,5c	0.5	32	80	No	-
		2	17	80	No	-
B-69a(w)	G&G 5a	0.5	37	80	No	-
B-69b(w)	G&G 5b	0.5	33	80	No	-
B-69c(w)	G&G 5c	0.5	69	80	No	-
B-72(w)	Gonzalez# - 1a, 1b, 1c	0.5	17	80	No	-
		2	14	80	No	-
B-73(w)	Gonzalez# - 2a, 2b, 2c	0.5	100	80	Yes	0.5
		2	16	80	No	-
B-73a(w)	Gonzalez 2a	0.5	33	80	No	-
B-73b(w)	Gonzalez 2b	0.5	120	80	Yes	0.5
B-73c(w)	Gonzalez 2c	0.5	85	80	Yes	0.5
B-74(w)	Clusters# - 1a,1b,1c	0.5	16	80	No	-
		2	20	80	No	-
B-75(w)	Clusters# - 2a,2b,2c	0.5	16	80	No	-
		2	17	80	No	-
B-76(w)	Clusters# - 3a,3b,3c	0.5	41	80	No	-
		2	31	80	No	-
B-77(w)	Chaz #- 1a,1b,1c	0.5	34	80	No	-
		2	100	80	Yes	2
B-77a(w)	Chaz 1a	2	280	80	Yes	2
B-77b(w)	Chaz 1b	2	36	80	No	-
B-77c(w)	Chaz 1c	2	19	80	No	-
B-78(w)	Chaz # - 2a,2b,2c	0.5	26	80	No	-
		2	38	80	No	-
B-79(w)	Gerrys #- 1a,1b,1c	0.5	29	80	No	-
		2	28	80	No	-
B-80(w)	Gerrys #- 2a,2b,2c	0.5	17	80	No	-
		2	21	80	No	-
B-81(w)	Gerrys # - 3a,3b,3c	0.5	130	80	Yes	0.5
		2	19	80	No	-
B-81a(w)	Gerrys 3a	0.5	46	80	No	-
		2	--	80	-	-
B-81b(w)	Gerrys 3b	0.5	110	80	Yes	0.5
		2	--	80	-	-
B-81c(w)	Gerrys 3c	0.5	15	80	No	-
		2	--	80	-	-
B-82(w)	Gerrys # - 4a,4b,4c	0.5	47	80	No	-
		2	20	80	No	-

TABLE 3a
Comparison of Lead Concentrations
to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-82a(w)	Gerrys 4a	2	--	80	-	-
B-82b(w)	Gerrys 4b	2	--	80	-	-
B-82c(w)	Gerrys 4c	2	--	80	-	-
B-85(w)	JV # - 1a,1b,1c	0.5	60	80	No	-
		2	22	80	No	-
B-85a(w)	JV 1a	0.5	48	80	No	-
B-85b(w)	JV 1b	0.5	16	80	No	-
B-85c(w)	JV 1c	0.5	17	80	No	-
B-86(w)	Residence #- 1a,1b,1c	0.5	15	80	No	-
		2	18	80	No	-
B-88(w)	Bay City # - 1a,1b,1c	0.5	28	80	No	-
		2	18	80	No	-
B-89(w)	Bay City # - 2a,2b,2c	0.5	44	80	No	-
		2	48	80	No	-
B-15(w)	SB-6	0.5	32	80	No	-
		2	7.5	80	No	-
B-16(w)	SB-7	0.5	13	80	No	-
		2	11	80	No	-
B-17(w)	SB-8	0.5	17	80	No	-
		2	9.5	80	No	-
B-18(w)	SB-9	0.5	38	80	No	-
		2	8	80	No	-
B-19(w)	SB-10	0.5	15	80	No	-
		2	8.6	80	No	-
B-20(w)	SB-11	0.5	24	80	No	-
		2	12	80	No	-
B-21(w)	SB-12	0.5	25	80	No	-
		2	15	80	No	-
B-22(w)	SB-13	0.5	17	80	No	-
		2	8.3	80	No	-
B-23(w)	SB-14	0.5	12	80	No	-
		2	13	80	No	-
B-24(w)	SB-15	0.5	8.1	80	No	-
		2	9.6	80	No	-
B-25(w)	DP-1	2	9.1	80	No	-
B-26(w)	DP-2	2	9.4	80	No	-
B-27(w)	DP-4	2	9	80	No	-
B-28(w)	DP-5	2	5.9	80	No	-
B-29(w)	DP-6	2	7.5	80	No	-
B-30(w)	DP-7	2	8.8	80	No	-
B-31(w)	DP-8	2	23	80	No	-
B-32(w)	DP-9	2	14	80	No	-
B-33(L)	CL-1	1	9.9	80	No	-
		3	6.2	80	No	-

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-34(L)	CL-2	2	9.8	80	No	-
		3	7.7	80	No	-
B-35(L)	CL-3	2	5.7	80	No	-
		3	5.9	80	No	-
B-36(L)	CL-4	4	7.1	80	No	-
B-37(L)	CL-5	1	9.1	80	No	-
		3	7	80	No	-
B-38(L)	CL-6	1	8.6	80	No	-
		3	7.1	80	No	-
		5	12	80	No	-
		7	14	80	No	-
B-39(L)	CL-8	5	15	80	No	-
B-40(L)	R-1	0.5	8.6	80	No	-
		2	7.8	80	No	-
B-58(L)	G+G-7	2	8.2	80	No	-
		3.5	11	80	No	-
B-59(L)	G-1	2	42	80	No	-
		3	5.2	80	No	-
B-60(L)	G-2	2	14	80	No	-
		3	14	80	No	-
B-61(L)	G-3	0.5	11	80	No	-
		2	11	80	No	-
		3	13	80	No	-
B-62(L)	G-4	2	9	80	No	-
		3	7.4	80	No	-
B-63(L)	G-5	2	16	80	No	-
		4	15	80	No	-
		6	6.2	80	No	-
B-64(L)	G-6	2	6.1	80	No	-
		4	24	80	No	-
		6	10	80	No	-
SS-1(L)	SS-1	--	14	80	No	-
SS-2(L)	SS-2	--	28	80	No	-
SS-3(L)	SS-3	--	110	80	Yes	--
SS-4(L)	SS-4	--	15	80	No	-
SS-5(L)	SS-5	--	11	80	No	-
B-65(w)	G&G# - 1a,1b,1c	0.5	49	80	No	-
		2	70	80	No	-
B-65a(w)	G&G 1a	2	25	80	No	-
B-65b(w)	G&G 1b	2	89	80	Yes	2
B-65c(w)	G&G 1c	2	50	80	No	-

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-66(w)	G&G# - 2a,2b,2c	0.5	40	80	No	-
		2	43	80	No	-
B-67(w)	G&G# - 3a,3b,3c	0.5	28	80	No	-
		2	20	80	No	-
B-67a(w)	G&G 3a	2	--	80	-	-
B-67b(w)	G&G 3b	2	--	80	-	-
B-67c(w)	G&G 3c	2	--	80	-	-
B-68(w)	G&G# - 4a,4b,4c	0.5	5400	80	Yes	0.5
		2	66	80	No	-
B-68a(w)	G&G 4a	0.5	100	80	Yes	0.5
		2	260	80	Yes	2
B-68b(w)	G&G 4b	0.5	170	80	Yes	0.5
		2	150	80	Yes	2
B-68c(w)	G&G 4c	0.5	480	80	Yes	0.5
		2	25	80	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID		Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-1(t)	TB-1		0.5	--	160	-	-
B-2(t)	TB-2		0.5	--	160	-	-
B-3(t)	TB-3		0.5	12	160	No	-
			1.5	140	160	No	-
			2.5	--	160	-	-
			4	--	160	-	-
B-4(t)	TB-4		0.5	--	160	-	-
B-5(t)	TB-5		0.5	--	160	-	-
B-6(t)	TB-6		0.75	--	160	-	-
B-7(t)	TB-7		0.5	--	160	-	-
B-8(t)	TB-8		0.5	23	160	No	-
			1.5	--	160	-	-
			2.5	--	160	-	-
			4	--	160	-	-
B-9(t)	TB-9		0.5	40	160	No	-
			1.5	--	160	-	-
			2.5	--	160	-	-
			4	--	160	-	-
T-1(t)	Area 1	T4	4	--	160	-	-
T-2(t)		T6	3.5	20	160	No	-
T-3(t)		T9	2	29	160	No	-
T-4(t)		T10	1	6.8	160	No	-
T-5(t)		T11	1.5	--	160	-	-
T-6(t)		T12	1	76	160	No	-
T-7(t)	Area 2	T6	1	8.6	160	No	-
T-8(t)		T12	2	22	160	No	-
T-9(t)		T15	2	55	160	No	-
T-10(t)	Area 3	T1	3	--	160	-	-
T-11(t)	Area 5	T1	6	3,200	160	Yes	6
T-12(t)		T3	2	1,100	160	Yes	2
T-13(t)		T5	3	--	160	-	-
T-14(t)		T10	4	16	160	No	-
T-15(t)	Area 6	T1	2	130	160	No	-
T-16(t)		T1*	8	310	160	Yes	8
T-17(t)	Area 8	T1	2	120	160	No	-
T-18(t)		Debris	--	50	160	No	-
B-10(w)	SB-1		0.5	63	160	No	-
			2	13	160	No	-
B-11(w)	SB-2		0.5	110	160	No	-
			2	9.9	160	No	-
B-12(w)	SB-3		0.5	250	160	Yes	0.5
			2	17	160	No	-
B-13(w)	SB-4		0.5	52	160	No	-
			2	14	160	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-14(w)	SB-5	0.5	23	160	No	-
		2	6.9	160	No	-
B-41(L)	R-2	0.5	6.9	160	No	-
		2	5.5	160	No	-
		3	5.2	160	No	-
B-42(L)	R-3	1	5.4	160	No	-
		3	5.9	160	No	-
B-43(L)	GZ-1	2	9.4	160	No	-
		3	5.1	160	No	-
B-44(L)	GZ-2	1	44	160	No	-
		3	9.8	160	No	-
B-45(L)	BC-1	3	13	160	No	-
		5	9	160	No	-
		7	33	160	No	-
B-46(L)	BC-2	3	21	160	No	-
		5	25	160	No	-
		7	8.9	160	No	-
B-47(L)	BC-3	3	11	160	No	-
		5	9.3	160	No	-
		7	17	160	No	-
B-48(L)	BC-4	3	17	160	No	-
		5	6.5	160	No	-
		7	7.6	160	No	-
B-49(L)	CZ-1	2	1	160	No	-
		4	10	160	No	-
B-50(L)	CZ-2	1	6.9	160	No	-
		3	6.8	160	No	-
		7	7.7	160	No	-
		11	7.9	160	No	-
B-51(L)	CZ-3	2	8.2	160	No	-
B-52(L)	G+G-1	2	8	160	No	-
		4	10	160	No	-
		6	77	160	No	-
B-53(L)	G+G-2	2	6.8	160	No	-
		4	6.5	160	No	-
		6	3.9	160	No	-
B-54(L)	G+G-3	0.5	7	160	No	-
		2	6.4	160	No	-
B-55(L)	G+G-4	0.5	24	160	No	-
		2	6	160	No	-
		3	9.1	160	No	-
B-56(L)	G+G-5	2	5.1	160	No	-
		4	5.1	160	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-57(L)	G+G-6	2	7.2	160	No	-
		4	5.3	160	No	-
B-69(w)	G&G# - 5a,5b,5c	0.5	32	160	No	-
		2	17	160	No	-
B-69a(w)	G&G 5a	0.5	37	160	No	-
B-69b(w)	G&G 5b	0.5	33	160	No	-
B-69c(w)	G&G 5c	0.5	69	160	No	-
B-72(w)	Gonzalez# - 1a, 1b, 1c	0.5	17	160	No	-
		2	14	160	No	-
B-73(w)	Gonzalez# - 2a, 2b, 2c	0.5	100	160	No	-
		2	16	160	No	-
B-73a(w)	Gonzalez 2a	0.5	33	160	No	-
B-73b(w)	Gonzalez 2b	0.5	120	160	No	-
B-73c(w)	Gonzalez 2c	0.5	85	160	No	-
B-74(w)	Clusters# - 1a,1b,1c	0.5	16	160	No	-
		2	20	160	No	-
B-75(w)	Clusters# - 2a,2b,2c	0.5	16	160	No	-
		2	17	160	No	-
B-76(w)	Clusters# - 3a,3b,3c	0.5	41	160	No	-
		2	31	160	No	-
B-77(w)	Chaz #- 1a,1b,1c	0.5	34	160	No	-
		2	100	160	No	-
B-77a(w)	Chaz 1a	2	280	160	Yes	2
B-77b(w)	Chaz 1b	2	36	160	No	-
B-77c(w)	Chaz 1c	2	19	160	No	-
B-78(w)	Chaz # - 2a,2b,2c	0.5	26	160	No	-
		2	38	160	No	-
B-79(w)	Gerrys #- 1a,1b,1c	0.5	29	160	No	-
		2	28	160	No	-
B-80(w)	Gerrys #- 2a,2b,2c	0.5	17	160	No	-
		2	21	160	No	-
B-81(w)	Gerrys # - 3a,3b,3c	0.5	130	160	No	-
		2	19	160	No	-
B-81a(w)	Gerrys 3a	0.5	46	160	No	-
		2	--	160	-	-
B-81b(w)	Gerrys 3b	0.5	110	160	No	-
		2	--	160	-	-
B-81c(w)	Gerrys 3c	0.5	15	160	No	-
		2	--	160	-	-
B-82(w)	Gerrys # - 4a,4b,4c	0.5	47	160	No	-
		2	20	160	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-82a(w)	Gerrys 4a	2	--	160	-	-
B-82b(w)	Gerrys 4b	2	--	160	-	-
B-82c(w)	Gerrys 4c	2	--	160	-	-
B-85(w)	JV # - 1a,1b,1c	0.5	60	160	No	-
		2	22	160	No	-
B-85a(w)	JV 1a	0.5	48	160	No	-
B-85b(w)	JV 1b	0.5	16	160	No	-
B-85c(w)	JV 1c	0.5	17	160	No	-
B-86(w)	Residence #- 1a,1b,1c	0.5	15	160	No	-
		2	18	160	No	-
B-88(w)	Bay City # - 1a,1b,1c	0.5	28	160	No	-
		2	18	160	No	-
B-89(w)	Bay City # - 2a,2b,2c	0.5	44	160	No	-
		2	48	160	No	-
B-15(w)	SB-6	0.5	32	160	No	-
		2	7.5	160	No	-
B-16(w)	SB-7	0.5	13	160	No	-
		2	11	160	No	-
B-17(w)	SB-8	0.5	17	160	No	-
		2	9.5	160	No	-
B-18(w)	SB-9	0.5	38	160	No	-
		2	8	160	No	-
B-19(w)	SB-10	0.5	15	160	No	-
		2	8.6	160	No	-
B-20(w)	SB-11	0.5	24	160	No	-
		2	12	160	No	-
B-21(w)	SB-12	0.5	25	160	No	-
		2	15	160	No	-
B-22(w)	SB-13	0.5	17	160	No	-
		2	8.3	160	No	-
B-23(w)	SB-14	0.5	12	160	No	-
		2	13	160	No	-
B-24(w)	SB-15	0.5	8.1	160	No	-
		2	9.6	160	No	-
B-25(w)	DP-1	2	9.1	160	No	-
B-26(w)	DP-2	2	9.4	160	No	-
B-27(w)	DP-4	2	9	160	No	-
B-28(w)	DP-5	2	5.9	160	No	-
B-29(w)	DP-6	2	7.5	160	No	-
B-30(w)	DP-7	2	8.8	160	No	-
B-31(w)	DP-8	2	23	160	No	-
B-32(w)	DP-9	2	14	160	No	-
B-33(L)	CL-1	1	9.9	160	No	-
		3	6.2	160	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-34(L)	CL-2	2	9.8	160	No	-
		3	7.7	160	No	-
B-35(L)	CL-3	2	5.7	160	No	-
		3	5.9	160	No	-
B-36(L)	CL-4	4	7.1	160	No	-
B-37(L)	CL-5	1	9.1	160	No	-
		3	7	160	No	-
B-38(L)	CL-6	1	8.6	160	No	-
		3	7.1	160	No	-
		5	12	160	No	-
		7	14	160	No	-
B-39(L)	CL-8	5	15	160	No	-
B-40(L)	R-1	0.5	8.6	160	No	-
		2	7.8	160	No	-
B-58(L)	G+G-7	2	8.2	160	No	-
		3.5	11	160	No	-
B-59(L)	G-1	2	42	160	No	-
		3	5.2	160	No	-
B-60(L)	G-2	2	14	160	No	-
		3	14	160	No	-
B-61(L)	G-3	0.5	11	160	No	-
		2	11	160	No	-
		3	13	160	No	-
B-62(L)	G-4	2	9	160	No	-
		3	7.4	160	No	-
B-63(L)	G-5	2	16	160	No	-
		4	15	160	No	-
		6	6.2	160	No	-
B-64(L)	G-6	2	6.1	160	No	-
		4	24	160	No	-
		6	10	160	No	-
SS-1(L)	SS-1	--	14	160	No	-
SS-2(L)	SS-2	--	28	160	No	-
SS-3(L)	SS-3	--	110	160	No	-
SS-4(L)	SS-4	--	15	160	No	-
SS-5(L)	SS-5	--	11	160	No	-
B-65(w)	G&G# - 1a,1b,1c	0.5	49	160	No	-
		2	70	160	No	-
B-65a(w)	G&G 1a	2	25	160	No	-
B-65b(w)	G&G 1b	2	89	160	No	-
B-65c(w)	G&G 1c	2	50	160	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-66(w)	G&G# - 2a,2b,2c	0.5	40	160	No	-
		2	43	160	No	-
B-67(w)	G&G# - 3a,3b,3c	0.5	28	160	No	-
		2	20	160	No	-
B-67a(w)	G&G 3a	2	--	160	-	-
B-67b(w)	G&G 3b	2	--	160	-	-
B-67c(w)	G&G 3c	2	--	160	-	-
B-68(w)	G&G# - 4a,4b,4c	0.5	5400	160	Yes	0.5
		2	66	160	No	-
B-68a(w)	G&G 4a	0.5	100	160	No	-
		2	260	160	Yes	2
B-68b(w)	G&G 4b	0.5	170	160	Yes	0.5
		2	150	160	No	-
B-68c(w)	G&G 4c	0.5	480	160	Yes	0.5
		2	25	160	No	-

ATTACHMENT 1

Statistical Evaluation of Arsenic, Hexavalent Chromium, and Nickel Background Concentrations

ATTACHMENT 1

Statistical Evaluation of Arsenic, Hexavalent Chromium, and Nickel Background Concentrations Former Clusters Storage Yard Watsonville, California

This attachment provides a statistical evaluation of arsenic, hexavalent chromium (Cr[VI]), and nickel. The evaluation uses a multiple-lines-of-evidence approach to establish whether a site-related release of these metals has occurred and, as such, whether these metals should be included as 'chemicals of potential concern' (COPCs) to be included in quantitative risk calculations. The analysis is conducted consistent with California Environmental Protection Agency guidance (CalEPA, 1997) using U.S. Environmental Protection Agency statistical software (USEPA, 2015).

1 BACKGROUND

Seven contaminants of concern were identified in the RAP based on concentration exceedances of conservative, Tier-1 agency-established thresholds that are designed to be protective of human health and the environment (i.e., Environmental Screening Levels [ESLs], RWQCB, 2016). These contaminants include arsenic (up to 14 milligrams per kilogram [mg/kg]), Cr(VI) (up to 4.9 mg/kg), lead (up to 5,400 mg/kg), nickel (up to 150 mg/kg), total petroleum hydrocarbons as diesel (TPH-diesel, up to 670 mg/kg), total petroleum hydrocarbons as motor oil (TPH-motor oil, up to 97,000 mg/kg), and naphthalene (up to 1.5 mg/kg). The datasets for the three constituents considered in this analysis (arsenic, Cr[VI], and nickel) as excerpted from the RAP are included as **Enclosure A**.

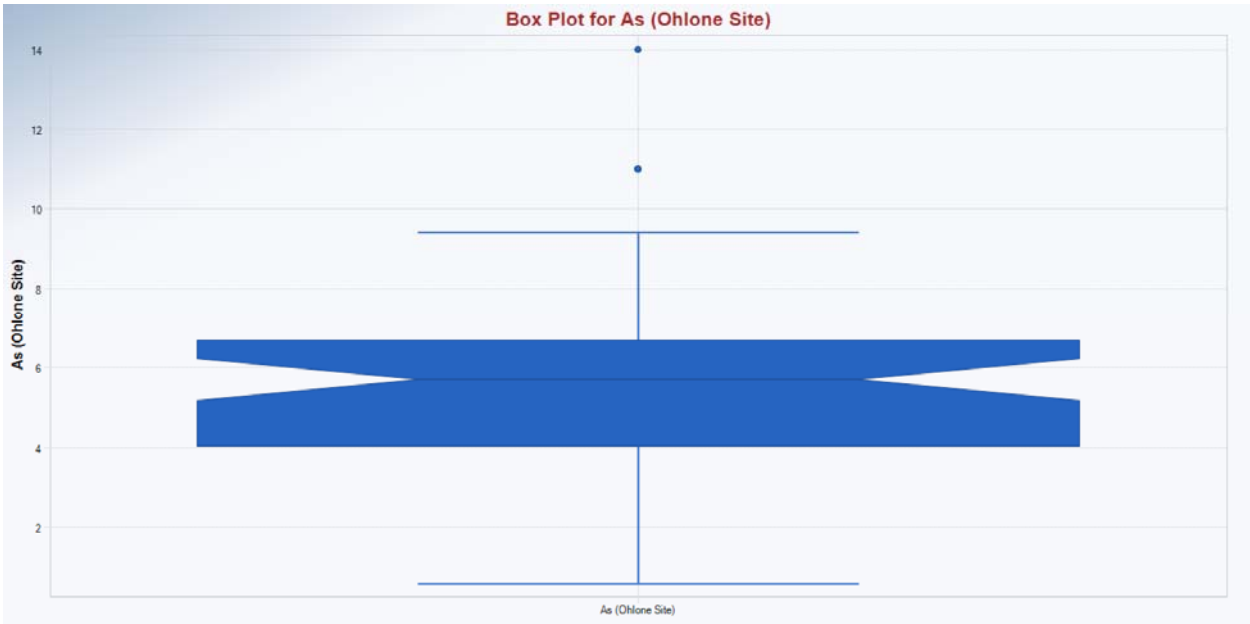
2 ARSENIC

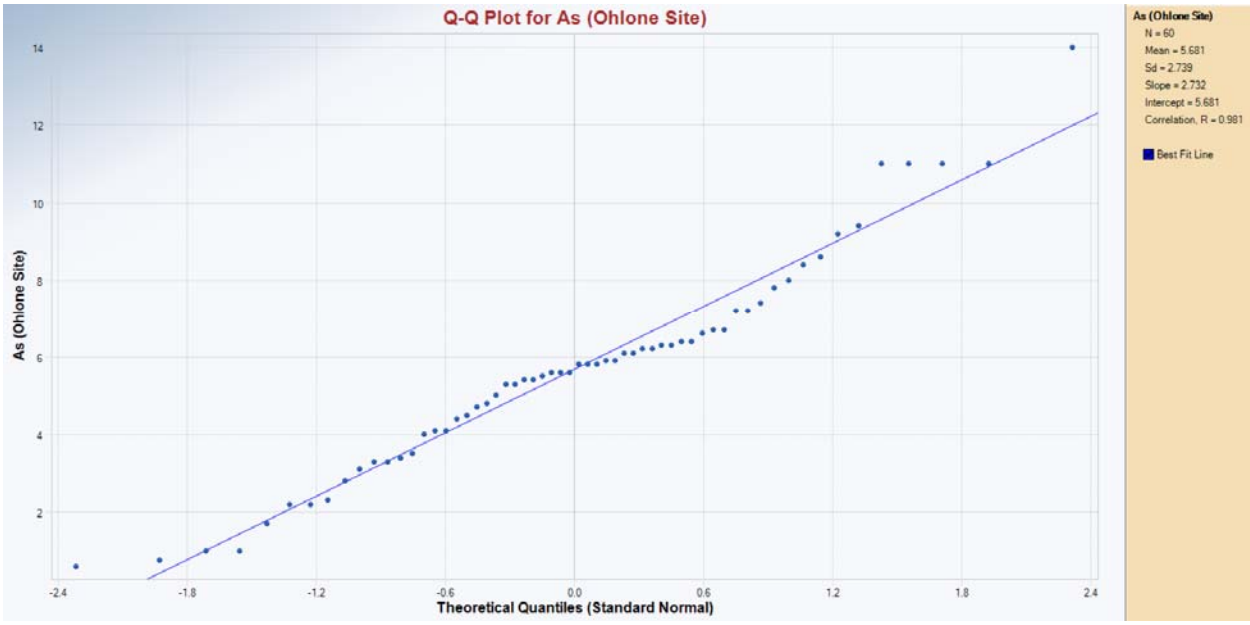
The arsenic site dataset consists of samples collected in June and October 2016 as shown in **Enclosure A**. The summary statistics for the arsenic site dataset are as follows:

Total Number of Observations	60	Number of Distinct Observations	40
Minimum	0.6	First Quartile	4.075
Second Largest	11	Median	5.7
Maximum	14	Third Quartile	6.7
Mean	5.681	Standard Deviation (SD)	2.739
Coefficient of Variation	0.482	Skewness	0.517
Mean of logged Data	1.582	SD of logged Data	0.64

As shown in the above table, the range of concentrations is relatively narrow (i.e., minimum concentration of 0.6 mg/kg and maximum concentration of 14 mg/kg) with a relatively low coefficient of variation (0.482). Visual analyses using box and Q-Q plots show the arsenic site

dataset to follow a normal distribution with potential outliers of 11 mg/kg (four samples) and 14 mg/kg (one sample).





Rosner's test was used to quantitatively assess the presence of outliers visually identified in the box and Q-Q plots. Rosner's test did not identify any outliers in the arsenic site dataset.

Given these findings, no outliers were removed from the arsenic site dataset. This uncensored dataset was further evaluated and found to follow an 'approximate normal distribution'[1] with a background threshold value (BTV) of 13.97 mg/kg (i.e., the 95% upper simultaneous limit [USL]), which is essentially equal to the maximum arsenic concentration detected at the Site (14 mg/kg).

Normal GOF Test			
Shapiro Wilk Test Statistic	0.961	**Normal GOF Test**	
5% Shapiro Wilk P Value	0.116	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.122	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.114	Data Not Normal at 5% Significance Level	
Data appear Approximate Normal at 5% Significance Level			
Background Statistics Assuming Normal Distribution			
95% UTL with 95% Coverage	11.21	90% Percentile (z)	9.192
95% UPL (t)	10.3	95% Percentile (z)	10.19
95% USL	13.97	99% Percentile (z)	12.05

Given the following lines of evidence, it appears that a site-related release of arsenic has not occurred:

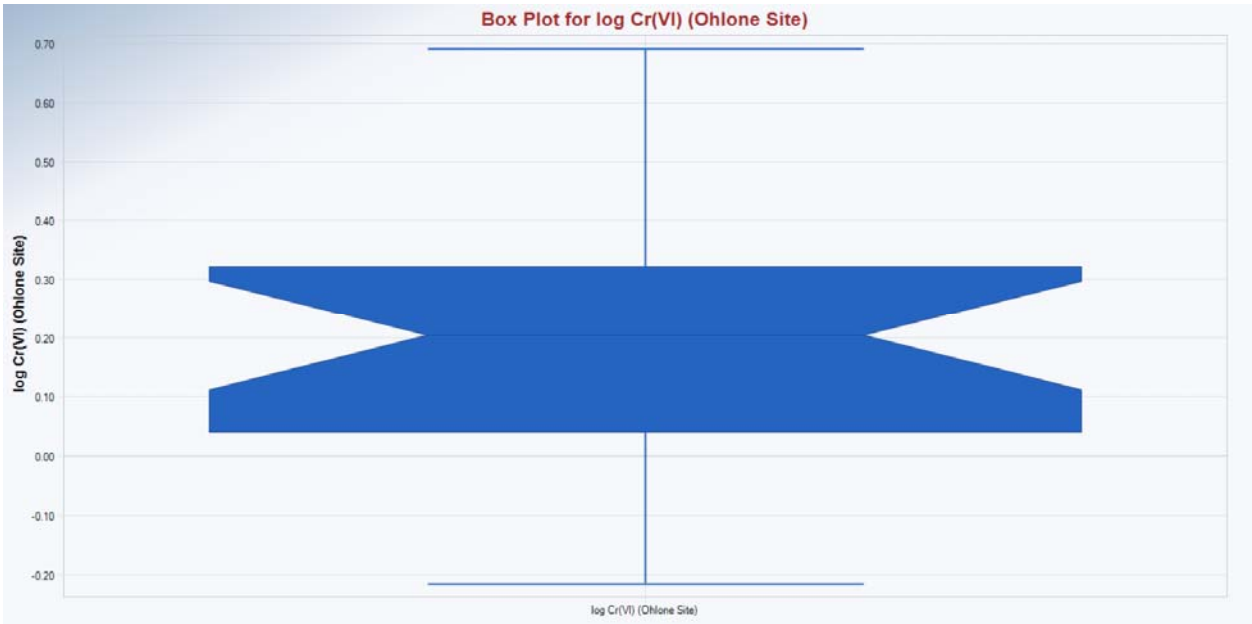
- arsenic concentrations fall within a narrow range;
- the coefficient of variation for the arsenic site dataset is less than 1;
- visual and quantitative analyses show the arsenic site dataset to be normally distributed;
- quantitative analysis shows the arsenic site dataset to contain no statistical outliers; and
- the BTV, quantified as the 95% USL (13.97 mg/kg), is essentially equal to the maximum detected concentration (14 mg/kg).

