Leighton Consulting, Inc.
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TRANSMITTAL

To: Los Angeles Unified School District
Office of Environmental Health and Safety
333 South Beaudry Avenue, 21st Floor
Los Angeles, California 90017

Date: July 1, 2019

Leighton Project No. 11640.011

Attention: Mr. Andrew Modugno

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Subject: Final Removal Action Workplan, Northern Portion of David Starr Jordan High School, 2265 E. 103rd Street, Los Angeles, California, 90002

LEIGHTON CONSULTING, INC.

By: Ross Surrency

Distribution: (1 copy + 1 CD) Addressee
(1 copy + 1 CD) DTSC, Attention: Joe Hwong

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FINAL
REMOVAL ACTION WORKPLAN
NORTHERN PORTION OF
DAVID STARR JORDAN HIGH SCHOOL
2265 EAST 103RD STREET
LOS ANGELES, CALIFORNIA 90002

Prepared For:

LOS ANGELES UNIFIED SCHOOL DISTRICT

Office of Environmental Health and Safety
333 South Beaudry Avenue, 21st Floor
Los Angeles, California 90017

Project No. 11640.011

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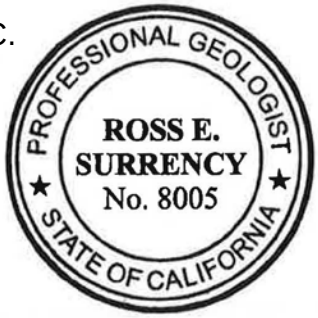
FINAL
Removal Action Workplan (RAW)
Northern Portion of
David Starr Jordan High School
2265 East 103rd Street
Los Angeles, California 90002

Leighton Consulting, Inc. (Leighton) is pleased to present this Final Removal Action Workplan (RAW) for the proposed modernization project to address areas of elevated arsenic, lead, and total petroleum hydrocarbons (TPH) in soil on northern portions of the existing David Starr Jordan High School campus located at 2265 East 103rd Street in Los Angeles, California. This RAW was prepared by Leighton for the Los Angeles Unified School District, in a manner consistent with the level of care and skill ordinarily exercised by professional geologists and environmental scientists. This RAW was prepared under the technical direction of the undersigned, who is a California Professional Geologist.

LEIGHTON CONSULTING, INC.



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May 1, 2019

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LIST OF ABBREVIATIONS/ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
AIN	Assessor's ID Number
amsl	above mean sea level
AOC	Area of Concern
AQMD	Air Quality Management District
ARARs	Applicable or Relevant and Appropriate Requirements
bgs	below ground surface
BMPs	Best management practices
Cal/EPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	CERCLA Information System
CFR	Code of Federal Regulations
CG	Cleanup Goal
CIH	Certified Industrial Hygienist
COC	Chemical of concern
CY	Cubic yards
District	Los Angeles Unified School District
DQOs	Data Quality Objectives
DTSC	Department of Toxic Substances Control
DTSC-SL	DTSC Modified Screening Level
DWR	Department of Water Resources
EE/CA	Engineering Evaluation/Cost Analysis
EIR	Environmental Impact Report
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
GPS	Global Positioning System
H&SC	Health and Safety Code
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HHRA	Human Health Risk Assessment
LAUSD	Los Angeles Unified School District
LBP	lead-based paint
Leighton	Leighton Consulting Inc.

List of Abbreviations/Acronyms (Continued)

LUC	Land Use Covenant
LUFT	Leaking Underground Fuel Tank
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
MND	Mitigated Negative Declaration
mph	Miles per hour
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
ND	Not Detected
NEPA	National Environmental Policy Act
NFA	No Further Action
NIOSH	National Institute of Occupational Safety and Health
NOAA	National Oceanographic and Atmospheric Administration
NOE	Notice of Exemption
NPDES	National Pollution Discharge Elimination System
O&M	Operations and maintenance
OCPs	Organochlorine Pesticides
OEHHA	Office of Environmental Health Hazard Assessment
OEHS	Office of Environmental Health and Safety
OSHA	Occupational Safety and Health Administration
PAHs	Polyaromatic hydrocarbons
PCBs	Polychlorinated Biphenyls
PEL	Permissible Exposure Limit
PID	Photoionization detector
PPE	Personal protective equipment
ppm	Parts per million
PQL	Laboratory practical quantitation limit
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RA	Removal Action
RACR	Removal Action Completion Report
RAGs	Removal Action Goals
RAOs	Removal Action Objectives
RAW	Removal Action Workplan
RCRA	Resource Conservation and Recovery Act
RWQCB	Regional Water Quality Control Board
School property	David Starr Jordan High School Campus
Site	David Starr Jordan High School Removal Action Area

List of Abbreviations/Acronyms (Continued)

STLC	Soluble Threshold Limit Concentration
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCLP	Toxicity Characteristic Leaching Procedure
TLVs	Threshold Limit Values
TPH	Total Petroleum Hydrocarbons
TPH-g	Total Petroleum Hydrocarbons as gasoline
TPH-d	Total Petroleum Hydrocarbons as diesel fuel
TPH-o	Total Petroleum Hydrocarbons as oil
TTLC	Total Threshold Limit Concentration
UCL	Upper confidence limit
USA	Underground Service Alert
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VCA	Voluntary Cleanup Agreement
VOCs	Volatile Organic Compounds
WET	Waste Extraction Test
µg/kg	Micrograms per kilogram

REMOVAL ACTION WORKPLAN SUMMARY

Name of Project Site (Site):	Northern Portion of David Starr Jordan Senior High School
Name of Project Proponent:	Los Angeles Unified School District (LAUSD or the District) (see contact info in Section 2.1.2)
Site Current & Future Usage:	Current: Softball field and unused asphalt area. Future: Softball field, four (4) new tennis courts, three (3) futsal courts, and two (2) volleyball courts. No buildings planned.
Chemicals of Concern (COCs):	Arsenic, lead, total petroleum hydrocarbons (TPH) (see Section 3.1).
Removal Action Goals (RAGs):	Arsenic 12 milligrams per kilogram (mg/kg), lead 80 mg/kg, TPH-g 430 mg/kg, TPH-d 1,100 mg/kg, TPH-o 12,000 mg/kg. (see Table 1).
Proposed Removal Action Alternative:	Limited Soil Excavation with Institutional Controls
Volume of Proposed Soil Removal:	(see Section 3.3) Approximately 3,084 cubic yards (CY) of arsenic, lead, and TPH-impacted soil with non-hazardous waste classification, and Approximately 75 CY of arsenic and lead-impacted soil with California-restricted non-RCRA hazardous waste classification due to elevated arsenic and lead levels (Areas 1 through 4 shown on Figures 5 through 8).

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1.0 INTRODUCTION

This Removal Action Work Plan (RAW) provides analysis and details on the mitigation of soils impacted with arsenic, lead, and total petroleum hydrocarbons (TPH) in the northern portion of the David Starr Jordan Senior High School (the "Site") in Los Angeles, California (see Site Location Map – Figure 1). The RAW includes Site background information, a description of the soil impacts, an evaluation of cleanup goals, assessment of alternatives, and a detailed removal action (RA) plan, as required by the California Health and Safety Code (H&SC) sections 25323.1 and 25356.1.

A *Supplemental Site Investigation Report* (SSI) was previously prepared for the Site. Elevated levels of the arsenic, lead, and TPH were detected in the Site soils that pose a potential threat to human health and/or the environment. Based on data reported in the SSI, it was concluded that the extent of impacted soils had generally been defined, and the preparation of a RAW was recommended (Placeworks, 2018).

In December 2018, DTSC responded to the SSI, via a letter dated December 21, 2018, concurring with its conclusions and recommendations but also providing comments on the document (DTSC, 2018). In a letter dated January 24, 2019, the Los Angeles Unified School District (LAUDS or District) responded to the DTSC comments.

The Site is currently a softball field and a largely unused asphalt area (former basketball and tennis courts). Future Site usage will include a softball field, four (4) new tennis courts, three (3) futsal courts, and two (2) volleyball courts. There are no current plans to build structures on the Site.

This document was prepared by Leighton Consulting Inc. (Leighton) on behalf of the District, and in general accordance with the guidance for evaluating hazardous substance release sites, as published by the California Environmental Protection Agency (Cal/EPA) – Department of Toxic Substances Control (DTSC, 2015).

Pertinent references included within this document are listed in Appendix A.

1.1 Removal Action Objectives

The Removal Action Objectives (RAOs) are as follows:

- To reduce the likelihood of exposure of humans to the chemicals of concern (COCs) in the shallow soil;

- To minimize the potential for migration of the COCs from the soil to other media; and

- To remove or otherwise isolate soils that exceed health risk-based remediation goals proposed in this document.

The proposed activities focus on the removal and disposal of soils impacted with elevated arsenic, lead and TPH to reduce the potential threat to human health and the environment. This action provides a permanent solution to reducing the toxicity of the soils at the Site, the mobility of the COCs, and the overall volume of impacted soil. The proposed action is the preferred remedy in terms of the evaluation criteria: effectiveness, implementability, and cost.

Following completion of proposed activities, the District's environmental consultant will certify that the necessary removal actions have been completed in accordance with the approved RAW, and as a result, the Site conditions following implementation of this RAW do not pose a significant risk to human health, safety, or the environment.

2.0 SITE BACKGROUND

Provided below is information on the Site location, historical usage, physiographic setting, subsurface conditions and previous environmental actions.

2.1 Site Location and Description

Key Site and project information is provided below.

2.1.1 Site Name and Address

Site Name: David Starr Jordan Senior High School (includes Animo College Preparatory Charter High School).

Address: 2265 East 103rd Street, Los Angeles, California 90002 (see Site Location Map - Figure 1).

Site Size: The high school property is approximately 19 acres total in size. The Site is an approximate 2.8 acres in the northern portion of the property.

Description: The Site is further described as the area north of the football field and bleachers plus the softball field. Except for the softball field, the remainder of the Site is partially covered with older asphalt pavement, and was formerly used for basketball and tennis courts (see Site Plan – Figure 2).

The Site is bound to the north by a large, newly constructed block wall and, on the other side of it, Jordan Downs Redevelopment Project (JDRP) consisting of numerous multi-family residential units under construction. Adjoining to the east is Atlas Iron and Metal Company (a metal recycler). Adjoining to the south is the high school football field and bleachers, and adjoining west is the Jordan Downs Public Housing apartments (older low-income apartments). There are no public roadways immediately adjoining the Site.

2.1.2 Contact Person, Mailing Address and Telephone Number

The project proponent for this RAW is the LAUSD. For the purposes of this RAW, the current Site contact related to the environmental matters is listed below:

Mr. Andrew Modugno
Los Angeles Unified School District
Office of Environmental Health and Safety
333 South Beaudry Avenue, 21st Floor
Los Angeles, California 90017

2.1.3 EPA ID Number and CalSites Database Number

Non-hazardous and non-RCRA California-restricted wastes are expected to be generated during this RA. The waste will likely be handled, transported, and disposed under non-hazardous and non-RCRA California-restricted waste manifests. As needed, the Site's United States Environmental Protection Agency (EPA) ID number is CAR000155622.

2.1.4 Assessor's Parcel Number

A small portion of the Site (southern-most portion) is associated with Los Angeles County Assessor Parcel Number (APN) 6046-021-918. The remainder of the Site is reported to be an easement for the extension of Century Boulevard that was deeded to the LAUSD in 1974 for use as part of the school.

2.1.5 Ownership

The Site owner is the LAUSD.

2.1.6 Township, Range, Section and Meridian

Public Survey System:	T02S, R13W, Section 34 & T03S, R13W, Section 3 San Bernardino Baseline and Meridian
Approximate Geographic Coordinates:	Longitude: -118.231033° West Latitude: 33.945787° North

2.2 Operational History and Status

2.2.1 Site

The northwestern portion of the Site was occupied by low income housing from at least the 1950s through early 1960s. It appears to have been largely unused from the early 1960s through the early 2000s, and then basketball and tennis courts associated with the high school until 2013. This area currently remains asphalt covered and appears generally not to be in use. The central and eastern portions of the Site are reported to have been used as a laydown yard from 1948 through 1959 for a steel mill that was adjoining north of the Site (Placeworks, 2018). This portion of the Site has been unused, or a grass field/softball field since then.

The southern-most portion of the Site was sold to Compton Union School District in 1924 to establish Watts Union High School. The high school was then transferred in 1927 to the LAUSD and renamed David Starr Jordan Senior High School. A portion of the campus is currently occupied by Animo College Preparatory Academy.

2.2.2 Adjoining Properties

A steel mill was located north of the Site from 1941 to about 1979. This property appears to have been used mostly for storage since 1979. An auto repair shop was located east of the Site (current Atlas Iron and Metal Company location) from 1928 to about 1937. Metal recycling operations have been occurring on this adjoining east property from at least 1951 to the present (Placeworks, 2018).

The property adjoining west of the Site has been low income housing from at least the 1950s to present. The property adjoining south of the Site has been part of the High School since the 1920s.

2.3 Topography

The topography of the Site is generally flat, with a very slight slope to the south. Prior survey data have indicated the Site elevation is between approximately 109 and 112 feet above mean sea level (msl) (Placeworks, 2018). The general Site vicinity has a predominant slight slope to the south (USGS, 1981).

2.4 Regional Geology and Hydrogeology

2.4.1 Geology

The Site lies within the central block of the Los Angeles basin, with relatively little topographic relief. The closest major physiographic feature is the Los Angeles River, approximately 3.1 miles east of the Site. The Site is underlain by poorly consolidated Holocene to late Pleistocene alluvial fan and valley deposits, consisting of poorly sorted clay, sand, gravel, and cobbles (CGS, 2003).

2.4.2 Hydrogeology

The Site is located in the Central Groundwater Sub-basin of the Coastal Plain of the Los Angeles County Groundwater Basin. This sub-basin is bound to the north and northeast by the Elysian, Repetto, Merced and Puente Hills, to the southeast by the Orange County Groundwater Basin, and to the southwest and west by the Newport–Inglewood Fault system and the West Coast Groundwater Basin (DWR, 1988). Per the Los Angeles Regional Water Quality Control Board (LARWQCB), designated beneficial uses of groundwater in the Central sub-basin of the Coastal Plain of Los Angeles include: municipal, industrial, process and agricultural supply (LARWQCB, 2018).

The immediate Site vicinity is underlain with an approximately 60-feet thick layer of alluvium deposits, then approximately 50-feet thick layer of the Gaspur Aquifer, then approximately 125-feet thick layer of the Exposition Aquifer (DWR, 1988).

2.5 Site Soil Types and Groundwater

2.5.1 Soil Types

Based on soil borings advanced during the SSI, fill material of one (1) to five (5) feet in thickness was encountered at the Site. The fill was reported to be more prominent along the northern and eastern boundaries of the Site (Placeworks, 2018). Subsurface soils are reported to be silt with interbedded sands, and silts, to a depth of around 20 feet below ground surface (bgs). Another investigator has also reported some sandy clay near

10 feet bgs. Soil below 20 feet bgs is described as silt, with or without sand, poorly graded sand, and silty sands.

2.5.2 Groundwater

The depth to first groundwater beneath the Site is expected to be approximately 60 to 70 feet bgs. Data obtained from the State Water Resources Control Board Geotracker database indicates a groundwater investigation approximately 950 feet north of the Site encountered first groundwater at approximately 66 feet bgs in 2009. Another groundwater investigation, approximately 2,200 feet west of the Site, reported groundwater at 62 feet bgs in 2017 (Geotracker, 2019).

Prior environmental investigations on both the subject Site, and adjoining JDRP project north of the Site, have reported no groundwater encountered in borings drilled 40 to 50 feet bgs (Placeworks, 2018) and (Anderson, 2017).

The flow of shallow groundwater can be highly variable over small areas, and from property to property. Prior environmental reports associated with the Site, and the adjoining north property, report likely area-wide groundwater flows from southwest to northwest. The two Geotracker groundwater cases mentioned above report groundwater flows to the northeast and east. In consideration of the information reviewed, we estimate the most likely flow direction is southeast to northeast.

2.6 Land Uses, Sensitive Receptors, Ecosystems and Cultural Resources

The Site is currently zoned for school use. Surrounding land use consists primarily of industrial and residential properties. The Site is not in an area of known significant biological or cultural resources. The nearest surface water body is the Los Angeles River, located approximately 3.1 miles east of the Site.

2.7 Meteorology

The Site region has a Mediterranean climate, with very little rain in the summer. Most rain occurs during the months of December through March. The average annual rainfall in the Site region is approximately 15 inches (NOAA, 2002). Average summer high and low temperatures are 84 and 65ºF, and the average winter high and low temperatures are 68 and 48ºF.

Prevailing winds in the Site area are from west and west/southwest. The average wind speed varies seasonally, but ranges annually between 5 to 7 miles per hour (mph). The greatest wind velocities generally are associated with the Santa Ana winds that can occur sporadically between October and March, and can reach 60+ mph. These winds are typically from northeast to southwest.

2.8 Previous Site Actions

2.8.1 2002-2005 Phase I and Emergency Excavation

An inert artillery shell from the adjacent Atlas Iron and Metal Company landed on the Site (softball field) on December 13, 2002. As a result of the incident, the DTSC increased their scrutiny of the Atlas Iron and Metal Company. In 2004, the DTSC commissioned Robin Environmental Management Company to perform a Phase I Environmental Site Assessment (ESA) on the northeastern corner of Jordan High School (current softball field), along with land immediately north and east of the softball field (Robin Environmental Management, 2004). The Phase I ESA was conducted concurrently with a soil sampling program implemented by DTSC to investigate the former steel mill property to the north and metal recycling properties to the east of the Site. The DTSC investigation was conducted between March 27 and April 20, 2004, and discovered elevated levels of lead, arsenic, copper, chromium, antimony, and polychlorinated biphenyls (PCBs) in soil.

In June 2004, the DTSC commissioned Accord Engineering, Inc., to conduct an Emergency Excavation Workplan for the softball field on the northeastern and eastern portions of the Site. The purpose of the Emergency Excavation Workplan was to respond to a DTSC Imminent and Substantial Endangerment Determination due to their discovery of elevated metals in the softball field. Following the removal and disposal of contaminated soil along the perimeter of the Site between June 21 and 28, 2004, DTSC commissioned Accord Engineering, Inc. to prepare an Emergency Excavation Completion Report. The report documents the excavation and disposal activities, and includes details about confirmation sampling and backfill operations (Accord, 2005). DTSC certified the Final Emergency Excavation Completion Report via a letter dated May 4, 2005.

2.8.2 2016 Limited Soil Screening

In 2016, after becoming aware of assessment and removal activities being completed north of the subject Site (at JDRP), the LAUSD commissioned Waterstone Environmental, Inc., to conduct a Limited Soil Screening Investigation. The area of the investigation is the subject of this current RAW (north of the football field, track and bleachers, and the softball field). The purpose of the Limited Soil Screening Investigation was to assess the concentrations of lead and arsenic in the soil.

The soil sampling program involved the collection of samples at 34 locations across the Site. The samples were generally collected at 1", 6", 18" and 36" bgs, and analyzed for lead and arsenic. Selected samples at various locations throughout the Site were reported to contain arsenic and lead above DTSC screening levels of 12 milligrams/kilogram (mg/kg) (arsenic) and 80 mg/kg (lead) (Waterstone, 2016).

2.8.3 2017 Soil Screening Investigation on NW Portion of Subject Site

In 2017, Jordan Downs Remediation Manager LLC commissioned Anderson Environmental to write a technical memorandum detailing a limited soil screening investigation conducted on the northwestern portion of the Site. The purpose of the investigation was to determine the lateral extent of the TPH-impacted soil that was previously found on the JDRP property immediately north of the Site. The investigation tested for TPH and volatile organic compounds (VOCs) in the soil. Forty-seven samples were collected at eight locations and analyzed for TPH and VOCs. VOC concentrations did not exceed regional screening levels; however, maximum reported TPH concentrations were as follows:

TPH as gasoline (TPH-g) – 2,180 mg/kg

TPH as diesel (TPN-d) - 20,300 mg/kg

TPH as oil (TPH-o) - 1,430 mg/kg

The pattern of detections (shallowest near the northern Site property line) indicated an offsite source on the JDRP property to the north.

2.8.4 2018 Supplemental Soil Investigation

In April 2018, LAUSD entered into a Voluntary Cleanup Agreement (VCA) with DTSC to further investigate impacts previously reported on the Site. Placeworks completed 73 initial borings (40 feet bgs maximum) and then 207 additional step-out borings (30 feet bgs maximum depth). Samples were analyzed for arsenic, lead, and TPH, depending upon boring locations. Concentrations of arsenic, lead, and TPH-d were found above screening levels at 45 discrete locations. Based on this investigation, a total of 3,409 cubic yards of soil were estimated likely to be non-hazardous waste if completely removed to the total depth, while 75 cubic yards were estimated to be California–regulated hazardous waste (non-RCRA) if removed. Placeworks recommended that a RAW be prepared to guide the removal and offsite disposal of this material (Placeworks, 2018).