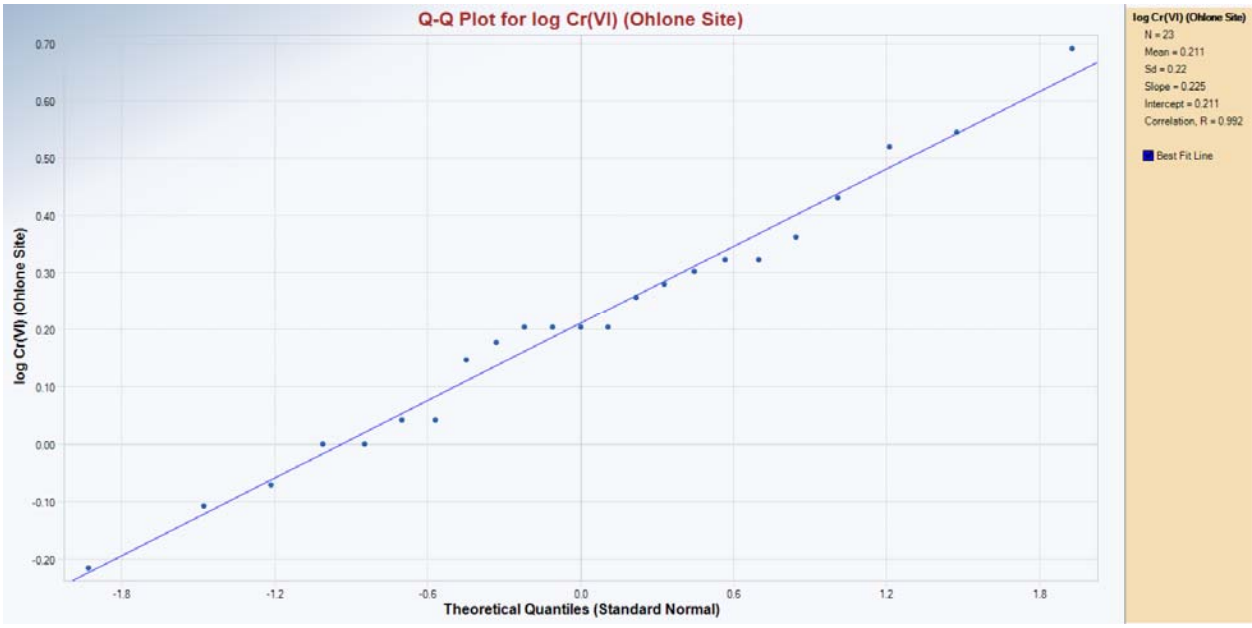
Given the finding that a site-related release of arsenic has not occurred, it is eliminated as a COPC.

3 HEXAVALENT CHROMIUM (CR[VI])

The Cr(VI) site dataset consists of samples collected during the one sampling episode in which it was analyzed (October 2016) as shown in **Enclosure A**. Visual analyses using box and Q-Q plots show the Cr(VI) site dataset to follow a lognormal distribution with no potential outliers as shown below.

[1] One of the two 'goodness of fit' (GOF) tests (i.e., the Shapiro-Wilk test) shows the arsenic site dataset to be normally distributed.





The summary statistics for the log-transformed Cr(VI) site dataset are as follows:

Total Number of Observations	23	Number of Distinct Observations	17
Minimum	-0.215	First Quartile	0.041
Second Largest	0.544	Median	0.204
Maximum	0.69	Third Quartile	0.322
Mean	0.211	Standard Deviation (SD)	0.22
Coefficient of Variation	1.041	Skewness	0.156

Using Dixon's test for outliers as programmed into ProUCL confirmed the visual analyses in that no outliers were identified in the log-transformed Cr(VI) site dataset.

Given these findings, the log-transformed Cr(VI) site dataset was then evaluated using ProUCL and found to follow a normal distribution (i.e., thus confirming the semi-quantitative analyses that the Cr[VI] site dataset follows a lognormal distribution) with a BTV of $10^{0.787}$ mg/kg (6.1 mg/kg; the 95% USL).

Normal GOF Test			
Shapiro Wilk Test Statistic	0.985	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.914	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.0961	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.18	Data appear Normal at 5% Significance Level	
Data appear Normal at 5% Significance Level			
Background Statistics Assuming Normal Distribution			
95% UTL with 95% Coverage	0.722	90% Percentile (z)	0.492
95% UPL (t)	0.596	95% Percentile (z)	0.572
95% USL	0.787	99% Percentile (z)	0.722

While recommended by CalEPA (1997), it is noted that USEPA (2015) recommends against using the lognormal distribution. To this end, the Cr(VI) site dataset is also found to follow a gamma distribution with 95% USLs ranging from 5.2 and 5.3 mg/kg.

Given the following lines of evidence, it appears that a site-related release of Cr(VI) has not occurred:

- Cr(VI) concentrations fall within a narrow range (0.61 to 4.9 mg/kg);
- the coefficient of variation of the log-transformed Cr(VI) dataset is approximately 1;
- visual and quantitative analyses show the log-transformed Cr(VI) site dataset to contain no statistical outliers;
- visual and quantitative analyses show the Cr(VI) site dataset to be lognormally distributed; and
- the BTV, quantified as the 95% USL for a lognormal distribution (6.1 mg/kg) and the 95% USLs for a gamma distribution (5.2 to 5.3 mg/kg), exceeds the maximum detected concentration (4.9 mg/kg).

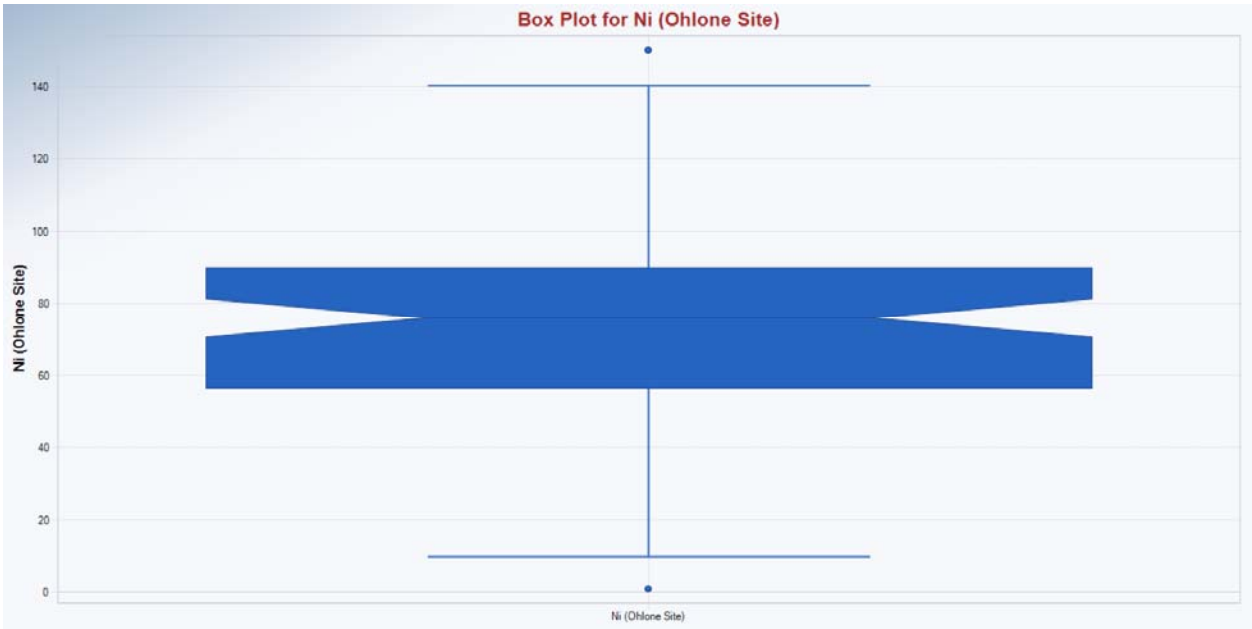
Given the finding that a site-related release of Cr(VI) has not occurred, it is eliminated as a COPC.

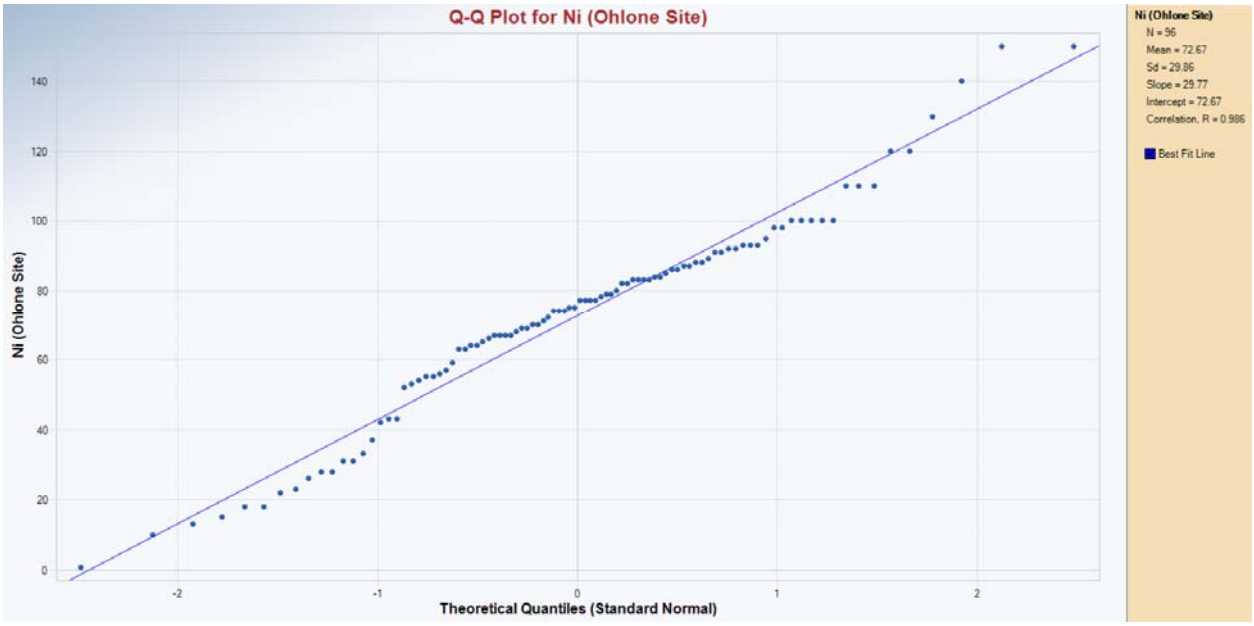
4 NICKEL

The nickel site dataset consists of samples collected during three sampling episodes (December 2003, June 2016, and October 2016) as shown in **Enclosure A**. The summary statistics for the nickel site dataset are as follows:

Total Number of Observations	96	Number of Distinct Observations	56
Minimum	0.76	First Quartile	56.75
Second Largest	150	Median	76
Maximum	150	Third Quartile	89.5
Mean	72.67	Standard Deviation (SD)	29.86
Coefficient of Variation	0.411	Skewness	-0.1
Mean of logged Data	4.14	SD of logged Data	0.698

Semi-quantitative analyses using box and Q-Q plots show the nickel site dataset to follow a normal distribution with potential outliers of 0.76 mg/kg (one sample) and 150 mg/kg (two samples) as shown in the figures that follow.





Using Rosner's test for outliers as programmed into ProUCL did not identify any outliers in the nickel site dataset.

Given these findings, the nickel site dataset was then further evaluated using ProUCL and found to follow an 'approximate normal distribution'[2] with a BTV of 168.1 mg/kg (i.e., the 95% USL).

Normal GOF Test			
Shapiro Wilk Test Statistic	0.964	**Normal GOF Test**	
5% Shapiro Wilk P Value	0.0525	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.102	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.0907	Data Not Normal at 5% Significance Level	
Data appear Approximate Normal at 5% Significance Level			
Background Statistics Assuming Normal Distribution			
95% UTL with 95% Coverage	130.3	90% Percentile (z)	110.9
95% UPL (t)	122.5	95% Percentile (z)	121.8
95% USL	168.1	99% Percentile (z)	142.1

Given the following lines of evidence, it appears that a site-related release of nickel has not occurred:

- the coefficient of variation for the nickel site dataset is less than 1;
- quantitative analysis shows the nickel site dataset to contain no statistical outliers;
- visual and quantitative analyses show the nickel site dataset to be normally distributed; and

[2] One of the two 'goodness of fit' (GOF) tests (i.e., the Shapiro-Wilk test) shows the nickel site dataset to be normally distributed.

- the BTV, as the 95% USL (168.1 mg/kg), exceeds the maximum detected concentration (150 mg/kg).

Given the finding that a site-related release of nickel has not occurred, it is eliminated as a COPC.

5 CLOSING

The statistical analysis presented herein, using multiple lines of evidence and conducted in accordance with CalEPA and USEPA guidance using USEPA's statistical software ProUCL, supports the conclusion that site-related releases of arsenic, hexavalent chromium, and nickel have not occurred at the Site. Therefore, it is recommended that these three metals be eliminated as COPCs for the Site. Based on this finding and the other COPCs identified in the RAP, the COPCs for the Site are lead, TPH-diesel, TPH-motor oil, and naphthalene.

References

California Environmental Protection Agency, 1997. Selecting Inorganic Constituents as Chemicals of Potential Concern at Risk Assessments at Hazardous Waste Sites and Permitted Facilities, Final Policy. Prepared by Human and Ecological Risk Division, Department of Toxic Substances Control. February.
http://www.dtsc.ca.gov/AssessingRisk/upload/backgrnd.pdf

California Environmental Protection Agency / Regional Water Quality Control Board – San Francisco Bay Region, 2016. User's Guide: Derivation and Application of Environmental Screening Levels (ESLs). Interim Final, February.

U.S. Environmental Protection Agency, 2015 (Ashtok, A.S. and A.K. Singh). ProUCL Version 5.1.002 Technical Guide, Statistical Software for Environmental Applications for Data Sets With and Without Nondetect Observations. EPA/600/R-07/041. October.

Weber, Hayes & Associates, 2017a. Remedial Action Plan (RAP), Former Clusters Storage Yard, 511 Ohlone Parkway, Watsonville, California. September 13th.

Weber, Hayes & Associates, 2017b. Site Preparation Tasks for Redevelopment (SPTR), Former Clusters Storage Yard, 511 Ohlone Parkway, Watsonville, California. July 13th.

Enclosure

Enclosure A: Concentrations of Metal in Soil (Table 2 of the RAP)

Enclosure A

Table 2 from RAP

Table 2 - Metals
Soil Sample Test Results: CAM 17 METALS Analysis
Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville
All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				Laboratory Results: CAM 17 Metals plus Mercury																
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	Antimony	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
October 2016 (sampled by Trinity Source Group)	B-1(t)	TB -1	0.5	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--	--	--
	B-2(t)	TB-2	0.5	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	--	--	--
	B-3(t)	TB-3	0.5	ND	--	1	95	0.12	0.37	13	0.78	6.5	27	12	1	15	ND	0.1	0.12	51	71	0.044
			1.5	0.89	--	1.7	140	0.24	2.4	23	1.1	8.7	85	**140**	1.2	26	ND	0.18	ND	53	410	0.073
			2.5	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	--	--	--	--
			4	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	--	--	--	--
	B-4(t)	TB-4	0.5	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--	--	--	--	--
	B-5(t)	TB-5	0.5	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	--	--	--	--
	B-6(t)	TB-6	0.75	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	--	--	--
	B-7(t)	TB-7	0.5	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	--	--	--	--
	B-8(t)	TB-8	0.5	0.75	--	0.77	54	0.14	0.71	9.9	1	6.6	54	23	2.4	9.9	ND	ND	ND	51	75	0.053
			1.5	--	--	--	--	--	--	--	3.3	--	--	--	--	--	--	--	--	--	--	--
			2.5	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	--	--	--	--
			4	--	--	--	--	--	--	--	0.61	--	--	--	--	--	--	--	--	--	--	--
	B-9(t)	TB-9	0.5	0.14	--	2.2	93	0.17	1.3	29	1.1	7.4	82	40	2.6	31	ND	0.12	ND	46	97	0.11
			1.5	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--
			2.5	--	--	--	--	--	--	--	2.7	--	--	--	--	--	--	--	--	--	--	--
			4	--	--	--	--	--	--	--	0.85	--	--	--	--	--	--	--	--	--	--	--
	T-1(t)	Area 1 T4	4	--	--	5.9^	--	--	--	--	2.1	--	--	--	--	--	--	--	--	--	--	--
	T-2(t)	Area 1 T6	3.5	ND	--	4.4^	170^	0.30^	0.74^	21^	---	5.9^	15^	20^	0.91^	18^	ND	ND	ND	25^	68^	0.39
	T-3(t)	Area 1 T9	2	ND	--	9.2^	110^	0.32^	1.4^	33^	---	9.6^	69^	29^	1.5^	37^	ND	ND	ND	44^	150^	0.28
	T-4(t)	Area 1 T10	1	ND	--	3.3^	120^	0.50^	0.35^	31^	---	12^	10^	6.8^	0.48^	23^	ND	ND	ND	43^	39^	0.047
	T-5(t)	Area 1 T11	1.5	--	--	5.5^	--	--	--	--	1.6	--	--	--	--	--	--	--	--	--	--	--
	T-6(t)	Area 1 T12	1	ND	--	5.6^	170^	0.42^	0.68^	53^	---	13^	25^	76^	0.60^	57^	ND	ND	ND	49^	110^	0.14
	T-7(t)	Area 2 T6	1	ND	--	5.8^	210^	0.50^	0.38^	62^	---	16^	36^	8.6^	0.27^	100^	ND	ND	ND	42^	76^	0.17
	T-8(t)	Area 2 T12	2	ND	--	5.0^	140^	0.30^	0.95^	77^	---	13^	31^	22^	0.63^	93^	ND	ND	ND	43^	110^	0.15
	T-9(t)	Area 2 T15	2	ND	--	3.5^	83^	0.26^	0.53^	47^	---	11^	63^	55^	0.72^	52	ND	ND	ND	52	88^	0.16
	T-10(t)	Area 3 T1	3	--	--	8.6	--	--	--	--	3.5	--	--	--	--	--	--	--	--	--	--	--
	T-11(t)	Area 5 T1	6	1.5^	--	11^	2,100^	0.48^	**9.3^**	100^	---	16^	86^	**3,200^**	5.5^	140^	ND	ND	ND	42^	1,400^	0.14
	T-12(t)	Area 5 T3	2	6.1^	--	9.4^	250^	0.45^	4.3^	57^	---	19^	100^	**1,100^**	2.8^	84^	ND	ND	ND	50^	380^	0.18
	T-13(t)	Area 5 T5	3	--	--	5.8^	--	--	--	--	4.9	--	--	--	--	--	--	--	--	--	--	--
	T-14(t)	Area 5 T10	4	ND	--	7.4^	260^	0.64^	0.44^	70^	---	18^	35^	16^	0.57^	110^	ND	ND	ND	48^	69^	0.09
	T-15(t)	Area 6 T1	2	0.62^	--	5.4^	130^	0.42^	1.2^	45^	2.3	12^	73^	**130^**	1.5^	59^	ND	ND	ND	49^	160^	0.11
	T-16(t)	Area 6 T1*	8	1.6^	--	11^	120^	0.22^	2.6^	35^	---	8.1^	160^	**310^**	13^	74^	ND	ND	ND	62^	380^	0.18
	T-17(t)	Area 8 T1	2	0.56^	--	4.5^	120^	0.37^	3.0^	35^	---	9.7^	94^	50^	2.6^	42^	ND	0.77^	ND	59^	360^	0.099
	T-18(t)	Area 8 Debris	--	ND	--	**14^**	330^	0.92^	1.6^	110^	---	**28^**	53^	**120^**	0.83^	150^	ND	ND	ND	61^	150^	0.17
RWQCB Environmental Screening Levels Residential				*31*	*NE*	*0.067* [3]	*15,000*	*42*	*39*	*120,000*	*0.3*	*23*	*3,100*	*80*	*390*	*86* [4]	*390*	*390*	*0.78*	*390*	*23,000*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)				31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	71 / 5.2	120, 000 /36,000	0.3 / --	23 / --	3,100 / --	400 / 80	390 / --	-- / --	390 / --	390 / 390	0.78 / --	390 / 390	23,000 / --	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)						**13.97** [3]					**6.1** [3]					**168.1** [3]						

Table 2 - Metals
Soil Sample Test Results: CAM 17 METALS Analysis
Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville
All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				Laboratory Results: CAM 17 Metals plus Mercury																
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	Antimony	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
June 2016 (Sampled by Weber Hayes and Associates)	B-10(w)	SB-1	0.5	ND	15,000	3.3	65	0.12[J]	1.7	24	---	12	140	63	2.3[J]	22	ND	0.41[J]	ND	54	110	0.060[J]
			2	ND	15,000	6.7	170	0.5	0.29[J]	52	---	13	31	13	ND	98	ND	0.31[J]	ND	33	66	0.056[J]
	B-11(w)	SB-2	0.5	ND	18,000	2.3	78	0.13[J]	1.8	28	---	9.7	690	**110**	2.6	150	ND	0.45[J]	ND	58	5,500	0.063[J]
			2	ND	17,000	11	120	0.49[J]	0.092[J]	62	---	14	41	9.9	ND	89	ND	0.44[J]	ND	41	71	0.083[J]
	B-12(w)	SB-3	0.5	ND	17,000	4.1	100	0.19[J]	0.8	39	---	11	170	**250**	1.0[J]	43	ND	1	ND	61	82	0.076[J]
			2	ND	22,000	1	130	0.48[J]	0.15[J]	75	---	11	35	17	ND	83	ND	0.21[J]	ND	23	71	0.21
	B-13(w)	SB-4	0.5	ND	18000^	5.9	180	0.49[J]	0.62	51	---	12	35	52	ND	67	6.2	0.24[J]	ND	43	61	0.044[J]
			2	ND	21000^	6.2	160	0.51	0.13[J]	57	---	15	34	14	ND	80	7.7	0.33[J]	ND	43	59	ND
	B-14(w)	SB-5	0.5	ND	17,000^	5.3	110	0.29[J]	0.34[J]	48	---	8.8	51	23	1.3[J]	54	7	1.1	ND	48	71	0.052[J]
			2	ND	19,000^	6.1	210	0.47[J]	ND	53	---	7.5	22	6.9	ND	64	ND	0.23[J]	ND	40	30	0.047[J]
	B-15(w)	SB-6	0.5	ND	17,000^	3.1	100	0.25[J]	0.29[J]	30	---	9.8	210	32	0.21[J]	33	7.1	0.33[J]	ND	47	77	0.070[J]
			2	ND	15,000^	5.3	200	0.5	ND	46	---	11	20	7.5	ND	55	ND	0.18[J]	ND	36	26	0.045[J]
	B-16(w)	SB-7	0.5	ND	12,000^	4	76	0.20[J]	0.15[J]	46	---	7.5	50	13	0.34[J]	43	ND	0.22[J]	0.50[J]	40	51	0.077[J]
			2	ND	16,000^	6.3	170	0.43[J]	0.085[J]	53	---	9.6	25	11	ND	69	ND	0.23[J]	ND	41	40	0.045[J]
	B-17(w)	SB-8	0.5	ND	15,000^	2.2	72	0.14[J]	0.25[J]	16	---	5.4	39	17	0.30[J]	18	ND	0.26[J]	ND	38	48	0.053[J]
			2	ND	16,000^	5.8	130	0.46[J]	ND	57	---	10	33	9.5	ND	79	ND	0.24[J]	ND	33	58	0.11[J]
	B-18(w)	SB-9	0.5	ND	22,000^	2.8	71	0.19[J]	0.78	19	---	9.4	87	38	0.36[J]	28	ND	0.28[J]	ND	58	58	0.12[J]
			2	ND	16,000^	5.4	170	0.52	ND	51	---	13	25	8	ND	69	ND	0.20[J]	ND	34	35	0.078[J]
	B-19(w)	SB-10	0.5	ND	19,000^	6.4	180	0.48[J]	0.16[J]	76	---	13	37	15	0.067[J]	86	ND	0.21[J]	ND	36	98^	0.15[J]
			2	ND	19,000^	8	66	0.47[J]	ND	71	---	10	35	8.6	ND	91	ND	0.16[J]	ND	42	74^	0.15[J]
	B-20(w)	SB-11	0.5	ND	25,000^	3.4	78	0.19[J]	0.78	27	---	11	72	24	0.41[J]	31	ND	0.27[J]	ND	66	130^	0.059[J]
			2	ND	19,000^	8.4	190	0.49[J]	0.16[J]	68	---	14	34	12	0.088[J]	93	ND	0.17[J]	ND	51	73^	0.23
	B-21(w)	SB-12	0.5	ND	17,000^	4.8	85	0.23[J]	0.22[J]	50	---	11	59	25	0.18[J]	53	ND	0.29[J]	0.68[J]	58	88^	0.12[J]
			2	ND	15,000^	4.7	89	0.26[J]	0.11[J]	54	---	10	59	15	1.7[J]	63	ND	0.30[J]	ND	48	60^	0.089[J]
	B-22(w)	SB-13	0.5	ND	18,000^	7.2	180	0.48[J]	0.087[J]	61	---	14	32	17	0.14[J]	88	ND	0.20[J]	ND	47	64^	0.079[J]
			2	ND	21,000^	7.8	180	0.5	0.34[J]	81	---	14	35	8.3	ND	95	ND	0.26[J]	ND	46	70^	0.16
	B-23(w)	SB-14	0.5	ND	14,000^	6.7	120	0.26[J]	0.077[J]	20	---	6.7	12	12	1.0[J]	13	ND	0.11[J]	1.3[J]	45	63^	0.044[J]
			2	ND	16,000^	6.3	130	0.48[J]	ND	55	---	11	23	13	ND	67	ND	0.13[J]	ND	37	43^	0.069[J]
	B-24(w)	SB-15	0.5	ND	17,000^	0.60[J]	3.7	0.052	0.64	ND	---	6.2	18	8.1	0.48[J]	0.76	ND	ND	ND	20	100^	0.15[J]
			2	ND	15,000^	6.2	100	0.42[J]	ND	51	---	**26**	21	9.6	ND	64	2.4	0.27[J]	ND	34	49^	0.044[J]
	B-25(w)	DP-1	2	ND	--	7.2	260	0.55	0.35[J]	61	---	17	26	9.1	ND	77	ND	0.25[J]	ND	48	40	ND
	B-26(w)	DP-2	2	ND	--	6.6	190	0.61	0.083[J]	65	---	13	31	9.4	ND	92	ND	0.21[J]	ND	46	49	ND
	B-27(w)	DP-4	2	ND	--	6.4	220	0.50	0.056[J]	59	---	13	29	9	ND	86	ND	0.24[J]	ND	41	48	ND
	B-28(w)	DP-5	2	ND	--	4.1	11	0.35[J]	ND	51	---	11	26	5.9	ND	70	ND	ND	ND	29	47	0.066[J]
	B-29(w)	DP-6	2	ND	--	5.6	210	0.52	ND	57	---	15	25	7.5	ND	87	ND	0.18[J]	ND	37	40	0.063[J]
	B-30(w)	DP-7	2	ND	--	6.1	210	0.58	0.067[J]	58	---	16	26	8.8	ND	82	ND	0.15[J]	ND	44	37	ND
	B-31(w)	DP-8	2	ND	--	11	160	0.48[J]	0.24[J]	70	---	16	40	23	0.14[J]	100	ND	0.31[J]	ND	42	72	0.078[J]
	B-32(w)	DP-9	2	ND	--	5.6	160	0.44[J]	0.090[J]	60	---	12	31	14	0.55[J]	83	ND	0.21[J]	ND	41	52	0.059[J]
RWQCB Environmental Screening Levels Residential				*31*	*NE*	*0.067*[(3)]	*15,000*	*42*	*39*	*120,000*	*0.3*	*23*	*3,100*	*80*	*390*	*86*[(4)]	*390*	*390*	*0.78*	*390*	*23,000*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)				31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	71 / 5.2	120, 000 /36,000	0.3 / --	23 / --	3,100 / --	400 / 80	390 / --	-- / --	390 / --	390 / 390	0.78 / --	390 / 390	23,000 / --	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)						**13.97**[(3)]					**6.1**[(3)]					**168.1**[(3)]						

Table 2 - Metals
Soil Sample Test Results: CAM 17 METALS Analysis
Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				Laboratory Results: CAM 17 Metals plus Mercury																	
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	Antimony	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
August 2004 (Sampled by Lowney Associates)	B-33(L)	CL-1	1	---	---	---	---	---	---	---	---	---	---	9.9	---	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	6.2	---	---	---	---	---	---	---	---
	B-34(L)	CL-2	2	---	---	---	---	---	---	---	---	---	---	9.8	---	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	7.7	---	---	---	---	---	---	---	---
	B-35(L)	CL-3	2	---	---	---	---	---	---	---	---	---	---	5.7	---	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	5.9	---	---	---	---	---	---	---	---
	B-36(L)	CL-4	4	---	---	---	---	---	---	---	---	---	---	7.1	---	---	---	---	---	---	---	---
	B-37(L)	CL-5	1	---	---	---	---	---	---	---	---	---	---	9.1	---	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	7	---	---	---	---	---	---	---	---
	B-38(L)	CL-6	1	---	---	---	---	---	---	---	---	---	---	8.6	---	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	7.1	---	---	---	---	---	---	---	---
			5	---	---	---	---	---	---	---	---	---	---	12	---	---	---	---	---	---	---	---
			7	---	---	---	---	---	---	---	---	---	---	14	---	---	---	---	---	---	---	---
	B-39(L)	CL-8	5	---	---	---	---	---	---	---	---	---	---	15	---	---	---	---	---	---	---	---
	B-40(L)	R-1	0.5	---	---	---	---	---	---	---	---	---	---	8.6	---	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	---	---	---	---	7.8	---	---	---	---	---	---	---	---
	B-41(L)	R-2	0.5	---	---	---	---	---	---	---	---	---	---	6.9	---	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	---	---	---	---	5.5	---	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	5.2	---	---	---	---	---	---	---	---
	B-42(L)	R-3	1	---	---	---	---	---	---	---	---	---	---	5.4	---	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	5.9	---	---	---	---	---	---	---	---
	B-43(L)	GZ-1	2	---	---	---	---	---	---	---	---	---	---	9.4	---	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	5.1	---	---	---	---	---	---	---	---
	B-44(L)	GZ-2	1	---	---	---	---	---	---	---	---	---	---	44	---	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	9.8	---	---	---	---	---	---	---	---
	B-45(L)	BC-1	3	---	---	---	---	---	---	---	---	---	---	13	---	---	---	---	---	---	---	---
			5	---	---	---	---	---	---	---	---	---	---	9	---	---	---	---	---	---	---	---
			7	---	---	---	---	---	---	---	---	---	---	33	---	---	---	---	---	---	---	---
	B-46(L)	BC-2	3	---	---	---	---	---	---	---	---	---	---	21	---	---	---	---	---	---	---	---
			5	---	---	---	---	---	---	---	---	---	---	25	---	---	---	---	---	---	---	---
			7	---	---	---	---	---	---	---	---	---	---	8.9	---	---	---	---	---	---	---	---
	B-47(L)	BC-3	3	---	---	---	---	---	---	---	---	---	---	11	---	---	---	---	---	---	---	---
			5	---	---	---	---	---	---	---	---	---	---	9.3	---	---	---	---	---	---	---	---
			7	---	---	---	---	---	---	---	---	---	---	17	---	---	---	---	---	---	---	---
	B-48(L)	BC-4	3	---	---	---	---	---	---	---	---	---	---	17	---	---	---	---	---	---	---	---
			5	---	---	---	---	---	---	---	---	---	---	6.5	---	---	---	---	---	---	---	---
			7	---	---	---	---	---	---	---	---	---	---	7.6	---	---	---	---	---	---	---	---
	B-49(L)	CZ-1	2	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---
			4	---	---	---	---	---	---	---	---	---	---	10	---	---	---	---	---	---	---	---
	B-50(L)	CZ-2	1	---	---	---	---	---	---	---	---	---	---	6.9	---	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	6.8	---	---	---	---	---	---	---	---
			7	---	---	---	---	---	---	---	---	---	---	7.7	---	---	---	---	---	---	---	---
			11	---	---	---	---	---	---	---	---	---	---	7.9	---	---	---	---	---	---	---	---
	B-51(L)	CZ-3	2	---	---	---	---	---	---	---	---	---	---	8.2	---	---	---	---	---	---	---	---
RWQCB Environmental Screening Levels Residential				*31*	*NE*	*0.067* [3]	*15,000*	*42*	*39*	*120,000*	*0.3*	*23*	*3,100*	*80*	*390*	*86* [4]	*390*	*390*	*0.78*	*390*	*23,000*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)				31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	71 / 5.2	120, 000 /36,000	0.3 / --	23 / --	3,100 / --	400 / 80	390 / --	-- / --	390 / --	390 / 390	0.78 / --	390 / 390	23,000 / --	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)						**13.97** [3]					**6.1** [3]					**168.1** [3]						

Table 2 - Metals
Soil Sample Test Results: CAM 17 METALS Analysis
Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville
All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				Laboratory Results: CAM 17 Metals plus Mercury																	
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	Antimony	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
August 2004 - continued - (Sampled by Lowney Associates)	B-52(L)	G+G-1	2	---	---	---	---	---	---	---	---	---	---	8	---	---	---	---	---	---	---
			4	---	---	---	---	---	---	---	---	---	---	10	---	---	---	---	---	---	---
			6	---	---	---	---	---	---	---	---	---	---	**77**	---	---	---	---	---	---	---
	B-53(L)	G+G-2	2	---	---	---	---	---	---	---	---	---	---	6.8	---	---	---	---	---	---	---
			4	---	---	---	---	---	---	---	---	---	---	6.5	---	---	---	---	---	---	---
			6	---	---	---	---	---	---	---	---	---	---	3.9	---	---	---	---	---	---	---
	B-54(L)	G+G-3	0.5	---	---	---	---	---	---	---	---	---	---	7	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	---	---	---	---	6.4	---	---	---	---	---	---	---
	B-55(L)	G+G-4	0.5	---	---	---	---	---	---	---	---	---	---	24	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	---	---	---	---	6	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	9.1	---	---	---	---	---	---	---
	B-56(L)	G+G-5	2	---	---	---	---	---	---	---	---	---	---	5.1	---	---	---	---	---	---	---
			4	---	---	---	---	---	---	---	---	---	---	5.1	---	---	---	---	---	---	---
	B-57(L)	G+G-6	2	---	---	---	---	---	---	---	---	---	---	7.2	---	---	---	---	---	---	---
			4	---	---	---	---	---	---	---	---	---	---	5.3	---	---	---	---	---	---	---
	B-58(L)	G+G-7	2	---	---	---	---	---	---	---	---	---	---	8.2	---	---	---	---	---	---	---
			3.5	---	---	---	---	---	---	---	---	---	---	11	---	---	---	---	---	---	---
	B-59(L)	G-1	2	---	---	---	---	---	---	---	---	---	---	42	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	5.2	---	---	---	---	---	---	---
	B-60(L)	G-2	2	---	---	---	---	---	---	---	---	---	---	14	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	14	---	---	---	---	---	---	---
	B-61(L)	G-3	0.5	---	---	---	---	---	---	---	---	---	---	11	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	---	---	---	---	11	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	13	---	---	---	---	---	---	---
	B-62(L)	G-4	2	---	---	---	---	---	---	---	---	---	---	9	---	---	---	---	---	---	---
			3	---	---	---	---	---	---	---	---	---	---	7.4	---	---	---	---	---	---	---
	B-63(L)	G-5	2	---	---	---	---	---	---	---	---	---	---	16	---	---	---	---	---	---	---
			4	---	---	---	---	---	---	---	---	---	---	15	---	---	---	---	---	---	---
			6	---	---	---	---	---	---	---	---	---	---	6.2	---	---	---	---	---	---	---
	B-64(L)	G-6	2	---	---	---	---	---	---	---	---	---	---	6.1	---	---	---	---	---	---	---
			4	---	---	---	---	---	---	---	---	---	---	24	---	---	---	---	---	---	---
			6	---	---	---	---	---	---	---	---	---	---	10	---	---	---	---	---	---	---
	SS-1(L)	SS-1	--	---	---	---	---	---	---	---	---	---	---	14	---	---	---	---	---	---	---
	SS-2(L)	SS-2	--	---	---	---	---	---	---	---	---	---	---	28	---	---	---	---	---	---	---
	SS-3(L)	SS-3	--	---	---	---	---	---	---	---	---	---	---	**110**	---	---	---	---	---	---	---
	SS-4(L)	SS-4	--	---	---	---	---	---	---	---	---	---	---	15	---	---	---	---	---	---	---
	SS-5(L)	SS-5	--	---	---	---	---	---	---	---	---	---	---	11	---	---	---	---	---	---	---
RWQCB Environmental Screening Levels Residential				*31*	*NE*	*0.067* [3]	*15,000*	*42*	*39*	*120,000*	*0.3*	*23*	*3,100*	*80*	*390*	*86* [4]	*390*	*390*	*0.78*	*390*	*23,000*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)				31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	71 / 5.2	120, 000 /36,000	0.3 / --	23 / --	3,100 / --	400 / 80	390 / --	-- / --	390 / --	390 / 390	0.78 / --	390 / 390	23,000 / --	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)						**13.97** [3]					**6.1** [3]					**168.1** [3]						

Table 2 - Metals
Soil Sample Test Results: CAM 17 METALS Analysis
Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville
All soil results are in milligrams per Kilogram (mg/Kg)

December 2003
(Sampled by Weber Hayes and Associates)

Sample Info				Laboratory Results: CAM 17 Metals plus Mercury																	
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	Antimony	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
	B-65(w)	G&G# - 1a,1b,1c	0.5	---	---	---	---	---	ND	65	---	---	---	49	---	93	---	---	---	---	99	0.076
			2	---	---	---	---	---	ND	83	---	---	---	70	---	130	---	---	---	---	110	--
	B-65a(w)	G&G 1a	2	---	---	---	---	---	--	64	---	---	---	25	---	--	---	---	---	---	--	--
	B-65b(w)	G&G 1b	2	---	---	---	---	---	--	85	---	---	---	**89**	---	--	---	---	---	---	--	--
	B-65c(w)	G&G 1c	2	---	---	---	---	---	--	72	---	---	---	50	---	--	---	---	---	---	--	--
	B-66(w)	G&G# - 2a,2b,2c	0.5	---	---	---	---	---	ND	50	---	---	---	40	---	70	---	---	---	---	93	ND
			2	---	---	---	---	---	ND	48	---	---	---	43	---	75	---	---	---	---	65	--
	B-67(w)	G&G# - 3a,3b,3c	0.5	---	---	---	---	---	ND	60	---	---	---	28	---	82	---	---	---	---	94	0.065
			2	---	---	---	---	---	ND	71	---	---	---	20	---	100	---	---	---	---	79	---
	B-67a(w)	G&G 3a	2	---	---	---	---	---	---	74	---	---	---	---	---	---	---	---	---	---	---	---
	B-67b(w)	G&G 3b	2	---	---	---	---	---	---	53	---	---	---	---	---	---	---	---	---	---	---	---
	B-67c(w)	G&G 3c	2	---	---	---	---	---	---	75	---	---	---	---	---	---	---	---	---	---	---	---
	B-68(w)	G&G# - 4a,4b,4c	0.5	---	---	---	---	---	ND	19	---	---	---	**5,400**	---	28	---	---	---	---	370	---
			2	---	---	---	---	---	ND	54	---	---	---	**66**	---	77	---	---	---	---	280	---
	B-68a(w)	G&G 4a	0.5	---	---	---	---	---	---	---	---	---	---	**100**	---	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	---	---	---	---	**260**	---	---	---	---	---	---	---	---
	B-68b(w)	G&G 4b	0.5	---	---	---	---	---	---	---	---	---	---	**170**	---	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	---	---	---	---	**150**	---	---	---	---	---	---	---	---
	B-68c(w)	G&G 4c	0.5	---	---	---	---	---	---	---	---	---	---	**480**	---	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	---	---	---	---	25	---	---	---	---	---	---	---	---
	B-69(w)	G&G# - 5a,5b,5c	0.5	---	---	---	---	---	ND	50	---	---	---	32	---	67	---	---	---	---	75	---
			2	---	---	---	---	---	ND	53	---	---	---	17	---	85	---	---	---	---	47	---
	B-69a(w)	G&G 5a	0.5	---	---	---	---	---	---	---	---	---	---	37	---	---	---	---	---	---	---	---
	B-69b(w)	G&G 5b	0.5	---	---	---	---	---	---	---	---	---	---	33	---	---	---	---	---	---	---	---
	B-69c(w)	G&G 5c	0.5	---	---	---	---	---	---	---	---	---	---	69	---	---	---	---	---	---	---	---
	B-72(w)	Gonzalez# - 1a, 1b, 1c	0.5	---	---	---	---	---	ND	43	---	---	---	17	---	67	---	---	---	---	45	---
			2	---	---	---	---	---	ND	55	---	---	---	14	---	74	---	---	---	---	45	---
	B-73(w)	Gonzalez# - 2a, 2b, 2c	0.5	---	---	---	---	---	ND	58	---	---	---	**100**	---	92	---	---	---	---	110	0.083
			2	---	---	---	---	---	ND	61	---	---	---	16	---	88	---	---	---	---	50	---
	B-73a(w)	Gonzalez 2a	0.5	---	---	---	---	---	---	---	---	---	---	33	---	---	---	---	---	---	---	---
	B-73b(w)	Gonzalez 2b	0.5	---	---	---	---	---	---	---	---	---	---	**120**	---	---	---	---	---	---	---	---
	B-73c(w)	Gonzalez 2c	0.5	---	---	---	---	---	---	---	---	---	---	**85**	---	---	---	---	---	---	---	---
	B-74(w)	Clusters# - 1a,1b,1c	0.5	---	---	---	---	---	ND	63	---	---	---	16	---	100	---	---	---	---	54	---
			2	---	---	---	---	---	ND	59	---	---	---	20	---	79	---	---	---	---	64	---
	B-75(w)	Clusters# - 2a,2b,2c	0.5	---	---	---	---	---	ND	61	---	---	---	16	---	120	---	---	---	---	58	---
			2	---	---	---	---	---	ND	61	---	---	---	17	---	110	---	---	---	---	64	---
	B-76(w)	Clusters# - 3a,3b,3c	0.5	---	---	---	---	---	ND	50	---	---	---	41	---	72	---	---	---	---	62	---
			2	---	---	---	---	---	ND	46	---	---	---	31	---	71	---	---	---	---	61	---
	B-77(w)	Chaz #- 1a,1b,1c	0.5	---	---	---	---	---	ND	44	---	---	---	34	---	55	---	---	---	---	69	---
			2	---	---	---	---	---	1.2	53	---	---	---	**100**	---	77	---	---	---	---	160	---
	B-77a(w)	Chaz 1a	2	---	---	---	---	---	---	---	---	---	---	**280**	---	---	---	---	---	---	---	---
	B-77b(w)	Chaz 1b	2	---	---	---	---	---	---	---	---	---	---	36	---	---	---	---	---	---	---	---
	B-77c(w)	Chaz 1c	2	---	---	---	---	---	---	---	---	---	---	19	---	---	---	---	---	---	---	---
RWQCB Environmental Screening Levels Residential				*31*	*NE*	*0.067* [3]	*15,000*	*42*	*39*	*120,000*	*0.3*	*23*	*3,100*	*80*	*390*	*86* [4]	*390*	*390*	*0.78*	*390*	*23,000*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)				31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	71 / 5.2	120, 000 /36,000	0.3 / --	23 / --	3,100 / --	400 / 80	390 / --	-- / --	390 / --	390 / 390	0.78 / --	390 / 390	23,000 / --	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)						**13.97** [3]					**6.1** [3]					**168.1** [3]						

Table 2 - Metals
Soil Sample Test Results: CAM 17 METALS Analysis
Former Clusters Junkyard, 511 Ohlone Parkway, Watsonville
All soil results are in milligrams per Kilogram (mg/Kg)

Sample Info				Laboratory Results: CAM 17 Metals plus Mercury																		
Date Sampled	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	Antimony	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
December 2003 - continued - (Sampled by Weber Hayes and Associates)	B-78(w)	Chaz # - 2a,2b,2c	0.5	---	---	---	---	---	ND	54	---	---	---	26	---	84	---	---	---	---	71	---
			2	---	---	---	---	---	ND	57	---	---	---	38	---	83	---	---	---	---	69	---
	B-79(w)	Gerrys #- 1a,1b,1c	0.5	---	---	---	---	---	ND	43	---	---	---	29	---	66	---	---	---	---	81	0.068
			2	---	---	---	---	---	ND	46	---	---	---	28	---	74	---	---	---	---	53	---
	B-80(w)	Gerrys #- 2a,2b,2c	0.5	---	---	---	---	---	ND	51	---	---	---	17	---	100	---	---	---	---	61	0.087
			2	---	---	---	---	---	ND	56	---	---	---	21	---	83	---	---	---	---	67	---
	B-81(w)	Gerrys # - 3a,3b,3c	0.5	---	---	---	---	---	ND	43	---	---	---	**130**	---	75	---	---	---	---	130	---
			2	---	---	---	---	---	ND	71	---	---	---	19	---	110	---	---	---	---	67	---
	B-81a(w)	Gerrys 3a	0.5	---	---	---	---	---	---	---	---	---	---	46	---	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	79	---	---	---	---	---	---	---	---	---	---	---	---
	B-81b(w)	Gerrys 3b	0.5	---	---	---	---	---	---	---	---	---	---	**110**	---	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	72	---	---	---	---	---	---	---	---	---	---	---	---
	B-81c(w)	Gerrys 3c	0.5	---	---	---	---	---	---	---	---	---	---	15	---	---	---	---	---	---	---	---
			2	---	---	---	---	---	---	71	---	---	---	---	---	---	---	---	---	---	---	---
	B-82(w)	Gerrys # - 4a,4b,4c	0.5	---	---	---	---	---	ND	50	---	---	---	47	---	87	---	---	---	---	86	---
			2	---	---	---	---	---	ND	**78**	---	---	---	20	---	120	---	---	---	---	78	---
	B-82a(w)	Gerrys 4a	2	---	---	---	---	---	---	97	---	---	---	---	---	---	---	---	---	---	---	---
	B-82b(w)	Gerrys 4b	2	---	---	---	---	---	---	77	---	---	---	---	---	---	---	---	---	---	---	---
	B-82c(w)	Gerrys 4c	2	---	---	---	---	---	---	77	---	---	---	---	---	---	---	---	---	---	---	---
	B-85(w)	JV # - 1a,1b,1c	0.5	---	---	---	---	---	ND	49	---	---	---	**60**	---	91	---	---	---	---	320	---
			2	---	---	---	---	---	ND	49	---	---	---	22	---	77	---	---	---	---	58	---
	B-85a(w)	JV 1a	0.5	---	---	---	---	---	---	---	---	---	---	48	---	---	---	---	---	---	---	---
	B-85b(w)	JV 1b	0.5	---	---	---	---	---	---	---	---	---	---	16	---	---	---	---	---	---	---	---
	B-85c(w)	JV 1c	0.5	---	---	---	---	---	---	---	---	---	---	17	---	---	---	---	---	---	---	---
	B-86(w)	Residence #- 1a,1b,1c	0.5	---	---	---	---	---	ND	45	---	---	---	15	---	68	---	---	---	---	42	---
			2	---	---	---	---	---	ND	53	---	---	---	18	---	78	---	---	---	---	51	---
	B-88(w)	Bay City # - 1a,1b,1c	0.5	---	---	---	---	---	ND	53	---	---	---	28	---	63	---	---	---	---	110	---
			2	---	---	---	---	---	ND	56	---	---	---	18	---	65	---	---	---	---	50	---
	B-89(w)	Bay City # - 2a,2b,2c	0.5	---	---	---	---	---	ND	46	---	---	---	44	---	56	---	---	---	---	120	---
			2	---	---	---	---	---	ND	50	---	---	---	48	---	98	---	---	---	---	120	---
RWQCB Environmental Screening Levels Residential				*31*	*NE*	*0.067* [3]	*15,000*	*42*	*39*	*120,000*	*0.3*	*23*	*3,100*	*80*	*390*	*86* [4]	*390*	*390*	*0.78*	*390*	*23,000*	*13*
US EPA RLs / DTSC-Modified SLs (Residential)				31 / --	77,000 / --	0.68 / 0.11	15,000 / --	160 / 15	71 / 5.2	120, 000 /36,000	0.3 / --	23 / --	3,100 / --	400 / 80	390 / --	-- / --	390 / --	390 / 390	0.78 / --	390 / 390	23,000 / --	11 / 1.0
Site Specific, Background Concentrations (Naturally-Occurring Metals)						**13.97** [3]					**6.1** [3]					**168.1** [3]						

Appendix C-2:

2018, April 19

Thomas Harder & Company

Response to Additional Technical Comments issued by SC-HSA's 3rd-Party Toxicologist
(agency emailed comments dated *December 5th*).

Thomas Harder & Co.
Groundwater Consulting

April 19, 2018

Mr. Pat Hoban, PG
Weber, Hayes & Associates
120 Westgate Drive
Watsonville, California 95076

Re: Response to Huntley review of TH&Co Response to Comments for:
***Remedial Action Plan (RAP)* dated September 13, 2017**
***Site Preparation Tasks for Redevelopment (SPTR)* dated July 13, 2017**
Former Clusters Storage Yard
511 Ohlone Parkway
Watsonville, California

Dear Mr. Hoban:

As you are aware, Thomas Harder & Company (TH&Co) provided responses to comments (RTCs) provided by Huntley Environmental (Huntley) to the Remedial Action Plan (RAP) and Site Preparation Tasks for Redevelopment (SPTR) for the Former Clusters Storage Yard located at 511 Ohlone Parkway in Watsonville, California. The TH&Co response to comment report is dated October 26, 2017. Huntley responded to this report via electronic mail (email) with three comments. As requested, this letter response addresses Comment 1 of the Huntley email which is as follows:

Huntley Comment 1: *I found no errors or concerns with the calculation of cumulative cancer risks and noncancer hazards (sum of hazard quotients [HQs]) as was done for TPH-diesel, TPH-motor oil, and naphthalene. I also agree with TH&Co that including lead in cumulative risk/hazard calculations would not be appropriate. I note that TH&Co indicated in the RTCs that comparison of lead concentrations to applicable ESLs were presented in Tables 3a and 3b, however, these tables were not provided in the RTCs.*[1] *Nevertheless, the lead data provided in "Enclosure A Table 2 from RAP", as included in the RTCs, were sufficient for my review. Cumulative risk and*

[1] **Table 3a** and **Table 3b** are included herein along with Table 1a, Table 1b, Table 2a, and Table 2b as provided in our October RTC report for the sake of completeness.

hazard calculations for arsenic, chromium VI, and nickel were not done as these three constituents were deferred to a supplemental site-specific background evaluation presented as Attachment 1 to the RTCs. It may be helpful to calculate cumulative risks and hazards using 95%UCL concentrations rather than individual sample concentrations. It appears that if 95%UCLs were used as the exposure point concentrations, then it is possible that individual COPC and cumulative HQs and risks for all COPCs (other than lead) may be within acceptable ranges. If risk estimates were further refined using 95%UCLs, it would still be important to evaluate potential hot spots, particularly for TPH-motor oil and lead. As indicated in my previous comments it will be important to clearly describe the basis for remediating soil to a depth of 2 ft in the revised RAP.

TH&Co Response to Huntley Comment 1

For purposes of discussion, Comment 1 is subdivided as two separate comments below.

95% UCL and hot spot comment

The COPCs evaluated in our October RTC report were:

- Total petroleum hydrocarbons as diesel (TPH-d);
- Total petroleum hydrocarbons as motor oil (TPH-mo);
- Naphthalene; and
- Lead.

Inspection of these the sample-specific risk tables (Table 1a, 1b, 2a, 2b, 3a, and 3b) reveals that TPH-d, TPH-mo, and lead exceed risk benchmark levels for some samples. The 95% UCLs (rounded to the nearest mg/kg) for these three COPCs using the method detection limits (MDLs) for 'non-detect' (ND) sample results[2] and including all results for non-log-transformed datasets are as follows (see **Attachment 2** for ProUCL[3] output):

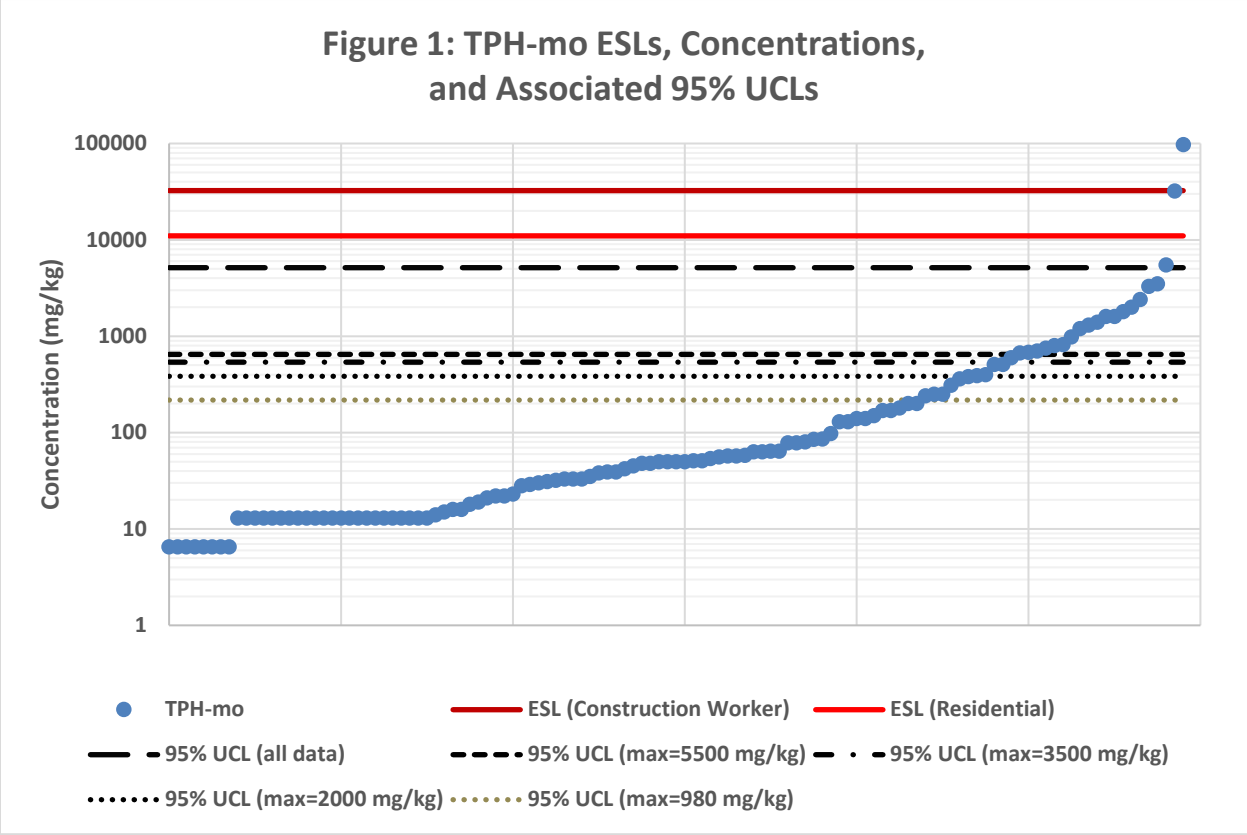
- TPH-d: 98 mg/kg;
- TPH-mo: 5143 mg/kg; and
- Lead: 220 mg/kg.

Given the most stringent (residential) risk benchmark levels for these COPCs (230, 11000, and 80 mg/kg, respectively), lead is the only COPC with a 95% UCL that exceeds its risk benchmark as correctly stated in the Huntley comment. That is, use of a 95% UCL would eliminate risk concerns associated with TPH-d and TPH-mo.

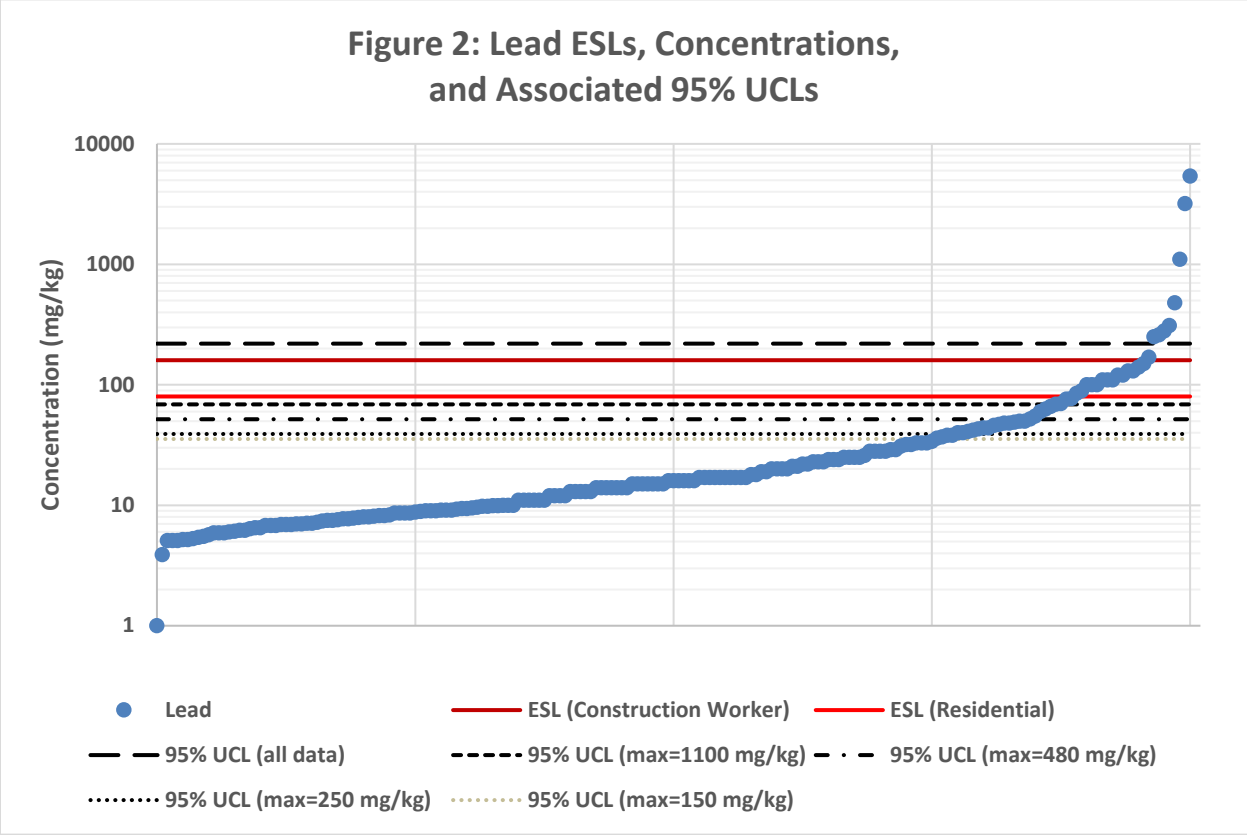
[2] A revised version of Table 4 from the RAP in which the "ND" designations" have been replaced with the MDLs is included as **Attachment 1**.

[3] U.S. Environmental Protection Agency, 2015 (Ashtok, A.S. and A.K. Singh). ProUCL Version 5.1.002 Technical Guide, Statistical Software for Environmental Applications for Data Sets With and Without Nondetect Observations. EPA/600/R-07/041. October.

To address the Huntley comment that hot spots be evaluated, particularly for TPH-mo and lead, the 95% UCLs associated with sequential elimination of the highest concentration samples are plotted as shown on the figures below.



The TPH-mo chart (**Figure 1**) shows that for the entire dataset (i.e., the case in which no hot spots are removed), the 95% UCL (5143 mg/kg) does not exceed either ESL as noted above. If the two highest TPH-mo concentrations are removed – both of which exceed the residential ESL – the resulting dataset has a maximum concentration of 5500 mg/kg and the 95% UCL decreases from 5143 to 648 mg/kg. Additional hot spot removals result in comparatively negligible decreases in the 95% UCL.



The lead chart (**Figure 2**) shows that for the entire dataset (i.e., the case in which no hot spots are removed), the 95% UCL (220 mg/kg) exceeds both ESLs as noted above. If the two highest lead concentrations are removed – 3200 and 5400 mg/kg – the resulting dataset has a maximum concentration of 1100 mg/kg and the 95% UCL decreases from 220 to 69 mg/kg, which is below both ESLs. Additional hot spot removals result in comparatively negligible decreases in the 95% UCL.