3.0 NATURE, SOURCE, AND EXTENT OF CHEMICALS OF CONCERN

3.1 Chemicals of Concern

3.1.1 Arsenic

During the SSI, a total of 470 soil samples and 29 duplicate samples were analyzed for arsenic by US EPA Method 6020. Arsenic was detected at concentrations ranging from 0.934 to 226 mg/kg. Elevated levels of arsenic (in excess of the removal action goal [RAG] of 12.0 mg/kg) were detected in 182 samples. The laboratory results are summarized in Appendix B – Table 2.

In addition, 55 soil samples containing total arsenic concentrations at 50 mg/kg or above were analyzed for soluble arsenic by the soluble threshold limit concentration (STLC) or waste extraction test (WET) analysis for California-designated hazardous waste and the toxicity characteristic leaching procedure (TCLP) analysis for RCRA-designated hazardous waste. The STLC concentration was exceeded in 13 samples which will require the soil in those areas to be managed as a California-regulated hazardous waste. The TCLP concentration was not exceeded in any of the samples.

3.1.2 Lead

A total of 508 soil samples and 31 duplicate samples were analyzed for lead by US EPA Method 6020. Lead was detected at concentrations ranging from below the reporting limit of 0.25 mg/kg to 1,220 mg/kg. Elevated levels of lead (in excess of the RAG of 80 mg/kg) were detected in 19 samples. The laboratory results are summarized in Appendix B – Table 2.

In addition, 32 soil samples containing total lead concentrations at 80 mg/kg or above were analyzed for STLC and the TCLP. The STLC concentration was exceeded in nine (9) samples which will require the soil in those areas to be managed as a California-regulated hazardous waste. The TCLP concentration was not exceeded in any of the samples.

3.1.3 Total Petroleum Hydrocarbons

A total of 85 soil samples and four duplicate samples were analyzed for TPH-g, TPH-d, and TPH-o by US EPA Method 8015M. Five soil samples

had TPH-d concentrations above the San Francisco Bay RWQCB level of 1,000 mg/kg. TPH-d was detected at a maximum concentration of 20,300 mg/kg. The deepest soil samples with a concentration of TPH-d above 1,000 mg/kg at the Site were at 20 feet bgs for Borings A and SSI-36 during the SSI, and also historically at JDRP borings 30N/695E/DPT70, 50N/695E/DPT66 and 50.5N/662E/DPT50 from the previous limited investigation by Anderson Environmental. The highest concentration of TPH in shallow soil was limited to the property boundary area with JDRP (Figure 5). This suggests that the source area was located at the JDRP-LAUSD property boundary or north of the JDRP-LAUSD property boundary. The laboratory results for TPH from the SSI are summarized in Appendix B – Table 3.

3.2 Source and Location of Chemicals of Concern

The specific source of arsenic identified onsite is possibly from steel mill operations on the adjacent JDRP site to the north. Arsenic and lead were identified in soils during site assessment activities in 2010 (Anderson, 2010). The source of lead concentrations detected in onsite soils may be from steel mill operations to the north or operations of the adjacent Atlas Iron and Metal Company to the east. TPH may be originating from an offsite source; possibly a former underground storage tank.

The SSI (Placeworks, 2018) focused on the northern portion of the school campus where the athletic fields are located. Arsenic and lead impacted soil was identified throughout the Site, but with a concentration of samples above the RAGs located along the northern Site boundary. See Figures 5 through 8 for the proposed excavation locations. TPH-impacted soil is located in the northwestern corner of the Site (see Figure 5).

3.3 Extent and Volume of Soil Removal

Based on the data presented in the SSI, the lateral and vertical extent of arsenic and lead impacts above the RAGs have been characterized in the study area. The proposed excavation areas are shown on Figures 5 through 8. The proposed excavation depths for removal of arsenic and lead-impacted soil range from 1.5 feet bgs to a maximum of 5 feet bgs. Based on these depths, the estimated volume of arsenic and lead-impacted soil to be removed is 2,331 cubic yards.

In addition, an estimated 75.4 cubic yards of soil classified as California-restricted non-RCRA hazardous waste will require excavation and offsite disposal.

The lateral and vertical extent of TPH-impacted soil was also assessed during the SSI. The proposed excavation area is shown on Figure 5. TPH-impacted soil in this area will be removed to a depth of 15 feet bgs. Based on this depth, the estimated volume of TPH-impacted soil to be removed is 753 cubic yards.

3.4 Health Effects of Chemicals of Concern

Long term chronic exposure to arsenic can cause liver damage, heart disease, peripheral neuropathy, melanosis, keratosis, and carcinogenic effects. The ambient background arsenic concentration in southern California soils, as determined by the DTSC, is 12.0 mg/kg (DTSC, 2008).

Lead is a bio-accumulative substance and can cause gastrointestinal distress, central nervous system damage, encephalopathy, hypertension, and kidney damage. Long term chronic exposure to lead has been found to cause brain damage. Lead is also a known animal carcinogen and a suspected human carcinogen. The DTSC human health screening level for lead in soils is 80 mg/kg (DTSC, 2017). Average Site concentrations above this level may pose an increased health risk to site occupants and are considered actionable levels.

TPH includes a large family of several hundred chemical compounds that originally come from crude oil which is used to make petroleum products. Because there are so many different chemicals in crude oil and in other petroleum products, it is not practical to measure each one separately. TPH is a mixture of chemicals, but they are all made mainly from hydrogen and carbon, called hydrocarbons. TPH can be divided into groups of petroleum hydrocarbons that have similar properties in soil or water. These groups are called petroleum hydrocarbon fractions. Each fraction contains many individual chemicals (ATSDR, 1999). Some TPH compounds can affect the central nervous system, causing headaches and dizziness. One TPH compound, benzene, is known to be carcinogenic. Other TPH compounds can cause effects on the blood, immune system, lungs, and eyes.

3.5 Potential Receptors

A conceptual site exposure model that identifies the receptors who may contact the COCs and the exposure pathways through which they may contact the COCs has been developed. The pathways include airborne dust and direct contact. Routes of exposure are inhalation, ingestion, and dermal contact. The potential exposed populations are students, staff, and visitors. Due to the long-term chronic exposure risk, the concentrations do not pose a substantial risk to construction workers performing the RA. Onsite removal contractor personnel are responsible for operating in accordance with applicable regulations of the Occupational Safety and Health Administration (OSHA) outlined in 8 CCR General Industry and Construction Safety Orders and 29 CFR 1910 and 29 CFR 1926, Construction Industry Standards, as well as other applicable federal, state and local laws and regulations. All onsite personnel involved with implementation of this RAW shall operate in compliance with California OSHA requirements. The Conceptual Site Exposure Model is provided as Figure 4.

4.0 RISK EVALUATION AND REMOVAL ACTION GOALS

This section presents detailed information regarding the RAGs for the identified COCs at the Site. The RAGs, based on a screening level evaluation, will be used to support decisions with respect to the need for and the extent of remediation.

4.1 Human Health Risk Screening Evaluation

A human health screening evaluation, conducted as part of the SSI, shows an increased human health risk over background to human receptors at the Site due to elevated concentrations of arsenic, lead, and TPH detected in soils. The Site includes a mixture of paved and non-paved areas. Therefore, there is a direct pathway between the current Site occupants and shallow soil in non-paved areas.

Elevated levels of arsenic, lead, and TPH were identified at the Site based upon soil sampling activities conducted between June 8 and August 13, 2018, during which select samples were analyzed for arsenic, lead, and TPH, as described in Section 3, above.

Arsenic in Soil: A 12 mg/kg concentration of arsenic in soil represents an upper-bound value for background ambient levels of arsenic found in southern California and is the 95% upper confidence limit (UCL) of the 99th percentile (also known as the upper tolerance limit [UTL]) (DTSC, 2008). The 12 mg/kg concentration was used as the screening level for arsenic at the Site.

Arsenic was reported above the laboratory practical quantitation limit (PQL) in 469 samples at concentrations ranging between 0.934 mg/kg (SSI-6-E-F-60" at 5 feet bgs) and a maximum of 226 mg/kg (SSI-30-S-24" at 2.0 feet bgs) (Appendix B, Table 4). Due to the presence of sample results above 12 mg/kg in 182 of the samples, a 95% UCL analysis was completed. The analysis used the 469 detections above the PQL to evaluate if arsenic in soil exceeded the screening level, and would potentially present a human health risk to current or future occupants of the Site. The result was 22.27 mg/kg for arsenic. The median arsenic result is 19.97 mg/kg. The arsenic data collected during the RA will be evaluated using the DTSC-supported EPA ProUCL Version 5.1 model.

Shallow soil (<5 feet bgs) where elevated arsenic results were reported will be targeted for removal, so that arsenic remaining at the Site is below background

arsenic levels for southern California per DTSC guidelines (12 mg/kg arsenic) (DTSC, 2008).

Lead in Soil: The DTSC screening level for lead in soil is 80 mg/kg (HERO Note #3, soil lead discussion, available at http://www.dtsc.ca.gov/ Assessing Risk/ LeadSpread8.cfm).

Lead was reported above the PQL in 142 samples at concentrations ranging between 0.125 mg/kg (SSI-45-G-36" at 3 feet bgs) and a maximum of 1,220 mg/kg (SSI-32-A-6" at 0.5 feet bgs) (Appendix B, Table 4). Due to the presence of sample results above 80 mg/kg in 19 of the samples, a 95% UCL analysis was completed. The analysis used the 142 detections above the PQL to evaluate if lead in soil exceeded the screening level, and would potentially present a human health risk to current or future occupants of the Site. The result was 73.21 mg/kg for lead. The median lead result is 54.32 mg/kg. The lead data set indicates that the 95% UCL is below the screening level of 80 mg/kg. The lead data collected during the RA will be evaluated using the DTSC-supported EPA ProUCL Version 5.1 model.

Shallow soil where elevated lead results were reported will be targeted for removal, so that lead remaining at the Site is below the DTSC-modified screening level (80 mg/kg lead) (DTSC, 2017).

TPH in Soil: TPH was analyzed for in 89 samples collected during the SSI. Detections above the laboratory PQL included the following: TPH-g (18 detections), TPH-d (23 detections), and TPH-o (7 detections). The maximum concentrations reported were as follows: TPH-g (1,290 mg/kg in Sample 50.5N/662E/DPT50-10 at 10 feet bgs), TPH-d (20,300 mg/kg in Sample 50.5N/662E/DPT50-10 at 10 feet bgs), and TPH-o (460 mg/kg Sample 50N/695E/DPT66-10 at 10 feet bgs).

Due to the presence of sample results above the TPH screening levels, a 95% UCL analysis was completed. The analysis used the detections above the PQL to evaluate if TPH in soil exceeded the screening levels, and would potentially present a human health risk to current or future occupants of the Site. The results were 93.98 mg/kg for TPH-g, 1,877.80 mg/kg for TPH-d, and 138.48 mg/kg for TPH-o.

Shallow soil (to a maximum of 15 feet bgs), where elevated TPH results were reported will be targeted for removal, so that TPH remaining at the Site is below the RA goals.

Arsenic, lead, and TPH have been identified as chemicals of concern in soil. Based on District preference to remove isolated areas with elevated arsenic, lead, and TPH above the established screening levels, further action appears warranted at the Site.

4.2 Environmental Screening Risk Evaluation

Arsenic, lead, and TPH were detected in Site soil at concentrations above applicable screening levels. Therefore, a cleanup of the impacted material is necessary. Possible threats to the environment include the potential for wind and surface water runoff to cause the migration of impacted soils from the Site to other areas during construction. Soil coverings such as asphalt or grass impede wind or surface runoff induced erosion of soil impacted with arsenic and lead. The low average annual precipitation in the area reduces the potential for surface water runoff and thereby limits erosion. Information on nearby surface water bodies was provided in Section 2.4 and 2.5. There is no documented release or threatened release of hazardous materials to surface water.

Information on depth to groundwater in the Site area was provided in Section 2.5.2. Evidence has not been found to suggest a release or threatened release from the Site to groundwater. Therefore, groundwater aquifers are not known or suspected to have been impacted from Site releases.

Potential sources of release of a hazardous material to the atmosphere are limited to fugitive dust from surface soils. The arsenic and lead concentrations pose a long-term chronic exposure risk and are not expected to exceed short term permissible exposure limits (PELs) in airborne dust. There is no documentation of a release of hazardous materials from the Site to the atmosphere. The TPH-impacted soil appears to exist at a depth between 5 and 20 feet bgs. Therefore, the potential for releases of hazardous materials from the Site to the atmosphere is considered to be *de minimis*.

4.3 Endangerment Determination

Arsenic, lead, and TPH are “hazardous substances” as defined in H&SC section 25316. There has been a “release” and/or there is a “threatened release” of

arsenic, lead, and TPH at the Site, as defined in H&SC section 25320. Although there are no documented instances of human exposure to the chemicals found in the impacted soils of the Site, the actual and/or threatened release of arsenic, lead, and TPH at the Site may present an imminent and substantial endangerment to the public health or welfare or to the environment. As such, the District has determined that a response action is necessary at the Site to protect and preserve the public health.

4.4 Removal Action Goals

As discussed in Section 3.1, the COCs for this Site are arsenic, lead, and TPH. The RAG for arsenic is 12 mg/kg, based on ambient background concentrations in southern California soils. The RAG for lead is 80 mg/kg, based on the DTSC human health screening level for lead. The proposed RAGs for TPH are as follows: TPH-g (430 mg/kg), TPH-d (1,100 mg/kg), and TPH-o (12,000 mg/kg). Table 1 provides various soil screening levels and includes a proposed RAG for each constituent. In addition, these values are responsive to the RAOs identified in Section 1.1, in particular to remove impacted soils that exceed the human health risk criteria.

5.0 ENGINEERING EVALUATION/COST ANALYSIS (EE/CA)

The proposed RA is considered a non-time-critical removal, based on Site circumstances indicating no immediate threat or endangerment to Site occupants. The EE/CA has been conducted for the proposed RA in general accordance with USEPA guidance titled *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA* (USEPA, 1993). The EE/CA is prepared as part of the RAW to aid in the evaluation of remediation alternatives for the impacted Site soils.

The proposed RA will be conducted in accordance with protocols of CERCLA and the NCP codified in Part 300 of Code of Federal Regulations (CFR), Title 40 (40 CFR 300). Under 40 CFR 300.415, an EE/CA is required to address the implementability, effectiveness, and cost of a non-time-critical RA.

5.1 Removal Action Scope

The general RAOs are discussed in Section 1.1. The scope of the RA is based on RAGs previously discussed above in Section 4.4. The proposed RAGs are as follows:

- Arsenic: 12 mg/kg
- Lead: 80 mg/kg
- TPH-g: 430 mg/kg
- TPH-d: 1,100 mg/kg
- TPH-o: 12,000 mg/kg

The estimated volumes of soil proposed for the RA are based on information provided in the prior SSI (Placeworks, 2018), and include the following:

- Approximately 3,084 CY of non-hazardous soil.
- Approximately 75 CY of California-regulated hazardous soil.

5.2 Evaluation of Removal Action Alternatives

Based on historical experiences of remedy selection for sites where arsenic and lead are the primary COCs, four (4) RA alternatives (including No Action) were identified. A screening evaluation of the applicability of these alternatives is presented based on the EE/CA evaluation criteria (effectiveness, implementability, and relative cost).

5.2.1 EE/CA Alternative Evaluation Criteria

Provided below is a more detailed description of the screening alternative evaluation criteria.

Effectiveness:

- Ability to meet the RAOs presented in Section 1.1 (a threshold factor).
- The alternatives achieve overall protection to public health and the environment (a threshold factor).
- The alternatives are compliant with the Applicable or Relevant and Appropriate Requirements (ARARs). ARARs are discussed in Section 6.0. (a threshold factor).
- The performance and reliability of the alternative to eliminate or reduce the risk associated with the identified COCs (toxicity, mobility, or volume).
- The long and short term effectiveness (a balancing factor).
- Reduction of toxicity, mobility, or volume through treatment (a balancing factor).

Implementability: (a balancing factor)

- The administrative and technical feasibility of the alternative given Site conditions (e.g., space limitations, equipment availability, resource availability, utility requirements, monitoring concerns, and operation and maintenance [O&M]).
- The feasibility of the alternative to meet regulatory and permitting requirements of pertinent local, state and federal agencies.
- The ability of the alternative to meet the project schedule.

Cost: (a balancing factor)

- Assessment of the relative costs of each alternative based on estimated capital cost for initial implementation and ongoing O&M costs.

5.2.2 Description and Comparative Analysis of Removal Action Alternatives

A screening evaluation was conducted to assess remedial technologies and process options for mitigating the impacted soil present at the Site. Based on the RAOs presented in Section 1.1, the following four (4) alternatives were identified and developed for the proposed RA at the Site. Most of these identified remedial alternatives were considered for application at this Site, but were screened out without a detailed evaluation. The screen-out decision was made based on past experience at other similar sites and on scientific consideration and engineering judgment that indicated that they would either be ineffective at achieving RAOs, inappropriate technologies for remediating the COCs, or could not be implemented in a cost-effective manner. A summary of the comparison criteria is provided on Table 2.

5.2.2.1 No Action

The "No Action" alternative does not include institutional controls, and does not address the existing impacts. The No Action alternative does not meet the effectiveness criterion. This alternative is evaluated as a baseline for comparison of other alternatives (as required under the NCP).

5.2.2.2 Treatment

Arsenic and lead contamination generally cannot be destroyed or biodegraded in an efficient or practical manner. Soil composition and contaminant concentrations are key considerations for selection of a proper treatment technology. Factors and ratings used to qualitatively rate the technologies are those described in the USEPA document, "Remediation Technologies Screening Matrix and Reference Guide, 2nd ed.", EPA/542-B-94-0-13, October 1994. Other possible treatment technologies were also found to be unacceptable due to project timing, probable permitting, and location constraints. While the petroleum impacted soils are amenable to treatment, this is not considered an acceptable alternative due to timing, working location constraints, the potential for exposures during treatment, and the inability to take advantage of resources already mobilized for the removal of arsenic- and lead-impacted soils.

5.2.2.3 Containment (Capping) and Institutional Controls

The capping alternative was considered and determined to be unacceptable since a majority of the contaminated soils are shallow (0-2') and would be disturbed during any form of capping response. Additionally, though there are no current plans for major construction in the areas of concern, capping would decrease the feasibility, and increase the cost of any future construction. Capping would require institutional controls and long-term inspection and maintenance by LAUSD staff to preserve the integrity of the cap into the future.

Institutional controls would use legal restrictions (deed restrictions) and procedures (soil management plan) to help minimize potential exposures between remaining soil exceeding the RAGs and Site workers or occupants.

5.2.2.4 Limited Excavation and Institutional Controls

Because of the shallow nature of the majority of impacted soils, and the high degree of effectiveness, limited soil excavation has been accepted by the District as the preferred remedial action. No other alternative removal options are considered further for this RAW.

Excavation: Excavation will remove soils containing the COCs. Excavation includes using backhoes and/or excavators, loaders, and/or other appropriate equipment. Excavation operations may generate fugitive dust emissions. Suppressant water spray, and other forms of vapor and dust control may be required during excavation, and workers may be required to use personal protective equipment to reduce exposure to the COCs (see HASP in Appendix D).

The area and depths of excavations may be limited due to physical constraints associated with the Site. Soils excavated outside of the planed areas will be tested and segregated as clean fill. The excavations will extend to limits which confirmation samples demonstrate are below the proposed RAGs (see Section 4.4). In regard to arsenic- and lead-impacted soils, the maximum removal

depths will be 5 feet bgs. In regards to TPH impacted soils, the maximum removal depth will be 15 feet bgs.

Offsite Disposal: Offsite disposal involves removing impacted soil from the Site and transporting it to an appropriate offsite facility for disposal. Approximately 3,084 CY of soil is estimated to be nonhazardous if removed and is expected to be disposed of at a Class III landfill or appropriately licensed recycling facility. Approximately 75 CY of soil is considered likely to be California-restricted non-RCRA hazardous waste if removed, and is expected to be transported under hazardous waste manifest and disposed at a facility licensed to accept this waste.

5.2.2.5 Response Action Cost and Feasibility

The cost comparison of the Response Actions described above is presented in the table below:

Response Option	Action Costs	O&M Costs*	Overall Cost	Feasibility
No Action	$30,000	$150,000	$180,000	Not Feasible
Treatment	N/A	N/A	N/A	Not Feasible
Containment & Institutional Controls	$150,000	$150,000	$300,000	Not Feasible
Limited Excavation & Institutional Controls	$925,030	$150,000	$1,075,030	Feasible

*Estimate for 20 years

5.3 Description of Recommended Remedy

The recommended RA combines limited excavation with institutional controls. The activities that would be conducted to implement this RA are further described below:

- Excavation of lead- and arsenic-impacted soil exceeding the proposed RAGs (Section 4.4) in the screening areas previously identified in the SSI (Placeworks, 2018). The target excavation depths will also be those screening depths indicated in the SSI, except where the depths exceed 5 feet bgs. A maximum of 5 feet bgs will be used for these soil removals.