Remediation depth comment

The fact that the risk benchmark exceedances are limited to the upper 2 feet except for TPH-mo at 8 feet at T-16(t) at 97000 mg/kg and lead at 6 feet at T-11(t) at 3200 mg/kg provides the basis for the removal depth of 2 feet. As noted in our response to Huntley Comment 8 in our October RTC report, over-excavation and subsequent confirmation sampling will be conducted at those locations at which ESL exceedances were not vertically defined.

CLOSING

The analysis presented here indicates that some limited hot spot removal for lead may be warranted. If you have any questions, please contact me at the phone numbers or electronic mail address listed below.

Sincerely,

Jim Van de Water, P.G., C.HG.
Principal Hydrogeologist
949 795-0855 (cell)
949 779-3875 (office)
jimvdw@thomashardercompany.com

TABLES

Table 1a, Table 1b, Table 2a, and Table 2b are
provided in the October Response to Comments

--

The following Tables 3a & 3b are
Comparisons of Lead Concentrations to
Residential & Construction Worker ESL Values

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID		Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-1(t)	TB-1		0.5	--	80	-	-
B-2(t)	TB-2		0.5	--	80	-	-
B-3(t)	TB-3		0.5	12	80	No	-
			1.5	140	80	Yes	1.5
			2.5	--	80	-	-
			4	--	80	-	-
B-4(t)	TB-4		0.5	--	80	-	-
B-5(t)	TB-5		0.5	--	80	-	-
B-6(t)	TB-6		0.75	--	80	-	-
B-7(t)	TB-7		0.5	--	80	-	-
B-8(t)	TB-8		0.5	23	80	No	-
			1.5	--	80	-	-
			2.5	--	80	-	-
			4	--	80	-	-
B-9(t)	TB-9		0.5	40	80	No	-
			1.5	--	80	-	-
			2.5	--	80	-	-
			4	--	80	-	-
T-1(t)	Area 1	T4	4	--	80	-	-
T-2(t)		T6	3.5	20	80	No	-
T-3(t)		T9	2	29	80	No	-
T-4(t)		T10	1	6.8	80	No	-
T-5(t)		T11	1.5	--	80	-	-
T-6(t)		T12	1	76	80	No	-
T-7(t)	Area 2	T6	1	8.6	80	No	-
T-8(t)		T12	2	22	80	No	-
T-9(t)		T15	2	55	80	No	-
T-10(t)	Area 3	T1	3	--	80	-	-
T-11(t)	Area 5	T1	6	3,200	80	Yes	6
T-12(t)		T3	2	1,100	80	Yes	2
T-13(t)		T5	3	--	80	-	-
T-14(t)		T10	4	16	80	No	-
T-15(t)	Area 6	T1	2	130	80	Yes	2
T-16(t)		T1*	8	310	80	Yes	8
T-17(t)	Area 8	T1	2	120	80	Yes	2
T-18(t)		Debris	--	50	80	No	-
B-10(w)	SB-1		0.5	63	80	No	-
			2	13	80	No	-
B-11(w)	SB-2		0.5	110	80	Yes	0.5
			2	9.9	80	No	-
B-12(w)	SB-3		0.5	250	80	Yes	0.5
			2	17	80	No	-
B-13(w)	SB-4		0.5	52	80	No	-
			2	14	80	No	-

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-14(w)	SB-5	0.5	23	80	No	-
		2	6.9	80	No	-
B-41(L)	R-2	0.5	6.9	80	No	-
		2	5.5	80	No	-
		3	5.2	80	No	-
B-42(L)	R-3	1	5.4	80	No	-
		3	5.9	80	No	-
B-43(L)	GZ-1	2	9.4	80	No	-
		3	5.1	80	No	-
B-44(L)	GZ-2	1	44	80	No	-
		3	9.8	80	No	-
B-45(L)	BC-1	3	13	80	No	-
		5	9	80	No	-
		7	33	80	No	-
B-46(L)	BC-2	3	21	80	No	-
		5	25	80	No	-
		7	8.9	80	No	-
B-47(L)	BC-3	3	11	80	No	-
		5	9.3	80	No	-
		7	17	80	No	-
B-48(L)	BC-4	3	17	80	No	-
		5	6.5	80	No	-
		7	7.6	80	No	-
B-49(L)	CZ-1	2	1	80	No	-
		4	10	80	No	-
B-50(L)	CZ-2	1	6.9	80	No	-
		3	6.8	80	No	-
		7	7.7	80	No	-
		11	7.9	80	No	-
B-51(L)	CZ-3	2	8.2	80	No	-
B-52(L)	G+G-1	2	8	80	No	-
		4	10	80	No	-
		6	77	80	No	-
B-53(L)	G+G-2	2	6.8	80	No	-
		4	6.5	80	No	-
		6	3.9	80	No	-
B-54(L)	G+G-3	0.5	7	80	No	-
		2	6.4	80	No	-
B-55(L)	G+G-4	0.5	24	80	No	-
		2	6	80	No	-
		3	9.1	80	No	-
B-56(L)	G+G-5	2	5.1	80	No	-
		4	5.1	80	No	-

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-57(L)	G+G-6	2	7.2	80	No	-
		4	5.3	80	No	-
B-69(w)	G&G# - 5a,5b,5c	0.5	32	80	No	-
		2	17	80	No	-
B-69a(w)	G&G 5a	0.5	37	80	No	-
B-69b(w)	G&G 5b	0.5	33	80	No	-
B-69c(w)	G&G 5c	0.5	69	80	No	-
B-72(w)	Gonzalez# - 1a, 1b, 1c	0.5	17	80	No	-
		2	14	80	No	-
B-73(w)	Gonzalez# - 2a, 2b, 2c	0.5	100	80	Yes	0.5
		2	16	80	No	-
B-73a(w)	Gonzalez 2a	0.5	33	80	No	-
B-73b(w)	Gonzalez 2b	0.5	120	80	Yes	0.5
B-73c(w)	Gonzalez 2c	0.5	85	80	Yes	0.5
B-74(w)	Clusters# - 1a,1b,1c	0.5	16	80	No	-
		2	20	80	No	-
B-75(w)	Clusters# - 2a,2b,2c	0.5	16	80	No	-
		2	17	80	No	-
B-76(w)	Clusters# - 3a,3b,3c	0.5	41	80	No	-
		2	31	80	No	-
B-77(w)	Chaz #- 1a,1b,1c	0.5	34	80	No	-
		2	100	80	Yes	2
B-77a(w)	Chaz 1a	2	280	80	Yes	2
B-77b(w)	Chaz 1b	2	36	80	No	-
B-77c(w)	Chaz 1c	2	19	80	No	-
B-78(w)	Chaz # - 2a,2b,2c	0.5	26	80	No	-
		2	38	80	No	-
B-79(w)	Gerrys #- 1a,1b,1c	0.5	29	80	No	-
		2	28	80	No	-
B-80(w)	Gerrys #- 2a,2b,2c	0.5	17	80	No	-
		2	21	80	No	-
B-81(w)	Gerrys # - 3a,3b,3c	0.5	130	80	Yes	0.5
		2	19	80	No	-
B-81a(w)	Gerrys 3a	0.5	46	80	No	-
		2	--	80	-	-
B-81b(w)	Gerrys 3b	0.5	110	80	Yes	0.5
		2	--	80	-	-
B-81c(w)	Gerrys 3c	0.5	15	80	No	-
		2	--	80	-	-
B-82(w)	Gerrys # - 4a,4b,4c	0.5	47	80	No	-
		2	20	80	No	-

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-82a(w)	Gerrys 4a	2	--	80	-	-
B-82b(w)	Gerrys 4b	2	--	80	-	-
B-82c(w)	Gerrys 4c	2	--	80	-	-
B-85(w)	JV # - 1a,1b,1c	0.5	60	80	No	-
		2	22	80	No	-
B-85a(w)	JV 1a	0.5	48	80	No	-
B-85b(w)	JV 1b	0.5	16	80	No	-
B-85c(w)	JV 1c	0.5	17	80	No	-
B-86(w)	Residence #- 1a,1b,1c	0.5	15	80	No	-
		2	18	80	No	-
B-88(w)	Bay City # - 1a,1b,1c	0.5	28	80	No	-
		2	18	80	No	-
B-89(w)	Bay City # - 2a,2b,2c	0.5	44	80	No	-
		2	48	80	No	-
B-15(w)	SB-6	0.5	32	80	No	-
		2	7.5	80	No	-
B-16(w)	SB-7	0.5	13	80	No	-
		2	11	80	No	-
B-17(w)	SB-8	0.5	17	80	No	-
		2	9.5	80	No	-
B-18(w)	SB-9	0.5	38	80	No	-
		2	8	80	No	-
B-19(w)	SB-10	0.5	15	80	No	-
		2	8.6	80	No	-
B-20(w)	SB-11	0.5	24	80	No	-
		2	12	80	No	-
B-21(w)	SB-12	0.5	25	80	No	-
		2	15	80	No	-
B-22(w)	SB-13	0.5	17	80	No	-
		2	8.3	80	No	-
B-23(w)	SB-14	0.5	12	80	No	-
		2	13	80	No	-
B-24(w)	SB-15	0.5	8.1	80	No	-
		2	9.6	80	No	-
B-25(w)	DP-1	2	9.1	80	No	-
B-26(w)	DP-2	2	9.4	80	No	-
B-27(w)	DP-4	2	9	80	No	-
B-28(w)	DP-5	2	5.9	80	No	-
B-29(w)	DP-6	2	7.5	80	No	-
B-30(w)	DP-7	2	8.8	80	No	-
B-31(w)	DP-8	2	23	80	No	-
B-32(w)	DP-9	2	14	80	No	-
B-33(L)	CL-1	1	9.9	80	No	-
		3	6.2	80	No	-

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-34(L)	CL-2	2	9.8	80	No	-
		3	7.7	80	No	-
B-35(L)	CL-3	2	5.7	80	No	-
		3	5.9	80	No	-
B-36(L)	CL-4	4	7.1	80	No	-
B-37(L)	CL-5	1	9.1	80	No	-
		3	7	80	No	-
B-38(L)	CL-6	1	8.6	80	No	-
		3	7.1	80	No	-
		5	12	80	No	-
		7	14	80	No	-
B-39(L)	CL-8	5	15	80	No	-
B-40(L)	R-1	0.5	8.6	80	No	-
		2	7.8	80	No	-
B-58(L)	G+G-7	2	8.2	80	No	-
		3.5	11	80	No	-
B-59(L)	G-1	2	42	80	No	-
		3	5.2	80	No	-
B-60(L)	G-2	2	14	80	No	-
		3	14	80	No	-
B-61(L)	G-3	0.5	11	80	No	-
		2	11	80	No	-
		3	13	80	No	-
B-62(L)	G-4	2	9	80	No	-
		3	7.4	80	No	-
B-63(L)	G-5	2	16	80	No	-
		4	15	80	No	-
		6	6.2	80	No	-
B-64(L)	G-6	2	6.1	80	No	-
		4	24	80	No	-
		6	10	80	No	-
SS-1(L)	SS-1	--	14	80	No	-
SS-2(L)	SS-2	--	28	80	No	-
SS-3(L)	SS-3	--	110	80	Yes	--
SS-4(L)	SS-4	--	15	80	No	-
SS-5(L)	SS-5	--	11	80	No	-
B-65(w)	G&G# - 1a,1b,1c	0.5	49	80	No	-
		2	70	80	No	-
B-65a(w)	G&G 1a	2	25	80	No	-
B-65b(w)	G&G 1b	2	89	80	Yes	2
B-65c(w)	G&G 1c	2	50	80	No	-

TABLE 3a
Comparison of Lead Concentrations to Residential ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-66(w)	G&G# - 2a,2b,2c	0.5	40	80	No	-
		2	43	80	No	-
B-67(w)	G&G# - 3a,3b,3c	0.5	28	80	No	-
		2	20	80	No	-
B-67a(w)	G&G 3a	2	--	80	-	-
B-67b(w)	G&G 3b	2	--	80	-	-
B-67c(w)	G&G 3c	2	--	80	-	-
B-68(w)	G&G# - 4a,4b,4c	0.5	5400	80	Yes	0.5
		2	66	80	No	-
B-68a(w)	G&G 4a	0.5	100	80	Yes	0.5
		2	260	80	Yes	2
B-68b(w)	G&G 4b	0.5	170	80	Yes	0.5
		2	150	80	Yes	2
B-68c(w)	G&G 4c	0.5	480	80	Yes	0.5
		2	25	80	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID		Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-1(t)	TB-1		0.5	--	160	-	-
B-2(t)	TB-2		0.5	--	160	-	-
B-3(t)	TB-3		0.5	12	160	No	-
			1.5	140	160	No	-
			2.5	--	160	-	-
			4	--	160	-	-
B-4(t)	TB-4		0.5	--	160	-	-
B-5(t)	TB-5		0.5	--	160	-	-
B-6(t)	TB-6		0.75	--	160	-	-
B-7(t)	TB-7		0.5	--	160	-	-
B-8(t)	TB-8		0.5	23	160	No	-
			1.5	--	160	-	-
			2.5	--	160	-	-
			4	--	160	-	-
B-9(t)	TB-9		0.5	40	160	No	-
			1.5	--	160	-	-
			2.5	--	160	-	-
			4	--	160	-	-
T-1(t)	Area 1	T4	4	--	160	-	-
T-2(t)		T6	3.5	20	160	No	-
T-3(t)		T9	2	29	160	No	-
T-4(t)		T10	1	6.8	160	No	-
T-5(t)		T11	1.5	--	160	-	-
T-6(t)		T12	1	76	160	No	-
T-7(t)	Area 2	T6	1	8.6	160	No	-
T-8(t)		T12	2	22	160	No	-
T-9(t)		T15	2	55	160	No	-
T-10(t)	Area 3	T1	3	--	160	-	-
T-11(t)	Area 5	T1	6	3,200	160	Yes	6
T-12(t)		T3	2	1,100	160	Yes	2
T-13(t)		T5	3	--	160	-	-
T-14(t)		T10	4	16	160	No	-
T-15(t)	Area 6	T1	2	130	160	No	-
T-16(t)		T1*	8	310	160	Yes	8
T-17(t)	Area 8	T1	2	120	160	No	-
T-18(t)		Debris	--	50	160	No	-
B-10(w)	SB-1		0.5	63	160	No	-
			2	13	160	No	-
B-11(w)	SB-2		0.5	110	160	No	-
			2	9.9	160	No	-
B-12(w)	SB-3		0.5	250	160	Yes	0.5
			2	17	160	No	-
B-13(w)	SB-4		0.5	52	160	No	-
			2	14	160	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-14(w)	SB-5	0.5	23	160	No	-
		2	6.9	160	No	-
B-41(L)	R-2	0.5	6.9	160	No	-
		2	5.5	160	No	-
		3	5.2	160	No	-
B-42(L)	R-3	1	5.4	160	No	-
		3	5.9	160	No	-
B-43(L)	GZ-1	2	9.4	160	No	-
		3	5.1	160	No	-
B-44(L)	GZ-2	1	44	160	No	-
		3	9.8	160	No	-
B-45(L)	BC-1	3	13	160	No	-
		5	9	160	No	-
		7	33	160	No	-
B-46(L)	BC-2	3	21	160	No	-
		5	25	160	No	-
		7	8.9	160	No	-
B-47(L)	BC-3	3	11	160	No	-
		5	9.3	160	No	-
		7	17	160	No	-
B-48(L)	BC-4	3	17	160	No	-
		5	6.5	160	No	-
		7	7.6	160	No	-
B-49(L)	CZ-1	2	1	160	No	-
		4	10	160	No	-
B-50(L)	CZ-2	1	6.9	160	No	-
		3	6.8	160	No	-
		7	7.7	160	No	-
		11	7.9	160	No	-
B-51(L)	CZ-3	2	8.2	160	No	-
B-52(L)	G+G-1	2	8	160	No	-
		4	10	160	No	-
		6	77	160	No	-
B-53(L)	G+G-2	2	6.8	160	No	-
		4	6.5	160	No	-
		6	3.9	160	No	-
B-54(L)	G+G-3	0.5	7	160	No	-
		2	6.4	160	No	-
B-55(L)	G+G-4	0.5	24	160	No	-
		2	6	160	No	-
		3	9.1	160	No	-
B-56(L)	G+G-5	2	5.1	160	No	-
		4	5.1	160	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-57(L)	G+G-6	2	7.2	160	No	-
		4	5.3	160	No	-
B-69(w)	G&G# - 5a,5b,5c	0.5	32	160	No	-
		2	17	160	No	-
B-69a(w)	G&G 5a	0.5	37	160	No	-
B-69b(w)	G&G 5b	0.5	33	160	No	-
B-69c(w)	G&G 5c	0.5	69	160	No	-
B-72(w)	Gonzalez# - 1a, 1b, 1c	0.5	17	160	No	-
		2	14	160	No	-
B-73(w)	Gonzalez# - 2a, 2b, 2c	0.5	100	160	No	-
		2	16	160	No	-
B-73a(w)	Gonzalez 2a	0.5	33	160	No	-
B-73b(w)	Gonzalez 2b	0.5	120	160	No	-
B-73c(w)	Gonzalez 2c	0.5	85	160	No	-
B-74(w)	Clusters# - 1a,1b,1c	0.5	16	160	No	-
		2	20	160	No	-
B-75(w)	Clusters# - 2a,2b,2c	0.5	16	160	No	-
		2	17	160	No	-
B-76(w)	Clusters# - 3a,3b,3c	0.5	41	160	No	-
		2	31	160	No	-
B-77(w)	Chaz #- 1a,1b,1c	0.5	34	160	No	-
		2	100	160	No	-
B-77a(w)	Chaz 1a	2	280	160	Yes	2
B-77b(w)	Chaz 1b	2	36	160	No	-
B-77c(w)	Chaz 1c	2	19	160	No	-
B-78(w)	Chaz # - 2a,2b,2c	0.5	26	160	No	-
		2	38	160	No	-
B-79(w)	Gerrys #- 1a,1b,1c	0.5	29	160	No	-
		2	28	160	No	-
B-80(w)	Gerrys #- 2a,2b,2c	0.5	17	160	No	-
		2	21	160	No	-
B-81(w)	Gerrys # - 3a,3b,3c	0.5	130	160	No	-
		2	19	160	No	-
B-81a(w)	Gerrys 3a	0.5	46	160	No	-
		2	--	160	-	-
B-81b(w)	Gerrys 3b	0.5	110	160	No	-
		2	--	160	-	-
B-81c(w)	Gerrys 3c	0.5	15	160	No	-
		2	--	160	-	-
B-82(w)	Gerrys # - 4a,4b,4c	0.5	47	160	No	-
		2	20	160	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-82a(w)	Gerrys 4a	2	--	160	-	-
B-82b(w)	Gerrys 4b	2	--	160	-	-
B-82c(w)	Gerrys 4c	2	--	160	-	-
B-85(w)	JV # - 1a,1b,1c	0.5	60	160	No	-
		2	22	160	No	-
B-85a(w)	JV 1a	0.5	48	160	No	-
B-85b(w)	JV 1b	0.5	16	160	No	-
B-85c(w)	JV 1c	0.5	17	160	No	-
B-86(w)	Residence #- 1a,1b,1c	0.5	15	160	No	-
		2	18	160	No	-
B-88(w)	Bay City # - 1a,1b,1c	0.5	28	160	No	-
		2	18	160	No	-
B-89(w)	Bay City # - 2a,2b,2c	0.5	44	160	No	-
		2	48	160	No	-
B-15(w)	SB-6	0.5	32	160	No	-
		2	7.5	160	No	-
B-16(w)	SB-7	0.5	13	160	No	-
		2	11	160	No	-
B-17(w)	SB-8	0.5	17	160	No	-
		2	9.5	160	No	-
B-18(w)	SB-9	0.5	38	160	No	-
		2	8	160	No	-
B-19(w)	SB-10	0.5	15	160	No	-
		2	8.6	160	No	-
B-20(w)	SB-11	0.5	24	160	No	-
		2	12	160	No	-
B-21(w)	SB-12	0.5	25	160	No	-
		2	15	160	No	-
B-22(w)	SB-13	0.5	17	160	No	-
		2	8.3	160	No	-
B-23(w)	SB-14	0.5	12	160	No	-
		2	13	160	No	-
B-24(w)	SB-15	0.5	8.1	160	No	-
		2	9.6	160	No	-
B-25(w)	DP-1	2	9.1	160	No	-
B-26(w)	DP-2	2	9.4	160	No	-
B-27(w)	DP-4	2	9	160	No	-
B-28(w)	DP-5	2	5.9	160	No	-
B-29(w)	DP-6	2	7.5	160	No	-
B-30(w)	DP-7	2	8.8	160	No	-
B-31(w)	DP-8	2	23	160	No	-
B-32(w)	DP-9	2	14	160	No	-
B-33(L)	CL-1	1	9.9	160	No	-
		3	6.2	160	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-34(L)	CL-2	2	9.8	160	No	-
		3	7.7	160	No	-
B-35(L)	CL-3	2	5.7	160	No	-
		3	5.9	160	No	-
B-36(L)	CL-4	4	7.1	160	No	-
B-37(L)	CL-5	1	9.1	160	No	-
		3	7	160	No	-
B-38(L)	CL-6	1	8.6	160	No	-
		3	7.1	160	No	-
		5	12	160	No	-
		7	14	160	No	-
B-39(L)	CL-8	5	15	160	No	-
B-40(L)	R-1	0.5	8.6	160	No	-
		2	7.8	160	No	-
B-58(L)	G+G-7	2	8.2	160	No	-
		3.5	11	160	No	-
B-59(L)	G-1	2	42	160	No	-
		3	5.2	160	No	-
B-60(L)	G-2	2	14	160	No	-
		3	14	160	No	-
B-61(L)	G-3	0.5	11	160	No	-
		2	11	160	No	-
		3	13	160	No	-
B-62(L)	G-4	2	9	160	No	-
		3	7.4	160	No	-
B-63(L)	G-5	2	16	160	No	-
		4	15	160	No	-
		6	6.2	160	No	-
B-64(L)	G-6	2	6.1	160	No	-
		4	24	160	No	-
		6	10	160	No	-
SS-1(L)	SS-1	--	14	160	No	-
SS-2(L)	SS-2	--	28	160	No	-
SS-3(L)	SS-3	--	110	160	No	-
SS-4(L)	SS-4	--	15	160	No	-
SS-5(L)	SS-5	--	11	160	No	-
B-65(w)	G&G# - 1a,1b,1c	0.5	49	160	No	-
		2	70	160	No	-
B-65a(w)	G&G 1a	2	25	160	No	-
B-65b(w)	G&G 1b	2	89	160	No	-
B-65c(w)	G&G 1c	2	50	160	No	-

TABLE 3b
Comparison of Lead Concentrations to Construction Worker ESL Value

UPDATED Sample ID	ORIGINAL Consultant ID	Depth (ft)	Lead (mg/kg)	Lead ESL (mg/kg)	ESL Exceedance?	Depth of ESL Exceedance (ft)
B-66(w)	G&G# - 2a,2b,2c	0.5	40	160	No	-
		2	43	160	No	-
B-67(w)	G&G# - 3a,3b,3c	0.5	28	160	No	-
		2	20	160	No	-
B-67a(w)	G&G 3a	2	--	160	-	-
B-67b(w)	G&G 3b	2	--	160	-	-
B-67c(w)	G&G 3c	2	--	160	-	-
B-68(w)	G&G# - 4a,4b,4c	0.5	5400	160	Yes	0.5
		2	66	160	No	-
B-68a(w)	G&G 4a	0.5	100	160	No	-
		2	260	160	Yes	2
B-68b(w)	G&G 4b	0.5	170	160	Yes	0.5
		2	150	160	No	-
B-68c(w)	G&G 4c	0.5	480	160	Yes	0.5
		2	25	160	No	-

ATTACHMENT 1

Revised Table 4 of the RAP

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						Comments (& Co-Located Exceedences)
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		
October 2016 (sampled by Trinity Source Group)	B-3(t)	TB-3	0.5	< 30	3,500	< 120	< 0.0050 (ND) (0.31 by 8270C)	--	**Napthalene = 0.31** **Indeno (1,2,3-c,d) pyrene = 0.21** All Others = Trace Detections [3]	
			1.5	< 12	1,800	**220**	**0.036** (1.5 by 8270c)	--	**Napthalene = 1.5** All Others = Trace Detections [3]	Co-located Lead Exceedance
	B-8(t)	TB-8	0.5	< 120	**32,000**	< 500	0.013 (0.22 by 8270c)	--	**Napthalene = 0.22** All Others = Trace Detections [3]	
	B-9(t)	TB-9	0.5	--	--	--	--	--	**Napthalene = 0.067** **Benzo(a)pyrene = 0.12** Benzo(a)anthracene = 0.39 All Others = Trace Detections [3]	
	T-2(t)	Area 1 T6	3.5	< 1.2	85^	--	< 0.0050 (ND)	Freon 11 =.0019	Trace Detections [3]	
	T-3(t)	Area 1 T9	2	94	240^	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-4(t)	Area 1 T10	1	< 1.2	32	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-6(t)	Area 1 T12	1	< 1.2	250^	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-7(t)	Area 2 T6	1	< 1.2	< 6.5	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-8(t)	Area 2 T12	2	< 2.4	400	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-9(t)	Area 2 T15	2	< 2.4	510	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-11(t)	Area 5 T1	6	< 6	680	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-12(t)	Area 5 T3	2	< 2.4	800	--	< 0.0050 (ND)	ND	**Napthalene = 0.043** All Others = Trace Detections [3]	Co-located Lead Exceedance
	T-14(t)	Area 5 T10	4	< 1.2	18^	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-15(t)	Area 6 T1	2	< 24	2,000	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-16(t)	Area 6 T1*	8	< 950	**97,000**	--	< 0.0050 (ND)	ND	**Napthalene = 0.28** All Others = Trace Detections [3]	Co-located Lead Exceedance
	T-17(t)	Area 8 T1	2	< 2.3	51^	--	< 0.0050 (ND)	ND	Trace Detections [3]	
	T-18(t)	Area 8 Debris	--	< 24	1,600	--	< 0.0050 (ND)	ND	**Napthalene = 0.067** All Others = Trace Detections [3]	Co-located Lead & Arsenic Exceedance
Environmental Screening Levels [1] **Residential**				**230**	**5,100**	**100**	**0.033 (leaching)** **3.3 (human health)**	**Freon 11** = Not Established	**Napthalene =** **0.033 (leaching) & 3.3 (human health)** **Benzo(a)pyrene =** **0.016** **Benzo(a)anthracene = 1.6**	
US EPA RLs / DTSC-Modified SLs				**Not Established**			**3.8 /Not established**	**Freon 11** = **23,000 / 1,200**	**Napthalene =** **0.067 / Not established** **Benzo(a)pyrene =** **0.11 / Not established** **Benzo(a)anthracene =** **1.1 / Not established**	

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						Comments (& Co-Located Exceedences)
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		
June 2016 (Sampled by Weber Hayes and Associates)	B-10(w)	SB-1	0.5	180*[J]	2,400	--	--	--	--	
			2	< 1.2	22	--	--	--	--	
	B-11(w)	SB-2	0.5	**670***	**5,500**	--	--	--	--	Co-located Lead Exceedance
			2	4.8*[J]	39	--	< 0.0050	ND	--	
	B-12(w)	SB-3	0.5	8.3*[J]	80	--	--	--	--	
			2	< 1.2	29	--	--	--	--	
	B-13(w)	SB-4	0.5	3.5*[J]	45	--	--	--	--	
			2	6.2*[J]	38	--	--	--	--	
	B-14(w)	SB-5	0.5	60*^	820^	--	--	--	--	
			2	8.9*[J]	63	--	--	--	--	
	B-15(w)	SB-6	0.5	15*	170	--	--	--	--	
			2	< 1.2	< 6.5	--	--	--	--	
	B-16(w)	SB-7	0.5	6.5*[J]	63	--	--	--	--	
			2	< 1.2	< 6.5	--	--	--	--	
	B-17(w)	SB-8	0.5	53*^	750^	--	--	--	--	
			2	4.9*[J]	51	--	--	--	--	
	B-18(w)	SB-9	0.5	110*[J]	1,300	--	--	--	--	
			2	10*	98	--	--	--	--	
	B-19(w)	SB-10	0.5	7.1*[J]	48	--	--	--	--	
			2	< 1.2	< 6.5	--	--	--	--	
	B-20(w)	SB-11	0.5	12*	150	--	--	--	--	
			2	< 1.2	21	--	--	--	--	
	B-21(w)	SB-12	0.5	33^[J]	380^	--	--	--	--	
			2	18*	78	--	--	--	--	
	B-22(w)	SB-13	0.5	7.1*[J]	64	--	--	--	--	
			2	< 1.2	19*[J]	--	--	--	--	
	B-23(w)	SB-14	0.5	150*[J]	1,600	--	--	--	--	
			2	< 1.2	< 6.5	--	--	--	--	
Environmental Screening Levels [(1)] Residential				**230**	**5,100**	**100**				
US EPA RLs / DTSC-Modified SLs				**Not Established**						