- Excavation of petroleum-impacted soil exceeding the proposed RAGs in the screening areas previously identified in the SSI (Placeworks, 2018). A maximum of 15 feet bgs will be used for these soil removals.

- Disposal and/or recycling of those soils removed from the areas exceeding RAGs at an offsite facility licensed to accept these materials.

- Initial estimates of offsite disposal include: 3,084 CY of soil likely to be non-hazardous waste when removed, and approximately 75 CY of soil likely to be California-restricted hazardous waste (non-RCRA) when removed.

- As necessary, segregation and temporary stockpiling of soils likely to be non-impacted (non-impacted overburden above petroleum impacts), soils likely to be non-hazardous waste, and soils likely to be non-RCRA California-restricted waste. Stockpiled soil should be placed on plastic sheeting and covered with the same in a manner that protects it against wind and precipitation runoff. The duration of staging any single completed stockpile should be kept to a minimum, with a target of less than one week, if feasible.

- Collection and analysis of disposal profiling data for the various categories of stockpiles.

- Loading and transport of the impacted soils to an appropriate disposal facility.

- If necessary, grade, backfill and compact previously excavated areas using clean locally-derived onsite fill material meeting current OEHS and LAUSD specifications for import.

- Preparation of a Land Use Covenant (LUC) for the soils remaining in place that exceed RAGs, as characterized in the SSI (Placeworks, 2018).

- Preparation of a Soil Management Plan for the future handling of potential soil disturbance in the areas of concern.

5.4 Cost Estimates of Recommended Remedy

The selected RA is initially estimated to cost approximately $925,030 plus long-term O&M costs, broken down as follows:

- RAW Preparation: $35,000
- Public Participation: $10,000

- Geophysical Survey: $10,000
- Excavation: $316,000 ($100 per CY)
- Equipment Mob/Demob: $4,000
- Transportation and Disposal as Non-Haz: $370,080
- Transportation and Disposal as California-Restricted Haz: $16,950
- Dust Control: $4,000
- Environmental Oversight/Sampling: $50,000
- Laboratory Analytical: $30,000
- Air Monitoring – 1466 and OSHA: $40,000
- Data Validation: $4,000
- Preparation of a Removal Action Completion Report: $20,000
- Preparation of Land Use Covenant: $15,000
- Long Term O&M (Institutional Controls): $150,000

TOTAL $1,075,030

6.0 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Based on previous investigations performed at the Site, it was determined that subsurface soil is impacted with arsenic, lead, and TPH above applicable screening levels. The most effective remedial action has been identified to be removal of the impacted material consisting of soil excavation and offsite disposal. This section discusses the applicable or relevant and appropriate requirements (ARARs) for the proposed removal action.

6.1 Public Participation

DTSC has developed a public participation strategy to determine the level of public interest in the proposed RA and verify that the local community is informed of the proposed RA at the Site. Through the planned community survey, community interviews and/or other public participation activities, LAUSD will provide the community with opportunities to be involved in LAUSD's decision-making process for the Site.

LAUSD held a public comment period to accept comments on the proposed RA. The public comment period was from May 20 to June 18, 2019. In addition, a public meeting was held on May 23, 2019, to brief interested parties locally about the proposed RA during the public comment period, before approving the RAW.

6.1.1 Community Assessment

Community Demographics: A brief summary of the community demographics for the zip code 90002 in Los Angeles County according to the 2010 US Census (factfinder.census.gov) is as follows:

- Total population: 51,223
- Male: 24,876 (48.6%)
- Female: 26,347 (51.4%)
- Median Age: 25.5
- Population 18 years and over: 70.2%
- Total Housing units: 11,731
- Average Household Size: 4.36
- Population by race: White: 14,392 (28.1%)

Black or African American: 13,101 (25.6%)
American Indian and Alaska Native: 371 (0.7%)
Asian: 148 (0.3%)
Native Hawaiian and Pacific Islander: 33 (0.1%)
Other: 21,239 (41.5%)
Two or More Races: 1,939 (3.8%)

Local Participation and Involvement: Prior to beginning the RA, a work notice, in the form of a flyer, will be prepared in English and Spanish (double-sided flyer) and will be distributed to community members to provide details regarding the RA including who would perform the work, project schedule, when and where the results of the cleanup would be posted, and who to contact regarding additional information. This work notice flyer will be handed out to School staff, mailed to parents of students, hand-delivered to line-of-site neighbors of the School, and posted along the boundary fence of the School property.

6.1.2 Community Profile

If directed by the District, a Community Survey can be mailed to stakeholders and the community with a 30-day response period. Once the community responses are received, the Community Profile will be updated for the Site under the direction and guidance of LAUSD. The Community Profile is based on the information from a variety of sources including file review, site visits, demographic data, similar or relevant community interest/concerns shown during previous public participation activities for other LAUSD projects within the surrounding community, and likely or existing level of community interest/concerns identified for the Site through the community survey or interviews. A copy of the current Community Profile is included as Appendix C.

6.1.3 Public Participation Activities

A public notice in English and Spanish was published in The Wave and La Opinión local newspapers and was posted at the Site. This notice informed the community of the proposed soil cleanup RA at the Site and the availability of the Administrative Record file for public inspection during office hours at the temporarily established Information Repository (e.g., a local library or the school office) listed below. Copies of this RAW and

project California Environmental Quality Act (CEQA) documents were placed in the Information Repositories. These administrative records are listed in Section 9.0 and are also contained under references in Appendix A. The public comment period was 30 days.

Los Angeles Unified School District
Office of Environmental Health and Safety
333 South Beaudry Avenue, 21th Floor
Los Angeles, California 90017
Attn: Mr. Andrew Modugno
(213) 241-3433

David Starr Jordan High School
Administrative Office
2265 East 103rd Street
Los Angeles, California 90002

Animo College Preparatory Academy
Administrative Office
2265 East 103rd Street
Los Angeles, California 90002

Watts Branch Library
1025 Compton Avenue
Los Angeles, California 90002

A Fact Sheet in English and Spanish was prepared to provide information about the Site and the proposed RA, including information concerning history, levels of contaminants found, possible health effects from contaminant exposures, proposed RA activities, precautions to minimize worker exposure, controls to reduce dust, truck route for offsite disposal of excavated materials, public participation activities, and contact information. This Fact Sheet was circulated to community members (residences and businesses) within ¼ mile of the school on May 20, 2019.

A 30-day comment period was held from May 20 to June 18, 2019. In addition, a public meeting was held at Jordan High School on May 23, 2019, to inform the community of the proposed RA.

6.2 Hazardous Waste Management

Elevated levels of arsenic, up to 226 mg/kg and lead up to 1,220 mg/kg by TTLC analysis were detected in the Site soil. The TTLC limits for arsenic and lead as a hazardous waste are 500 mg/kg and 1,000 mg/kg, respectively. The STLC limit for California hazardous waste classification and the TCLP limit for RCRA hazardous waste are 5 mg/L for soluble arsenic and soluble lead.

Fifty-five (55) soil samples with arsenic concentrations at or greater than 50 mg/kg were analyzed for soluble arsenic by STLC and TCLP by USEPA Method 6010B to determine whether the soil would need to be managed as a hazardous waste if excavated and removed. The TCLP concentrations did not exceed the 5 mg/L regulatory threshold. However, 12 soil samples had an STLC concentration above 5 mg/L. The 12 soil samples that qualified as California Regulated hazardous waste were collected from seven locations with depths ranging between 0.5 and 4 feet bgs. Most of these locations are along the northern Site boundary.

Thirty-two (32) soil samples with lead concentrations at or greater than 50 mg/kg were analyzed for soluble lead by STLC and TCLP by USEPA Method 6010B to determine whether the soil would need to be managed as a hazardous waste if excavated and removed. The TCLP concentrations did not exceed the 5 mg/L regulatory threshold. However, nine soil samples had an STLC concentration above 5 mg/L requiring the soil to be managed as a California-regulated hazardous waste if excavated. The nine soil samples that exceeded the STLC were collected from nine locations with depths ranging between 0.5 and 3 feet bgs. These locations are along the northern, eastern and western Site boundaries.

As a portion of the waste is to be handled as hazardous waste and disposed at a Class I landfill, a USEPA ID number is required for this RA. The EPA ID number for Jordan High School is CAR000155622 and will be used for proper management of the hazardous waste. Compliance with the DTSC requirements of hazardous waste generation, temporary onsite storage, transportation and disposal will be required for this RA. Any container used for onsite storage of hazardous waste will be properly labeled with a hazardous waste label. Within 90 days after its generation, the hazardous waste will be transported offsite for disposal. Any shipment of hazardous wastes in California will be transported by a registered hazardous waste hauler under a uniform hazardous waste manifest.

6.3 Air Quality Management

South Coast Air Quality Management District (AQMD) has two rules which address fugitive dust (Rules 403 and 1466). Several elements of Rules 403 and 1466, such as protocols for mitigation of potential fugitive dust emissions and warning signage have been incorporated into this RAW. Under the oversight of the DTSC and LAUSD OEHS, excavation, loading, and transport of impacted soils will generally be in compliance with South Coast AQMD Rules 403 and 1466 for prevention, reduction, and mitigation measures for fugitive dust emissions.

6.4 Storm Water Discharge Management

The State Water Resources Control Board (SWRCB), as part of the National Pollutant Discharge Elimination System (NPDES), has adopted a statewide NPDES General Permit for Stormwater Discharges Associated with Construction Activity (General Permit) to address discharges of storm water runoff from construction projects that encompass one acre or more in total acreage of soil disturbances. Construction activities subject to the General Permit include demolition, clearing, grading, excavation, soil stockpiling, material storing, onsite staging, offsite staging, and other land disturbance activities. To obtain coverage under the General Permit, dischargers shall electronically submit the Permit Registration Documents (PRDs) which includes a Notice of Intent, Storm Water Pollution Prevention Plan (SWPPP), and SWPPP Compliance Checklist and mail the appropriate permit fee to SWRCB. The proposed soil disturbance area for this RA is less than 1 acre, therefore a stormwater discharge permit is not required. However, the RA contractor will follow Best Management Practices (BMPs) for controlling stormwater during RA activities.

6.5 California Environmental Quality Act

The California Environmental Quality Act (CEQA) is a statute that requires State and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. In response to the passage of the National Environmental Policy Act (NEPA) in 1969, the California Legislature passed the CEQA in 1970 as a system of checks and balances for land use development and management decisions in California. CEQA was subsequently codified into the Public Resources Code (division 13, section 21000 et seq.). The Resources Agency adopts and certifies certain regulations (known as CEQA Guidelines) to explain and interpret the CEQA law. These

regulations were codified into the California Code of Regulations (CCR), title 14, chapter 3, section 15000 et seq. CEQA is a self-executing statute with administrative procedures to ensure comprehensive environmental impact review prior to project approval. The Resources Agency does not enforce CEQA, nor does it review governmental actions for CEQA compliance. If necessary, the public may challenge a CEQA project decision in court. Where a State agency is the lead agency or a responsible/trustee agency, or where the project has statewide, regional, or area wide significance, such CEQA documents shall be submitted to the State Clearinghouse within the Governor's Office of Planning and Research for processing State agency review.

A CEQA project is a California project that has a potential for resulting in a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment. CEQA applies to discretionary CEQA projects proposed to be carried out or approved by California public agencies, unless an exemption applies. Once an activity is determined as a CEQA project, the lead agency shall conduct a preliminary review to determine whether the project is exempt from CEQA. For David Starr Jordan High School, a Notice of Exemption (NOE) was filed on February 8, 2019 (LAUSD, 2019). When the lead agency approves or determines to carry out a project that has the potential to significantly impact the environment, the agency is required to submit an Environmental Impact Report (EIR). Significant impact on the environment is defined as:

- When a project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory;

- When a project has the potential to achieve short-term goals to the disadvantage of long-term environmental goals;

- When a project has possible environmental effects which are individually limited but cumulatively considerable; or

- When the environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.

6.6 Health and Safety Plan (HASP)

Contractors performing work at the Site will be responsible for operating in accordance with the most current requirements of Title 8, California Code of Regulations, section 5192 (8 CCR 5192) and Title 29, Code of Federal Regulations, section 1910.120 (29 CFR 1910.120), Standards for Hazardous Waste Operations and Emergency Response (HAZWOPER). Onsite personnel are responsible for operating in accordance with all applicable regulations of OSHA outlined in 8 CCR General Industry and Construction Safety Orders and 29 CFR 1910 and 29 CFR 1926, Construction Industry Standards, as well as other applicable federal, state and local laws and regulations. All personnel onsite shall operate in compliance with California OSHA requirements.

In addition, California OSHA's Construction Safety Orders (especially 8 CCR 1539 and 1541) will be followed as appropriate. Specific requirements are identified below:

- Underground Service Alert (USA) will be notified a minimum of 48 hours prior to soil disturbance activities and a survey or inspection of subsurface utilities will be conducted by the RA contractor prior to the commencement of excavation activities.

- Excavations will remain two feet from any active utility lines and will be hand dug if additional removals are required.

A site-specific health and safety plan (HASP) has been prepared for the Site under the supervision of a certified safety professional (CSP) in accordance with current health and safety standards as specified by the Federal and California OSHAs. A copy of the HASP is included as Appendix D.

The provisions of the HASP are mandatory for all personnel of the environmental professional and RA contractor who are at the Site. The RA contractor and its subcontractors doing fieldwork in association with this RAW will either adopt and abide by the HASP or shall develop their own safety plans which, at a minimum, meet the requirements of the HASP and are reviewed and signed by a CSP. All onsite personnel shall read the HASP and sign the "Plan Acceptance Form" (Attachment A of the HASP) before starting Site activities. Any personal air monitoring, medical surveillance, PPE, or decontamination requirements will be the responsibility of the RA contractor.

6.7 Quality Assurance Project Plan (QAPP)

Quality assurance/quality control measures that will be used during project execution are documented in the Quality Assurance Project Plan (QAPP) included as Appendix E. The QAPP will provide the guidelines that the Site field and analytical data collected meet project Data Quality Objectives (DQOs) and RAOs to support decisions for proceeding with the modernization activities for the Site.

6.8 Others

Necessary permits and approvals identified in this RAW will be obtained prior to beginning removal activities. Upon approval from LAUSD-OEHS, the RA will be performed by a California-licensed contractor with oversight from an environmental professional who is either a California Professional Geologist or Professional Civil Engineer. According to Education Code section 17213.2 (e), if a previously unidentified environmental concern is discovered at any time during the school construction process, construction activities shall cease, and the DTSC will be notified.

7.0 REMOVAL ACTION IMPLEMENTATION

Limited Soil Excavation with Institutional Controls has been selected as the most appropriate RA alternative. The RAGs have been previously discussed, and are presented in Section 4.4. The alternative selection was supported by the EE/CA for the RA alternatives (Section 5.0).

Upon receipt of approval by DTSC, and then the LAUSD-OEHS, removal actions will be performed by the selected remediation contractor with supervision/oversight by a California Professional Geologist or Professional Engineer, experienced with similar types of projects.

The proposed excavation areas are illustrated on Figures 4 through 7 along with prior Site data points. The estimated excavation volumes are provided in Table 3.

The excavation, transportation and disposal will be performed in accordance with applicable Federal, State, and local laws, regulations, ordinances and requirements. Field operations will follow the suggested operational guidelines to prevent cross-media transfer of contaminants, as specified in "Best Management Practices (BMP) for Soils Treatment Technologies" (U.S. EPA 530-R-97-007).

7.1 Site Preparation and Security Measures

Prior to mobilization for the proposed RA, site preparation activities should include: obtaining permits/approvals, security considerations, delineation of excavation areas, and utility clearances. These activities are further described below.

7.1.1 Permits and Plans

As discussed in Section 6.8, necessary permits and approvals must be obtained before the start of field activities. This will include, but may not be limited to, the following:

7.1.1.1 DTSC Approval

This RAW should first be approved by DTSC.

7.1.1.2 DTSC Required Public Participation

Pursuant to DTSC requirements, LAUSD will fulfill its public participation requirements as they relate to the completion of the soil removal activities. Public participation should take into account there are two schools at the David Starr Jordan High School Education Complex (i.e. David Starr Jordan High School and Amino College Preparatory Academy). The objective of the public participation program is to inform the community of proposed remedial actions, and effectively respond to concerns and questions about such activities.

A DTSC Public Participation Specialist (PPS) will work with the involved parties to plan public participation activities, and provide input and oversight to fulfill these requirements. The DTSC PPS serves as the community contact for the Site.

7.1.1.3 SCAQMD Rule 1466

SCAQMD Rule 1466 sets forth requirements to reduce the amount of particulate matter entrained in the ambient air at sites with potential toxic air contaminants, as a result of anthropogenic fugitive dust sources. Certain requirements of Rule 1466 will be adhered to during implementation of this RAW.

A permit is not obtained under Rule 1466; however, an advance notice, and compliance with requirements for monitoring and control of fugitive dust emissions is required. Details of the procedures that will be implemented during the RA to comply with Rule 1466 are described in Section 7.5.

7.1.1.4 Other Permits

As necessary or appropriate, the following additional permits must be obtained in connection with this RAW implementation:

- A grading permit from the City of Los Angeles
- Any required permit for use of public water systems.
- Any other permits requested by the City of Los Angeles.

7.1.2 Security Measures

Temporary fencing should be installed around the perimeter of the working areas. Existing fencing surrounds the majority of the Site; however, the softball field area is open to the rest of the school campus. Access to these fenced-in areas should be restricted to work personnel, and the gates locked and secured when Site personnel are not present. To further minimize trespassers or unauthorized personnel in the working areas, the following security measures should also be implemented:

- All visitors should have prior approval from the Site manager to enter the Site working areas. A notice should be posted that the Site Manager should be contacted for approval prior to entry.
- Site security should be notified to prevent unauthorized personnel from entering the work areas.
- A visitor's log should be maintained to record when Site personnel arrive and leave the Site.

Equipment should be stored in areas as far as reasonable from the key working areas when left overnight. Security should be provided to ensure unauthorized personnel in the working areas when the Site personnel are not present.

7.1.3 Delineation of Excavation Areas

The remediation contractor or environmental professional will obtain a licensed surveyor to locate and mark key data points (previous boring/sampling locations) previously surveyed and reported in the SSI (Placeworks, 2018). These survey data are provided in Appendix F.

The limits of each proposed "excavation area" will then be marked-out in the field relative to the previously identified, surveyed data points. This will be done by the environmental professional, in consultation with LAUSD-OEHS representatives, with stakes and/or high visibility paint, before commencement of removal activities.

7.1.4 Utility Clearance

The remediation contractor will be required to clear overhead and subsurface utilities in accordance with applicable law and standard industry practices. This will include notifying Underground Service Alert (USA), and working with the LAUSD to identify onsite utilities using existing maps. A geophysical survey contractor should also be used to locate utilities, or other potential subsurface features, in and immediately surrounding the areas to be excavated.

Any onsite utilities in close proximity to the excavation areas should be deactivated, if this can reasonably be completed.

7.2 Other Considerations

In addition to site preparation and security measures, the following additional issues have been considered and will be acted upon during implementation of work described in this RAW.

7.2.1 Cultural Resources Consideration

The Site is not in an area of known cultural resources significance. Prior to excavation, all contractors and subcontractors should be informed of the potential for discovering important paleontological, prehistorical, or historical resources below the ground surface, and the legal consequences for damaging or destroying such resources. If any such resources are found, all field activities shall halt within the area in question, and a qualified paleontological or cultural resources specialist shall evaluate the situations and make recommendations for further action.

In the event of discovery or recognition of human remains at the Site, there will be no further excavation or disturbance of the area in question or any nearby area reasonably suspected to overlie adjacent human remains until:

- The County Coroner (where the project is located) has been informed and has determined that no investigation of the cause of death is required; and

- If the remains are suspected of Native American origin, the descendants from the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or

- The Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the Commission.

7.2.2 Biological Resources Consideration

The Site is not in an area of known biological resources significance.

7.2.3 Noise Control

The Site is located in a residential neighborhood. Per the City of Los Angeles Noise Control Ordinance, noise-generating construction operations will be limited to between the hours of 7:00 AM to 9:00 PM Monday through Friday; 8:00 AM to 6:00 PM on Saturdays and no construction allowed on Sundays. Construction equipment will be properly maintained and equipped with noise reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds will be closed during equipment operation. When not in use, motorized construction equipment will not be left idling.

7.2.4 Contaminant Control

In order to prevent potential exposure of material to the adjacent properties, the following measures will be implemented during soil excavation activities:

- The OEHS will take necessary steps to minimize impact to the community.

- Air monitoring procedures (see Section 7.4) will be implemented by the environmental professional during excavation activities.

- RA activities will not be conducted during inclement weather (e.g., high winds, heavy rains, or electrical storms) or unfavorable hours reasonably raised by the community concerns or City ordinances.

- Community members will be informed prior to initiation of removal activities.

7.3 Field Documentation

A designated environmental professional onsite will be responsible for maintaining a daily field log during the RA activities. The intent is to be able to reconstruct activities at the Site.

7.3.1 Daily Field Logs

Daily field logs will document where, when, how, and from whom vital project information was obtained. Entries should be completed using the following guidelines and information:

- Entries will be legible, written in ink, and signed by the individual making the entries.

- No entries will be obliterated or rendered unreadable. Corrections will be made by crossing a line through the error and entering the correct information.

- Language will be factual, objective, and free of personal opinions or other terminology, which might prove inappropriate.

- The daily field log should note the following:

  General

  - Date and time of entries in military time.
  - The Site name and address
  - Recorder's name
  - Team members and their responsibilities.
  - Time of Site arrival/entry on Site and time of site departure
  - Other personnel onsite
  - A summary of any onsite meetings
  - Equipment arrival and departure times

- Levels of safety protection
- Calibration readings and equipment model for any equipment used

Soils/Wastes

- Quantity of excavated and stockpiled soils, and suspected classifications (non-RCRA, California-regulated hazardous waste or non-hazardous wastes)
- Quantity of truckloads and load size
- Names of waste transporters and proposed disposal facilities
- Copies or numbers of manifests or other shipping documents (such as bill of landing) for waste shipments
- Quantity of import fill material in truckloads
- Deviations from this RAW and the Site HASP
- Changes in personnel and responsibilities as well as reasons for the changes

Samples

- Sample identification number
- Sample location and description including global positioning system (GPS) coordinates
- Site sketch showing sample location and measured distances
- Sampler's name(s)
- Date and time of sample collection
- Designation of sample as composite or grab
- Type of sample (i.e., matrix)
- Type of preservation
- Type of sampling equipment used
- Field observations and details important to analysis or integrity of samples (e.g., heavy rains, odors, colors, etc.)
- Instrument readings (e.g., air monitors, etc.)
- Chain-of-custody form numbers and chain-of-custody seal numbers
- Transport arrangements (courier delivery, lab pickup, etc.)
- Recipient laboratory(ies)

7.3.2 Chain-of-Custody Records

Chain-of-custody records are used to document sample collection, possession, and shipment to the laboratory. All collected samples will be

accompanied by a chain-of-custody record. If multiple coolers are sent to a single laboratory on a single day, chain-of-custody form(s) will be completed and sent with the samples for each cooler.

The chain-of-custody record will identify the contents of each shipment and maintain the custodial integrity of the samples. Generally, a sample is considered to be in someone's custody if it is either in someone's physical possession, in someone's view, locked up, or kept in a secured area that is restricted to authorized personnel. Until receipt by the laboratory, the custody of the samples will be the responsibility of the sample collector. See the QAPP (Appendix E) for more detailed information. The shipping containers in which samples are stored (usually sturdy cooler or ice chest) will also be sealed with self-adhesive custody seals when they are not in someone's possession or view before shipping. All custody seals will be signed and dated.

7.3.3 Photographs

Photographs will be taken of the excavation area(s), confirmation sample locations, and other areas of interest onsite to document the RA. They will serve to verify information entered in the daily field log. When a photograph is taken, the following information will be written in the daily field log or will be recorded in a separate field photography log:

- Time, date, location, direction of photo, and, if appropriate, weather;
- A description of the subject photographed; and
- Name of person taking the photograph.

7.4 Excavation

Impacted soil will be removed with a backhoe, tracked excavator, shovels or other types of earth moving equipment, as necessary. California OSHA's Construction Safety Orders (especially 8 CCR 1539 and 1541) will be followed as appropriate.

A general rule of "no visible dust" should be adhered to during excavation and soil handling activities. Water will need to be applied to the soil for dust suppression prior to, and as it is removed from the ground and stockpiled or

loaded into trucks. Air monitoring, and work stop rules due to weather conditions, will be conducted as described below in Section 7.5.

The areas of proposed excavation are shown on Figures 5 through 8.

7.4.1 General Excavation and Handling Guidelines

The initial excavation plan includes forty-four (45) identified removal areas, as shown on Figure 3, and detailed more in Figures 5 through 8. Preliminary estimates are that this will yield approximately 3,084 CY of soil likely to be classified as non-hazardous if removed, and approximately 75 CY of soil likely to be California-restricted hazardous waste if removed. These areas of excavation are based on the RAGs described in Section 4.4 and the excavation depth limit guidelines mentioned below.

Field guidelines for the soil excavation and handling will be as follows:

- Petroleum Impacted Soil: Petroleum impacted soil excavation will occur in only one area. This area is shown on Figure 5. The maximum depth of soil removal in this area will be 15 feet bgs. Soils below 15 feet bgs in this area, that exceed the TPH RAGs, will be managed with institutional controls. Excavation to 15 feet bgs will remove a large majority of the TPH soil exceeding the RAGs, and is a reasonable maximum working depth for the excavation equipment. It is estimated that approximately 400 CY of lesser impacted, or non-impacted, soil will need to be removed to access the target soils exceeding RAGs, given the reported plume configuration.

- Arsenic- and Lead-Impacted Soil: Excavation of arsenic- and lead-impacted soil will be to the target depths indicated for each excavation area shown on Figures 5 through 8. A maximum depth of 5 feet bgs will be used for any of these soil removals. Soils below 5 feet bgs in these areas that exceed the RAGs will be managed with institutional controls. In excavations where soil with concentrations above the RAGs will remain in place (>5 feet bgs), a geotextile fabric will be placed in the bottom of the excavation prior to backfilling. In addition, soil from the areas pre-defined as California-restricted hazardous waste (approximately 75 CY per Table 3) will be excavated and transported when children are not present on campus.

- Excavation Setback Near Walls/Features: In order to minimize potential damage to perimeter walls or other structures adjoining the excavation areas, soil removal should not be completed within two (2) feet of these structures. This two-foot setback is indicated on Figures 5 through 8, though it may not be easily noticed given the drawing scales.

- Excavation Span/Depth Limits Near Walls/Features: When excavating along any feature such as a wall (with a two-foot setback), and when digging more than two (2) feet bgs, no more than a 10-foot-wide horizontal span along the wall/feature should be removed at one time. This area should then be backfilled with cement slurry that is allowed to set, before additional adjoining soil removal is continued.

- Confirmation Sampling: Following excavation of the planned areas, or sub-areas if slurry backfill is required before additional adjoining excavation, confirmation soil samples will be completed in the sidewalls (unless it's the sidewall of a sub-area that will later be removed). Bottom confirmation samples will also be collected, except in areas where the pre-planned soil removal is to maximum depths (5 feet bgs for arsenic and lead and 15 feet bgs for TPH) and underlying soil is already known to exceed RAGs. Further details of the confirmation sampling are provided below in Section 7.7.

- Soil Segregation: Soil removed in each of Areas 1-4 (as defined on Figure 3) will be segregated and stockpiled into the following categories: likely impacted but non-hazardous, likely California-restricted (non-RCRA) hazardous waste, or likely lesser or non-impacted soil. This segregation will be based mainly on soil data from the prior SSI (Placeworks, 2018), unless field observations indicate soils may be more impacted than originally believed. The soil will be segregated to the extent possible to avoid mixture of hazardous and non-hazardous soils.

- Soil Profiling: Soil removed from the areas pre-defined as California-restricted hazardous waste (approximately 75 CY per Table 3) will be transported and disposed of as such. Additional samples may need to be collected for disposal profiling; however, these materials will be handled/disposed of as California-restricted regardless of these

profiling results, unless the profiling results indicate a potentially more restrictive waste category.

Soil removed from the areas pre-defined as likely impacted but non-hazardous (approximately 3,084 CY per Table 3) will be profiled for disposal, and then transported and disposed, as appropriate, based on profiling results. Details of the soil disposal profiling procedures are provided in Section 7.7.1.

Soil in the TPH-impacted soil area that needs to be removed to access the soils exceeding TPH RAGs, and which may be lesser impacted or non-impacted, will be sampled to confirm it contains substantially less than TPH RAGs, before being re-used onsite.

- Stockpiling: All stockpiling will be done on visqueen sheeting and covered with the same in a manner that protects it against wind and precipitation runoff. The duration of stockpiling of any single completed stockpile should be kept to a minimum, with a target of less than one week, if feasible.

- Surveying: Following completion of each excavation area, the corners of the excavation will be surveyed using GPS.

7.4.2 Soil Staging and Storage Operations

When it is necessary to temporarily store the excavated soils onsite prior to transportation and disposal, the following will apply. The staging process will be conducted in a manner to minimize the generation of dust. At the soil staging areas, excavated soil will be placed on an impermeable barrier base (e.g., asphalt, plastic sheeting) and covered with tarps or other proper materials to prevent run-on and/or dust generation. If significant rainfall is anticipated, the staging areas will be bermed to contain potential run-off. When possible, excavated soils may be placed in covered roll-off bins, or may be loaded directly onto transportation trucks. Temporary onsite storage of excavated soil wastes will be secured and properly labeled until offsite transportation and disposal are ready for loading. In no case, will hazardous waste storage be longer than 90 days after its generation. Storage of hazardous waste longer than 90 days after its generation may require a permit or approval from DTSC. Direct loading may take place concurrently with excavation operations, with access of

loaders to the stockpile from outside of the excavation areas, while excavation operations deposit impacted soil from the excavation areas to the staging areas. During non-excavation hours, excavated soil stockpiles will be covered with plastic sheeting or other proper materials. Additional field applications may involve installation of a temporary canopy, liner, or other physical barrier that minimizes movement of materials from the Site by wind, water, or other mechanism.

7.4.3 Confined Space Entry Requirements

In the event an excavation is five (5) feet bgs or deeper, it must be shored or sloped if entry is necessary. If there is a possibility of soil movement or structural compromise, shallower trenches may have to be shored to protect structures or utilities. If workers are required to enter an excavation that is five (5) feet bgs or deeper, a confined-space entry permit will be prepared and reviewed by the onsite safety professional before entry. For the proposed RA, confined-space entry procedures are not anticipated. Whenever compliance is necessary, the site-specific HASP (Appendix D) will be updated to reflect this change.

7.4.4 Decontamination Area

Each transport truck leaving the Site will be decontaminated utilizing the procedures below in the designated decontamination area. The decontamination area will be located at the egress from the working area (Appendix G – Figure 1). The decontamination area will be covered with plastic sheeting to collect any debris removed from the trucks prior to leaving the site. The plastic sheeting shall be maintained in good condition at all times and damaged sheeting and debris can be loaded in the transport trucks for offsite disposal. All areas around the excavation and egress points will be maintained in a broom-cleaned condition including the use of a street sweeper if necessary. Entry to the impacted areas should be limited to avoid unnecessary exposure and related transfer of contaminants.

7.4.5 Decontamination Procedures

Sampling equipment that comes into direct contact with potentially impacted soil or water will be decontaminated to assure the quality of samples collected and/or to avoid cross contamination. Disposable

sampling equipment intended for one-time use will not be decontaminated, but will be packaged for appropriate disposal. Decontamination will occur prior to and after each designated use of a piece of sampling equipment, using the following procedures:

- Non-phosphate detergent and tap water wash, using a brush if necessary;
- Tap-water rinse;
- Initial deionized/distilled water rinse; and
- Final deionized/distilled water rinse.

Trucks that come into direct contact with potentially impacted soil will be decontaminated prior to leaving the Site to prevent the offsite tracking of impacted soil. Trucks will be visually inspected before leaving the Site (Appendix G – Figure 1). Rumble plates will be stationed at departure and decontamination stations and dirt adhering to the exterior surfaces will be brushed off with brooms and collected on plastic sheeting or hardscape surface. The storage bins or beds of the trucks will be inspected to ensure the loads are properly covered and secured. Excavation equipment surfaces will also be brushed off prior to removing it from the exclusion zone. Equipment will be decontaminated in a pre-designated area on plastic sheeting. Clean, bulky equipment will be stored on plastic sheeting in unimpacted areas. Cleaned small equipment will be stored in plastic bags. Materials to be stored more than a few hours will also be covered.

7.4.6 Contaminant Control

In order to prevent potential exposure of material to the adjacent properties, the following measures will be implemented during soil excavation activities:

- LAUSD will take necessary steps to minimize impact to the community.
- The RA will be performed during a time that is less disruptive to students and staff.
- RA activities from the areas pre-defined as California-restricted hazardous waste (approximately 75 CY per Table 3) will be excavated and transported when children are not present on campus.

- Air monitoring procedures (see Section 7.5) will be implemented by the environmental professional during excavation activities.

- RA activities will not be conducted during inclement weather (e.g., high winds, heavy rains, or electrical storms) or unfavorable hours reasonably raised by the community concerns or City ordinances.

- Community members will be informed prior to initiation of removal activities.

7.5 Air and Meteorological Monitoring

Air and meteorological monitoring strategies and methodologies that will be used during the RA are described in this section. The strategy and methodologies are designed to achieve the following goals:

- Identify and measure potential air contaminants generated during soil removal and decontamination activities to determine the appropriate personal protective equipment (PPE) for RA activities.

- Provide feedback to Site operations personnel regarding potential hazards from exposure to hazardous air contaminants generated during the RA.

- Identify and measure potential air contaminants at points outside of the soil removal and decontamination exclusion zones. Air monitoring will be conducted during work activities to measure potential exposure of sensitive receptors to Site COCs as a result of RA activities.

7.5.1 Air Monitoring

As required by SCAQMD Rule 1466, air monitoring will be performed during Site activities in which impacted or potentially impacted materials are being disturbed or handled. The environmental professional will staff the Site with an air monitoring/health and safety professional whose responsibilities will include:

- Preparation of signage for public notification, posted along site boundary fencing.

- Monitoring dust levels in the exclusion zone and Site perimeter locations. The Site air monitoring professional will have the authority

to stop-work in the event that onsite activities generate dust levels that exceed the Site or community action levels (see the chart below). The air monitoring professional will monitor onsite meteorological instrumentation and/or coordinate with offsite meteorological professionals to identify conditions that require cessation of work. Based on the SCAQMD Rules 403 and 1466, an action level for work stoppage will be set at an instantaneous wind velocity of 25 mph or if wind speed is greater than 15 mph averaged over a 15-minute period of time.

- Assure that real-time aerosol monitors and industrial hygiene air sampling equipment and media are properly calibrated and in good working condition. Real-time, data-logging aerosol monitors will be used to measure dust levels. Real-time information will be recorded daily and discussed with Site workers. As analytical results for industrial hygiene samples (using OSHA/National Institute of Occupational Safety and Health [OSHA/NIOSH]-approved methods are received, the air monitoring professional will prepare summary sheets and discuss results with onsite management and workers).

- Attend general Site safety activities including daily hazard communication, safety practices and procedure briefings.

- General Site safety leadership, support and recordkeeping activities.

- Complete direct loading activities into trucks when possible.

- Store soil in either sealed bins or make sure any impacted soils are removed from the site within five (5) days if possible.

7.5.1.1 Air Monitoring Strategy and Methodologies

The RA contractor will monitor dust levels and airborne concentrations at the following general locations: (final locations and number will be evaluated in the field).

- Upwind, at the Site boundary (fence-line)
- Proximate to the exclusion zone (with the equipment operator)
- Downwind, at the Site boundary (fence-line)

- As deemed necessary to evaluate employee exposure (to be performed by the RA contractor)

The prevailing wind direction is anticipated to be from the west or west/southwest (Table 4, WRCC, 2018) depending on the time of year of the excavation activities. Wind direction and proposed monitoring points and weather station locations will be determined in the field. The air monitoring professional will check the equipment hourly during operation. Due to the fact that the Site COCs are exclusively particulates, the RA contractor will focus on collection and analysis of airborne dust levels and calculated concentrations of the COCs associated with dust generated by removal activities. As specified in the HASP (see Appendix D), the RA contractor will base Site safety procedures, including dust control measures and employee PPE (including respiratory protection), on the Personal Action Levels specific in the chart below.

Exposure Guidelines for Site Chemical Hazards

Chemical Name	Odor Threshold	CAL/OSHA PEL [a]	ACGIH TLV [b]	Site Action Levels [c]	Community Action Level (Fence Line) [d]
Total Dust	Not Listed	10 mg/m^3	10 mg/m^3	1.0 mg/m^3	0.05 mg/m^3
Arsenic	Not Listed	0.01 mg/m^3	0.2 mg/m^3	0.001 mg/m^3	0.001 mg/m^3
Lead	Not Listed	0.05 mg/m^3	0.4 mg/m^3	0.005 mg/m^3	0.0015 mg/m^3

Notes:
a Permissible Exposure Limits (Cal/OSHA Article 107, Table AC1)
b 2014 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists (ACGIH)
c Site Action Level is calculated as 10% of threshold limit value or PEL (as measured by NIOSH methods), whichever is lower. If an action level is met or exceeded, then additional dust mitigation measures will be implemented. If the Site air contaminants cannot be controlled reliably within 15 minutes, all work will cease and a CIH will be consulted. If Site action level for calculated arsenic is exceeded on the integrated air monitors, a CIH will be immediately consulted.
d Community action level for total dust/particulate is based on South Coast AQMD regulations. The community action levels for arsenic and lead are based on the site action level. Community action level for arsenic and lead dust is determined based on review of available data regarding soil concentrations of arsenic and lead and will be protective of Site workers and surrounding protectors. Site dust levels will be measured using real time particulate monitors.
ppm — parts per million
mg/m^3 — milligrams per cubic meter
µg/m^3 — micrograms per cubic meter

7.5.1.2 Dust Monitoring

As required by AQMD, the Site air monitoring professional will monitor airborne dust levels, using real-time, data-logging aerosol monitors in the locations determined in the field and daily conditions. A list of PM_{10} monitors that have been pre-approved by AQMD is provided in Appendix H. These instruments will be calibrated daily, set to log dust levels over ten (10) minute periods and visually read every hour. In consultation with AQMD, the frequency may be changed based on Site conditions and newly available data. At a minimum, a PM_{10} monitor will be placed upwind to monitor background and two or more additional monitors will be placed downwind at the fence line to monitor dust concentrations at the Site.

7.5.1.3 Arsenic and Lead Monitoring

If required, in consultation with LAUSD-OEHS, the RA contractor will document airborne concentrations of the COC in the locations outlined Section 7.4.1 and as necessary to evaluate employee exposure. The RA contractor will use OSHA/NIOSH approved methods to collect and analyze personal air samples. This should be sufficient to allow for quantification to onsite and community action levels.

If needed, as analytical results for industrial hygiene samples (using OSHA/NIOSH approved methods for the COCs dust scan, such as US EPA 7300 for arsenic dust scan) are received, the air monitoring professional will prepare summary sheets and discuss results with onsite management and workers. The environmental professional will arrange for COC sample analysis to be completed within five (5) days.

However, due to the limited excavation, proposed dust control measures, and the low levels of soil impacts, no monitoring of airborne concentrations of arsenic or lead is proposed.

7.5.2 Meteorological Monitoring

Onsite ambient weather conditions (wind speed and direction, temperature, and relative humidity) will be monitored by the environmental professional following methods: an onsite meteorological station, real-time internet weather locations, and/or the National Weather Service (if a local station can provide data relevant to the Site). If offsite meteorological stations cannot provide data relevant to the Site, an onsite meteorological station will be set up and monitored during excavation activities. Onsite meteorological monitoring will be performed simultaneously with the excavation activities to verify necessary precautions have been taken. Detailed information is described in the site-specific HASP (see Appendix D).

7.6 Dust Control Plan

In accordance with South Coast AQMD Rule 1466, the RA contractor will implement appropriate procedures to control the generation of airborne dust from soil removal activities. Such procedures will include but will not be limited to the following:

- The Site air monitoring professional will monitor dust levels in the locations determined in the field. They will have the authority to stop-work in the event that onsite activities generate dust levels in excess of the onsite (1.0 mg/m^3) or community/fence line (0.05 mg/m^3) action levels. Generation of dust during the removal operations will be minimized as necessary with the use of water as a dust suppressant. The water will be available via a water truck or a metered discharge from a fire hydrant or water spigot located proximate to the Site. The RA contractor will control dust generation by spraying water prior to daily work activities, during excavation/loading activities (as necessary to maintain concentrations below action levels), and at truck staging locations. Watering equipment will be continuously available to provide proper dust control.

- Appropriate warning signage will be installed around the perimeter of the Site, including at all Site entrances.

- If required, the air monitoring professional will monitor onsite meteorological instrumentation and/or coordinate with offsite meteorological professionals to identify conditions that require cessation of work. All removal activities will

cease in the event wind conditions change creating an uncontrollable condition.

- Measurement of airborne dust levels at locations outlined in Section 7.4.1 using real-time, data-logging aerosol monitors.