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						Comments (& Co-Located Exceedences)
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		
June 20	B-24(w)	SB-15	0.5	10*	140	--	--	--	--	
			2	< 1.2	28	--	--	--	--	
	B-25(w)	DP-1	2	< 1.2	< 6.5	--	--	--	--	
	B-26(w)	DP-2	2	< 1.2	< 6.5	--	--	--	--	
	B-27(w)	DP-4	2	5.2^J	14^J	--	0.023	sec-Butylbenzene = 0.0017J n-Propylbenzene = 0.0038J 1,2,4-Trimethylbenzene = 0.025 1,3,5-Trimethylbenzene = 0.065	--	
			4	--	--	--	< 0.0050	sec-Butylbenzene = 0.0017J n-Propylbenzene = 0.0038J 1,2,4-Trimethylbenzene = 0.025 1,3,5-Trimethylbenzene = 0.065	--	
	B-28(w)	DP-5	2	< 1.2	< 6.5	--	--	--	--	
	B-29(w)	DP-6	2	5.6^J	23^	--	< 0.0050	ND	--	
	B-30(w)	DP-7	2	7.3^J	42^	--	--	--	--	
	B-31(w)	DP-8	2	5.8^J	33^	--	--	--	--	
	B-32(w)	DP-9	2	43^	180^	--	--	--	--	
August 2004 (Sampled by Lowney Associates)	B-52(L)	G + G -1	2	< 1	< 50	--	--	--	--	
			4	< 1	< 50	--	--	--	--	
			6	160	1,200	--	--	--	--	
	B-55(L)	G + G -4	2	1.7	< 50	--	--	--	--	
			3	< 1	< 50	--	--	--	--	
December 2003 (Sampled by Weber Hayes and Associates)	B-65(w)	G&G# - 1a,1b,1c	0.5	68*	310	< 2.5	--	ND	--	
			2	< 1	< 13	< 2.5	--	ND	--	
	B-66(w)	G&G (2a,2b,2c)	0.5	25*	170	< 2.5	--	ND	--	
			2	110*	360	< 2.5	--	ND	--	
	B-66a(w)	G&G 2a	2	19*	78	---	--	---	--	
	B-66b(w)	G&G 2b	2	11*	33	---	--	---	--	
			4	3.6*	< 13	---	--	---	--	
	B-66c(w)	G&G 2c	2	21*	86	---	--	---	--	
Environmental Screening Levels (1) Residential				**230**	**5,100**	**100**	**0.033 (leaching) 3.3 (human health)**	**sec-Butylbenzene = NE n-Propylbenzene = NE 1,2,4-Trimethylbenzene = NE 1,3,5-Trimethylbenzene = NE**	**Varies**	
US EPA RLs / DTSC-Modified SLs				**Not Established**			**3.8 /Not established**	**sec-Butylbenzene = 7,800 / NE n-Propylbenzene = 58/NE 1,2,4-Trimethylbenzene = 58 /NE 1,3,5-Trimethylbenzene = 780 /210**	**Varies**	

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						Comments (& Co-Located Exceedences)
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		
December 2003 (Sampled by Weber Hayes and Associates)	B-67(w)	G&G (#3a,3b,3c)	0.5	60*	700	< 2.5	--	ND	--	
			2	< 1	< 13	< 2.5	--	ND	--	
	B-68(w)	G&G (#4a,4b,4c)	0.5	**620***	3,300	8.6*	--	**Toluene= 0.085 Ethylbenzene= 0.12 Xylene= 0.82**	--	Co-located with Lead Exceedance
			2	< 1	< 13	< 2.5	--	ND	--	
	B-69(w)	G&G (#5a,5b,5c)	0.5	< 1	< 13	---	--	---	--	
			2	< 1	< 13	---	--	---	--	
	B-70(w)	G&G (Discrete #1)	0.5	110*	510	< 2.5	--	ND	--	
			2	130*	980	< 2.5	--	ND	--	
			4	1.5*	< 13	---	--	---	--	
	B-71(w)	EB-1	20	< 1	< 13	---	--	---	--	
			40	1.1	< 13	---	--	---	--	
	B-72(w)	Gonzalez (# 1a, 1b, 1c)	0.5	6.1*	30	---	--	---	--	
			2	1.6*	< 13	---	--	---	--	
	B-73(w)	Gonzalez (#2a, 2b, 2c)	0.5	8.8*	58	< 2.5	--	ND	--	
			2	1.6*	< 13	< 2.5	--	ND	--	
	B-74(w)	Clusters (#1a,1b,1c)	0.5	< 1	< 13	---	--	---	--	
			2	6.4*	31	---	--	---	--	
	B-75(w)	Clusters (# 2a,2b,2c)	0.5	3.2*	16	---	--	---	--	
			2	< 1	< 13	---	--	---	--	
	B-76(w)	Clusters (#3a,3b,3c)	0.5	5.6*	57	---	--	---	--	
			2	4.0*	39	---	--	---	--	
	B-77(w)	Chaz (#1a,1b,1c)		31*	250	---	--	---	--	
			2	4.5*	35	---	--	---	--	
	B-78(w)	Chaz (#2a,2b,2c)	0.5	15*	130	---	--	---	--	
			2	5.3*	48	---	--	---	--	
Environmental Screening Levels [(1)] **Residential**				**230**	**5,100**	**100**	**0.033 (leaching) 3.3 (human health)**	**Toluene= 2.9 (leaching)/970 (human health) Ethylbenzene= 1.4 (leaching)/5.1 (human health) Xylene=.= 2.3 (leaching)/5.6 (human health)**	**Varies**	
US EPA RLs / DTSC-Modified SLs				**Not Established**			**3.8 /Not established**	**Toluene = 4,900 / 1,100 n-Ethylbenzene = 5.8/not established Xylenes = 580 /not established**	**Varies**	

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information				Laboratory Analytical Results						Comments (& Co-Located Exceedences)
				Fuel Fingerprint by EPA Method 6010B			Volatile Organic Compounds (VOCs) by EPA Method 8260B		Semivolatile Organic Compounds (SVOCs) by EPA 8270	
Sample Date	UPDATED Sample ID	ORIGINAL Consultant ID	Depth	TPH as DIESEL	TPH as MOTOR OIL	TPH as Gasoline	Naphthalene	All other VOCs		
December 2003 (Sampled by Weber Hayes and Associates)	B-79(w)	Gerrys (1a,1b,1c)	0.5	45*	200	< 2.5	--	ND	--	
			2	12*	57	< 2.5	--	ND	--	
	B-80(w)	Gerrys (#2a,2b,2c)	0.5	< 1	< 13	< 2.5	--	ND	--	
			2	62*	200	< 2.5	--	ND	--	
	B-80a(w)	Gerrys 2a	2	< 1	< 13	---	--	---	--	
	B-80b(w)	Gerrys 2b	2	190*	600	---	--	---	--	
			4	2.0*	< 13	---	--	---	--	
	B-80c(w)	Gerrys 2c	2	3.2*	16	---	--	---	--	
	B-81(w)	Gerrys (#3a,3b,3c)	0.5	170*	670	---	--	---	--	
			2	< 1	< 13	---	--	---	--	
	B-82(w)	Gerrys (#4a,4b,4c)	0.5	33*	130	---	--	---	--	
			2	< 1	< 13	---	--	---	--	
	B-83(w)	Gerrys (Discrete)	0.5	1.7*	< 13	< 2.5	--	ND	--	
			2	110	390	8.9	--	Toluene= 0.51 Ethylbenzene= 0.19 Xylene= 0.99	--	
			4	4.5*	< 13	---	--	---	--	
	B-85(w)	JV (1a,1b,1c)	0.5	8.6*	< 13	---	--	---	--	
			2	2.1*	< 13	---	--	---	--	
	B-86(w)	Residence (1a,1b,1c)	0.5	12*	56	---	--	---	--	
			2	34*	140	---	--	---	--	
	B-87(w)	Residence (#1, discrete)	0.5	14*	22*	< 2.5	--	ND	--	
			2	**500***	1,400*	< 2.5	--	ND	--	
			4	1.5*[6]	< 13	---	--	---	--	
	B-88(w)	Bay City (#1a,1b,1c)	0.5	6.3*	33	---	--	---	--	
			2	1.5*	15	---	--	---	--	
	B-89(w)	Bay City (2a,2b,2c)	0.5	8.9*	54	---	--	---	--	
			2	9.4*	64	---	--	---	--	
RWQCB Environmental Screening Levels [1] (Residential Land Use)				230	5,100	100	0.033 (leaching) 3.3 (human health)	Toluene= 2.9 (leaching)/970 (human health) Ethylbenzene= 1.4 (leaching)/5.1 (human health) Xylene=.= 2.3 (leaching)/5.6 (human health)	Varies	
US EPA RLs / DTSC-Modified SLs [2] (Residential Land Use)				Not Established			3.8 /Not established	Toluene = 4,900 / 1,100 n-Ethylbenzene = 5.8/not established Xylenes = 580 /not established	Varies	

Table 4

Additional Soil Sample Test Results: Volatile Organic Compounds & Fuel Fingerprint

511 Ohlone Parkway, Watsonville

Notes

1 = **Environmental Screening Levels (ESLs): F**rom the Regional Water Quality Control Board (San Francisco Bay Region) guideline document: *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* (Final version, 2016). The ESLs are agency-stablished threshold concentrations intended to provide quantitative risk-based guidance on whether further assessment or remediation of contamination is warranted based on risk pathways (protection of human heath, groundwater and/or ecological <http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/ESL%20Workbook_ESLs_Interim%20Final_22Feb16_Rev3_PDF.pdf >

2 = **CA DTSC Modified Soil Screening Levels (DTSC-SLs):** These are human health, risk-based values established by the California Department of Toxic Substances Control (DTSC), Office of Human and Ecological Risk (HERO), Human Health Risk Assessment (HHRA) Note Number 3, Table 1 , Jan-2016. <http://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-January-2018.pdf >. Note that for those chemicals not posted on the Note 3 website, DTSC-HERO endorses the soil thesholds established on the USEPAs *Regional Screening Levels* (USEPA-RSLs) website: (http://www.epa.gov/region9/superfund/prg/, updated May 2018). Both thresholds are listed for transparancy, but generally speaking, California uses a more conservative toxicity evaluation for a select number of urban chemicals. This assessment uses the lowest (most conservative theshold as a cleanup goal).

3 = Trace concentrations of semi-volatile compounds detected, but all well below agency threshold. See Appendix A for sampling results. Semi-Volatile compounds detected(at treace levels) included : (Anthracene, Benzo(a)anthracene, Benzo(b)flouranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Benzo(g,h,l,)perylene, Chrysene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, Pyrene)

**= Note individual metals having DTSC-modified SL are identified by ** (All others are based on USEPA RSL's)

ND = Analyte not detected above the laboratory Method Detection Limit (MDL).

-- = Sample was not analyzed for this constituent

B = The same analyte is found in the associated blank.

J = Laboratory reports that the detection value is between MDL and PQL, and should be considered an

^ = Detection and Quantitation Limits are raised due to sample dilution

* = Chromatograph is not typical of Diesel/Motor Oil

BOLD = Analytical result above Residential ESL.

BOLD = Indicates deepest sample has exceedence (Confirmation sample required at this location)

Freon 11 = Trichlorofluoromethane

ATTACHMENT 2

ProUCL Output

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.14/18/2018 1:36:42 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

TPH-d

General Statistics

Total Number of Observations	119	Number of Distinct Observations	67
		Number of Missing Observations	0
Minimum	1	Mean	45.52
Maximum	950	Median	5.8
SD	130.4	Std. Error of Mean	11.95
Coefficient of Variation	2.865	Skewness	4.948

Normal GOF Test

Shapiro Wilk Test Statistic	0.385	**Shapiro Wilk GOF Test**
5% Shapiro Wilk P Value	0	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.366	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0816	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	65.34	95% Adjusted-CLT UCL (Chen-1995)	70.98
		95% Modified-t UCL (Johnson-1978)	66.24

Gamma GOF Test

A-D Test Statistic	9.386	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.852	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.222	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.091	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.364	k star (bias corrected MLE)	0.36
Theta hat (MLE)	125.1	Theta star (bias corrected MLE)	126.4
nu hat (MLE)	86.57	nu star (bias corrected)	85.72
MLE Mean (bias corrected)	45.52	MLE Sd (bias corrected)	75.85
		Approximate Chi Square Value (0.05)	65.38
Adjusted Level of Significance	0.048	Adjusted Chi Square Value	65.16

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	59.68	95% Adjusted Gamma UCL (use when n<50)	59.88

51	**Lognormal GOF Test**											
52					Shapiro Wilk Test Statistic	0.886	**Shapiro Wilk Lognormal GOF Test**					
53					5% Shapiro Wilk P Value	3.320E-13	Data Not Lognormal at 5% Significance Level					
54					Lilliefors Test Statistic	0.135	**Lilliefors Lognormal GOF Test**					
55					5% Lilliefors Critical Value	0.0816	Data Not Lognormal at 5% Significance Level					
56	**Data Not Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59					Minimum of Logged Data	0	Mean of logged Data	1.981				
60					Maximum of Logged Data	6.856	SD of logged Data	1.795				
61												
62	**Assuming Lognormal Distribution**											
63					95% H-UCL	60.52	90% Chebyshev (MVUE) UCL	61.42				
64					95% Chebyshev (MVUE) UCL	73.33	97.5% Chebyshev (MVUE) UCL	89.87				
65					99% Chebyshev (MVUE) UCL	122.3						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data do not follow a Discernible Distribution (0.05)**											
69												
70	**Nonparametric Distribution Free UCLs**											
71					95% CLT UCL	65.18	95% Jackknife UCL	65.34				
72					95% Standard Bootstrap UCL	65.26	95% Bootstrap-t UCL	76.39				
73					95% Hall's Bootstrap UCL	70.56	95% Percentile Bootstrap UCL	67.16				
74					95% BCA Bootstrap UCL	73.23						
75					90% Chebyshev(Mean, Sd) UCL	81.38	95% Chebyshev(Mean, Sd) UCL	97.62				
76					97.5% Chebyshev(Mean, Sd) UCL	120.2	99% Chebyshev(Mean, Sd) UCL	164.5				
77												
78	**Suggested UCL to Use**											
79					95% Chebyshev (Mean, Sd) UCL	97.62						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												
86												

87	**TPH-mo**											
88												
89	**General Statistics**											
90					Total Number of Observations	119			Number of Distinct Observations	69		
91									Number of Missing Observations	0		
92					Minimum	6.5			Mean	1414		
93					Maximum	97000			Median	50		
94					SD	9333			Std. Error of Mean	855.5		
95					Coefficient of Variation	6.6			Skewness	9.562		
96												
97	**Normal GOF Test**											
98					Shapiro Wilk Test Statistic	0.158			**Shapiro Wilk GOF Test**			
99					5% Shapiro Wilk P Value	0			Data Not Normal at 5% Significance Level			
100					Lilliefors Test Statistic	0.44			**Lilliefors GOF Test**			
101					5% Lilliefors Critical Value	0.0816			Data Not Normal at 5% Significance Level			
102	**Data Not Normal at 5% Significance Level**											
103												
104	**Assuming Normal Distribution**											
105					**95% Normal UCL**				**95% UCLs (Adjusted for Skewness)**			
106					95% Student's-t UCL	2832			95% Adjusted-CLT UCL (Chen-1995)	3623		
107									95% Modified-t UCL (Johnson-1978)	2957		
108												
109	**Gamma GOF Test**											
110					A-D Test Statistic	16.46			**Anderson-Darling Gamma GOF Test**			
111					5% A-D Critical Value	0.896			Data Not Gamma Distributed at 5% Significance Level			
112					K-S Test Statistic	0.258			**Kolmogorov-Smirnov Gamma GOF Test**			
113					5% K-S Critical Value	0.093			Data Not Gamma Distributed at 5% Significance Level			
114	**Data Not Gamma Distributed at 5% Significance Level**											
115												
116	**Gamma Statistics**											
117					k hat (MLE)	0.244			k star (bias corrected MLE)	0.243		
118					Theta hat (MLE)	5800			Theta star (bias corrected MLE)	5813		
119					nu hat (MLE)	58.03			nu star (bias corrected)	57.9		
120					MLE Mean (bias corrected)	1414			MLE Sd (bias corrected)	2867		
121									Approximate Chi Square Value (0.05)	41.4		
122					Adjusted Level of Significance	0.048			Adjusted Chi Square Value	41.23		
123												
124	**Assuming Gamma Distribution**											
125					95% Approximate Gamma UCL (use when n>=50))	1977			95% Adjusted Gamma UCL (use when n<50)	1985		
126												
127	**Lognormal GOF Test**											
128					Shapiro Wilk Test Statistic	0.902			**Shapiro Wilk Lognormal GOF Test**			
129					5% Shapiro Wilk P Value	9.886E-11			Data Not Lognormal at 5% Significance Level			
130					Lilliefors Test Statistic	0.14			**Lilliefors Lognormal GOF Test**			
131					5% Lilliefors Critical Value	0.0816			Data Not Lognormal at 5% Significance Level			
132	**Data Not Lognormal at 5% Significance Level**											
133												
134	**Lognormal Statistics**											
135					Minimum of Logged Data	1.872			Mean of logged Data	4.329		
136					Maximum of Logged Data	11.48			SD of logged Data	1.916		
137												

	A	B	C	D	E	F	G	H	I	J	K	L
138	**Assuming Lognormal Distribution**											
139					95% H-UCL	841.2				90% Chebyshev (MVUE) UCL		832.2
140					95% Chebyshev (MVUE) UCL	1003				97.5% Chebyshev (MVUE) UCL		1239
141					99% Chebyshev (MVUE) UCL	1704						
142												
143	**Nonparametric Distribution Free UCL Statistics**											
144	**Data do not follow a Discernible Distribution (0.05)**											
145												
146	**Nonparametric Distribution Free UCLs**											
147					95% CLT UCL	2821				95% Jackknife UCL		2832
148					95% Standard Bootstrap UCL	2792				95% Bootstrap-t UCL		15124
149					95% Hall's Bootstrap UCL	9323				95% Percentile Bootstrap UCL		3042
150					95% BCA Bootstrap UCL	4315						
151					90% Chebyshev(Mean, Sd) UCL	3981				95% Chebyshev(Mean, Sd) UCL		5143
152					97.5% Chebyshev(Mean, Sd) UCL	6757				99% Chebyshev(Mean, Sd) UCL		9927
153												
154	**Suggested UCL to Use**											
155					95% Chebyshev (Mean, Sd) UCL	5143						
156												
157	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
158	Recommendations are based upon data size, data distribution, and skewness.											
159	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
160	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
161												
162												

163	**Pb**										
164											
165	**General Statistics**										
166				Total Number of Observations	201			Number of Distinct Observations	102		
167								Number of Missing Observations	0		
168				Minimum	1			Mean	82.04		
169				Maximum	5400			Median	16		
170				SD	447.9			Std. Error of Mean	31.59		
171				Coefficient of Variation	5.459			Skewness	10.22		
172											
173	**Normal GOF Test**										
174				Shapiro Wilk Test Statistic	0.168		**Shapiro Wilk GOF Test**				
175				5% Shapiro Wilk P Value	0		Data Not Normal at 5% Significance Level				
176				Lilliefors Test Statistic	0.428		**Lilliefors GOF Test**				
177				5% Lilliefors Critical Value	0.0629		Data Not Normal at 5% Significance Level				
178	**Data Not Normal at 5% Significance Level**										
179											
180	**Assuming Normal Distribution**										
181				**95% Normal UCL**				**95% UCLs (Adjusted for Skewness)**			
182				95% Student's-t UCL	134.2			95% Adjusted-CLT UCL (Chen-1995)	158.3		
183								95% Modified-t UCL (Johnson-1978)	138		
184											
185	**Gamma GOF Test**										
186				A-D Test Statistic	27.11		**Anderson-Darling Gamma GOF Test**				
187				5% A-D Critical Value	0.831		Data Not Gamma Distributed at 5% Significance Level				
188				K-S Test Statistic	0.262		**Kolmogorov-Smirnov Gamma GOF Test**				
189				5% K-S Critical Value	0.0676		Data Not Gamma Distributed at 5% Significance Level				
190	**Data Not Gamma Distributed at 5% Significance Level**										
191											
192	**Gamma Statistics**										
193				k hat (MLE)	0.456			k star (bias corrected MLE)	0.453		
194				Theta hat (MLE)	179.8			Theta star (bias corrected MLE)	181.2		
195				nu hat (MLE)	183.4			nu star (bias corrected)	182		
196				MLE Mean (bias corrected)	82.04			MLE Sd (bias corrected)	121.9		
197								Approximate Chi Square Value (0.05)	151.8		
198				Adjusted Level of Significance	0.0488			Adjusted Chi Square Value	151.6		
199											
200	**Assuming Gamma Distribution**										
201				95% Approximate Gamma UCL (use when n>=50))	98.36			95% Adjusted Gamma UCL (use when n<50)	98.49		
202											
203	**Lognormal GOF Test**										
204				Shapiro Wilk Test Statistic	0.897		**Shapiro Wilk Lognormal GOF Test**				
205				5% Shapiro Wilk P Value	0		Data Not Lognormal at 5% Significance Level				
206				Lilliefors Test Statistic	0.128		**Lilliefors Lognormal GOF Test**				
207				5% Lilliefors Critical Value	0.0629		Data Not Lognormal at 5% Significance Level				
208	**Data Not Lognormal at 5% Significance Level**										
209											
210	**Lognormal Statistics**										
211				Minimum of Logged Data	0			Mean of logged Data	2.995		
212				Maximum of Logged Data	8.594			SD of logged Data	1.162		
213											

	A	B	C	D	E	F	G	H	I	J	K	L
214	**Assuming Lognormal Distribution**											
215					95% H-UCL	47.36				90% Chebyshev (MVUE) UCL		51.29
216					95% Chebyshev (MVUE) UCL	56.83				97.5% Chebyshev (MVUE) UCL		64.53
217					99% Chebyshev (MVUE) UCL	79.65						
218												
219	**Nonparametric Distribution Free UCL Statistics**											
220	**Data do not follow a Discernible Distribution (0.05)**											
221												
222	**Nonparametric Distribution Free UCLs**											
223					95% CLT UCL	134				95% Jackknife UCL		134.2
224					95% Standard Bootstrap UCL	133.7				95% Bootstrap-t UCL		336.7
225					95% Hall's Bootstrap UCL	318				95% Percentile Bootstrap UCL		135.7
226					95% BCA Bootstrap UCL	174.5						
227					90% Chebyshev(Mean, Sd) UCL	176.8				95% Chebyshev(Mean, Sd) UCL		219.7
228					97.5% Chebyshev(Mean, Sd) UCL	279.3				99% Chebyshev(Mean, Sd) UCL		396.4
229												
230	**Suggested UCL to Use**											
231					95% Chebyshev (Mean, Sd) UCL	219.7						
232												
233	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
234	Recommendations are based upon data size, data distribution, and skewness.											
235	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
236	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											

Feb. 2016 (Rev. 3)		Summary of Soil ESLs (mg/kg)										
Chemicals	CAS No.	Direct Exposure Human Health Risk Levels (Table S-1)			Leaching to Groundwater Levels (Table S-2)		Gross Contamination Levels (Table S-3)	Odor Nuisance Levels (Table S-4)			Soil Tier 1 ESL	Basis
		Res: Shallow Soil Exposure	Com/Ind: Shallow Soil Exposure	Any Land Use/ Any Depth Soil Expsoure: Construction Worker	Drinking Water	Nondrinking Water		Res: Shallow Soil Exposure	Com/Ind: Shallow Soil Exposure	Any Land Use: Deep Soil Exposure (CW)		
Acenaphthene	83-32-9	3.6E+03	4.5E+04	1.0E+04	1.6E+01	1.9E+01	1.3E+02	1.0E+03	2.5E+03	2.5E+03	1.6E+01	Leaching
Acenaphthylene	208-96-8	--	--	--	1.3E+01	1.3E+01	5.9E+01	5.0E+02	1.0E+03	1.0E+03	1.3E+01	Leaching
Acetone	67-64-1	5.9E+04	6.3E+05	2.6E+05	5.0E-01	5.0E-01	1.0E+05	5.0E+02	1.0E+03	1.0E+03	5.0E-01	Leaching
Aldrin	309-00-2	3.6E-02	1.6E-01	1.0E+00	5.0E+00	5.0E+00	5.0E+00	1.0E+03	2.5E+03	2.5E+03	3.6E-02	Dir Exp
Anthracene	120-12-7	1.8E+04	2.3E+05	5.0E+04	2.8E+00	2.8E+00	6.1E+00	5.0E+02	1.0E+03	1.0E+03	2.8E+00	Leaching
Antimony	7440-36-0	3.1E+01	4.7E+02	1.4E+02	--	--	--	--	--	--	3.1E+01	Dir Exp
Arsenic	7440-38-2	6.7E-02	3.1E-01	9.8E-01	--	--	--	--	--	--	6.7E-02	Dir Exp
Barium	7440-39-3	1.5E+04	2.2E+05	3.0E+03	--	--	--	--	--	--	3.0E+03	Dir Exp
Benzene	71-43-2	2.3E-01	1.0E+00	2.4E+01	4.4E-02	4.9E-02	8.7E+02	5.0E+02	1.0E+03	1.0E+03	4.4E-02	Leaching
Benz(a)anthracene	56-55-3	1.6E-01	2.9E+00	1.6E+01	1.2E+01	1.2E+01	1.2E+01	5.0E+02	1.0E+03	1.0E+03	1.6E-01	Dir Exp
Benzo(b)fluoranthene	205-99-2	1.6E-01	2.9E+00	1.6E+01	4.6E+01	6.4E+02	4.6E+01	5.0E+02	1.0E+03	1.0E+03	1.6E-01	Dir Exp
Benzo(k)fluoranthene	207-08-9	1.6E+00	2.9E+01	1.5E+02	2.6E+00	3.7E+01	2.6E+00	5.0E+02	1.0E+03	1.0E+03	1.6E+00	Dir Exp
Benzo(g,h,i)perylene	191-24-2	--	--	--	2.7E+01	2.7E+01	2.5E+00	5.0E+02	1.0E+03	1.0E+03	2.5E+00	Gross Contam
Benzo(a)pyrene	50-32-8	1.6E-02	2.9E-01	1.6E+00	1.3E+02	1.3E+02	1.3E+02	5.0E+02	1.0E+03	1.0E+03	1.6E-02	Dir Exp
Beryllium	7440-41-7	1.5E+02	2.2E+03	4.2E+01	--	--	--	--	--	--	4.2E+01	Dir Exp
1,1-Biphenyl	92-52-4	6.4E+01	2.7E+02	2.4E+02	6.5E-01	6.5E+00	3.5E+02	5.0E+02	1.0E+03	1.0E+03	6.5E-01	Leaching
Bis(2-chloroethyl) ether	111-44-4	1.2E-01	5.3E-01	6.8E+00	8.0E-05	7.8E-01	9.6E+03	5.0E+02	1.0E+03	1.0E+03	8.0E-05	Leaching
Bis(2-chloroisopropyl) ether	108-60-1	3.6E+00	1.6E+01	2.2E+02	3.9E-03	6.6E-01	7.9E+02	5.0E+02	1.0E+03	1.0E+03	3.9E-03	Leaching
Bis(2-ethylhexyl) phthalate	117-81-7	3.9E+01	1.6E+02	9.5E+02	7.8E+02	7.8E+02	7.8E+02	5.0E+02	1.0E+03	1.0E+03	3.9E+01	Dir Exp
Boron	7440-42-8	1.6E+04	2.3E+05	4.5E+04	--	--	--	--	--	--	1.6E+04	Dir Exp
Bromodichloromethane	75-27-4	5.2E-01	2.3E+00	4.7E+01	1.5E+00	2.1E+01	3.0E+03	1.0E+03	2.5E+03	2.5E+03	5.2E-01	Dir Exp
Bromoform (Tribromomethane)	75-25-2	6.3E+01	3.0E+02	2.2E+03	1.7E+00	2.4E+01	2.4E+03	5.0E+02	1.0E+03	1.0E+03	1.7E+00	Leaching
Bromomethane	74-83-9	8.0E+00	3.6E+01	3.4E+01	3.0E-01	1.5E+00	3.1E+03	5.0E+02	1.0E+03	1.0E+03	3.0E-01	Leaching
Cadmium (soil)	7440-43-9	3.9E+01	5.8E+02	4.3E+01	--	--	--	--	--	--	3.9E+01	Dir Exp
Carbon tetrachloride	56-23-5	1.2E-01	5.4E-01	1.3E+01	4.8E-02	4.8E-02	1.1E+03	5.0E+02	1.0E+03	1.0E+03	4.8E-02	Leaching
Chlordane	57-74-9	4.8E-01	2.2E+00	1.4E+01	1.5E+01	1.5E+01	1.5E+01	1.0E+03	2.5E+03	2.5E+03	4.8E-01	Dir Exp
p-Chloroaniline	106-47-8	3.5E+00	1.6E+01	1.2E+02	3.9E-03	5.3E-02	1.3E+03	5.0E+02	1.0E+03	1.0E+03	3.9E-03	Leaching
Chlorobenzene	108-90-7	2.5E+02	1.2E+03	1.1E+03	1.5E+00	1.5E+00	6.8E+02	5.0E+02	1.0E+03	1.0E+03	1.5E+00	Leaching
Chloroethane	75-00-3	1.3E+04	5.3E+04	5.3E+04	1.1E+00	1.1E+01	1.6E+03	5.0E+02	1.0E+03	1.0E+03	1.1E+00	Leaching
Chloroform	67-66-3	3.0E-01	1.3E+00	3.2E+01	6.8E-02	6.8E-02	2.9E+03	5.0E+02	1.0E+03	1.0E+03	6.8E-02	Leaching
Chloromethane	74-87-3	1.0E+02	4.3E+02	4.3E+02	2.9E+01	6.8E+01	4.1E+03	1.0E+02	5.0E+02	5.0E+02	2.9E+01	Leaching