These instruments will be calibrated daily and monitoring information posted daily, and discussed with Site workers. The monitors will be set to log dust levels over 10 minute periods and will be visually read every hour. In consultation with LAUSD-OEHS, the frequency may be changed based on Site conditions and newly available data. At a minimum, a PM_{10} monitor will be placed upwind to monitor background and two or more additional monitors will be placed downwind at the fence line to monitor dust concentrations on the Site. Dust masks will be provided to Site workers in the event particulate concentrations exceed 1.0 mg/m^3 (see Appendix D – Health and Safety Plan).

7.7 Sampling and Analysis Plan

7.7.1 Waste Profiling Sampling

The waste materials will be profiled in advance of their transportation to a disposal or recycling facility. Working with the OEHS, the Environmental Professional will make a decision on whether the source of the profiling data will be: 1) existing in-situ analytical data, 2) newly collected soil samples from shallow hand auger borings or potholes in the areas to be excavated, 3) samples collected from the stockpiled soil, or 4) some combination of these options. The possibility of waste profiling with existing in-situ analytical data should be explored as early-on as possible, in case the receiving facility requires more recent laboratory data.

If new samples must be collected for waste profiling, the Environmental Professional will obtain them. The analyses will include those required by the potential disposal facilities, or as a general guideline, the following analyses: TPH, VOCs, semi-volatile organic compounds (SVOCs), Title 22 metals, STLC, and follow-up TCLP, as needed. All analyses will be completed at a laboratory with Environmental Laboratory Accreditation Program (ELAP) certifications for the analyses conducted.

Grab samples for waste profiling should be of sufficient volume, and in laboratory-supplied containers, as required for the analyses to be

completed. In general, samples can likely be collected in laboratory-supplied 4-oz., glass jars with Teflon-lined lids.

The number of samples collected for waste characterization will follow these guidelines:

If collected from potholes or hand auger borings:

- One sample per approximate 150 to 250 CY of arsenic- and/or lead-impacted soil planned for removal, per the judgement of the Environmental Professional.
- One sample per approximate 150 to 250 CY of TPH-impacted soil planned for removal, per the judgement of the Environmental Professional.

If collected from stockpiles:

- One sample per 150 to 250 CY of stockpiled soil, per the judgement of the Environmental Professional or per the requirements of the selected disposal facility.

7.7.2 Confirmation Sampling

Following excavation of the planned areas, or sub-areas if slurry backfill is required before additional adjoining excavation, confirmation soil samples will be completed in the sidewalls (unless it's the sidewall of a sub-area that will later be removed). Bottom confirmation samples will also be collected, except in areas where the pre-planned soil removal is to a maximum depth (5 feet bgs for arsenic and lead, and 15 feet bgs for TPH), and the underlying soil is already known to exceed RAGs (i.e. soil to be managed with institutional controls).

The number of confirmation samples will be based on the following guidelines:

- For larger excavations, at least one sample per 20 linear feet of sidewall, and bottom samples collected on a 20-foot grid pattern.
- For smaller excavations, the greater of the following:

- One sample per 10 linear feet of sidewall, and bottom samples on a 10-foot grid pattern.

- A minimum of one sample per sidewall and bottom area.

Confirmation samples collected from excavation areas for arsenic and lead will be analyzed for these metals in general accordance with EPA Methods 6020 and 6010B, respectively. Confirmation soil samples collected from the TPH-impacted area will be analyzed for TPH-g, TPH-d and TPH-o in general accordance with EPA Method 8015M. A portion of the sample to be analyzed for TPH-g will also be preserved in general accordance with EPA Method 5035.

Confirmation samples will be collected using a clean trowel or newly gloved hand, and transferred directly into laboratory-supplied 4-oz. wide-mouth sampling jars, to reduce the amount of sampling equipment and possibility of cross contamination. In the TPH area, a portion of each confirmation sample will also be collected directly from relatively undisturbed soil and preserved in general accordance with EPA Method 5035 (for TPH-g analyses).

Confirmation soil samples will be properly sealed, labeled and stored onsite in a cooled ice chest prior to delivery to the selected laboratory for the analyses requested. Samples will be delivered to the laboratory on the same day collected, if time permits, and no later than one working day following collection. Each sample will be accompanied with chain of custody documentation.

If analytical results from confirmation samples exceed the RAGs, additional soil removal will be completed, per the judgement of the Environmental Professional, who will consider the confirmation sampling results and area specific conditions. When further excavation is completed in an area of a prior confirmation sample, subsequent confirmation sampling will be completed until the data indicate RAGs have been achieved, or excavation can no longer reasonably be completed.

After the RA is complete, the confirmation data will be compiled and reported in the Removal Action Completion Report (RACR) (see Section 8.0). Arsenic and lead data will be expressed as both the range of values and the 95% UCL when there are sufficient samples to calculate this value

using the EPA ProUCL Version 5.1 model. These calculations are required to give an overall representation of arsenic and lead concentrations of the Site following the RA. In addition, a human health risk evaluation will be performed.

7.8 Transportation Plan for Offsite Disposal

Excavated soil will be profiled and approval will be received from the disposal facilities before soil is transported offsite for disposal. Based on the analytical results obtained during previous environmental investigations, the majority of the arsenic, lead, and TPH-impacted soil to be removed during the RA will be handled, transported and disposed of as non-hazardous waste and will be transported to a Class III landfill facility. Approximately 75 CY of material with arsenic and lead concentrations above the STLC will be excavated from the Site and handled, transported and disposed of as non-RCRA California-restricted hazardous waste and will be transported to a Class I landfill facility.

Final determination of the facility identified for disposal will be based on approval from the facility. Detailed information on waste transportation, transportation routes, and disposal is described in the Transportation Plan (see Appendix G).

7.9 Backfill and Site Restoration

Areas excavated as a result of removal activities will be backfilled with approved clean fill. The clean fill may consist of one or more of the following sources: 1) quarried sand and gravel, 2) imported material from an offsite source, and 3) clean soil generated onsite in the course of exposing deeper soil impacts. Debris, plant matter, and other deleterious material will not be present in soils used for fill. In excavations where soil with concentrations above the RAGs will remain in place (> 5 feet bgs), a geotextile fabric will be placed in the bottom of the excavation prior to beginning backfilling. Backfilling and compaction of excavated areas will be in conformance with County of Los Angeles requirements for commercial development. Evaluation and selection of a borrow source for import fill will be in accordance with DTSC's *Information Advisory for Clean Imported Fill Material* (DTSC, 2001). In general, the borrow source should be from a nonindustrial area and not from a site undergoing an environmental cleanup.

Prior to using fill material onsite, the soil quality data of the source material will be reviewed. Sampling of fill material intended for use at the Site will be conducted

to verify the quality of the material, unless the fill material originates from a clean, quarried source, in which case a professional geologist will verify that the material is free from naturally occurring arsenic and asbestos. Imported fill will be free of contamination and non-soil material. TPH levels will be less than 50 mg/kg, VOCs and SVOCs below detection levels, and metals will be within typical background levels. Clean soil generated onsite from excavation activities will be at concentrations less than the RAGs. Soils treated at another site undergoing remediation will not be used as backfill material at the Site.

Sampling of the backfill soils will be conducted in accordance with LAUSD Specification 4524 "*Environmental Import/Export Materials Testing*" (LAUSD, 2018). The following analyses will be conducted:

- TPH (full range for gasoline, diesel, and oil - EPA Method 8015M);
- VOCs (full list, including fuel oxygenates - EPA Method 8260B);
- Semi-volatile organic compounds (SVOCs) (EPA Method 8270C);
- Metals (EPA Methods 6010B/7471A);
- Organochlorine pesticides (OCPs) (EPA Method 8081A); and
- Polychlorinated biphenyls (PCBs) (EPA Method 8082).

Sampling and analysis will be performed as described in Section 7.7. At a minimum, backfill materials will be sampled at a frequency consistent with the volume-specific sampling criteria outlined in DTSC's *Information Advisory for Clean Imported Fill Material*. Laboratory analytical data will be submitted to DTSC for review and concurrence prior to importing backfill material onto the Site.

7.10 Institutional Controls

Soil exceeding the propose RAGs will be left in place at depths where they generally will have little potential for contact with human receptors. To further decrease the likelihood of this potential contact, a LUC will be prepared and recorded detailing these conditions.

A Soil Management Plan (SMP) will also be prepared, submitted to DTSC for approval, and then implemented by the LAUSD. The goals of the SMP will be to:

- Provide the guidelines, standards, and procedures for future handling of affected soils if encountered in areas, or at depths, not currently planned for mitigation.

- Protect the public, onsite workers, the environment, and future users of the Site during future activities in which the soil will be disturbed.

7.11 Variance or Explanation of Significant Difference

After this RAW is approved and implementation has begun, conditions in the field may vary slightly from the plan. It may become necessary to implement minor modifications to RA activities as presented in this RAW. Variances could include encountering subsurface features not previously identified, impacted soil beyond what was previously identified, a change in the confirmation sampling strategy, or Site conditions becoming unsafe. Should a field variance be encountered, actions will be taken to comply with CEQA and public participation requirements when an Explanation of Significant Difference is necessary. Field personnel will notify the project manager when deviations from this RAW are necessary. Modifications to the approved RAW will be documented in the field logbook and in the RACR. The DTSC project manager will be notified by the LAUSD project manager in the event of significant deviations from the RAW.

8.0 PROJECT SCHEDULE AND REPORT OF COMPLETION

The anticipated schedule for implementation of the RAW is summer 2019. The following chart indicates the anticipated schedule of implementation and subsequent reporting for this project from a number of days standpoint. A RACR documenting all activities conducted pursuant to the approved RAW and certifying that activities have been conducted consistent with this RAW, will be prepared in a timely manner upon completion of the RA. A generic RACR table of contents format is included as Appendix I.

Schedule of Tasks

	Task	Days to Complete	Cumulative Days	Notes
1	Field Preparation	15	15	Distribute work notices to the community. Coordinate contractors and waste stream approval. Complete public participation tasks.
2	Field Implementation	25	40	RAW implementation and oversight. Assumes minimal weather delays.
3	Data Compilation	10	50	Data review and presentation.
4	Reporting	20	70	Preparation and submittal of RACR.

9.0 ADMINISTRATIVE RECORDS

Administrative records in association with this RAW which will be maintained in the information repositories at the following locations:

Jordan High School
Administration Office
2265 East 103rd Street
Los Angeles, CA 90002
Phone: (323) 568-4107

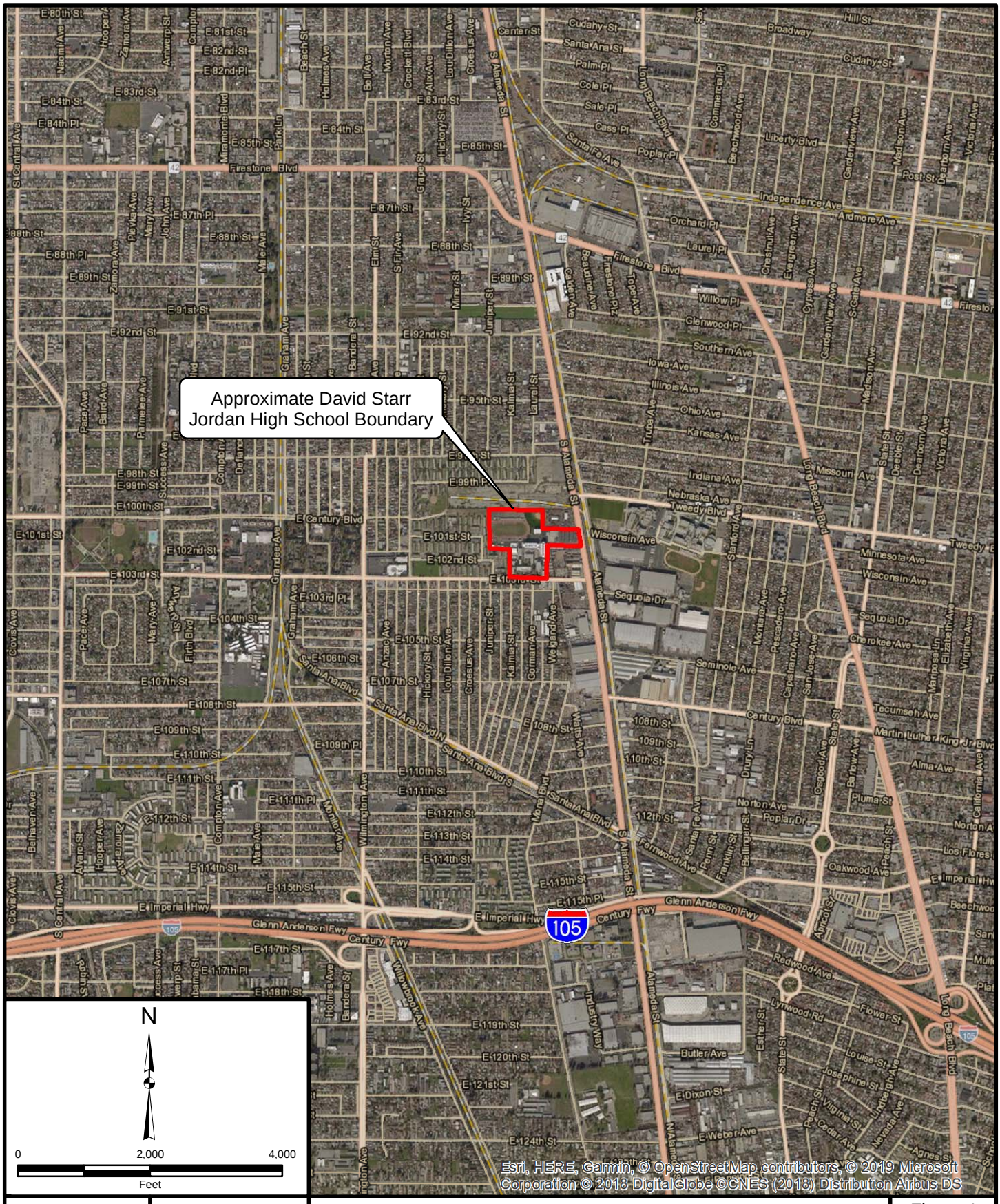
Animo College Preparatory Academy
Administration Office
2265 East 103rd Street
Los Angeles, CA 90002
Phone: (323) 568-4136

Department of Toxic Substances Control
Regional Records Office
5796 Corporate Avenue
Cypress, CA 90630
Call: (714) 484-5337
Hours: Monday-Friday: 8:00 am-5:00 pm

Watts Branch Library
Reference Desk
10205 Compton Avenue
Los Angeles, CA 90002
Phone: (323) 789-2850
Hours: Mon. & Wed.: 10:00 am – 8:00 pm
Tues. & Thurs.: 12:30 pm – 8:00 pm
Fri. & Sat.: 10:00 am – 5:30 pm; Sun.: Closed

Los Angeles Unified School District
Office of Environmental Health and Safety
333 South Beaudry Avenue, 28th Floor
Los Angeles, CA 90017
Contact: Andrew Modugno at (213) 241-3433
Hours: Mon. to Fri.: 8:00 am – 5:00 pm

FIGURES



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Scale:1 " = 2,000 '	Date: January 2019

Base Map: ESRI ArcGIS Online 2019
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

SITE LOCATION MAP

David Starr Jordan High School
Los Angeles, California

Figure 1

Leighton

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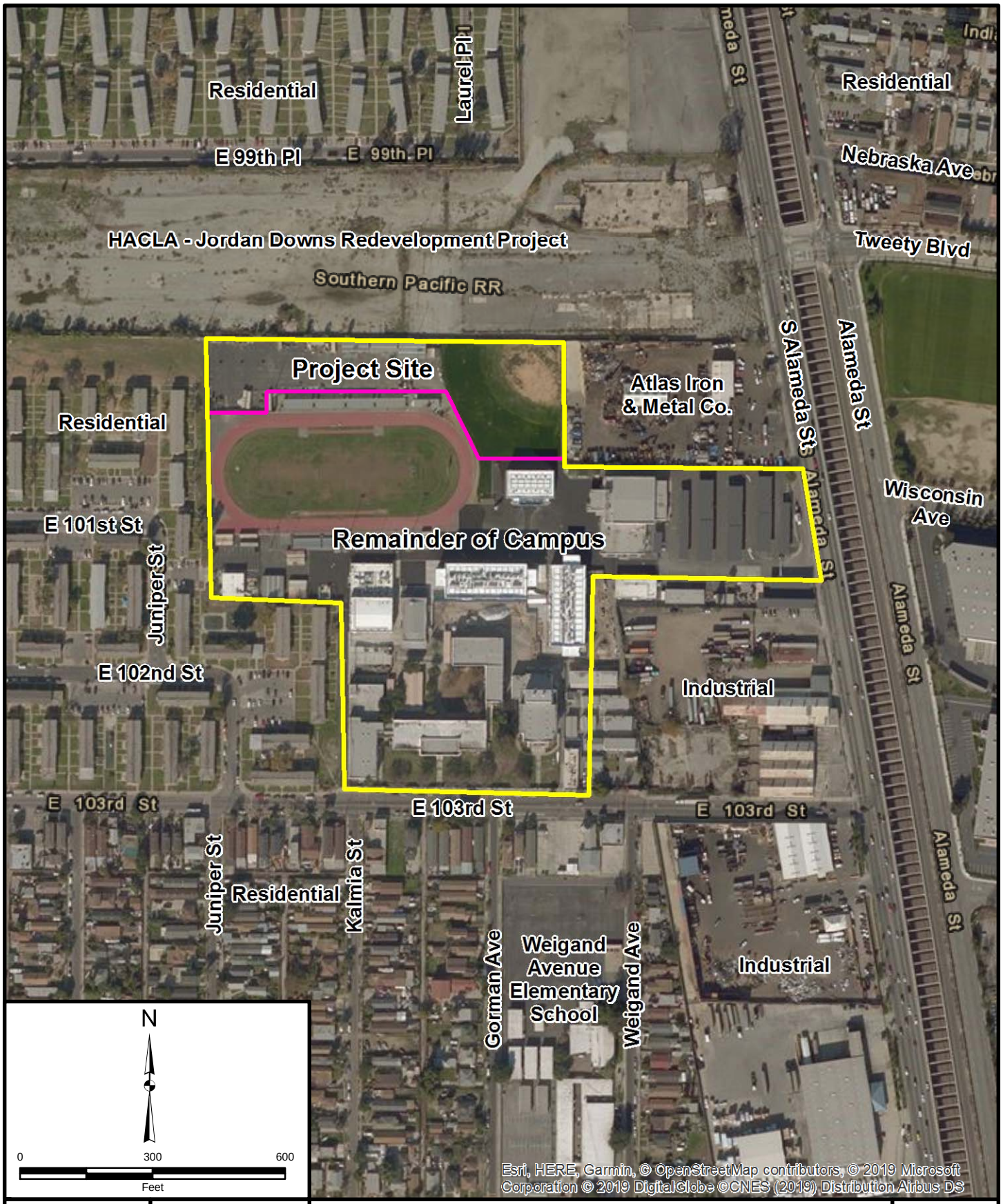


Project: 11640.011	Eng/Geol: RS
Scale:1 " = 300 '	Date: March 2019

Base Map: ESRI ArcGIS Online 2019
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

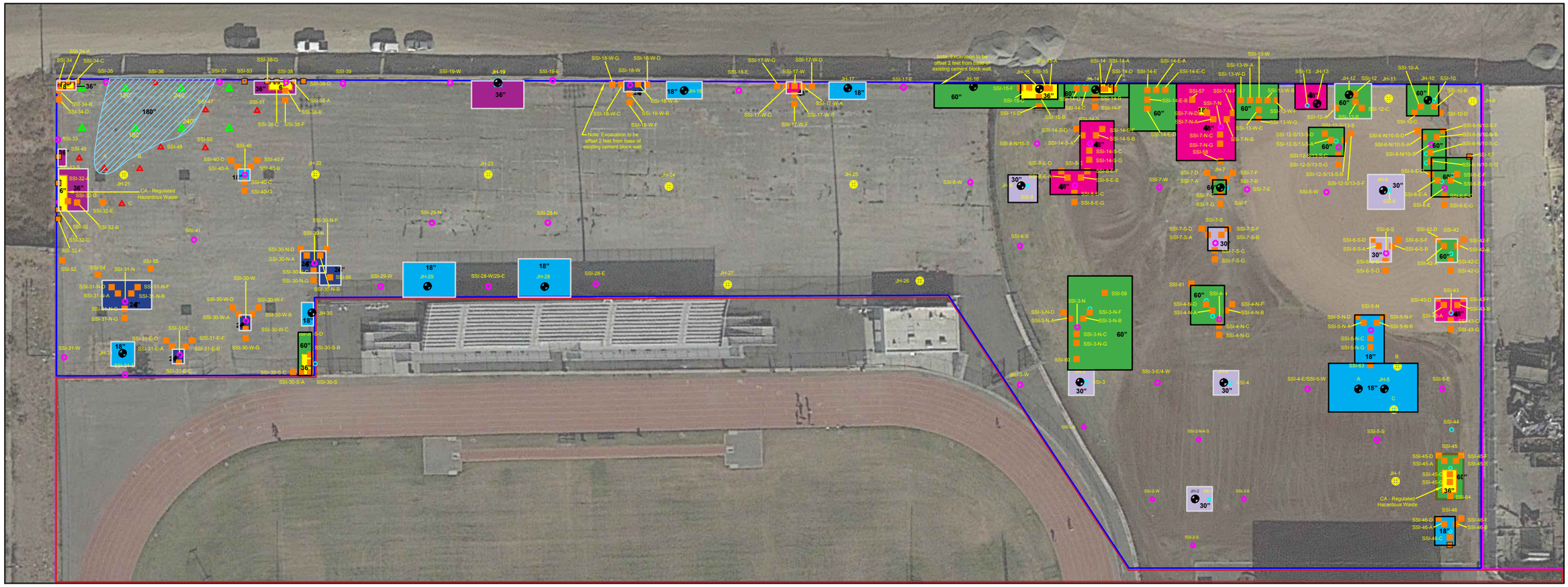
SITE PLAN

David Starr Jordan High School
Los Angeles, California

Figure 2

Leighton

Map Saved as V:\Drafting\11640\011\Maps\11640-011_F02_SP_2019-03-14.mxd on 2/21/2019 6:17:46 PM