Feb. 2016 (Rev. 3)		Summary of Soil ESLs (mg/kg)										
Chemicals	CAS No.	Direct Exposure Human Health Risk Levels (Table S-1)			Leaching to Groundwater Levels (Table S-2)		Gross Contamination Levels (Table S-3)	Odor Nuisance Levels (Table S-4)			Soil Tier 1 ESL	Basis
		Res: Shallow Soil Exposure	Com/Ind: Shallow Soil Exposure	Any Land Use/ Any Depth Soil Expsoure: Construction Worker	Drinking Water	Nondrinking Water		Res: Shallow Soil Exposure	Com/Ind: Shallow Soil Exposure	Any Land Use: Deep Soil Exposure (CW)		
2-Chlorophenol	95-57-8	3.9E+02	5.8E+03	1.8E+03	1.2E-02	1.2E-01	5.5E+04	1.0E+02	5.0E+02	5.0E+02	1.2E-02	Leaching
Chromium (total)	7440-47-3	--	--	--	--	--	--	--	--	--	--	--
Chromium III	16065-83-1	1.2E+05	1.8E+06	5.3E+05	--	--	--	--	--	--	1.2E+05	Dir Exp
Chromium VI	18540-29-9	3.0E-01	6.2E+00	2.8E+00	--	--	--	--	--	--	3.0E-01	Dir Exp
Chrysene	218-01-9	1.5E+01	2.6E+02	1.5E+03	3.8E+00	2.3E+01	3.8E+00	5.0E+02	1.0E+03	1.0E+03	3.8E+00	Gross Contam
Cobalt	7440-48-4	2.3E+01	3.5E+02	2.8E+01	--	--	--	--	--	--	2.3E+01	Dir Exp
Copper	7440-50-8	3.1E+03	4.7E+04	1.4E+04	--	--	--	--	--	--	3.1E+03	Dir Exp
Cyanide	57-12-5	5.3E+00	2.4E+01	2.1E+01	3.6E-03	3.6E-03	2.0E+05	1.0E+02	5.0E+02	5.0E+02	3.6E-03	Leaching
Dibenz(a,h)anthracene	53-70-3	1.6E-02	2.9E-01	1.6E+00	9.9E+00	1.4E+02	9.9E+00	5.0E+02	1.0E+03	1.0E+03	1.6E-02	Dir Exp
Dibromochloromethane	124-48-1	8.3E+00	3.9E+01	2.9E+02	3.8E+00	9.1E+01	1.3E+04	1.0E+02	5.0E+02	5.0E+02	3.8E+00	Leaching
1,2-dibromo-3-chloropropane	96-12-8	5.3E-03	7.2E-02	1.3E+00	4.5E-03	2.2E+00	1.1E+03	5.0E+02	1.0E+03	1.0E+03	4.5E-03	Leaching
1,2-Dibromoethane	106-93-4	3.6E-02	1.6E-01	3.2E+00	3.3E-04	5.7E-03	9.2E+02	5.0E+02	1.0E+03	1.0E+03	3.3E-04	Leaching
1,2-Dichlorobenzene	95-50-1	2.0E+03	1.1E+04	8.5E+03	1.6E+00	1.6E+00	6.0E+02	1.0E+03	2.5E+03	2.5E+03	1.6E+00	Leaching
1,3-Dichlorobenzene	541-73-1	--	--	--	7.4E+00	7.4E+00	6.0E+02	1.0E+02	5.0E+02	5.0E+02	7.4E+00	Leaching
1,4-Dichlorobenzene	106-46-7	3.0E+00	1.3E+01	3.1E+02	5.9E-01	1.4E+00	2.8E+02	5.0E+02	1.0E+03	1.0E+03	5.9E-01	Leaching
3,3-Dichlorobenzidine	91-94-1	5.8E-01	2.7E+00	2.0E+01	1.2E-02	6.6E+01	3.0E+01	5.0E+02	1.0E+03	1.0E+03	1.2E-02	Leaching
Dichlorodiphenyldichloroethane (	72-54-8	2.7E+00	1.2E+01	8.1E+01	7.5E+02	7.5E+02	7.5E+02	5.0E+02	1.0E+03	1.0E+03	2.7E+00	Dir Exp
Dichlorodiphenyldichloroethene (	72-55-9	1.9E+00	8.5E+00	5.7E+01	1.1E+03	1.1E+03	1.1E+03	5.0E+02	1.0E+03	1.0E+03	1.9E+00	Dir Exp
Dichlorodiphenyltrichloroethane (	50-29-3	1.9E+00	8.5E+00	5.7E+01	4.3E+00	4.3E+00	4.3E+00	5.0E+02	1.0E+03	1.0E+03	1.9E+00	Dir Exp
1,1-Dichloroethane	75-34-3	3.8E+00	1.7E+01	3.9E+02	2.0E-01	8.1E-01	1.7E+03	5.0E+02	1.0E+03	1.0E+03	2.0E-01	Leaching
1,2-Dichloroethane	107-06-2	3.7E-01	1.6E+00	3.7E+01	4.5E-03	5.4E-02	1.8E+03	1.0E+02	5.0E+02	5.0E+02	4.5E-03	Leaching
1,1-Dichloroethene	75-35-4	9.4E+01	4.0E+02	3.9E+02	5.5E-01	4.3E+00	1.5E+03	5.0E+02	1.0E+03	1.0E+03	5.5E-01	Leaching
cis-1,2-Dichloroethene	156-59-2	1.9E+01	9.0E+01	8.2E+01	1.9E-01	3.5E+00	1.2E+03	1.0E+02	5.0E+02	5.0E+02	1.9E-01	Leaching
trans-1,2-Dichloroethene	156-60-5	1.6E+02	7.3E+02	6.8E+02	6.7E-01	3.9E+01	3.1E+03	5.0E+02	1.0E+03	1.0E+03	6.7E-01	Leaching
2,4-Dichlorophenol	120-83-2	2.3E+02	3.5E+03	1.1E+03	3.0E-01	3.0E+00	1.6E+05	5.0E+02	1.0E+03	1.0E+03	3.0E-01	Leaching
1,2-Dichloropropane	78-87-5	8.8E-01	3.9E+00	5.8E+01	1.2E-01	1.9E-01	1.1E+03	1.0E+02	5.0E+02	5.0E+02	1.2E-01	Leaching
1,3-Dichloropropene	542-75-6	2.8E-01	1.2E+00	2.9E+01	5.9E-02	4.4E-01	1.4E+03	5.0E+02	1.0E+03	1.0E+03	5.9E-02	Leaching
Dieldrin	60-57-1	3.8E-02	1.7E-01	1.1E+00	1.7E-04	2.3E-03	8.3E+00	5.0E+02	1.0E+03	1.0E+03	1.7E-04	Leaching
Diethyl phthalate	84-66-2	5.1E+04	6.6E+05	1.5E+05	3.5E-02	3.5E-02	8.4E+02	5.0E+02	1.0E+03	1.0E+03	3.5E-02	Leaching
Dimethyl phthalate	131-11-3	--	--	--	3.5E-02	3.5E-02	4.7E+03	5.0E+02	1.0E+03	1.0E+03	3.5E-02	Leaching
2,4-Dimethylphenol	105-67-9	1.6E+03	2.3E+04	7.1E+03	6.7E-01	7.4E-01	2.7E+03	1.0E+02	5.0E+02	5.0E+02	6.7E-01	Leaching

Feb. 2016 (Rev. 3)		Summary of Soil ESLs (mg/kg)										
Chemicals	CAS No.	Direct Exposure Human Health Risk Levels (Table S-1)			Leaching to Groundwater Levels (Table S-2)		Gross Contamination Levels (Table S-3)	Odor Nuisance Levels (Table S-4)			Soil Tier 1 ESL	Basis
		Res: Shallow Soil Exposure	Com/Ind: Shallow Soil Exposure	Any Land Use/ Any Depth Soil Expsoure: Construction Worker	Drinking Water	Nondrinking Water		Res: Shallow Soil Exposure	Com/Ind: Shallow Soil Exposure	Any Land Use: Deep Soil Exposure (CW)		
2,4-Dinitrophenol	51-28-5	1.6E+02	2.3E+03	7.1E+02	1.1E-01	2.1E-01	1.1E+03	5.0E+02	1.0E+03	1.0E+03	1.1E-01	Leaching
2,4-Dinitrotoluene	121-14-2	2.2E+00	1.1E+01	7.9E+01	1.8E-03	8.6E-01	1.0E+02	5.0E+02	1.0E+03	1.0E+03	1.8E-03	Leaching
1,4-Dioxane	123-91-1	7.0E+00	3.3E+01	2.5E+02	2.3E-04	3.0E+01	1.2E+05	5.0E+02	1.0E+03	1.0E+03	2.3E-04	Leaching
Dioxin (2,3,7,8-TCDD)	1746-01-6	4.9E-06	2.2E-05	1.5E-04	1.1E+06	1.1E+06	1.1E+06	1.0E+02	5.0E+02	5.0E+02	4.9E-06	Dir Exp
Endosulfan	115-29-7	4.2E+02	5.8E+03	1.5E+03	4.6E-03	4.6E-03	2.9E+00	5.0E+02	1.0E+03	1.0E+03	4.6E-03	Leaching
Endrin	72-20-8	2.1E+01	2.9E+02	7.4E+01	6.5E-04	6.5E-04	2.7E+00	5.0E+02	1.0E+03	1.0E+03	6.5E-04	Leaching
Ethylbenzene	100-41-4	5.1E+00	2.2E+01	4.8E+02	1.4E+00	1.4E+00	4.0E+02	5.0E+02	1.0E+03	1.0E+03	1.4E+00	Leaching
Fluoranthene	206-44-0	2.4E+03	3.0E+04	6.7E+03	6.0E+01	6.0E+01	6.0E+01	5.0E+02	1.0E+03	1.0E+03	6.0E+01	Gross Contam
Fluorene	86-73-7	2.4E+03	3.0E+04	6.7E+03	8.9E+00	8.9E+00	1.6E+02	5.0E+02	1.0E+03	1.0E+03	8.9E+00	Leaching
Heptachlor	76-44-8	1.4E-01	6.0E-01	3.8E+00	7.7E-04	1.3E-02	7.4E+00	1.0E+03	2.5E+03	2.5E+03	7.7E-04	Leaching
Heptachlor epoxide	1024-57-3	6.7E-02	3.0E-01	1.9E+00	4.2E-04	1.4E-02	4.8E+01	1.0E+03	2.5E+03	2.5E+03	4.2E-04	Leaching
Hexachlorobenzene	118-74-1	3.4E-01	1.5E+00	9.5E+00	7.9E+02	7.9E+02	7.9E+02	5.0E+02	1.0E+03	1.0E+03	3.4E-01	Dir Exp
Hexachlorobutadiene	87-68-3	8.9E+00	4.2E+01	3.1E+02	6.8E-01	1.6E+01	3.5E+02	5.0E+02	1.0E+03	1.0E+03	6.8E-01	Leaching
γ-Hexachlorocyclohexane (Lindar	58-89-9	5.5E-01	2.5E+00	1.6E+01	9.8E-03	9.8E-03	1.6E+02	5.0E+02	1.0E+03	1.0E+03	9.8E-03	Leaching
Hexachloroethane	67-72-1	1.4E+01	5.7E+01	1.3E+02	1.1E+00	4.1E+01	6.0E+03	5.0E+02	1.0E+03	1.0E+03	1.1E+00	Leaching
Indeno(1,2,3-c,d)pyrene	193-39-5	1.6E-01	2.9E+00	1.6E+01	9.1E+00	7.0E+01	5.1E+00	5.0E+02	1.0E+03	1.0E+03	1.6E-01	Dir Exp
Lead	7439-92-1	8.0E+01	3.2E+02	1.6E+02	--	--	--	--	--	--	8.0E+01	Dir Exp
Mercury (elemental)	7439-97-6	1.3E+01	1.9E+02	4.4E+01	--	--	--	5.0E+02	1.0E+03	1.0E+03	1.3E+01	Dir Exp
Methoxychlor	72-43-5	3.5E+02	4.8E+03	1.2E+03	1.9E+01	1.9E+01	1.9E+01	5.0E+02	1.0E+03	1.0E+03	1.9E+01	Gross Contam
Methylene chloride	75-09-2	1.9E+00	2.5E+01	5.0E+02	7.7E-02	7.3E-01	2.4E+03	5.0E+02	1.0E+03	1.0E+03	7.7E-02	Leaching
Methyl ethyl ketone	78-93-3	3.1E+04	2.5E+05	1.4E+05	5.1E+00	1.3E+01	3.4E+04	5.0E+02	1.0E+03	1.0E+03	5.1E+00	Leaching
Methyl isobutyl ketone	108-10-1	5.8E+03	7.1E+04	2.6E+04	2.8E+00	3.9E+00	1.7E+04	1.0E+02	5.0E+02	5.0E+02	2.8E+00	Leaching
Methyl mercury	22967-92-6	6.3E+00	8.2E+01	1.9E+01	--	--	--	1.0E+02	5.0E+02	5.0E+02	6.3E+00	Dir Exp
2-Methylnaphthalene	91-57-6	2.4E+02	3.0E+03	6.7E+02	2.5E-01	2.5E-01	1.1E+02	5.0E+02	1.0E+03	1.0E+03	2.5E-01	Leaching
Methyl tertiary butyl ether (MTBE	1634-04-4	4.2E+01	1.8E+02	3.7E+03	2.3E-02	8.4E-01	2.1E+04	1.0E+02	5.0E+02	5.0E+02	2.3E-02	Leaching
Molybdenum	7439-98-7	3.9E+02	5.8E+03	1.8E+03	--	--	--	--	--	--	3.9E+02	Dir Exp
Naphthalene	91-20-3	3.3E+00	1.4E+01	3.5E+02	3.3E-02	3.9E+00	2.2E+02	5.0E+02	1.0E+03	1.0E+03	3.3E-02	Leaching
Nickel	7440-02-0	8.2E+02	1.1E+04	8.6E+01	--	--	--	--	--	--	8.6E+01	Dir Exp
Pentachlorophenol	87-86-5	1.0E+00	4.0E+00	2.0E+01	2.7E+06	2.7E+06	2.7E+06	5.0E+02	1.0E+03	1.0E+03	1.0E+00	Dir Exp
Perchlorate	7790-98-9	5.5E+01	8.2E+02	2.5E+02	--	--	--	--	--	--	5.5E+01	Dir Exp
Phenanthrene	85-01-8	--	--	--	1.1E+01	1.1E+01	6.9E+01	5.0E+02	1.0E+03	1.0E+03	1.1E+01	Leaching

Feb. 2016 (Rev. 3)		Summary of Soil ESLs (mg/kg)										
Chemicals	CAS No.	Direct Exposure Human Health Risk Levels (Table S-1)			Leaching to Groundwater Levels (Table S-2)		Gross Contamination Levels (Table S-3)	Odor Nuisance Levels (Table S-4)			Soil Tier 1 ESL	Basis
		Res: Shallow Soil Exposure	Com/Ind: Shallow Soil Exposure	Any Land Use/ Any Depth Soil Expsoure: Construction Worker	Drinking Water	Nondrinking Water		Res: Shallow Soil Exposure	Com/Ind: Shallow Soil Exposure	Any Land Use: Deep Soil Exposure (CW)		
Phenol	108-95-2	2.3E+04	3.5E+05	9.8E+04	7.6E-02	8.8E+00	5.2E+04	5.0E+02	1.0E+03	1.0E+03	7.6E-02	Leaching
Polychlorinated biphenyls (PCBs)	1336-36-3	2.5E-01	1.0E+00	5.6E+00	6.3E+00	6.3E+00	6.3E+00	5.0E+02	1.0E+03	1.0E+03	2.5E-01	Dir Exp
Pyrene	129-00-0	1.8E+03	2.3E+04	5.0E+03	8.5E+01	8.5E+01	8.5E+01	5.0E+02	1.0E+03	1.0E+03	8.5E+01	Gross Contam
Selenium	7782-49-2	3.9E+02	5.8E+03	1.7E+03	--	--	--	--	--	--	3.9E+02	Dir Exp
Silver	7440-22-4	3.9E+02	5.8E+03	1.8E+03	--	--	--	--	--	--	3.9E+02	Dir Exp
Styrene	100-42-5	6.6E+03	4.0E+04	2.9E+04	1.5E+00	1.6E+01	1.5E+03	5.0E+02	1.0E+03	1.0E+03	1.5E+00	Leaching
tert-Butyl alcohol	75-65-0	--	--	--	7.5E-02	1.1E+02	3.2E+05	1.0E+02	5.0E+02	5.0E+02	7.5E-02	Leaching
1,1,1,2-Tetrachloroethane	630-20-6	4.2E+00	1.8E+01	3.4E+02	1.0E-02	1.6E+01	2.0E+03	1.0E+02	5.0E+02	5.0E+02	1.0E-02	Leaching
1,1,2,2-Tetrachloroethane	79-34-5	5.3E-01	2.3E+00	4.4E+01	1.8E-02	7.4E+00	2.0E+03	5.0E+02	1.0E+03	1.0E+03	1.8E-02	Leaching
Tetrachloroethene	127-18-4	6.0E-01	2.7E+00	3.3E+01	4.2E-01	4.2E-01	2.3E+02	5.0E+02	1.0E+03	1.0E+03	4.2E-01	Leaching
Thallium	7440-28-0	7.8E-01	1.2E+01	3.5E+00	--	--	--	--	--	--	7.8E-01	Dir Exp
Toluene	108-88-3	9.7E+02	4.6E+03	4.1E+03	2.9E+00	9.3E+00	6.5E+02	5.0E+02	1.0E+03	1.0E+03	2.9E+00	Leaching
Toxaphene	8001-35-2	5.1E-01	2.2E+00	1.4E+01	4.2E-04	4.2E-04	9.3E+01	5.0E+02	1.0E+03	1.0E+03	4.2E-04	Leaching
TPH gasoline	--	7.4E+02	3.9E+03	2.8E+03	7.7E+02	3.4E+03	1.0E+03	1.0E+02	5.0E+02	5.0E+02	1.0E+02	Nuis/Odor
TPH Stoddard solvent	--	1.6E+02	8.2E+02	6.3E+02	1.0E+03	6.5E+03	2.3E+03	1.0E+02	5.0E+02	5.0E+02	1.0E+02	Nuis/Odor
TPH diesel	--	2.3E+02	1.1E+03	8.8E+02	5.7E+02	3.6E+03	2.3E+03	5.0E+02	1.0E+03	1.0E+03	2.3E+02	Dir Exp
TPH motor oil	--	1.1E+04	1.4E+05	3.2E+04	--	--	5.1E+03	--	--	--	5.1E+03	Gross Contam
1,2,4-Trichlorobenzene	120-82-1	2.4E+01	1.1E+02	3.1E+02	1.5E+00	7.6E+00	3.2E+03	1.0E+03	2.5E+03	2.5E+03	1.5E+00	Leaching
1,1,1-Trichloroethane	71-55-6	2.1E+03	8.9E+03	8.8E+03	7.8E+00	7.8E+00	1.2E+03	5.0E+02	1.0E+03	1.0E+03	7.8E+00	Leaching
1,1,2-Trichloroethane	79-00-5	9.6E-01	4.2E+00	5.2E+00	7.0E-02	6.6E+01	1.8E+03	1.0E+02	5.0E+02	5.0E+02	7.0E-02	Leaching
Trichloroethene	79-01-6	1.2E+00	8.0E+00	2.3E+01	4.6E-01	5.1E-01	1.3E+03	5.0E+02	1.0E+03	1.0E+03	4.6E-01	Leaching
2,4,5-Trichlorophenol	95-95-4	7.8E+03	1.2E+05	3.5E+04	1.8E-01	1.8E-01	7.6E+02	1.0E+02	5.0E+02	5.0E+02	1.8E-01	Leaching
2,4,6-Trichlorophenol	88-06-2	9.9E+00	4.7E+01	3.5E+02	2.1E-01	1.6E+02	9.7E+03	1.0E+02	5.0E+02	5.0E+02	2.1E-01	Leaching
Vanadium	7440-62-2	3.9E+02	5.8E+03	4.7E+02	--	--	--	--	--	--	3.9E+02	Dir Exp
Vinyl chloride	75-01-4	8.2E-03	1.5E-01	3.4E+00	1.0E-02	1.0E-02	1.2E+03	5.0E+02	1.0E+03	1.0E+03	8.2E-03	Dir Exp
Xylenes	1330-20-7	5.6E+02	2.4E+03	2.4E+03	2.3E+00	1.1E+01	4.2E+02	5.0E+02	1.0E+03	1.0E+03	2.3E+00	Leaching
Zinc	7440-66-6	2.3E+04	3.5E+05	1.1E+05	--	--	--	--	--	--	2.3E+04	Dir Exp

Notes:
Res. - Residential
Com/Ind - Commercial/Industrial
CW - Construction Worker
Exp - Exposure

Appendix D

Environmental Site Safety Plan (SSP) for Remedial Grading & Soil Removal Operations

(separate document)

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA 95076
(831) 722-3580 // www.weber-hayes.com

SITE HEALTH & SAFETY PLAN

Soil Remediation (earthworks grading, stockpiling, & landfill disposal) for Lead and Total Petroleum Impacted Soils

(includes additional evaluation of naturally-occurring Arsenic & Hexavalent Chromium)

This *Site Health and Safety Plan* has been prepared pursuant to the U.S. Department of Labor Occupational Safety & Health Administration (OSHA's) *Hazardous Waste Operations and Emergency Response* HAZWOPPER guidelines (29 CFR 1910.120) and the related California OSHA guidelines (Title 8, Section 5192)

Job Name and Job Number: Site Preparation Tasks for Redevelopment / 2X623
Client: Sunshine Vista Development
Site Location*:* 511 Ohlone Parkway, Watsonville
Type of Facility/Current Usage of Property: Proposed Residential – Former Auto Salvage Yard

Subcontractors On Site:

Prime Contractor
SBI Builders
Paul Nuytten, President
1515 The Alameda, San Jose
831.212.0456

Haz-Mat Earthworks Contractor
Randazzo Enterprises, Inc.
Contractor's Lic. #471936 (Haz-Certified)
Bill Lynch, Project Manager
13550 Blackie Road, Castroville
831.595.0264 cell

Regulatory Agencies:

Lead and Local Regulatory Agency:
Scott E. Carson, PG, CEG
Site Mitigation Program
Santa Cruz County Environmental Health Service
701 Ocean Street, Room 312, Santa Cruz, CA 95060
831-454-2758

1.0 Scope of Work

Soil Excavation, Stockpiling, and Reuse and/or Landfill Off-Hauling:

- Site-Wide Grading to Remove Impacted Soils: Earthworks include two rounds of grading including an initial round of grubbing (organics and shallow soil removal to a depth of 6-inches) and debris removal, and a second round of scraping/grading off an additional 18-inches of soil from across the site. Field tasks include bulldozer grading of shallow soils, debris removal and segregation, and stockpiling, profile sampling, removal, and landfill disposal (approximately 18,000 yds^3).
- When compared with multiple environmental databases that address leachability (surface and groundwater protection), ingestion/inhalation/dermal (health-based protection), sampling showed localized, mostly shallow, soil-impacted areas containing elevated concentrations of lead, arsenic, hexavalent chromium, cobalt, nickel, TPH-as motor oil, and naphthalene that require haz-mat handling. The 95% Upper Confidence Limit (95%-UCL) analysis indicates arsenic and hexavalent

chromium are present at naturally occurring concentrations (Site-wide arsenic below 2 feet is 7.27 mg/kg and hexavalent chromium is 2.94 mg/kg which are similar to other local soils).

Key Field Personnel:

Jered Cheney (Weber, Hayes and Associates)	Project Geologist & Site Safety Officer	Office: (831) 722-3580 Cell: (831) 254-1747
Pat Hoban (Weber, Hayes and Associates)	Senior Geologist, Project Mgr.	Office: (831) 722-3580 Cell: (831) 254-7022
Harrison Hucks (Weber, Hayes and Associates)	Staff Scientist & Alternate Site Safety Officer	Office: (831) 722-3580 Cell: (831) 840-7860

2.0 Hazard Assessment & Site Control Measures

The Site contains localized concentrations of TPH as motor oil, metals (arsenic, lead, cobalt, nickel), naphthalene, and various volatile organic compounds in concentrations that exceed regulatory screening thresholds. With soil disturbance, there is a potential for pollutants to become airborne. The primary health and safety concerns at the Site will be from physical activities with equipment and exposure to dust generated during excavation, load-out, and backfill activities. The exposure pathways of concern are inhalation of fugitive dust, ingestion, and dermal contact.

Site Tasks:

- Remove approximately 18,000 yds^3 of shallow, impacted soils to depths ranging from surface to 2 feet below ground surface (bgs) using heavy equipment (loaders, excavators). Soils will be stockpiled in separate quadrants of the Site to consolidate similar impacted soils for disposal to an appropriate landfill. Some limited deeper excavation will address a few areas having documented deeper impacts.
- Soil Stockpiling
- Soil loading and off-hauling
- Excavation sampling – soil sampling

Anticipated Physical Hazards:

- **Traffic:** Truck and heavy equipment traffic hazards within exclusion zone will be avoided by maintaining eye contact and using hand signals. All heavy equipment will be required to have working audible reverse signals. Trucks will move on and off site with aid of traffic flaggers at all times.
- **Heavy Equipment:** Potential physical hazards associated with excavation equipment and noise will be mitigated with proper class D PPE and exclusion of personnel other than those authorized in the excavation areas.
- **Underground Hazards:** Utilities to be cleared by Underground Service Alert (USA)

Anticipated Chemical Hazards:

Name (CAS # if applicable)	EXPECTED CONCENTRATION ☒Soil ☐ Water ☐ Air	Construction Worker ESL (& basis)
Lead (7439-92-1)	**Shallow Lead:** – Up to 3,200 mg/kg	**Lead** = 160 mg/kg (blood-Lead)
Arsenic (7440-38-2)	**Shallow Arsenic:** – Up to 14 mg/kg (The site's *95% Upper Confidence Limit* (95%-UCL)[1] for Arsenic is 6.07 mg/kg, which is below Watsonville background level of 7.48)	**Arsenic =** (0.98 mg/kg (non-cancer)
Hexavalent-Chromium (18540-29-9)	**Hexavalent-Chromium (Cr-VI):** – Up to 4.9 mg/kg (The site's 95%-UCL for Cr-VI is 2.2 mg/kg, which is similar to a nearby (background) Watsonville site which has a 95%-UCL of 2.34 mg/kg)	**Hexavalent-Chromium** = 2.8 mg/kg (cancer))
Nickel (7440-02-0)	**Nickel** (TTLC up to 150 mg/kg)	**Nickel =** 86 mg/kg (non-cancer)
TPH-Diesel	**TPH-Diesel:** – Up to 670 mg/kg	**TPH-Diesel=** 880 mg/kg (non-can)
TPH-Motor Oil	**TPH-Motor Oil:** – Up to 97,000 mg/kg	**TPH-Motor Oil =** 32,000 mg/kg (non-can)
Naphthalene (91-20-3)	**Naphthalene:** – Up to 1.5 mg/kg	**Naphthalene =** 350 mg/kg (cancer)

Refer to ATTACHED NIOSH guide describing chemical hazards for each individual compound

ESLs: Agency-established, *Environmental Screening Limits* (ESLs) are risk-based screening limits established for different land uses as well as for construction worker health and safety[2]

There were 3 isolated detections of cobalt (**2 locations; max detection=28 mg/kg; $ESL_{construction}$= 28 mg/kg**) and cadmium (1 location; **max detection=28 mg/kg; $ESL_{construction}$= 9.3 mg/kg**) that were slightly exceeded agency thresholds and are not considered a risk based on the substantial testing across the site.

Respirable Dust Hazards (Perimeter monitoring for dust)

Control of dust and airborne lead, arsenic, hexavalent chromium, nickel, and cobalt is a concern for this project. During active Site cleanup activities, air monitoring will be performed at the Site perimeter (between active grading and the existing live/work facility to evaluate if dust control methods applied by the Contractor are adequately protecting the residential complex to the west of the earthworks from exposure to dust and airborne arsenic. Additionally, if earthworks activities come within 200 ft. of a property line, dust monitoring equipment will be deployed downwind of operations to ensure protection of on-site and surrounding receptors.

OSHA has established *Permissible Exposure Limits* (PEL) for chemicals of potential concern (COPC; i.e. Lead, Arsenic, Hexavalent Chromium, Cobalt, Nickel) which have been calculated as time weighted average concentration for a worker exposed to a COPC in a standard 8-hour workday (see table below). An OSHA "*Action Level"* is an analyte-specific concentration that initiates required activities designed to protect employee health (e.g. dust exposure monitoring and, if exposed for >30 days a year, medical surveillance).

---

[1]: A ***Confidence Interval*** measures the probability that a statistical parameter will fall between the upper and lower bound of a probability distribution and is calculated using the average mean and the standard deviation. A 95th percentile upper-confidence limit (UCL-95%) is a risk-based calculation establishing the upper (maximum) concentration that will be encountered within a sampling footprint, 95% of the time.

[2]: CRWQCB guideline: *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, December 2013 (see footnote #4 for additional details):
< http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml >

United States EPA-Region 9, *Remedial Screening Limits (Regional Screening Table),* October 2015:
< http://www3.epa.gov/region09/superfund/prg / >

Cal-OSHA publishes action levels for select analytes, however not all analytes have defined action levels. In those cases, the action level is generally calculated as one-half the PEL.[3][4]

The Dust Action Level represents the trigger level of exposure at which point work will stop and site control measures will take place. This value represents the amount of *dust* in ppm that contains a concentration of a given analyte that would exceed the action level in an 8 hour workday. Calculations are made in the following section, noting that nuisance dust represents the **lowest dust action levels at 2.5 mg/m^3 for on Site workers, and 0.5 mg/m3 for offsite non-workers, and therefore will be the triggering action levels for on-site activities.**

3.0 Respirable Dust Evaluation

Air monitoring action levels for the excavation work were developed for:

1) ambient air quality at the Site perimeter based on US EPA Regional Screening Levels (RSLs) or DTSC Screening Levels (SLs); and,
2) for Site construction workers in the work zone based on OSHA permissible exposure levels (PELs)

using the primary chemicals of potential concern (COPC) identified at the Site that would reasonably drive air monitoring.