LEGEND

- Project Boundary
- School Boundary
- Southern Boundary of Site
- Clean Sample Location
- Impacted Soil Sample Location
- Vertical Delineation Sample
- SSI Sample Location
- Current Sample Location
- SSI TPH Sample Location
- Additional Samples
- 18"
- 24"
- 30"
- 36"
- 48"
- 60"
- TPH>1,000 mg/kg
- California-Regulated Hazardous Waste

N

0 60 120

SCALE FEET

PROPOSED SOIL EXCAVATION AREAS

David Starr Jordan High School
Los Angeles, California

Figure 3

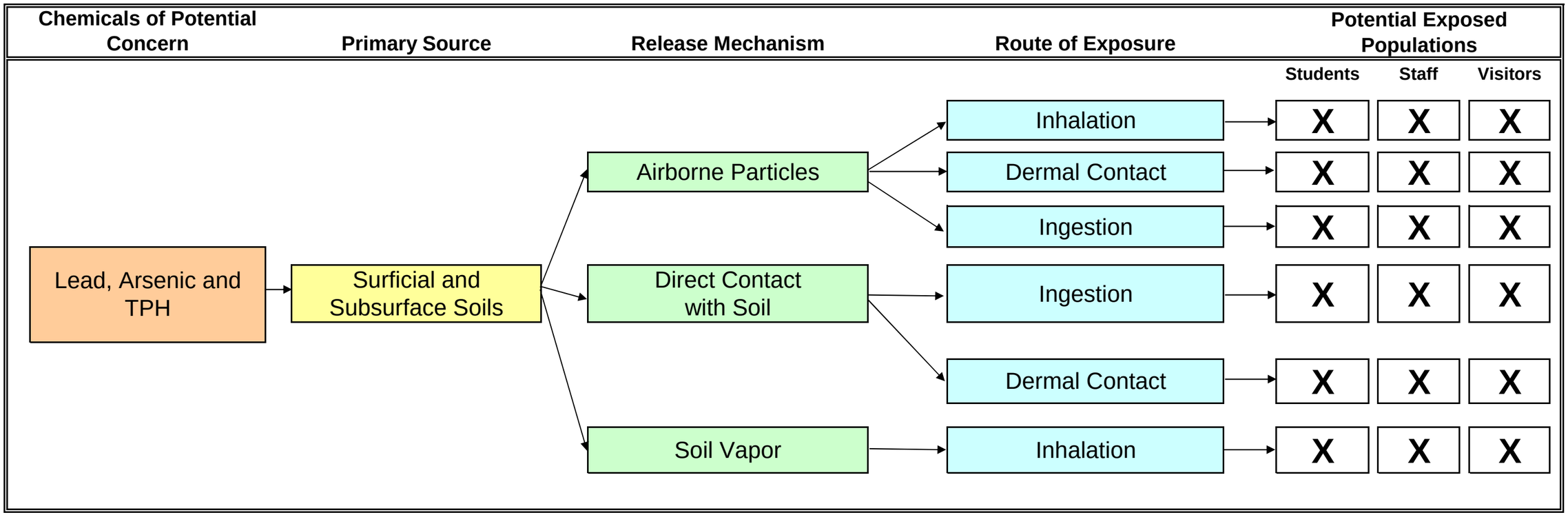
Proj: 11640.011	Eng/Geol: RS
Scale: 1"=60'	Date: February 2019

Drafted By: BQT | Checked By: BQT | V:\DRAFTING\11640\011\CAD\2019-01-25\11640-011_FG3-08_BLM_2019-02-28.DWG (02-28-19 1:12:41PM) Plotted by: bran

Leighton

Figure 4
Conceptual Site Exposure Model
LAUSD David Starr Jordan High School
Los Angeles, California

11640.011



Notes:
TPH - Total Petroleum Hydrocarbons

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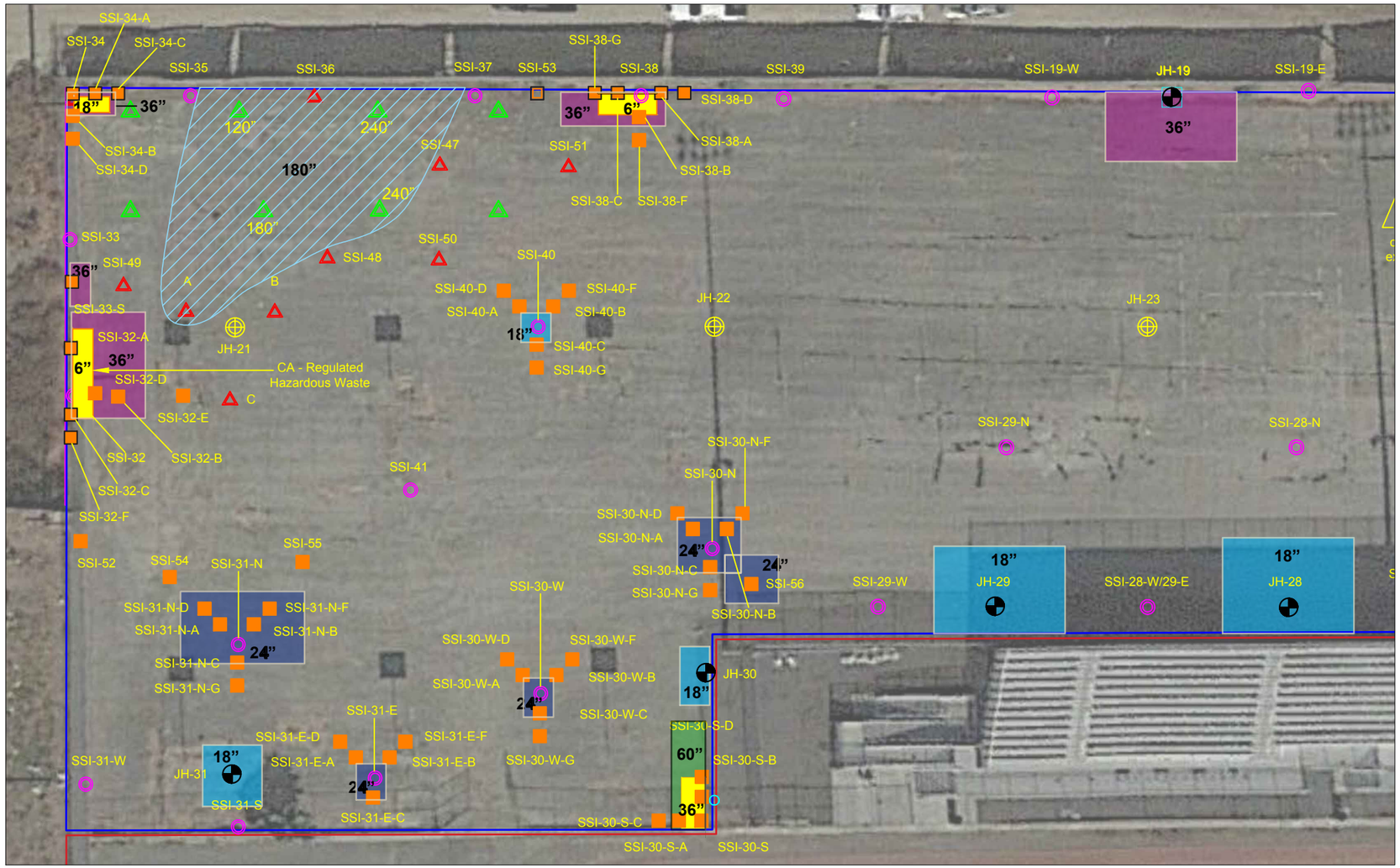

LEGEND

- Project Boundary
- School Boundary
- Southern Boundary of Site
- Clean Sample Location
- Impacted Soil Sample Location
- Vertical Delineation Sample
- SSI Sample Location
- Current Sample Location
- SSI TPH Sample Location
- Additional Samples
- 18"
- 24"
- 30"
- 36"
- 48"
- 60"
- TPH>1,000 mg/kg
- California-Regulated Hazardous Waste

N

0 30 60

SCALE FEET

PROPOSED SOIL EXCAVATION AREAS
AREA 1
David Starr Jordan High School
Los Angeles, California

Figure 5

Proj: 11640.011	Eng/Geol: RS
Scale: 1"=30'	Date: February 2019

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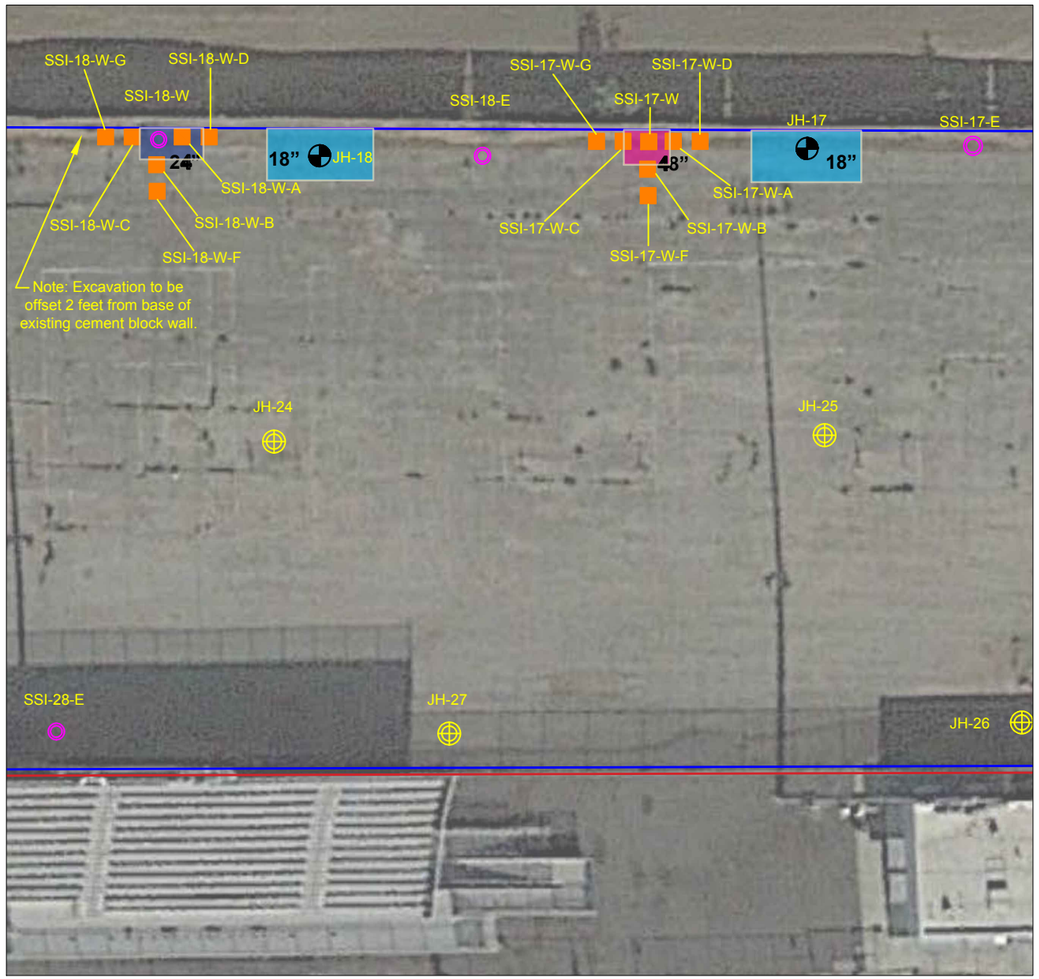

LEGEND

Project Boundary	Vertical Delineation Sample		18"
School Boundary	SSI Sample Location		24"
Southern Boundary of Site	Current Sample Location		30"
Clean Sample Location	SSI TPH Sample Location		36"
Impacted Soil Sample Location	Additional Samples		48"
			60"

N

0 30 60

SCALE FEET

PROPOSED SOIL EXCAVATION AREAS
AREA 2

David Starr Jordan High School
Los Angeles, California

Figure 6

Proj: 11640.011	Eng/Geol: RS
Scale: 1"=30'	Date: February 2019

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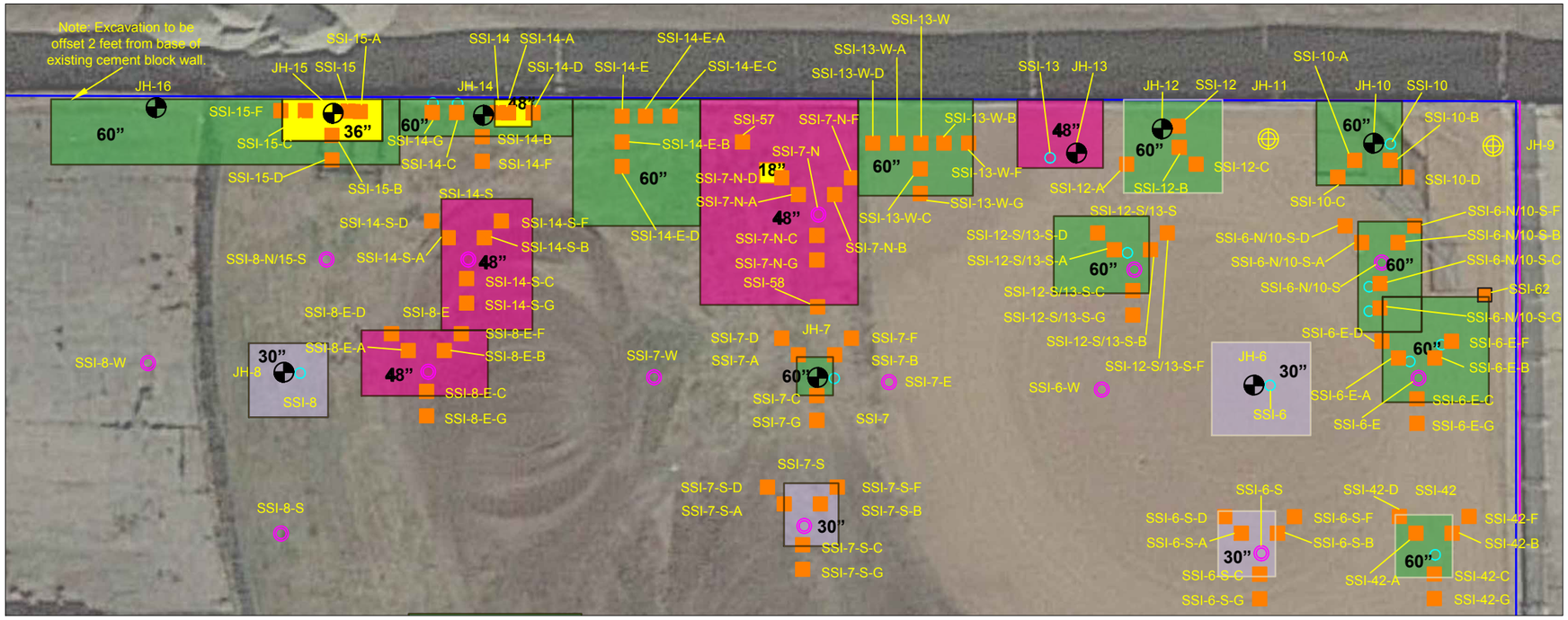
Leighton



LEGEND

- Project Boundary
- School Boundary
- Southern Boundary of Site
- Clean Sample Location
- Impacted Soil Sample Location
- Vertical Delineation Sample
- SSI Sample Location
- Current Sample Location
- SSI TPH Sample Location
- Additional Samples
- 18"
- 24"
- 30"
- 36"
- 48"
- 60"
- California-Regulated Hazardous Waste

N

0 30 60

SCALE FEET

PROPOSED SOIL EXCAVATION AREAS
AREA 3
David Starr Jordan High School
Los Angeles, California

Figure 7

Proj: 11640.011	Eng/Geol: RS
Scale: 1"=30'	Date: February 2019

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LEGEND

- Project Boundary
- School Boundary
- Southern Boundary of Site
- Clean Sample Location
- Impacted Soil Sample Location
- Vertical Delineation Sample
- SSI Sample Location
- Current Sample Location
- SSI TPH Sample Location
- Additional Samples
- 18"
- 24"
- 30"
- 36"
- 48"
- 60"
- California-Regulated Hazardous Waste

N

0 30 60

SCALE FEET

PROPOSED SOIL EXCAVATION AREAS
AREA 4
David Starr Jordan High School
Los Angeles, California

Figure 8

Proj: 11640.011	Eng/Geol: RS
Scale: 1"=30'	Date: February 2019

Drafted By: BQT | Checked By: BQT | V:\DRAFTING\11640\011\CAD\2019-01-25\11640-011_F03-08_BLM_2019-02-21.DWG (02-21-19 2:56:32PM) Plotted by: brian

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TABLES

Leighton

Table 1
REMOVAL ACTION GOALS FOR SOIL
David Starr Jordan High School
Los Angeles, California

Chemical of Concern	U.S. EPA RSL Residential Soil (mg/kg)[1]	SFRWQCB Shallow Soil Screening Levels - Residential (mg/kg)[2]	SFRWQCB Shallow Soil Screening Levels - Commercial/Industrial (mg/kg)	SFRWQCB Any Land Use/Any Soil Depth - Construction Worker (mg/kg)	SFRWQCB Odor Nuisance Levels - Any Land Use (mg/kg)	DTSC Background Concentration (mg/kg)[3]	DTSC Modified Screening Levels (mg/kg)[4]	Removal Action Goal (mg/kg)
Arsenic	0.68	0.067	0.31	0.98	--	12	0.11	**12**
Lead	400	80	320	160	--	--	80	**80**
TPH-gasoline	82 [5]	430	2,000	1,800	500	--	--	**430**
TPH-diesel	96 [5]	260	1,200	1,100	1,000	--	--	**1,100**
TPH-oil	2500 [5]	12,000	180,000	54,000	500	--	--	**12,000**

Notes and Abbreviations:

1. USEPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites (November 2018). Criteria selected: Residential soil, Total Hazard Quotient = 1.0, Target risk of 1.0E-6

2. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (January 2019)

3. Department of Toxic Substances Control (DTSC), Modified Screening Levels (SLs), Human Health Risk Assessment Note 3, June 2018. Criteria selected: residential soil, lowest value of the cancer and non-cancer endpoint

4. DTSC recommends that a 95% upper confidence limit on the arithmetic mean calculated to be 80 mg/kg or less is protective of human health

5. Represents the most conservative screening level between aromatic and aliphatic compounds.

mg/kg: milligrams per kilogram

TPH - Total petroleum hydrocarbons

-- : no published value

Table 2
COMPARISON OF REMEDIAL ACTION ALTERNATIVES
David Starr Jordan High School
Los Angeles, California

Remedial Alternative	Description	Evaluation	Application to Site	Estimated Remediation Costs	Estimated Total Project Costs
No Action	Remedial technologies would not be implemented under a "No Action" alternative.	If impacted soil were to remain in place undisturbed, it is would be a potential health risk for direct exposure to students, as well as a possible source of impacts to underlying groundwater. A No Action approach would likely require a very long-term and aggressive monitoring program that has the potential to be expensive, highly constraining to full site Site usage, and unable to acheive certain remediation goals. For these reasons, this altenative is not considered acceptable. If implemented, the long term costs are assumed to be over 20 years.	Not Applicable	$30,000	$180,000
Treatment	Treatment methods involve the destruction, degradation, removal or alteration of the COCs (to reduce toxicity) on the Site.	Arsenic and lead contaminantion cannot be destroyed or biodegraded in an efficient or practical manner. Other possible treatment technologies were also found to be unacceptable due to project timing, probable permitting issues, and working location constraints. While the petroleum impacted soils are amenable to treatment, this is not considered an acceptable alternative due to timing, working location constraints, the potential for exposures during treatment, and the inability to take advantage of resources already mobilized for the removal of arsenic and lead impacted soils.	Not Applicable	Estimate Not Feasible	Estimate Not Feasible
Onsite Containment (Capping) & Instutional Controls	Placement of a barrier between potential receptors and the soils impacted above the removal action goals, in combination with legal restrictions (deed restrictions) and procedures (soil management plan) to help prevent these same exposures.	Most of the impacted soils are surficial (0-2') and would be disturbed during capping. Additionally, institutional controls do not, by definition, reduce the volume of COCs, and cannot prevent exposure pathways (both ecological and human) with a certainty similar to soil removal.	Not Applicable	$150,000	$300,000
Limited Soil Excavation & Institutonal Controls	Limited soil excavation, loading, and off-site disposal with backfill by clean imported fill materials. This in combination with legal restrictions (deed restrictions) and procedures (soil management plan) for the soils remaining above removal action goals	Soil excavation removes the exposure pathway between receptors (human or ecological) and the removed soil with a very high degree of certainty. Soil removal and confirmation sampling may also result in the remove addititional soils with COCs exceeding removal action goals that had previously not been detected.	Applicable	$925,030	$1,075,030