SCREENING LEVES FOR DUST IN AMBIENT AIR AT THE SITE PERIMETER

Table 1: Site Perimeter Fugitive Dust Action Levels

Chemical of Potential Concern	On-Site Soil Concentrations (mg/kg)		Inhalation Screening Level [2] (mg/m^3)	Reference	Calculated Chemical-specific, Dust Action Level [4] (mg/m^3)
	Maximum Concentration	UCL-95% [1]			
Lead	5,400	220.8	0.00015	Non-Cancer RSL	0.68
Arsenic	38.6	6.3	0.000016	Non-Cancer RSL	2.5
Hexavalent Chromium	4.9	2.2	0.0001	Non-Cancer RSL	45.5
Nickel	209	77.7	0.000094	Non-Cancer RSL	1.2
Cobalt	36.5	12.9	0.0000063	Non-Cancer RSL	**0.49** [4]
Naphthalene	1.5	0.09	0.0031	Non-Cancer RSL	34,444.
Total Dust (PM10)	--		--	--	0.5

[3] For example: The OSHA published PEL for lead is .05 mg/m^3, while the published *action level* for lead is .03 mg/m^3. Note in this case, if we calculated the action level to be one-half the PEL, our action level (.025 mg/m^3) would be *more conservative* than OSHA's published value.
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10030

[4] For Arsenic: The OSHA published PEL for arsenic is 0.01 mg/m^3, and the published *action level* for arsenic is .005 mg/m^3.
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10023

Table 1 notes for dust monitoring in the ambient air at the site perimeter:

1. 95% Upper Confidence Limit (UCL): The upper boundary (or limit) of a confidence interval of a parameter of interest such as the population mean.
2. Selected inhalation screening levels are obtained from the *Regional Screening Levels* (RSLs) / *DTSC-modified Screening Levels* (DTSC-modified SLs) for residential air. Reference identifies whether the screening level is based on non-cancer or cancer health effects. Non-cancer threshold based on a target hazard quotient of 1.0 (U.S. EPA, 2018).
3. The non-cancer RSLs are developed based on an exposure time of 12 months. EPA guidance states that the averaging time for noncancer is to be set at the same length as exposure duration, even if the exposure duration is less than one year. Exposure Adjustment Factor is set to 1.
4. Chemical-specific, Dust Action Levels were calculated for ambient air at the Site perimeter using the formula:

$$\text{Chemical-Specific Dust Action Level } (mg/m^3) = \frac{\textit{Inhalation Screening Level } (mg/m^3) \times \text{Exposure Adjustment Factor} \times 10^6 \ (mg/kg)}{\text{UCL-95\%}}$$

5. Property line action level based on lowest, chemical-specific dust action level (i.e., potential Cobalt concentrations in dust = 0.49 mg/m^3). Note: Fugitive dust is visible in air at 0.5 mg/m^3.

SCREENING LEVELS FOR DUST IN WORK ZONE AIR

The OSHA permissible exposure levels (PELs) for the primary constituents detected in site soil are listed below (Table2) along with the maximum potential concentrations of each of these constituents in air which equates to maximum (worst case) construction worker potential exposure concentrations. These values were calculated assuming that dust is present in air at the OSHA PEL limit of 10 mg/m3 and contains the maximum concentration of each constituent listed.

Table2: Work Zone Dust Action Levels

Chemical of Potential Concern	Maximum Concentration Detected in On-site Soil (mg/kg)	Cal-OSHA PEL (1) (mg/m^3)	Calculated Chemical-specific, Dust Action Level (2) (mg/m3)
Lead	5,400	0.05	9.25
Arsenic	38.6	0.01	259
Hexavalent Chromium	4.9	0.005	1,020
Nickel	209	0.05	239
Cobalt	36.5	0.02	547
Naphthalene	1.5	0.1	66,667
Total Dust (PM10)	--	10	2.5 (3)
Respirable Dust (PM10)	--	5	**2.5** (3)

Table 2 Notes: (below)

1. Permissible Exposure Limits (PELs) published by California Division of Occupational Safety and Health (OSHA), https://www.osha.gov/dsg/annotated-pels/tablez-1.html. A PEL is a time-weighted average (TWA) concentration that describes a worker's average airborne exposure in any 8-hour work shift of a 40-hour work

week which shall not be exceeded. The 8-hour TWA PEL is the level of exposure established as the highest level of exposure an employee may be exposed to without incurring the risk of adverse health effects.

2. Chemical-specific, Dust Action Levels for construction workers in the work area calculated using the formula:

$$\text{Chemical-Specific Dust Action Level } (mg/m^3) = \frac{\text{Permissible Exposure Limits } (mg/m^3) \times 10^6 \ (mg/kg)}{\text{Maximum Soil Concentration } (mg/kg)}$$

3. The construction worker action level for respirable dust during remedial grading is based on nuisance only factor. The selected airborne Action Level is conservatively set at ½ the OSHA PEL of 5 mg/m3 (i.e. = 2.5mg/m3)

Trigger Actions: Below is a summary of the measures to be taken if the Action Levels for dust, lead, arsenic, Hexavalent Chromium, nickel, or cobalt are exceeded during Site cleanup.

- OSHA has established ***Permissible Exposure Limits (PEL)*** **of 5 mg/m^3 for *respirable* dust** ("PM10"), based on time weighted averages for an 8-hour workday (see attached NIOSH sheet). The trigger concentration for this grading project in the ***work zone*** will be one-half the established *Permissible Exposure Limits (PEL)* of 5 mg/m^3 (i.e., **2.5 mg/m^3**), The earthworks contractor will stop work and re-assess Site activities and improve dust control measures should the 2.5 mg/m^3 action level be triggered.
- Air monitoring action levels for the site perimeter were developed for ambient air quality based on *US EPA Regional Screening Levels* (RSLs) or *DTSC Screening Levels* (DTSC-SLs) for on Site COPCs (see Table 1). The ***property line action level*** is based on lowest, chemical-specific dust action level (i.e., potential Cobalt concentrations in dust = 0.49 mg/m^3). Note: Fugitive dust is visible in air at 0.5 mg/m^3. This not to exceed threshold of **0.49 mg/m^3** will be implemented on the dust meters deployed at the perimeter of the site to ensure the safety of the public.

Increased dust control measures will be implemented in the case of an exceedance which include: increased watering of soils in the excavation and loading zones, confirming wind speed and direction are within the conditions needed to keep the dust at bay, and increased monitoring frequency of the meters assuring the alarm system on the meters are working properly which will alert on Site workers and staff if specific dust action levels are being exceeded.

Two perimeter air monitoring stations will be located along the Site perimeter at locations between the residential complex to the west of earthworks grading work area (one upwind and one downwind, adjusted to target perimeter locations to ongoing earthworks). Sampling for total dust and PM10 (respirable) dust will continue using a data logging, direct reading dust monitor. Dust monitoring will be employed continuously during all remedial activities. Air monitoring procedures are described in the Site Monitoring section of this plan.

4.0 Site Control Measures:

Dust Control & Suppression Measures:

- Dust suppression will be performed to keep dust from migrating beyond the work zone by lightly spraying or misting the work areas (such as the excavation, soil handling areas and haul roads) with water. Misting may also be used on soil placed in the transport trucks.
- Efforts will be made to minimize the soil drop height from the excavator's bucket onto the soil pile or into the transport trucks. The excavator will be positioned so as to load from the leeward side.

- After the soil is loaded into the transport trucks, the soil will be covered to prevent soil from spilling out of the truck during transport to the disposal facility. Stockpile(s) will remain covered at all times.

Ingestion Exposure & Control Measures:

- Ingestion of impacted materials is a primary exposure route of concern. This exposure pathway can be controlled with the implementation of proper hygienic practices (i.e., wearing gloves and washing before eating, smoking, or using the restroom).

Traffic Control Measures (pedestrian and vehicle):

- No pedestrians will be allowed in the work area other than authorized personnel;
- Trucks will move on and off site with aid of traffic flaggers at all times;
- Truck and heavy equipment traffic hazards within exclusion zone will be avoided by maintaining eye contact and using hand signals. All heavy equipment will be required to have working audible reverse signals

Decontamination Procedures:

- All equipment in contact with contaminated or potentially contaminated soils will include a triple rinse with liquinox solution/ fresh water / D.I. water. All decon water will be properly containerized and properly disposed of following the field investigation.

5.0 Personal Protective Equipment and Site Monitoring

Personal Protective Equipment:

(see required Personal Protective Equipment below).

Based on the scope and nature of this field program the following aappropriate level of personal protective equipment is required A: ❒ B: ❒ C: ❒ D *Yes*

R = required, A = As needed

Hard Hat **R**	Eyewear (type) **A**
Safety Boots **R**	Respirator (type) **A** *(½-face minimum)*
Orange Vest **R**	Filter (type) **A** (organic vapor & particulate)
Hearing Protection **A**	Gloves (type) **A** nitrile
Tyvek Coveralls **A**	

Site Monitoring:

Air Monitoring:

- An aerosol monitor or monitors capable of measuring total dust and total respirable dust (PM10) will be used (e.g., TSI, Inc. DustTrak DRX Model 8533 or equivalent). Additionally, these meters project and display a calculated time weighted average (TWA) at all times during the work day. This sampler will be used to assess whether the PM10 (respirable) 8-hour Action Level is being met. PM10 monitoring will occur over approximately 8-hour periods (e.g., from the beginning of a workday to the end of the workday). The aerosol monitor will provide for real-time PM10 results, and these results will also be recorded in a data logger. The stored data will be downloaded at the end of each

workday and the 8-hour average concentration will be compared to the Action Levels established in this plan (above). The work zone monitor will be positioned at breathing height level (approximately 5-feet above the ground surface) in the work zone.

Meters are equipped with alarm capabilities and will be setup to alert on site workers and staff if site specific air action levels are exceeded at any time (alarms will be set appropriately for on site workers and perimeter monitoring).

Continuously measured particulate monitoring data will be reviewed with every hourly inspection. Any exceedances will be documented in the daily field log (daily charts will also be included as part of the record). In addition, any stop work trigger actions (dust control measures) will also be documented. SC-HAS staff will be regularly updated of the collected data, exceedances, and resulting dust control measures taken.

- Wind monitoring via Wind Socks will be set up at the Site for continuous monitoring of wind speed throughout each workday. The Wind Socks will become fully erect when wind speeds reach 15 mph. Wind Socks will be positioned around the property, specifically, around the work area.

  When the Wind Socks are full erect due to wind (i.e., 15 mph), moving of soil will cease, exposed soils will be additionally wetted, and stockpiles will be covered until the wind subsides and the dust can be controlled.

- Personnel monitoring will be conducted by means of the "buddy system". Appropriate precautions and/or medical/emergency response will be implemented if signs of co-worker distress or fatigue are apparent or injury occurs.

Confined Space Entry Procedures

Confined space entry is not a component of this field investigation.

6.0 Personnel Training Requirements

The environmental site safety officer supervising the earthworks is trained in accordance with U.S. Department of Labor OSHA's *Hazardous Waste Operations and Emergency Response* HAZWOPPER guidelines (29 CFR 1910.120), which includes completion of the 40-Hour Hazardous Waste Operations (HAZWOPER) training, 24 hours of supervised on the job training, and annual eight-hour HAZWOPER refresher courses.

The earthworks contractor is a California licensed contractor maintaining active *Hazardous Substances Removal Certification*. All workers and other personnel entering the work area shall be informed of the Site hazards in tail gate safety meetings.

Note: The Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) training requirements apply to five (5) distinct groups of employers and their employees[5] that do not apply to the grading work being conducted. HAZWOPER training is required for any employees who are engaged in one of the following operations and who are exposed or potentially exposed to hazardous substances & hazardous waste:

1. Agency Required Cleanups at Uncontrolled Haz-Waste Sites: Clean-up operations -- required by a governmental body, whether federal, state, local, or other involving hazardous substances -- that are conducted at uncontrolled hazardous waste sites;

[5]: EPA Frequently Asked Questions: *Who is covered by OSHA's HAZWOPER standard?* < www.osha.gov/html/faq-hazwoper.html >

2. RCRA Sites: Corrective actions involving clean-up operations at sites covered by RCRA; Voluntary-Cleanup Program Cleanups at Uncontrolled Haz-Waste Sites: Voluntary clean-up operations at sites recognized by federal, state, local, or other governmental body as uncontrolled hazardous waste sites;
3. TSD Waste Operations: Operations involving hazardous wastes at RCRA-permitted, treatment, storage, and disposal (TSD) facilities; and
4. Emergency Response: Emergency response operations for releases of, or substantial threats of releases of hazardous substances regardless of the location of the hazard.

Source: U.S. Department of Labor Occupational Safety & Health Administration (Hazardous waste operations and emergency response. - 1910.120)

~~This Site Redevelopment project is not an agency required cleanup.~~

The earthworks staff are considered "skilled support personnel"[6] for this Site Redevelopment project who are needed temporarily to perform immediate support work as part of cost-effective improvements to the property.

7.0 Tailgate Meetings:

The Field Superintendent will conduct daily Tailgate Safety Meetings prior to commencing work at the Site. In addition, the following minimum information will be provided to all Site personnel involved with the project:

- Name of personnel and alternate responsible for Site safety and health
- Safety, health, and other hazards present at the Site
- Hospital directions
- General safety procedures and practices to minimize risks from hazards at the Site
- Task specific procedures and practices
- Instructions for safe use of engineering controls and equipment
- Instructions for safe use of personnel protective equipment
- Medical surveillance requirements including recognition of symptoms and signs, which might indicate overexposure to hazards
- Site control measures
- Standard operating procedures (i.e., lock-out/tag-out)
- Emergency/Contingency procedures

---

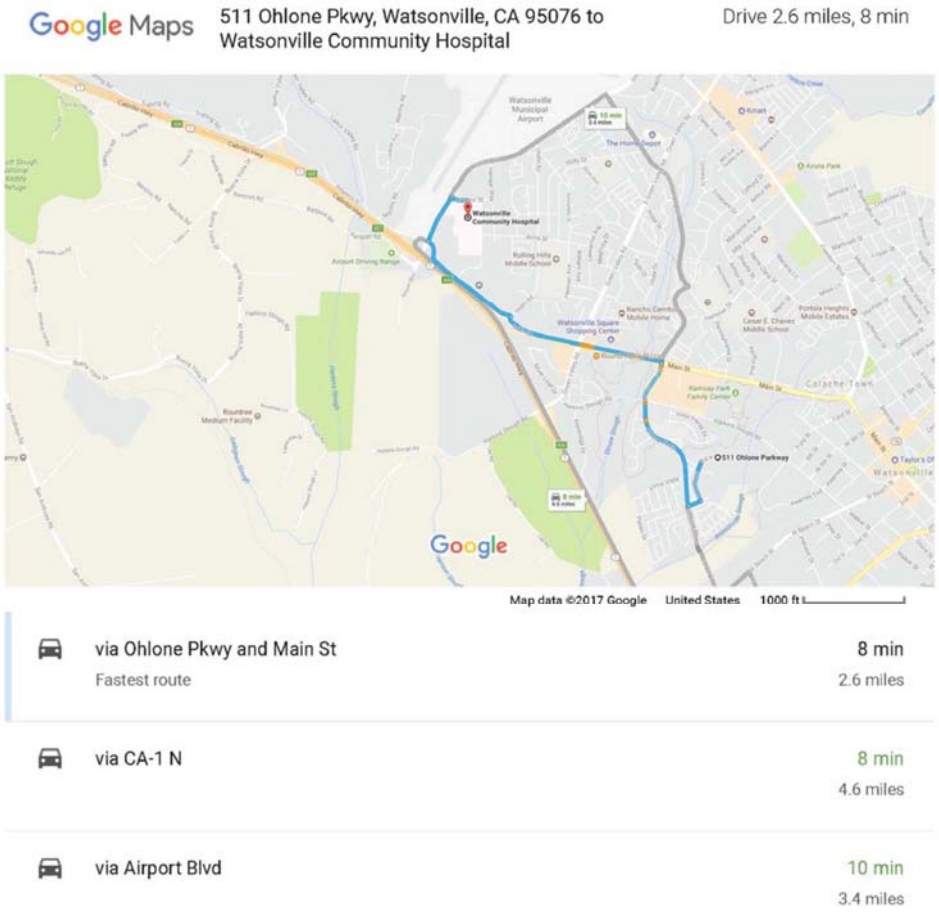
[6]: *Skilled support personnel* [1910.120(q)(4)]. Personnel, not necessarily an employer's own employees, who are skilled in the operation of certain equipment, such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work that cannot reasonably be performed in a timely fashion by an employer's own employees, and who will be or may be exposed to the hazards at an emergency response scene, are not required to meet the training required in this paragraph for the employer's regular employees. However, these personnel shall be given an initial briefing at the site prior to their participation in any emergency response. The initial briefing shall include instruction in the wearing of appropriate personal protective equipment, what chemical hazards are involved, and what duties are to be performed. All other appropriate safety and health precautions provided to the employer's own employees shall be used to assure the safety and health of these personnel.
< https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9765 >

8.0 Medical Surveillance and Emergency Response

Standard Level D Personal Protective Equipment (PPE) will be donned on an as needed basis to mitigate potential physical hazards. In the event of minor physical injury, appropriate first aid will be administered and worker transport to the emergency room, if necessary. In the event of significant physical injury beyond the level of first aid response, emergency response personnel will be contacted immediately by calling.

Any required employee medical surveillance for workers exceeding 30-days at sites exceeding an OSHA Action Limit will be maintained by the employer in accordance with Title 8 California Code of Regulations, Section 5192(c)(4)(B). No medical surveillance will be necessary for this project, as monitoring will ensure that no personnel will be exposed to concentrations above OSHA PELs for greater than 30 days.

Hospital Directions: See Attached Map



Hospital/Clinic: Watsonville Community Hospital
511 Ohlone Parkway,
Watsonville, CA - (831) 724-4741
(See attached directions sheet)

Fire Department Phone Number: *911*
Paramedic Phone Number: *911*
Police Department Phone Number: *911*

Disclaimer and Signatures

Site Hazard Information Provided By: Pat Hoban – Site Safety Officer

_____ Date: _____
Pat Hoban, Site Safety Officer

Note: All contractors and authorized visitors to the site are responsible for maintaining their safety using standard of care construction site safety procedures. This site safety plan is designed to provide worker right to know information on site contaminants of concern and a generic due diligence overview of safety issues. Neither the professional activities of Weber, Hayes and Associates, nor the presence of Weber, Hayes and Associates employees and subcontractors, shall be construed to imply Weber, Hayes and Associates has any responsibility for methods of work performance, superintendence, sequencing of construction, or safety in on or about the job site.

PRINT NAME & INITIAL FOLLOWING TAILGATE MEETING AND SAFETY INSPECTION:

Cal-OSHA PEL Information
&
Dust Monitor Specifications

Particulates Not Otherwise Regulated (Respirable Fraction)

General Description

Synonyms: Dust (respirable nuisance); "Inert" dusts; Nuisance dusts; PNOR (Note: includes all inert or nuisance dusts, whether mineral, inorganic, not listed specifically in 1910.1000)
OSHA IMIS Code Number: 9130 (IMIS Name History: Dust [respirable nuisance] prior to 9/1/89)
NIOSH Pocket Guide to Chemical Hazards - Particulates Not Otherwise Regulated: Physical description, chemical properties, potentially hazardous incompatibilities, and more

Exposure Limits and Health Effects

Exposure Limit	Limit Values	HE Codes	Health Factors and Target Organs
OSHA Permissible Exposure Limit (PEL) - General Industry See 29 CFR 1910.1000 Table Z-1 (PNOR) and 29 CFR 1910.1000 Table Z-3 (Inert or Nuisance Dust)	5 mg/m^3 (15 mppcf*) TWA	HE10	Lung disease
OSHA PEL - Construction Industry See 29 CFR 1926.55 Appendix A	Not established		
OSHA PEL - Shipyard Employment See 29 CFR 1915.1000 Table Z-Shipyards	Not established		
National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL) See Appendix D	Not established		
American Conference of Governmental Industrial Hygienists (ACGIH) Guideline	3 (particles)		compromised airway clearance
CAL/OSHA PEL	5 mg/m^3 TWA		

Action Level (AL) For Remedial Grading Air Monitoring
AL = Selected airborne Action Level [mg/m3] = 1/2 the OSHA PEL (5 mg/m3)

= 2.5 mg/m3

Particulates Not Otherwise Regulated (Total Dust)

General Description

Synonyms: Dust (total); "Inert" dusts; Nuisance dusts; PNOR (Note: includes all inert or nuisance dusts, whether mineral, inorganic, not listed specifically in 1910.1000)
OSHA IMIS Code Number: 9135 (IMIS Name History: Dust [total] prior to 9/1/89)
NIOSH Pocket Guide to Chemical Hazards - Particulates Not Otherwise Regulated: Physical description, chemical properties, potentially hazardous incompatibilities, and more

Exposure Limits and Health Effects

Exposure Limit	Limit Values	HE Codes	Health Factors and Target Organs
OSHA Permissible Exposure Limit (PEL) - General Industry See 29 CFR 1910.1000 Table Z-1 (PNOR) and 29 CFR 1910.1000 Table Z-3 (Inert or Nuisance Dust)	15 mg/m^3 (50 mppcf*) TWA	HE10	Lung disease
OSHA PEL - Construction Industry See 29 CFR 1926.55 Appendix A	15 mg/m^3 TWA	HE10	Lung disease
OSHA PEL - Shipyard Employment See 29 CFR 1915.1000 Table Z-Shipyards	15 mg/m^3 TWA	HE10	Lung disease
National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL) See Appendix D	Not estab		
American Conference of Governmental Industrial Hygienists (ACGIH) Guideline	10 mg/m^3 TWA (inh particles)		irritation
CAL/ OSHA PELs	10 mg/m^3 TWA	HE16	Eye, skin, and respiratory irritation

Action Level (AL) For Worker Air Monitoring

AL = Selected airborne Action trigger level [mg/m3] = 1/2 the OSHA PEL (10 mg/m3)

= 5 mg/m3

Lead, Inorganic (as Pb)

General Description

Synonyms: Synonyms vary depending upon specific compound (e.g., Lead oxide, Lead arsenate, Lead chromate)

OSHA IMIS Code Number: 1591

Chemical Abstracts Service (CAS) Registry Number: 7439-92-1; 1317-36-8 (lead oxide); 7758-97-6 (lead chromate); 7784-40-9 (lead arsenate); 18454-12-1 (lead chromate oxide)

NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) Identification Number: OF7525000

NIOSH Pocket Guide to Chemical Hazards - Lead: Chemical description, physical properties, potentially hazardous incompatibilities, and more

U.S. Environmental Protection Agency (EPA) Hazard Summary - Lead Compounds: Uses, sources and potential exposure, acute and chronic health hazard information, and more

Exposure Limits and Health Effects

Exposure Limit	Limit Values	HE Codes	Health Factors and Target Organs
OSHA Permissible Exposure Limit (PEL) - General Industry See 29 CFR 1910.1025 Note: OSHA considers "lead" to mean elemental lead, all inorganic lead compounds, and a class of organic lead compounds called lead soaps. This standard does not apply to other organic lead compounds. Note: Large nonferrous foundries (20+ employees) are required to achieve the PEL of 0.05 mg/m^3 by means of engineering and work practice controls. Small nonferrous foundries (<20 employees) are required to achieve an 8-hour TWA of 0.075 mg/m^3 by such controls.	0.05 mg/m^3 TWA 0.03 mg/m^3 Action Level	HE3	Nephrotoxicity
		HE5	Reproductive hazards
		HE7	Cumulative neurologic effects
		HE12	Cumulative blood effects
OSHA PEL - Construction Industry See 29 CFR 1926.62	0.05 mg/m^3 TWA 0.03 mg/m^3 Action Level	HE3	Constipation, nausea, pallor
		HE5	Reproductive risks
		HE7	Nervous irritability, hyperactivity, anxiety, insomnia, headache, weakness, numbness, dizziness
OSHA PEL - Shipyard Employment See 29 CFR 1915.1025	0.05 mg/m^3 TWA 0.03 mg/m^3 Action Level	HE3	Nephropathy, loss of kidney function, increased blood pressure
		HE5	Reduced sperm count and male sterility
		HE7	Subclinical and clinical peripheral neuropathy (muscle weakness, pain, and paralysis of extremities)
		HE12	Disruption of hemesynthesis, anemia
National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL) See Appendix C Note: NIOSH considers "lead" to mean metallic lead, lead oxides, and lead salts (including organic salts such as lead soaps but excluding lead arsenate).	0.05 mg/m^3 TWA Air concentrations should be maintained so that worker blood lead remains less than 0.06 mg Pb/100 g of whole blood	HE5	Reproductive toxicity, nephrotoxicity, cardiovascular toxicity, gastrointestinal toxicity
		HE7	Neurotoxicity
		HE12	Hematologic toxicity
American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) (2001)	0.05 mg/m^3 TWA	HE3	Cardiovascular toxicity, hypertension, cerebrovascular disease,

	A3; BEI		nephrotoxicity
		HE5	Reproductive toxicity
		HE7	Neurologic and neurobehavioral toxicity
		HE12	Blood dyscrasias
CAL/OSHA PELs (See also Section 5198)	0.05 mg/m^3 Lead (metallic and inorganic compounds), dust and fume, (as Pb)	HE3	Cardiovascular toxicity, hypertension, cerebrovascular disease, nephrotoxicity
		HE5	Reproductive toxicity
		HE7	Neurologic and neurobehavioral toxicity

National Toxicology Program (NTP) carcinogenic classification: Reasonably anticipated to be a human carcinogen [7 MB PDF, 529 pages]

International Agency for Research on Cancer (IARC) carcinogenic classification: Group 2B [237 KB PDF, 3 pages] (possibly carcinogenic to humans)

EPA carcinogenic classification: Probable human carcinogen - based on sufficient evidence of carcinogenicity in animals

EPA Inhalation Reference Concentration (RfC): Not established

Agency for Toxic Substances and Disease Registry (ATSDR) Inhalation Minimal Risk Level (MRL): Not established

NIOSH Immediately Dangerous to Life or Health (IDLH) concentration: 100 mg/m^3 (as Pb)

Notes on Other Potential Health Effects and Hazards

1. Exposure to high levels of lead may cause miscarriage in pregnant women (ATSDR 2007).
2. High Petrol-Lead Emission Areas (PLEA) might result in an increase in the incidence rate of brain cancer resulting from high lead exposures (Wu et al. 2012).
3. Lead exposure below 70 mg/100 ml reduced neurobehavioral abilities, particularly visuospatial abilities and executive functions (Barth et al. 2002).
4. Both NTP and IARC found limited evidence for carcinogenicity of lead smelter and battery industries, concluding that evidence from epidemiological studies is compatible with small increases in the risk of lung or stomach cancer (NTP 2010, IARC 2006).
5. The OSHA lead standard targets a lead in blood level below 40 µg/dL, directing medical removal at a three test moving average of 50 µg/dL.
6. The NTP concludes that there is sufficient evidence for adverse health effects in adults at blood Pb levels <10 µg/dL (increased blood pressure, tremor), and <5 µg/dL (kidney effects, developmental effects) as well, (NTP 2012).

Literature Basis

- ACGIH: Documentation of the Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) - Lead and Inorganic Compounds. 2001.
- ATSDR: Toxicological Profile for Lead [5 MB PDF, 582 pages]. August 2007.
- Barth, A. et al.: Reduced cognitive abilities in lead-exposed men. Int. Arch. Occup. Environ. Health 75(6): 394-398, 2002.
- IARC Monograph 87 Organic and Inorganic Lead Compounds, 2006 [7 MB PDF, 529 pages].
- NIOSH: Adult Blood Lead Epidemiology and Surveillance (ABLES).
- NIOSH: Occupational Safety and Health Guideline for Inorganic Lead. 1988.
- NIOSH/IPCS: International Chemical Safety Cards - Lead. August 10, 2002.
- NTP Monograph on Low Level Effects of Lead, 2012 [3 MB PDF, 176 pages]
- NTP 12th Report on Carcinogens, Lead and Lead Compounds, 2011 [196 KB PDF, 5 pages]
- OSHA: Abrasive Blasting Hazards in Shipyard Employment. December 2006.
- OSHA: Lead in Construction [488 KB PDF*, 40 pages]. 2004.
- OSHA: Occupational Safety and Health Standards, Substance Safety Data Sheet for Occupational Exposure to Lead. 1910.1025 App A. May 31, 1991.
- Wu, W.T., Lin, Y.J., Liou S.H., Yang, C.Y., Cheng, K.F., Tsai, PJ, and Wu T.N.: Brain cancer associated with environmental lead exposure: evidence from implementation of a National Petrol-Lead Phase-Out Program (PLPOP) in Taiwan between 1979 and 2007. Environ Int. 40: 97-101, 2012.

Date Last Revised: 12/11/2012

Monitoring Methods used by OSHA

Laboratory Sampling/Analytical Method:

- **sampling media:** Mixed Cellulose Ester Filter (MCEF) 0.8 microns
  maximum volume: 960 Liters
  minimum volume: 480 Liters
  maximum flow rate: 2.0 L/min
  current analytical method: Atomic Absorption Spectroscopy; AAS
  method reference: OSHA Manual of Analytical Methods (OSHA ID-121)
  method classification: Fully Validated

- **alternate analytical method:** Inductively Coupled Argon Plasma; ICP-AES/MS, AAS
  method reference: OSHA Manual of Analytical Methods (OSHA ID-125G, OSHA ID-206, OSHA ID-105, OSHA 1006)
  method classification: Fully Validated
  note: If the filter is not overloaded, samples may be collected up to an 8-hour period.

On-Site Sampling Techniques/Methods:

- **note:** On-site surface sampling test kits are commercially available. OSHA neither endorses these kits nor recommends their use. The effectiveness and applicability of these kits are the responsibility of the user.

Wipe Sampling Method:

- **sampling media:** Ghostwipe - Whatman Smear Tab filter. Moistened with Distilled Water.

Nickel metal and other compounds (as Ni)

Synonyms & Trade Names **Nickel metal:** Elemental nickel, Nickel catalyst
Synonyms of other nickel compounds vary depending upon the specific compound.

CAS No. 7440-02-0 (Metal)	RTECS No. QR5950000 (Metal) (/niosh-rtecs/QR5ACA30.html)	DOT ID & Guide
Formula Ni (Metal)	Conversion	IDLH Ca [10 mg/m3 (as Ni)] See: 7440020 (/niosh/idlh/7440020.html)

Exposure Limits **NIOSH REL** *: Ca TWA 0.015 mg/m3 See Appendix A (nengapdxa.html) [*Note: The REL does not apply to Nickel carbonyl.]
OSHA PEL *† (nengapdxg.html): TWA 1 mg/m3 [*Note: The PEL does not apply to Nickel carbonyl.]

Measurement Methods
NIOSH 7300 (/niosh/docs/2003-154/pdfs/7300.pdf), 7301 (/niosh/docs/2003-154/pdfs/7301.pdf), 7303 (/niosh/docs/2003-154/pdfs/7303.pdf), 9102 (/niosh/docs/2003-154/pdfs/9102.pdf); **OSHA** ID121 (http://www.osha.gov/dts/sltc/methods/inorganic/id121/id121.html) (http://www.cdc.gov/Other/disclaimer.html), ID125G (http://www.osha.gov/dts/sltc/methods/inorganic/id125g/id125g.html) (http://www.cdc.gov/Other/disclaimer.html)
See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Metal: Lustrous, silvery, odorless solid.

MW: 58.7	BP: 5139°F	MLT: 2831°F	Sol: Insoluble	VP: 0 mmHg (approx)	IP: NA
Sp.Gr: 8.90 (Metal)	Fl.P: NA	UEL: NA	LEL: NA		

Metal: Combustible Solid; nickel sponge catalyst may ignite SPONTANEOUSLY in air.

Incompatibilities & Reactivities Strong acids, sulfur, selenium, wood & other combustibles, nickel nitrate

Exposure Routes inhalation, ingestion, skin and/or eye contact

Symptoms sensitization dermatitis, allergic asthma, pneumonitis; [potential occupational carcinogen]

Target Organs Nasal cavities, lungs, skin

Cancer Site [lung and nasal cancer]

Arsenic (inorganic compounds, as As)

Synonyms & Trade Names Arsenic metal: Arsenia
Other synonyms vary depending upon the specific As compound. [Note: OSHA considers "Inorganic Arsenic" to mean copper acetoarsenite and all inorganic compounds containing arsenic except ARSINE.]

CAS No. 7440-38-2 (metal)	**RTECS No.** CG0525000 (metal) (/niosh-rtecs/CG802C8.html)	**DOT ID & Guide** 1558 152 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=152) (http://www.cdc.gov/Other/disclaimer.html) (metal) 1562 152 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=152) (http://www.cdc.gov/Other/disclaimer.html) (dust)
Formula As (metal)	**Conversion**	**IDLH** Ca [5 mg/m³ (as As)] See: 7440382 (/niosh/idlh/7440382.html)
Exposure Limits **NIOSH REL** : Ca C 0.002 mg/m³ [15-minute] See Appendix A (nengapdxa.html) **OSHA PEL** : [1910.1018] TWA 0.010 mg/m³		**Measurement Methods** **NIOSH** 7300 (/niosh/docs/2003-154/pdfs/7300.pdf), 7301 (/niosh/docs/2003-154/pdfs/7301.pdf), 7303 (/niosh/docs/2003-154/pdfs/7303.pdf), 7900 (/niosh/docs/2003-154/pdfs/7900.pdf), 9102 (/niosh/docs/2003-154/pdfs/9102.pdf); **OSHA** ID105 (http://www.osha.gov/dts/sltc/methods/inorganic/id105/id105.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Metal: Silver-gray or tin-white, brittle, odorless solid.

MW: 74.9	**BP:** Sublimes	MLT: 1135°F (Sublimes)	**Sol:** Insoluble	**VP:** 0 mmHg (approx)	**IP:** NA
Sp.Gr: 5.73 (metal)	**Fl.P:** NA	**UEL:** NA	**LEL:** NA		

Metal: Noncombustible Solid in bulk form, but a slight explosion hazard in the form of dust when exposed to flame.

Incompatibilities & Reactivities Strong oxidizers, bromine azide [Note: Hydrogen gas can react with inorganic arsenic to form the highly toxic gas arsine.]

DUSTTRAK™ DRX AEROSOL MONITORS MODELS 8533, 8533EP AND 8534

REAL-TIME DUST AND AEROSOL MONITORING FOR ANY ENVIRONMENT, ANY APPLICATION

Only DustTrak™ DRX Aerosol Monitors can simultaneously measure both mass and size fraction–no other monitor can do both. DustTrak DRX monitors are battery-operated, data-logging, light-scattering laser photometers that give you real-time aerosol mass readings. They use a sheath air system that isolates the aerosol in the optics chamber to keep the optics clean for improved reliability and low maintenance. From desktop with external pump models to a handheld model, the DustTrak DRX offers a suitable solution for harsh industrial workplaces, construction and environmental sites and other outdoor applications, as well as clean office settings. DustTrak DRX monitors measure aerosol contaminants such as dust, smoke, fumes and mists.

Features and Benefits

All Models

+ Real-time mass concentration and size fraction readings, as well as data-logging allow for data analysis during and after sampling.
+ Simultaneously measure size-segregated mass fraction concentrations corresponding to PM1, PM2.5, Respirable, PM10, and Total PM size fractions
+ Easy-to-use graphical user interface with color touch-screen for effortless operation

Handheld Model (8534)

+ Long life internal pump for continuous sampling
+ Single-point data collection for walk through surveys
+ Lightweight design with ergonomic handle for portable applications

Desktop Models (8533 and 8533EP)

+ Energy-efficient, long lasting external pump for continuous, unattended, 24/7, outdoor monitoring applications (Model 8533EP only)
+ Long life internal pump for shorter work-shift or IAQ sampling applications (Model 8533)
+ Gravimetric reference sampling capability for custom reference calibrations
+ Automatic zeroing (with optional zero module) to minimize the effect of zero drift
+ STEL alarm setpoint for tracking 15-minute average mass concentrations
+ Standard and advanced calibration capabilities for consistent accuracy
+ Environmental protected and tamper-proof secure (with an optional environmental enclosure)
+ Inlet sample conditioning (with optional heated inlet sample conditioner) to reduce the effect of humidity on photometric mass measurements (for use with an environmental enclosure)
+ Cloud Data Management System hosted by Netronix™

TSI® UNDERSTANDING, ACCELERATED

Unsurpassed Technology and Performance

DustTrak DRX monitors are laser photometers that simultaneously measure five size segregated mass fraction concentrations at once–something no other monitor can do. The desktop, desktop with external pump and handheld monitors are continuous, real-time, 90°, light-scattering laser photometers that simultaneously measure size-segregated mass fraction concentrations corresponding to PM1, PM2.5, Respirable, PM10, and Total PM fractions. They combine both particle cloud (total area of scattered light) and single particle detection to achieve mass fraction measurements.

This size-segregated mass fraction measurement technique is superior to either a basic photometer or optical particle counter (OPC). It delivers the mass concentration of a photometer and the size resolution of an OPC. Typically, photometers can be used at high mass concentration, but they do not give any size information (unless used with size selective inlet conditioners) and significantly underestimate large particle mass concentrations. OPC's provide size and count information; however, they do not provide any mass concentration information and cannot be used in high mass concentration environments. The DustTrak DRX can do both.

Handheld Models: Perfect for Walk-Through Surveys and Single-Point Data Collection Applications

The DustTrak DRX handheld Model 8534 is lightweight and portable. It is perfect for industrial hygiene surveys, point source location monitoring, indoor air quality investigations, engineering control evaluations/validation, and for baseline trending and screening. Like the desktop models, it has manual and programmable data logging functions. In addition, the handheld model also has a single-point data logging capability for walk-through industrial hygiene surveys and indoor air quality investigations.

Desktop Models: Ideal for Long-Term Surveys and Remote Monitoring Applications

The DustTrak DRX is also offered as a standard desktop (Model 8533), as well as a desktop with external pump (Model 8533EP.) Both models have manual and programmable data logging functions, making them ideal for unattended applications. The standard desktop model is most suitable for indoor, continuous monitoring, while the desktop with external pump is designed for 24/7 unattended, remote monitoring outdoors.

The DustTrak DRX desktop models come with USB (device and host), Ethernet, and analog and alarm outputs allowing remote access to data. User adjustable alarm setpoints for instantaneous or 15-minute short-term excursion limit (STEL) are also available on desktop models. The alarm output with user-defined setpoint alerts you when upset or changing conditions occur.

The DustTrak DRX Desktop Monitors have several unique features:

+ External pump (Model 8533EP) with low power consumption for continuous, unattended monitoring in remote outdoor locations.
+ Gravimetric sampling capability using a 37-mm filter cassette which can be inserted in-line with the aerosol stream allowing you to perform an integral gravimetric analysis for custom reference calibrations.
+ Zeros automatically using the external zeroing module. This optional accessory is used when sampling over extended periods of time. By zeroing the monitor during sampling, the effect of zero drift is minimized.
+ STEL alarm feature for tracking 15-minute average mass concentrations when alarm setpoint has been reached for applications like monitoring fugitive emissions at hazardous waste sites.
+ Provide for environmental protection and tamper-proof security using an environmental enclosure. This optional accessory encloses the instrument within a waterproof, lockable, custom-designed case.
+ Condition the sample air stream before entering the instrument optics using a heated inlet sample conditioner (designed for use with the environmental enclosure.) This optional accessory is used in humid environments. By conditioning the sample, the humidity and water vapor are minimized.
+ Standard and advanced calibration capabilities. The DustTrak DRX Aerosol Monitor has two calibration factors: a photometric calibration factor (PCF) and a size calibration factor (SCF). The PCF accounts for the photometric response difference between A1 Test Dust and the aerosol under measurement, while the SCF accounts for the aerodynamic size difference.
  - The primary goal of the standard calibration is to obtain the SCF for the aerosol of interest. The standard calibration process is very easy and does not require comparison to gravimetric samples. Measure with and without a PM2.5 impactor, and the instrument takes the ratio of these two size distributions and compares this reading to the PM2.5 impactor transmission efficiency curve to calculate the SCF. However, the absolute mass concentration may not be as accurate as the advanced calibration.
  - The advanced calibration method yields high size segregated mass concentration accuracy. It involves two separate gravimetric measurements to obtain PCF and SCF in sequence. The advanced calibration will accurately measure size segregated mass concentrations.

Applications	Desktop	Handheld
Aerosol research studies	+	+
Baseline trending and screening	+	+
Engineering control evaluations		+
Engineering studies		+
Epidemiology studies	+	+
Indoor air quality investigations	+	+
Industrial/occupational hygiene surveys	+	+
Point source monitoring		+
Outdoor environmental monitoring	+	
Process monitoring	+	+
Remote monitoring	+	

DustTrak DRX Aerosol Monitor Features

All Models

+ Li-Ion rechargeable batteries
+ Internal and external battery charging capabilities
+ Outlet port for isokinetic sampling applications
+ User serviceable sheath flow and pump filters
+ Logged test pause and restart feature
+ Logged test programming
  - Color touch screen–either manual mode or program mode
  - TRAKPRO™ Data Analysis Software via a PC
+ User adjustable custom calibration settings
+ Instantaneous alarm settings with visual and audible warnings
+ Real-time graph display
+ View statistical information during and after sampling
+ On-screen instrument status indicators: FLOW, LASER and FILTER
+ Filter service indicator for user preventative maintenance

Desktop Models (8533 and 8533EP)

+ Long life external pump (8533EP)
+ Internal pump (8533)
+ Hot swappable batteries
+ Gravimetric reference sample capability
+ STEL alarm setpoint

Optional Accessories

+ Auto zeroing module
+ Protective environmental enclosure (8535 and 8537)
+ Heated inlet sample conditioner (for use with an environmental enclosure)
+ Cloud Data Management System as hosted by Netronix™

Handheld Model (8534)

+ Long life internal pump
+ Single-point data collection for walk through surveys

Easy to Program and Operate

The graphical user interface with color touch-screen puts everything at your fingertips. The easy-to-read display shows real-time mass concentration and graphical data, as well as other statistical information along with instrument pump, laser and flow status, and much more. Perform quick walk-through surveys or program the instrument's advanced logging modes for long-term sampling investigations. Program start times, total sampling times, logging intervals, alarm setpoints and many other parameters. You can even set up the instrument for continuous unattended operation.

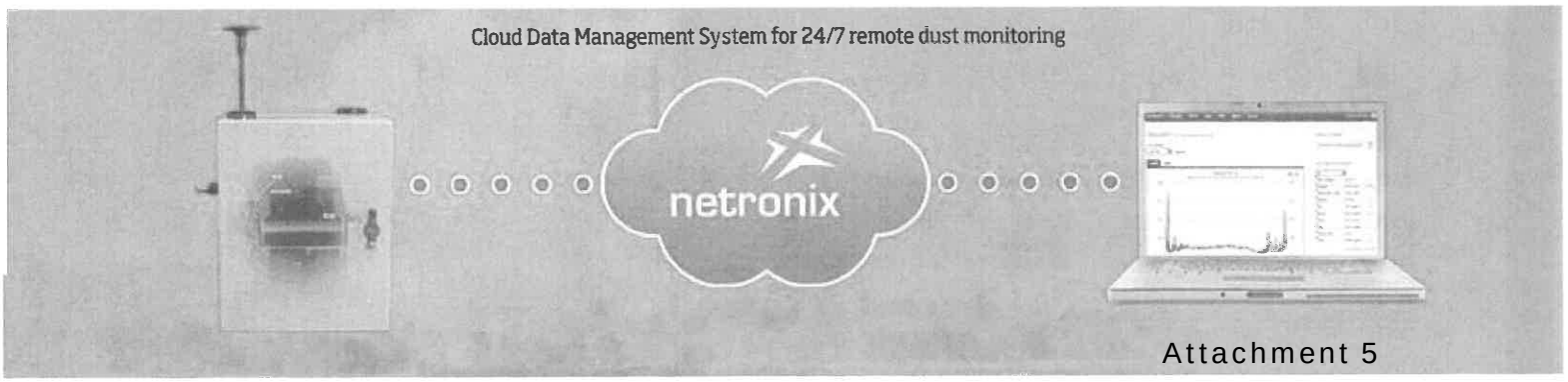
TRAKPRO™ Software Makes Monitoring Easier than Ever

TrakPro™ Data Analysis Software allows you to set up and program directly from a PC. It even features the ability for remote programming and data acquisition from your PC via wireless communication options or over an Ethernet network. As always, you can print graphs, raw data tables, and statistical and comprehensive reports for recordkeeping purposes.

Battery Performance		
Models 8533 and 8533EP (Typical) 6600 mAH Li-Ion Battery Pack (P/N 801680)	**1 Battery**	**2 Batteries**
Battery runtime (hours)	Up to 6	Up to 12
Charge time* (hours) in DustTrak	4	8
Charge time* (hours) in external battery charger (P/N 801685)	4	8

Model 8534 (Typical) 3600 mAH Li-Ion Battery Pack (P/N 801681)	**Battery**
Battery runtime (hours)	Up to 6
Charge time* (hours) in DustTrak	4
Charge time* (hours) in external battery charger (P/N 801686)	4

* Of a fully depleted battery



SPECIFICATIONS

DUSTTRAK™ DRX AEROSOL MONITORS MODELS 8533, 8533EP AND 8534

Sensor Type
90° light scattering

Particle Size Range
0.1 to 15 µm

Aerosol Concentration Range

8533 Desktop	0.001 to 150 mg/m³
8533EP Desktop with External Pump	0.001 to 150 mg/m³
8534 Handheld	0.001 to 150 mg/m³

Display
Size Segregated Mass Fractions for PM1, PM2.5, Respirable, PM10 and Total. All displayed

Resolution
±0.1% of reading or 0.001 mg/m³, whichever is greater

Zero Stability
±0.002 mg/m³ per 24 hours at 10 sec time constant

Flow Rate
3.0 L/min

Flow Accuracy
±5% of factory set point, internal flow controlled

Temperature Coefficient
+0.001 mg/m³ per °C

Operational Temp
32 to 120°F (0 to 50°C)

Storage Temp
-4 to 140°F (-20 to 60°C)

Operational Humidity
0 to 95% RH, non-condensing

Time Constant
User adjustable, 1 to 60 seconds

Data Logging
5 MB of on-board memory (>60,000 data points)
45 days at 1 minute logging interval

Log Interval
User adjustable, 1 second to 1 hour

Physical Size (H x W x D)

Handheld	4.9 x 4.8 x 12.5 in. (12.5 x 12.1 x 31.6 cm)
Desktop	5.3 x 8.5 x 8.8 in. (13.5 x 21.6 x 22.4 cm)
External Pump	4.0 x 7.0 x 3.5 in. (10.0 x 18.0 x 9.0 cm)

Weight

Handheld	2.9 lb (1.3 kg), 3.3 lb (1.5 kg) with battery
Desktop	3.5 lb (1.6 kg), 4.5 lb (2.0 kg) - 1 battery, 5.5 lb (2.5 kg) - 2 batteries
External Pump	3.0 lb (1.4 kg)

Communications

8533	USB (host and device) and Ethernet. Stored data accessible using flash memory drive
8533EP	USB (host and device) and Ethernet. Stored data accessible using flash memory drive plus, cable assembly for external pump
8534	USB (host and device). Stored data accessible using flash memory drive

Power-AC
Switching AC power adapter with universal line cord included, 115–240 VAC

Analog Out

8533/8533EP	User selectable output, 0 to 5 V or 4 to 20 mA. User selectable scaling range

Alarm Out

8533/8533EP	Relay or audible buzzer Relay Non-latching MOSFET switch + User selectable set point + -5% deadband + Connector 4-pin, Mini-DIN connectors
8534	Audible buzzer

Screen

8533/8533EP	5.7 in. VGA color touchscreen
8534	3.5 in. VGA color touchscreen

Gravimetric Sampling

8533/8533EP	Removable 37 mm cartridge (user supplied)

CE Rating

Immunity	EN61236-1:2006
Emissions	EN61236-1:2006

Specifications are subject to change without notice.

UNDERSTANDING, ACCELERATED

TSI Incorporated - Visit our website **www.tsi.com** for more information.

USA	**Tel:** +1 800 874 2811	**India**	**Tel:** +91 80 67877200
UK	**Tel:** +44 149 4 459200	**China**	**Tel:** +86 10 8219 7688
France	**Tel:** +33 4 91 11 87 64	**Singapore**	**Tel:** +65 6595 6388
Germany	**Tel:** +49 241 523030		

P/N 6001981 Rev G Printed in U.S.A.

Appendix E

Soil Sampling Field Methodology for Hydraulic Driven Probes

Field Methodology for Shallow Soil Sampling

This following provides detailed descriptions of methods used during shallow soil sampling investigations. Included are specifications for shallow soil sampling with a slide hammer, and decontamination procedures.

Shallow Soil Sampling Procedures: A backhoe, two person power auger, or a hand auger will be used to get to a point immediately above the sampling depth. Once at the desired sampling depth, a slide hammer will be used to drive a clean stainless steel liner encased in the slide hammer sampling shoe to obtain a relatively undisturbed sample. The slide hammer consists of a metal rod with one end containing a sampling shoe and cutting head with which a sample liner can be installed. At the other end of the metal rod there is a handle that is constrained on the rod, but slides up and down the rod allowing force to be applied to the sampling shoe. Manual operation is used to slide the handle down the rod to force the sampling shoe equipped with the liner into native soils.

Materials retrieved from the sampler will be logged on an as-needed basis by the experienced field geologist using the Unified Soil Classification System (USCS), noting in particular, the lithology of the soils, moisture content, and any unusual odor or discoloration. The liner and relatively undisturbed soils will then be removed from the sampling shoe. The liner is then protected at both ends with Teflon tape, sealed with non-reactive caps, taped, and immediately stored in an insulated container cooled with blue ice at a temperature of 4 degree Celsius or less. Soil samples selected for Volatile Organic Compound (VOC) analysis may follow field preservation protocols according to EPA Method 5035, as described in DTSC's *Guidance Document for the Implementation of United States Environmental Protection Agency Method 5035: Methodologies for Collection, Preservation, Storage, and Preparation of Soils to be Analyzed for Volatile Organic Compounds*, dated November 2004. Selected samples will be transported under appropriate chain-of-custody documentation to a State certified laboratory performing the targeted analysis.

Upon completion of sampling at the designated location, the location will be backfilled and compacted with the materials that were removed prior to sampling, supplemented by clean imported fill as necessary.

Equipment Decontamination and Containerization Procedures: All sampling equipment will be cleaned prior to arriving on site to prevent possible transfer of contamination from another site. Additionally, sampling equipment will be thoroughly cleaned between each sampling run with a Liqui-Nox ® or Alconox ® solution followed by a double rinsing with distilled water to prevent the vertical transfer of contamination, and/or contamination from location to location onsite. Accordingly, all sampling equipment will be cleaned following sampling operations to prevent the possible transfer of contamination to another site.

All cleaning rinsate, and wash water produced during the shallow soil sampling and decontamination process will be containerized on site in D.O.T. approved 55-gallon drums for subsequent profiling and disposal at an approved facility.

County of Santa Cruz

HEALTH SERVICES AGENCY
701 OCEAN STREET, ROOM 312, SANTA CRUZ, CA 95060-4073
(831) 454-2022 FAX: (831) 454-3128
http://www.co.santa-cruz.ca.us/

ENVIRONMENTAL HEALTH

Site Mitigation Program Standards
Santa Cruz County Environmental Health Services

Chemical Analyses

- All chemical analyses shall be performed by an analytical laboratory certified to perform the specified analyses by the State of California.
- The chemical analyses, laboratory methods, and method detection limits must be proposed in advance in the project work plan and included in the project report.
- When proposing chemical analyses, the current version of applicable guidance documents shall be considered including the (1) *Interim List of Gasoline Related Constituents and Associated Method Detection Limits* (California Regional Water Quality Control Board, Central Coast Region), (2) *Interim Guidance for Sampling Agricultural Properties* (Department of Toxic Substances Control), and (3) *Interim Final, Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* (DTSC, 2005),.
- Appropriate Quality Control/Quality Assurance must be performed and included along with all laboratory results in the project report.

Confirmation Sampling and Profiling for Excavations

- To characterize chemical concentrations remaining in-situ following soil excavation, our agency requires collection and analyses of soil samples from the excavation sidewalls and bottom as well as samples of any groundwater that enters the excavation.
- Soil and groundwater sampling and laboratory analyses must adequately characterize the lateral and vertical distribution of chemical concentrations remaining at the limits of the excavation.
- At minimum, sidewall soil samples should be collected and individually analyzed by a State of California certified laboratory at least every 5 vertical feet, at significant lithologic changes, at the top of any saturated zones, from any soil zones containing field indications of chemical impact, and from the same depth intervals as previously detected elevated concentrations.
- A minimum of one vertical set of soil samples should be collected every 20 lateral feet along each excavation sidewall
- For excavations with sidewalls less than 20-feet long, a minimum of one vertical set of soil samples should be collected from each excavation sidewall.
- In addition, at least one excavation bottom sample should be collected for every 400 square feet of area exposed at the bottom of an excavation.
- If groundwater is encountered in the excavation, at least one grab groundwater sample should be collected to characterize this water.

- Depending on the size of the excavation and actual field conditions, more than one grab groundwater sample may be prudent.

- It is permissible to evacuate the water from the excavation and allow the excavation to recharge prior to groundwater sampling, as long as the evacuated water is properly handled, characterized, treated, and/or disposed.

Construction Over Chemically Impacted Areas

- Our agency typically does not approve construction of new buildings above contaminated soil if this construction limits the ability to investigate or remediate the soil.

- In addition, prior to new construction above contaminated soil, we would require professionally prepared recommendations, specifications, and/or plans that will assure our agency that human health and the environment are protected.

- When subsurface contamination is present, an evaluation is required to assess the health and safety conditions for the occupants of any proposed or existing buildings.

- Our agency does not typically object to construction of a new building over an area of chemically impacted groundwater as long as human health and safety are protected, this construction does not impede the ability to investigate and/or remediate the impacted water or soil, and the lead groundwater oversight agency does not object.

Cost Recovery

- In accordance with Santa Cruz County Code Chapter 7.100 (Hazardous Materials/Hazardous Waste/Underground Storage Tanks), which allows the Health Officer to recover costs for oversight of hazardous materials issues, our department will bill the Responsible party for our time spent in oversight of Site Mitigation Program cases.

Deed Restrictions

- In most cases, deed restrictions will only be considered by our agency after accessible contaminants have been actively remediated, all residual contamination is inaccessible, and it has been determined that there is no significant risk to human health or the environment under the conditions specified in the deed restriction.

Duty to Report an Unauthorized Release of Hazardous Material

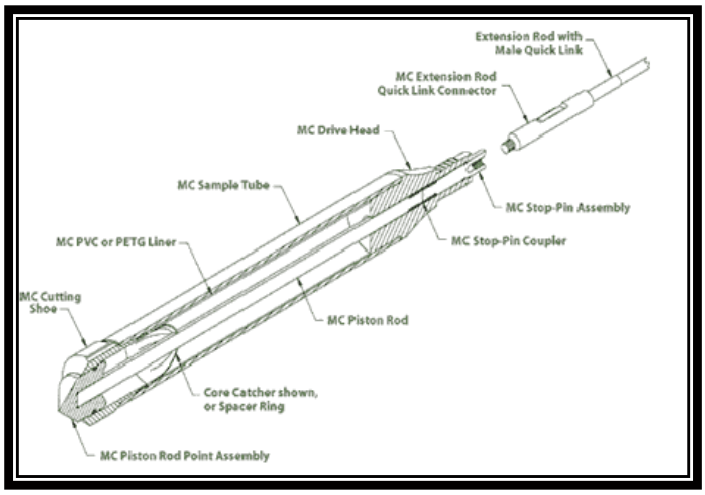
- Any person who has knowledge of soil or groundwater contamination or a release of hazardous material of which he or she knows or reasonably suspects to be unauthorized shall report the contamination or known or suspected release to the County of Santa Cruz Health Officer or SCCEHS staff immediately or as soon as practically possible in accordance with Chapter 7.100, Hazardous Materials/Hazardous Waste/Underground Storage Tanks, of the Santa Cruz County Code.

FIELD METHODOLOGY FOR:

HYDRAULIC DRIVEN PROBES
(if necessary)

Using Macro-Core®, Large Bore® or Dual Tube® Hydraulic Driven Probes

Direct push exploratory borings are "drilled" with a Hydraulic Driven Probe drill rig, which hydraulically vibrates and drives steel probes into the soil. This sampling technology has the ability for either continuous or discrete sampling using a 4-foot long nickel-plated sampling probes fitted with clear acetate liners. During coring operations, the sampler remains open as it is driven into undisturbed soil over its entire 4-foot sampling interval.



The soil cores are logged by an experienced geologist using the Unified Soil Classification System (USCS), noting in particular, the lithology of the soils, moisture content, and any unusual odor or discoloration. Relatively undisturbed soil samples are obtained for both lithologic logging and laboratory analysis. A portion of individual soil cores are stored in a sealed plastic bags for field screening of hydrocarbons and/or volatile organic compounds by an Photoionization Detector (PID). Vapor readings in parts per million (ppm) are recorded on the boring logs. The PID is also used during drilling for monitoring the work area for site safety.

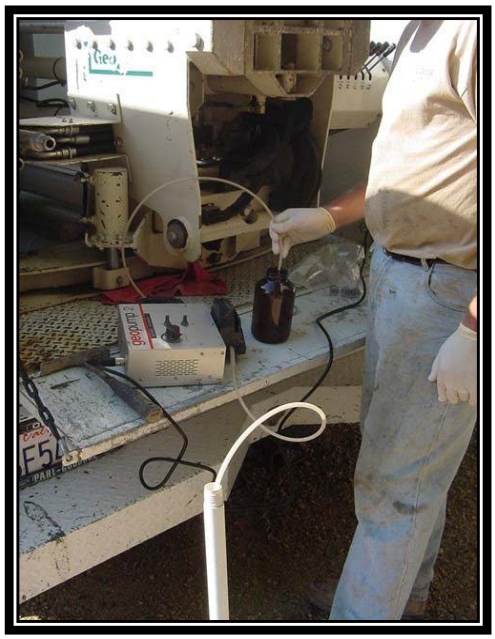
All drilling equipment is decontaminated prior to arriving on-site to prevent possible transfer of contamination from another site. The sampling probe and all other soil sampling equipment are thoroughly cleaned between each borehole by washing in a Liqui-Nox or Alconox solution followed by a double rinsing with distilled water to prevent the transfer of contamination.

After drilling, all exploratory boreholes are grouted with continuous pour neat cement grout from the bottom of the borehole to the ground surface. Soil cuttings and purge water generated during sampling are stored on site in DOT-approved, drums for disposal by a state-licensed contractor pending laboratory analysis results.

Samples Targeted for Laboratory Analysis:

Soil Samples: Soil samples targeted for laboratory analysis are immediately cut from the acetate sample liner and protected at both ends with Teflon tape, sealed with non-reactive caps, taped, labeled, placed in a plastic ZipLock baggie, and immediately stored in an insulated container chilled to a temperature of 4 degree Celsius. Soil samples selected for Volatile Organic Compound (VOC) analysis will follow field preservation protocols according to EPA Method 5035, as described in DTSC's *Guidance Document for the Implementation of United States Environmental Protection Agency Method 5035: Methodologies for Collection, Preservation, Storage, and Preparation of Soils to be Analyzed for Volatile Organic Compounds*, dated November 2004.

Groundwater Samples: Once encountered, depth to groundwater is measured to the nearest hundredth (0.01) of a foot with an pre-cleaned, electric sounder (subsequent measurements may be made to evaluate first encountered vs. stabilized levels). Groundwater samples are collected after temporary PVC casing is placed in the hole and at least one borehole volume is purged and groundwater is visually observed to be free of sediment.



Relatively representative groundwater samples are collected either: 1) using a peristaltic pump and dedicated polyethylene tubing and dispensed directly into containers specifically prepared for the analyses (typically for groundwater encountered at depths of less than 27 feet below ground surface (bgs)); or 2) by mechanically lifting groundwater through a clean stainless steel foot valve and dedicated polyethylene and dispensed directly into containers specifically prepared for the analyses.

During purging, the purge water is monitored. A calibrated, YSI Professional Plus Multi-Parameter flow-through meter is used to measure the physical parameters of temperature, conductivity, pH, dissolved oxygen (D.O.) concentration, and Oxidation-Reduction Potential (ORP) to evaluate stabilized parameters (i.e., measured parameters are within ~ 10 percent of the previous measurement). Purging is determined to be complete (stabilized aquifer conditions reached) when the physical parameters have stabilized and/or the removal of approximately two well casings for driven probes and three-to-five well volumes of water for permanent wells.

Samples being analyzed for dissolved metals will be preserved and acidified by the testing laboratory following their receipt of samples. Once collected, groundwater sample containers are placed in ZipLock bags and are stored in an insulated container chilled to a temperature of 4 degree Celsius.

All field data (depth-to-groundwater, well purge volume, physical parameters, and sampling method) is recorded on field data sheets

Sample Transport: All samples are transported in chilled coolers to a State-certified laboratory under appropriate chain-of-custody documents. Soil samples that may be put on “hold” for potential future analysis will be stored in a dedicated sample freezer, be frozen, and stored under chain-of-custody documentation. Hold times will be confirmed with the testing laboratory to ensure that potential analysis of any “hold” samples will be analyzed within the laboratory hold times.