TABLE 3
ESTIMATED IN-SITU SOIL REMOVAL VOLUMES
David Starr Jordan High School
Los Angeles, California

Excavation Area Name	Surface Area (ft^2)	Bottom (ft bgs)	Total Volume (yd^3)	Volume of Cal-Hazardous Waste (yd^3)	Volume of Non-Hazardous Waste (yd^3)
2	100	2.5	9.26		9.26
3	100	2.5	9.26		9.26
3-N/59	2400	5	444		444
4	100	2.5	9.26		9.26
4-N/61	625	5	116		116
5/5-N	1400	1.5	77.8		77.8
6	100	2.5	9.26		9.26
6-E/6-N/10-S	1050	5	194		194
6-S	225	2.5	20.8		20.8
7	100	5	18.5		18.5
7-N	600	4	88.9	1.39	87.5
7-S	225	2.5	20.8		20.8
8	100	2.5	9.26		9.26
8-E	500	4	74.1		74.1
10	300	5	55.6		55.6
12	600	5	111		111
12-S/13-S	600	5	111		111
13	100	4	14.8		14.8
13-W	450	5	83		83
14/14-E/16	1050	5	194	3.70	191
14-S	750	4	111		111
15	100	5	18.5	22.2	-3.7
17	100	1.5	5.56		5.56
17-W	100	4	14.8		14.8
18	100	1.5	5.56		5.56
18-W	150	2	11.1		11.1
19	450	3	50		50
28	450	1.5	25		25
29	450	1.5	25		25
30	100	1.5	5.56		5.56
30-N/56	600	2	44.4		44.4
30-S	250	5	46.3	11.1	35.2
30-W	100	2	7.41		7.41
31	100	1.5	5.56		5.56
31-E	100	2	7.41		7.41
31-N	600	2	44.4		44.4
32/33-S	650	3	72.2	3.70	68.5
34	150	3	16.7	8.33	8.34
36	1355	15	753		753
38	250	3	27.8	2.78	25
40	100	1.5	5.56		5.56
42	225	1.5	12.5		12.5
43	300	4	44.4		44.4
45/64	600	5	111	22.2	88.9
46	300	1.5	16.7		16.7
Grand Total (yd^3)			**3159.72**	**75.4**	**3084.32**

TABLE 4
Prevailing Wind Direction
David Starr Jordan High School
Los Angeles, California

Weather Station[2]	Prevailing Wind Speed (mph) and Direction[1]												
	Monthly Average												Annual Average
	January	February	March	April	May	June	July	August	September	October	November	December	
Los Angeles International Airport (LAX)	2.0	1.8	4.7	5.8	6.4	6.2	6.6	7.1	5.9	3.2	3.4	1.2	4.5
Los Angeles International Airport (LAX)	WSW	WSW	W	W	WSW	WSW	W	WSW	WSW	WSW	W	W	WSW

NOTES:

1. Prevailing wind from the direction indicated is based on data from 2017 and is defined as the direction with the highest percent of frequency, https://www.ncdc.noaa.gov/IPS/lcd/lcd.html?_page=0&state=CA&_target1=Next+%3E.

2 Station is located in Los Angeles International Airport, approximately 9 miles west of the Jordan High School site

Acronyms/Abbreviations:

W = from the west
WSW = from the west-southwest
mph = miles per hour

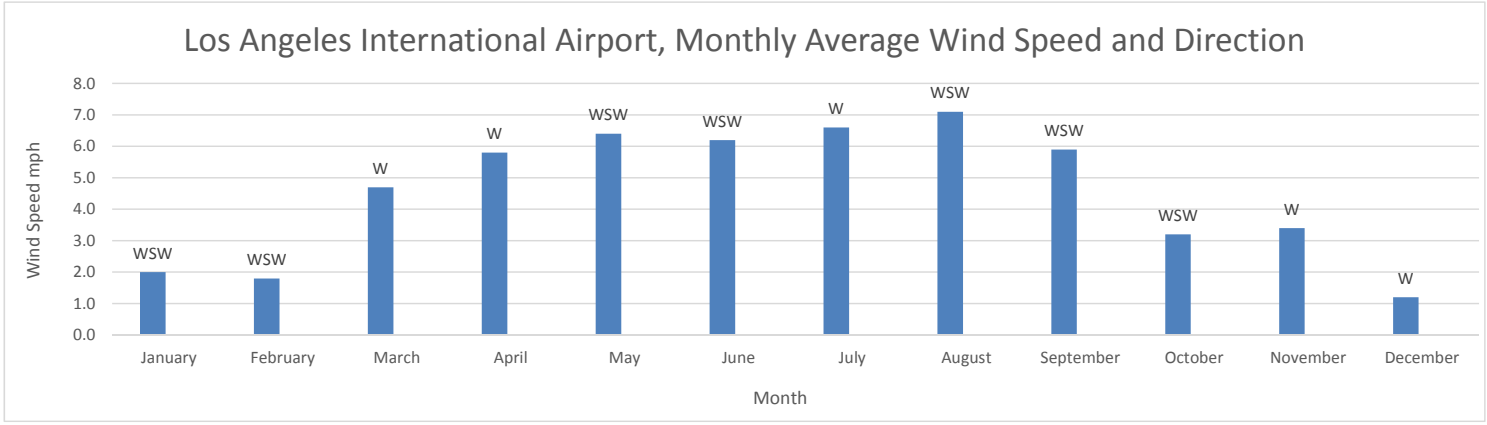

TABLE 5
SUMMARY OF SAMPLING AND ANALYSIS PROGRAM
David Starr Jordan High School
Los Angeles, California

Sample Location/ Number	General Parameters	Test Method of Analyses	Container	Preservative	Hold Time
Arsenic: Confirmation samples for arsenic will be collected from the areas shown on Figures 5 through 8. Bottom samples will be collected from the bottom of the excavations. Sidewall samples will be collected from the depth of the highest arsenic concentration identified in the excavation in the vicinity of the confirmation sample. Additional confirmation samples may be collected based on sample results and any additional excavation.	Arsenic	EPA 6020	4 oz glass jar	4°C	180 days
Lead: Confirmation samples for lead will be collected from the areas shown on Figures 5 through 8. Bottom samples will be collected from the bottom of the excavations. Sidewall samples will be collected from the depth of the highest lead concentration identified in the excavation in the vicinity of the confirmation sample. Additional confirmation samples may be collected based on sample results and any additional excavation.	Lead	EPA 6010B	4 oz glass jar	4°C	180 days
Waste Profile Samples					
Title 22 CAM 17 Metals - Up to 10 samples will be collected for waste disposal profiling.	Title 22 CAM 17 Metals (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Hg, Mo, Ni, Se, Ag, Ti, V, ZN)	EPA 6010B/7471A	8 oz glass jar	4°C	180 days, 28 days for mercury, 28 days hexavalent chromium
	STLC-Lead	WET/EPA 6010B		4°C	180 days
	STLC-Arsenic	WET/EPA 6010B		4°C	180 days
	TCLP-Lead	TCLP-EPA 6010B		4°C	180 days
	TCLP-Arsenic	TCLP-EPA 6010B		4°C	180 days
Total Petroleum Hydrocarbons - Up to 5 samples will be collected for waste disposal profiling.	Full Carbon Chain	EPA 8015B	8 oz glass jar	4°C	14 days
Volatile Organic Compounds - Up to 5 samples will be collected for waste disposal profiling.	VOCs Full Suite	EPA 8260B		4°C	14 days
Organochlorine Pesticides - Up to 5 samples will be collected for waste disposal profiling.	OCPs	EPA 8081A		4°C	14 days to extraction, 40 days to analyze

APPENDIX A

REFERENCES

APPENDIX A

References

Accord (Accord Engineering, Inc.), 2005, Final Emergency Excavation Completion Report, Jordan High School, Los Angeles, CA, dated March 4, 2005.

Agency for Toxic Substances and Disease Registry (ATSDR), 1999, Toxicological Profile for Total Petroleum Hydrocarbons, September, 1999.

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APPENDIX B

TABLES AND FIGURES FROM THE PLACEWORKS SUPPLEMENTAL SITE INVESTIGATION REPORT

Leighton

Tables

TABLE 1
SOIL SAMPLING AND ANALYSIS
SUPPLEMENTAL SITE INVESTIGATION
David Starr Jordan Senior High School
Los Angeles, California

Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
30N/645E/DPT68	A	horizontal delineation	120	10	TPH
			180	15	TPH
			240	20	TPH
			300	25	TPH
30N/675E/DPT69	B	horizontal delineation	120	10	TPH
			180	15	TPH
			240	20	TPH
			300	25	TPH
30N/645E/DPT68 30N/675E/DPT69	C	horizontal delineation	120	10	TPH
			180	15	TPH
			240	20	TPH
			300	25	TPH
JH-2	SSI-2	Vertical delineation	30	2.5	Pb
			42	3.5	Hold
	SSI-2-E	Horizontal delineation	18	1.5	Pb, STLC, TCLP
			30	2.5	Pb
			42	3.5	Hold
	SSI-2-S	Horizontal delineation	18	1.5	Pb
			30	2.5	Pb
			42	3.5	Hold
	SSI-2-W	Horizontal delineation	18	1.5	Pb
			30	2.5	Pb
			42	3.5	Hold
	SSI-2N/4S	Horizontal delineation	18	1.5	As, Pb
			30	2.5	As, Pb
			42	3.5	Hold

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SUPPLEMENTAL SITE INVESTIGATION
David Starr Jordan Senior High School
Los Angeles, California

Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-3	SSI-3	Vertical delineation	30	2.5	As
			42	3.5	Hold
	SSI-3E/4W	Horizontal delineation	18	1.5	As, Pb
			30	2.5	As, Pb
			42	3.5	Hold
	SSI-3-S	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-3-W	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-3-N	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	As
	SSI-3-N-A	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-3-N-B	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	As
	SSI-3-N-C	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	As
	SSI-3-N-D	Horizontal delineation	18	1.5	Hold
			30	2.5	Hold
			42	3.5	Hold
	SSI-3-N-F	Horizontal delineation	18	1.5	Hold
			30	2.5	As
			42	3.5	As, STLC, TCLP
		Vertical delineation	60	5	As
			90	7.5	Hold
			120	10	Hold
	SSI-3-N-G	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold

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SUPPLEMENTAL SITE INVESTIGATION
David Starr Jordan Senior High School
Los Angeles, California

Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-4	SSI-4	Vertical delineation	30	2.5	As, Pb
			42	3.5	Hold
	SSI-4-N	Horizontal delineation	18	1.5	As, Pb
			30	2.5	As, Pb
			42	3.5	Hold
	SSI-4-N-A	Horizontal delineation	18	1.5	As
			30	2.5	As, STLC, TCLP
		Vertical delineation	60	5	As
			90	7.5	Hold
			120	10	Hold
	SSI-4-N-B	Horizontal delineation	18	1.5	As
			30	2.5	Hold
	SSI-4-N-C	Horizontal delineation	18	1.5	As
			30	2.5	Hold
	SSI-4-N-D	Horizontal delineation	18	1.5	As
			30	2.5	As
		Vertical delineation	60	5	As
			90	7.5	Hold
			120	10	Hold
	SSI-4-N-F	Horizontal delineation	18	1.5	Hold
			30	2.5	Hold
	SSI-4-N-G	Horizontal delineation	18	1.5	Hold
			30	2.5	Hold
	SSI-4E/5W	Horizontal delineation	6	0.5	As, Pb
			18	1.5	As, Pb
			30	2.5	As, Pb
			42	3.5	Hold

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David Starr Jordan Senior High School
Los Angeles, California

Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-5	SSI-5-E	Horizontal delineation	0-1	0	As, Pb
			6	0.5	As, Pb
			24	2	Hold
	SSI-5-S	Horizontal delineation	0-1	0	As, Pb
			6	0.5	As, Pb, STLC, TCLP
			24	2	Hold
	SSI-5-N	Horizontal delineation	0-1	0	As, Pb
			6	0.5	As, Pb
			24	2	As
	SSI-5-N-A	Horizontal delineation	6	0.08	As
			18	1.5	As
			30	2.5	Hold
	SSI-5-N-B	Horizontal delineation	6	0.5	As
			18	1.5	As
			30	2.5	Hold
	SSI-5-N-C	Horizontal delineation	6	0.5	As
			18	1.5	As
			30	2.5	Hold
	SSI-5-N-D	Horizontal delineation	6	0.5	Hold
			18	1.5	As
			30	2.5	Hold
	SSI-5-N-F	Horizontal delineation	6	0.5	Hold
			18	1.5	As
			30	2.5	Hold
	SSI-5-N-G	Horizontal delineation	6	0.5	Hold
			18	1.5	As
			30	2.5	As

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-6	SSI-6	Vertical delineation	30	2.5	As, Pb
			42	3.5	Hold
	SSI-6-E	Horizontal delineation	18	1.5	As, STLC, TCLP, Pb
			30	2.5	As, Pb
			42	3.5	As
	SSI-6-E-A	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	As
		Vertical delineation	60	5	As
			90	7.5	Hold
			120	10	Hold
	SSI-6-E-B	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-6-E-C	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-6-E-D	Horizontal delineation	18	1.5	As
			30	2.5	Hold
			42	3.5	Hold
	SSI-6-E-F	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
		Vertical delineation	60	5	As
			90	7.5	Hold
			120	10	Hold
	SSI-6-E-G	Horizontal delineation	18	1.5	Hold
			30	2.5	Hold
			42	3.5	Hold
	SSI-6-S	Horizontal delineation	18	1.5	As, Pb
			30	2.5	As, Pb
			42	3.5	Hold
	SSI-6-S-A	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-6-S-B	Horizontal delineation	18	1.5	As
			30	2.5	Hold
			42	3.5	Hold
	SSI-6-S-C	Horizontal delineation	18	1.5	As
			30	2.5	Hold
			42	3.5	Hold

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SUPPLEMENTAL SITE INVESTIGATION
David Starr Jordan Senior High School
Los Angeles, California

Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-6 (cont.)	SSI-6-S-D	Horizontal delineation	18	1.5	As
			30	2.5	Hold
			42	3.5	Hold
	SSI-6-S-F	Horizontal delineation	18	1.5	Hold
			30	2.5	Hold
			42	3.5	Hold
	SSI-6-S-G	Horizontal delineation	18	1.5	Hold
			30	2.5	Hold
			42	3.5	Hold
	SSI-6-W	Horizontal delineation	18	1.5	As, Pb
			30	2.5	As, Pb
			42	3.5	Hold
	SSI-6N/10S	Horizontal delineation	6	0.5	As
			18	1.5	As, Pb
			36	3	As, Pb
			48	4	As, Pb
			60	5	As
	SSI-6-N/10-S-A	Horizontal delineation	6	0.5	As
			18	1.5	Hold
	SSI-6-N/10-S-B	Horizontal delineation	6	0.5	As
			18	1.5	As
	SSI-6-N/10-S-C	Horizontal delineation	6	0.5	As
			18	1.5	As
		Vertical delineation	36	3	As
			60	5	Hold
			90	7.5	Hold
	SSI-6-N/10-S-D	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
	SSI-6-N/10-S-F	Horizontal delineation	6	0.5	As
			18	1.5	Hold
	SSI-6-N/10-S-G	Horizontal delineation	6	0.5	As
			18	1.5	As
		Vertical delineation	36	3	As
			60	5	As
			90	7.5	Hold

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-7	SSI-7	Vertical delineation	30	2.5	As, STLC, TCLP
			42	3.5	As
			60	5	As
			90	7.5	Hold
			120	10	Hold
	SSI-7-A	Horizontal delineation	30	2.5	As
			60	5	Hold
	SSI-7-B	Horizontal delineation	30	2.5	As
			60	5	Hold
	SSI-7-C	Horizontal delineation	30	2.5	As
			60	5	Hold
	SSI-7-D	Horizontal delineation	30	2.5	Hold
			60	5	Hold
	SSI-7-F	Horizontal delineation	30	2.5	Hold
			60	5	Hold
	SSI-7-G	Horizontal delineation	30	2.5	Hold
			60	5	Hold
	SSI-7-E	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-7-S	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-7-S-A	Horizontal delineation	18	1.5	As
			30	2.5	Hold
	SSI-7-S-B	Horizontal delineation	18	1.5	As
			30	2.5	As
	SSI-7-S-C	Horizontal delineation	18	1.5	As
			30	2.5	Hold
	SSI-7-S-D	Horizontal delineation	18	1.5	Hold
			30	2.5	Hold
	SSI-7-S-F	Horizontal delineation	18	1.5	As
			30	2.5	Hold
	SSI-7-S-G	Horizontal delineation	18	1.5	Hold
			30	2.5	Hold
	SSI-7-W	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-7-N	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold

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David Starr Jordan Senior High School
Los Angeles, California

Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-7 (cont.)	SSI-7-N-A	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-7-N-B	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-7-N-C	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	As
	SSI-7-N-D	Horizontal delineation	18	1.5	As, STLC, TCLP
			30	2.5	As
			42	3.5	As
	SSI-7-N-F	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-7-N-G	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
JH-8	SSI-8	Vertical delineation	30	2.5	As
			42	3.5	Hold
	SSI-8-E	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	As
	SSI-8-E-A	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	As
	SSI-8-E-B	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-8-E-C	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-8-E-D	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-8-E-F	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-8-E-G	Horizontal delineation	18	1.5	Hold
			30	2.5	Hold
			42	3.5	Hold
	SSI-8-S	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-8-W	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	Hold
	SSI-8N/15S	Horizontal delineation	6	0.5	As
			18	1.5	As, Pb
			36	3	As
			48	4	As
			60	5	Hold

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Los Angeles, California

Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-10	SSI-10	Bounded by clean samples and property boundary	48	4	As
			60	5	As
	SSI-10-A	Horizontal delineation	48	4	As
			60	5	As
	SSI-10-B	Horizontal delineation	48	4	As
			60	5	Hold
	SSI-10-C	Horizontal delineation	48	4	As
			60	5	Hold
	SSI-10-D	Horizontal delineation	48	4	Hold
			60	5	Hold
JH-12	SSI-12	Bounded by property line to the north	48	4	As, STLC, TCLP
			60	5	As
			90	7.5	As
			120	10	As
			150	12.5	Hold
	SSI-12-A	Horizontal delineation	48	4	As
			60	5	Hold
			90	7.5	As
	SSI-12-B	Horizontal delineation	48	4	As
			60	5	Hold
			90	7.5	As
	SSI-12-C	Horizontal delineation	48	4	Hold
			60	5	Hold
			90	7.5	As
	SSI-12S/13S	Horizontal delineation	18	1.5	As, Pb
			36	3	As, Pb
			48	4	As, Pb
			60	5	Hold
	SSI-12-S/13-S-A	Horizontal delineation	18	1.5	As
			36	3	As, STLC, TCLP
		Vertical delineation	60	5	As
			90	7.5	Hold
			120	10	Hold
	SSI-12-S/13-S-B	Horizontal delineation	18	1.5	As
			36	3	Hold
	SSI-12-S/13-S-C	Horizontal delineation	18	1.5	As
			36	3	Hold
	SSI-12-S/13-S-D	Horizontal delineation	18	1.5	As
			36	3	As
	SSI-12-S/13-S-F	Horizontal delineation	18	1.5	Hold
			36	3	Hold
	SSI-12-S/13-S-G	Horizontal delineation	18	1.5	Hold
			36	3	Hold

TABLE 1
SOIL SAMPLING AND ANALYSIS
SUPPLEMENTAL SITE INVESTIGATION
David Starr Jordan Senior High School
Los Angeles, California

Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-13	SSI-13	Bounded by property line to the north	48	4	As
			60	5	Hold
	SSI-13-W	Horizontal delineation	18	1.5	As
			36	3	As, STLC, TCLP
		Vertical delineation	60	5	As
			90	7.5	As
			120	10	Hold
			150	12.5	Hold
	SSI-13-W-A	Horizontal delineation	18	1.5	As
			36	3	As
			60	5	As
			90	7.5	Hold
			120	10	Hold
	SSI-13-W-B	Horizontal delineation	18	1.5	As
			36	3	As, STLC, TCLP
			60	5	As, STLC, TCLP
			90	7.5	As
			120	10	As
	SSI-13-W-C	Horizontal delineation	18	1.5	As
			36	3	As
			60	5	Hold
			90	7.5	Hold
			120	10	Hold
	SSI-13-W-D	Horizontal delineation	18	1.5	Hold
			36	3	As, STLC, TCLP
			60	5	As
			90	7.5	Hold
			120	10	As
	SSI-13-W-F	Horizontal delineation	18	1.5	Hold
			36	3	As
			60	5	Hold
			90	7.5	Hold
			120	10	Hold
	SSI-13-W-G	Horizontal delineation	18	1.5	Hold
			36	3	Hold
			60	5	Hold
			90	7.5	Hold
			120	10	Hold

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-14	SSI-14	Bounded by property line to the north	48	4	As
			60	5	As
		Vertical delineation	90	7.5	As
			120	10	Hold
			150	12.5	Hold
	SSI-14-A	Horizontal delineation	48	4	As
			60	5	As, STLC, TCLP
			90	7.5	As
		Vertical delineation	120	10	As
	SSI-14-B	Horizontal delineation	48	4	As
			60	5	Hold
			90	7.5	Hold
		Vertical delineation	120	10	Hold
	SSI-14-C	Horizontal delineation	48	4	As, STLC, TCLP
			60	5	As, STLC, TCLP
			90	7.5	As, STLC, TCLP
		Vertical delineation	120	10	As
			150	12.5	As
			180	15	As
	SSI-14-D	Horizontal delineation	48	4	As, STLC, TCLP
			60	5	Hold
			90	7.5	As
		Vertical delineation	120	10	As
	SSI-14-F	Horizontal delineation	48	4	Hold
			60	5	Hold
			90	7.5	Hold
		Vertical delineation	120	10	Hold
	SSI-14-G	Horizontal delineation	48	4	As, STLC, TCLP
			60	5	Hold
			90	7.5	As, STLC, TCLP
		Vertical delineation	120	10	As
			150	12.5	As
			180	15	As
	SSI-14-E	Horizontal delineation	6	0.5	As
			18	1.5	As, Pb
			36	3	As
			48	4	As
			60	5	As
			90	7.5	As
			120	10	As
			150	12.5	Hold
	SSI-14-E-A	Horizontal delineation	6	0.5	As
			18	1.5	As
			36	3	As
			48	4	As
			60	5	As
			90	7.5	Hold
			120	10	Hold

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-14 (cont.)	SSI-14-E-B	Horizontal delineation	6	0.5	As
			18	1.5	As
			36	3	As
			48	4	As
			60	5	Hold
			90	7.5	Hold
			120	10	Hold
	SSI-14-E-C	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	As
			48	4	As
			60	5	As
			90	7.5	Hold
			120	10	As
	SSI-14-E-D	Horizontal delineation	6	0.5	As
			18	1.5	As, STLC, TCLP
			36	3	Hold
			48	4	Hold
			60	5	Hold
			90	7.5	Hold
			120	10	As
	SSI-14-S	Horizontal delineation	6	0.5	As
			18	1.5	As, Pb
			36	3	As
			48	4	As
			60	5	Hold
	SSI-14-S-A	Horizontal delineation	18	1.5	As
			36	3	As
			48	4	Hold
	SSI-14-S-B	Horizontal delineation	18	1.5	As
			36	3	As
			48	4	Hold
	SSI-14-S-C	Horizontal delineation	18	1.5	As
			36	3	As
			48	4	Hold
	SSI-14-S-D	Horizontal delineation	18	1.5	As
			36	3	Hold
			48	4	Hold
	SSI-14-S-F	Horizontal delineation	18	1.5	As
			36	3	As
			48	4	As
	SSI-14-S-G	Horizontal delineation	18	1.5	As
			36	3	As
			48	4	Hold

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-15	SSI-15	Bounded by clean sample and property boundary	6	0.5	As
			18	1.5	As, STLC, TCLP, Pb, STLC, TCLP
			36	3	As, STLC, TCLP, Pb
			48	4	As, STLC, TCLP
			60	5	As
		Vertical delineation	90	7.5	As
			120	10	As
			150	12.5	As
	SSI-15-A	Horizontal delineation	6	0.5	As
			18	1.5	As, STLC, TCLP, Pb, STLC, TCLP
			36	3	As, STLC, TCLP, Pb
			48	4	As, STLC, TCLP
			60	5	As, STLC, TCLP
			90	7.5	As, STLC, TCLP
			120	10	As
	SSI-15-B	Horizontal delineation	6	0.5	As
			18	1.5	As, Pb
			36	3	As
			48	4	As, STLC, TCLP
			60	5	As
			90	7.5	As
			120	10	Hold
	SSI-15-C	Horizontal delineation	6	0.5	As, STLC, TCLP
			18	1.5	As, STLC, TCLP, Pb
			36	3	As, STLC, TCLP
			48	4	As, STLC, TCLP
			60	5	As, STLC, TCLP
			90	7.5	As, STLC, TCLP
			120	10	As, STLC, TCLP
	SSI-15-D	Horizontal delineation	6	0.5	As
			18	1.5	Hold
			36	3	Hold
			48	4	As
			60	5	Hold
			90	7.5	Hold
			120	10	Hold
	SSI-15-F	Horizontal delineation	6	0.5	Hold
			18	1.5	As, STLC, TCLP
			36	3	Hold
			48	4	As, STLC, TCLP
			60	5	Hold
			90	7.5	Hold
			120	10	As

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-17	SSI-17-E	Bounded by property boundary and clean sample	6	0.5	As
			18	1.5	Hold
	SSI-17-W	Horizontal delineation	6	0.5	As
			24	2	As
		Vertical delineation	48	4	As
			60	5	Hold
			90	7.5	Hold
	SSI-17-W-A	Horizontal delineation	6	0.5	As
			24	2	As
			48	4	Hold
	SSI-17-W-B	Horizontal delineation	6	0.5	As
			24	2	As
			48	4	Hold
	SSI-17-W-C	Horizontal delineation	6	0.5	As
			24	2	As
			48	4	Hold
	SSI-17-W-D	Horizontal delineation	6	0.5	Hold
			24	2	Hold
			48	4	Hold
	SSI-17-W-F	Horizontal delineation	6	0.5	Hold
			24	2	Hold
			48	4	Hold
	SSI-17-W-G	Horizontal delineation	6	0.5	Hold
			24	2	Hold
			48	4	Hold
JH-18	SSI-18-E	Bounded by property boundary and clean sample	6	0.5	As
			24	2	Hold
	SSI-18-W	Horizontal delineation	6	0.5	As
			24	2	As
	SSI-18-W-A	Horizontal delineation	6	0.5	As
			24	2	As
	SSI-18-W-B	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-18-W-C	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-18-W-D	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-18-W-F	Horizontal delineation	6	0.5	Hold
			24	2	Hold
	SSI-18-W-G	Horizontal delineation	6	0.5	Hold
			24	2	Hold
JH-19	SSI-19-E	Bounded by property boundary and clean sample	18	1.5	Pb
			30	2.5	Hold
	SSI-19-W	Horizontal delineation	18	1.5	Pb
			30	2.5	Hold
JH-28	SSI-28-E	Horizontal delineation	6	0.5	Pb
			24	2	Hold
	SSI-28-N	Horizontal delineation	6	0.5	Pb
			24	2	Hold
	SSI-28W/29E	Horizontal delineation	6	0.5	Pb
			24	2	Hold

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-29	SSI-29-W	Horizontal delineation	6	0.5	Pb
			24	2	Hold
	SSI-29-N	Horizontal delineation	6	0.5	Pb
			24	2	Hold
JH-30	SSI-30-S	Horizontal delineation	6	0.5	As, STLC, TCLP
			24	2	As, STLC, TCLP
		Vertical delineation	36	3	As, STLC, TCLP
			60	5	As
	SSI-30-S-A	Horizontal delineation	6	0.5	As
			24	2	Hold
			36	3	As
	SSI-30-S-B	Horizontal delineation	6	0.5	As, STLC, TCLP
			24	2	As, STLC, TCLP
			36	3	As, STLC, TCLP
		Vertical delineation	60	5	As
			90	7.5	As
	SSI-30-S-C	Horizontal delineation	6	0.5	As
			24	2	Hold
			36	3	As
	SSI-30-S-D	Horizontal delineation	6	0.5	As
			24	2	Hold
			36	3	As
	SSI-30-W	Horizontal delineation	6	0.5	As
			24	2	As
	SSI-30-W-A	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-30-W-B	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-30-W-C	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-30-W-D	Horizontal delineation	6	0.5	Hold
			24	2	Hold
	SSI-30-W-F	Horizontal delineation	6	0.5	Hold
			24	2	Hold
	SSI-30-W-G	Horizontal delineation	6	0.5	Hold
			24	2	Hold
	SSI-30-N	Horizontal delineation	6	0.5	As
			24	2	As

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-30 (cont.)	SSI-30-N-A	Horizontal delineation	6	0.5	As
			24	2	As
	SSI-30-N-B	Horizontal delineation	6	0.5	As
			24	2	As
	SSI-30-N-C	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-30-N-D	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-30-N-F	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-30-N-G	Horizontal delineation	6	0.5	Hold
			24	2	Hold
JH-31	SSI-31-E	Horizontal delineation	6	0.5	As
			24	2	As
	SSI-31-E-A	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-31-E-B	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-31-E-C	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-31-E-D	Horizontal delineation	6	0.5	Hold
			24	2	Hold
	SSI-31-E-F	Horizontal delineation	6	0.5	Hold
			24	2	Hold
	SSI-31-S	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-31-W	Horizontal delineation	6	0.5	As
			24	2	Hold

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
JH-31 (cont.)	SSI-31-N	Horizontal delineation	6	0.5	As, STLC, TCLP
			24	2	As
	SSI-31-N-A	Horizontal delineation	6	0.5	As, STLC, TCLP
			24	2	As
	SSI-31-N-B	Horizontal delineation	6	0.5	As, STLC, TCLP
			24	2	As
	SSI-31-N-C	Horizontal delineation	6	0.5	As
			24	2	Hold
	SSI-31-N-D	Horizontal delineation	6	0.5	As
			24	2	As
	SSI-31-N-F	Horizontal delineation	6	0.5	As, STLC, TCLP
			24	2	As
	SSI-31-N-G	Horizontal delineation	6	0.5	Hold
			24	2	Hold
N/A	SSI-32	Perimeter delineation	6	0.5	As, Pb, STLC, TCLP
			18	1.5	As, Pb, STLC, TCLP
			36	3	As, Pb
			48	4	Hold
			60	5	Hold
	SSI-32-A	Horizontal delineation	6	0.5	As, Pb, STLC, TCLP
			18	1.5	As, Pb
			36	3	Hold
	SSI-32-B	Horizontal delineation	6	0.5	As, STLC, TCLP, Pb, STLC, TCLP
			18	1.5	As, STLC, TCLP, Pb, STLC, TCLP
			36	3	As, Pb
	SSI-32-C	Horizontal delineation	6	0.5	As, Pb
			18	1.5	As
			36	3	Hold
	SSI-32-D	Horizontal delineation	6	0.5	As, Pb
			18	1.5	As
			36	3	As
	SSI-32-F	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
	SSI-32-E	Spatial coverage	6	0.5	As
			18	1.5	Hold
			36	3	Hold

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
N/A	SSI-33	Perimeter delineation	6	0.5	As, Pb
			18	1.5	As, Pb, STLC, TCLP
			36	3	As, Pb
			48	4	Hold
			60	5	Hold
	SSI-33-S	Spatial coverage	6	0.5	As, Pb
			18	1.5	As, Pb
			36	3	Hold
N/A	SSI-34	Perimeter delineation	6	0.5	As, Pb
			18	1.5	As, Pb, STLC, TCLP
			36	3	As, Pb
			48	4	Hold
			60	5	Hold
			120	10	TPH
			180	15	TPH
			240	20	TPH
			300	25	TPH
			360	30	Hold
	SSI-34-A	Horizontal delineation	6	0.5	Pb, STLC, TCLP
			18	1.5	Pb, STLC, TCLP
			36	3	Pb
	SSI-34-B	Horizontal delineation	6	0.5	Pb, STLC, TCLP
			18	1.5	Pb
			36	3	Hold
	SSI-34-C	Horizontal delineation	6	0.5	Pb, STLC, TCLP
			18	1.5	Pb
			36	3	Hold
	SSI-34-D	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
N/A	SSI-35	Perimeter delineation	6	0.5	As, Pb
			18	1.5	As, Pb, STLC, TCLP
			36	3	As, Pb
			48	4	Hold
			60	5	Hold

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
N/A	SSI-36	Perimeter delineation	6	0.5	As, Pb
			18	1.5	As, Pb
			36	3	As, Pb
			48	4	Hold
			60	5	TPH
			120	10	TPH
			180	15	TPH
			240	20	TPH
			300	25	TPH
			360	30	TPH
			420	35	Hold
			480	40	Hold
N/A	SSI-37	Perimeter delineation	6	0.5	As, Pb
			18	1.5	As, Pb
			36	3	As, Pb
			48	4	Hold
			60	5	Hold
N/A	SSI-38	Perimeter delineation	6	0.5	As, Pb, STLC, TCLP
			18	1.5	As, Pb, STLC, TCLP
			36	3	As, Pb
			48	4	Hold
			60	5	Hold
	SSI-38-A	Horizontal delineation	6	0.5	As, Pb, STLC, TCLP
			18	1.5	Pb
			36	3	Hold
	SSI-38-B	Horizontal delineation	6	0.5	As, Pb
			18	1.5	Pb
			36	3	Hold
	SSI-38-C	Horizontal delineation	6	0.5	As, Pb, STLC, TCLP
			18	1.5	Pb
			36	3	Hold
	SSI-38-D	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
	SSI-38-F	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
	SSI-38-G	Horizontal delineation	6	0.5	Pb, STLC, TCLP
			18	1.5	Pb
			36	3	Hold
N/A	SSI-39	Perimeter delineation	6	0.5	As, Pb
			18	1.5	As, Pb
			36	3	As, Pb
			48	4	Hold
			60	5	Hold

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
N/A	SSI-40	Spatial coverage	6	0.5	As, Pb, STLC, TCLP
			18	1.5	As, Pb
			36	3	As, Pb
			48	4	Hold
			60	5	Hold
	SSI-40-A	Horizontal delineation	6	0.5	Pb
			18	1.5	Hold
			36	3	Hold
	SSI-40-B	Horizontal delineation	6	0.5	Pb
			18	1.5	Hold
			36	3	Hold
	SSI-40-C	Horizontal delineation	6	0.5	Pb
			18	1.5	Hold
			36	3	Hold
	SSI-40-D	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
	SSI-40-F	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
	SSI-40-G	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
N/A	SSI-41	Spatial coverage	6	0.5	As, Pb
			18	1.5	As, Pb
			36	3	As, Pb
			48	4	Hold
			60	5	Hold

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Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
N/A	SSI-42	Perimeter delineation	6	0.5	As, Pb, STLC, TCLP
			18	1.5	As, Pb
			36	3	As, Pb
	SSI-42-A	Horizontal delineation	6	0.5	As
			18	1.5	As
			36	3	Hold
	SSI-42-B	Horizontal delineation	6	0.5	As
			18	1.5	Hold
			36	3	Hold
	SSI-42-C	Horizontal delineation	6	0.5	As
			18	1.5	Hold
			36	3	Hold
	SSI-42-D	Horizontal delineation	6	0.5	As
			18	1.5	Hold
			36	3	Hold
	SSI-42-F	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
	SSI-42-G	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
N/A	SSI-43	Perimeter delineation	6	0.5	As, Pb
			18	1.5	As, Pb
			36	3	As, Pb
	SSI-43-A	Horizontal delineation	6	0.5	As
			18	1.5	As
			36	3	As
			48	4	Hold
	SSI-43-B	Horizontal delineation	6	0.5	As
			18	1.5	As, STLC, TCLP
			36	3	As
			48	4	Hold
	SSI-43-C	Horizontal delineation	6	0.5	As
			18	1.5	As
			36	3	As
			48	4	Hold
	SSI-43-D	Horizontal delineation	6	0.5	As
			18	1.5	Hold
			36	3	Hold
			48	4	Hold
	SSI-43-F	Horizontal delineation	6	0.5	Hold
			18	1.5	As
			36	3	Hold
			48	4	Hold
	SSI-43-G	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
			48	4	Hold
N/A	SSI-44	Perimeter delineation	6	0.5	As, Pb
			18	1.5	As, Pb
			36	3	As, Pb

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N/A	SSI-45	Perimeter delineation	6	0.5	As, Pb
			18	1.5	As, Pb, STLC, TCLP
			36	3	As, Pb
	SSI-45-A	Horizontal delineation	6	0.5	Pb, STLC, TCLP
			18	1.5	Pb, STLC, TCLP
			36	3	Hold
	SSI-45-B	Horizontal delineation	6	0.5	Pb, STLC, TCLP
			18	1.5	Pb
			36	3	Hold
	SSI-45-C	Horizontal delineation	6	0.5	Pb
			18	1.5	As, Pb
			36	3	Pb, STLC, TCLP
		Vertical delineation	60	5	Pb
			90	7.5	Hold
	SSI-45-D	Horizontal delineation	6	0.5	Pb, STLC, TCLP
			18	1.5	Pb
			36	3	Hold
	SSI-45-F	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
			36	3	Hold
	SSI-45-G	Horizontal delineation	6	0.5	As
			18	1.5	As, Pb, STLC, TCLP
			36	3	As, Pb
N/A	SSI-46	Perimeter delineation	6	0.5	As, Pb
			18	1.5	As, Pb
			36	3	As, Pb
	SSI-46-A	Horizontal delineation	6	0.5	As
			18	1.5	As
	SSI-46-B	Horizontal delineation	6	0.5	As
			18	1.5	Hold
	SSI-46-C	Horizontal delineation	6	0.5	As
			18	1.5	As
	SSI-46-D	Horizontal delineation	6	0.5	As
			18	1.5	Hold
	SSI-46-F	Horizontal delineation	6	0.5	Hold
			18	1.5	Hold
	SSI-46-G	Horizontal delineation	6	0.5	As
			18	1.5	Hold

TABLE 1
SOIL SAMPLING AND ANALYSIS
SUPPLEMENTAL SITE INVESTIGATION
David Starr Jordan Senior High School
Los Angeles, California

Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
N/A	SSI-47	Spatial coverage	120	10	TPH
			180	15	TPH
			240	20	TPH
			300	25	TPH
			360	30	Hold
N/A	SSI-48	Spatial coverage	120	10	TPH
			180	15	TPH
			240	20	TPH
			300	25	TPH
			360	30	Hold
N/A	SSI-49	Spatial coverage	120	10	TPH
			180	15	TPH
			240	20	TPH
			300	25	TPH
			360	30	Hold
N/A	SSI-50	Spatial coverage	6	0.5	As, Pb
			18	1.5	Hold
			60	5	Hold
			120	10	Hold
			180	15	TPH
			240	20	TPH
			300	25	Hold
N/A	SSI-51	Spatial coverage	6	0.5	As, Pb
			18	1.5	Hold
			60	5	Hold
			120	10	Hold
			180	15	TPH
			240	20	TPH
			300	25	Hold
N/A	SSI-52	Horizontal delineation	6	0.5	As, Pb
			18	1.5	Hold
			60	5	Hold
N/A	SSI-53	Horizontal delineation	6	0.5	As, Pb
			18	1.5	Hold
			36	3	Hold
N/A	SSI-54	Horizontal delineation	6	0.5	As
			24	2	Hold
			42	3.5	Hold
	SSI-55	Horizontal delineation	6	0.5	As
			24	2	Hold
			42	3.5	Hold
N/A	SSI-56	Horizontal delineation	6	0.5	As, Pb, STLC, TCLP
			24	2	As
			42	3.5	Hold
N/A	SSI-57	Horizontal delineation	18	1.5	As
			30	2.5	As
			42	3.5	As
N/A	SSI-58	Horizontal delineation	18	1.5	As
			42	3.5	Hold
			60	5	Hold

TABLE 1
SOIL SAMPLING AND ANALYSIS
SUPPLEMENTAL SITE INVESTIGATION
David Starr Jordan Senior High School
Los Angeles, California

Previous Boring Location	Supplemental Sampling Location ID	Sampling Rationale / Comments	Sample Depth (inches bgs)	Sample Depth (feet bgs)	Analytical Program
N/A	SSI-59	Horizontal delineation	18	1.5	As
			42	3.5	As
			60	5	Hold
	SSI-60	Horizontal delineation	18	1.5	As
			42	3.5	Hold
			60	5	Hold
N/A	SSI-61	Horizontal delineation	18	1.5	As
			60	5	Hold
			90	7.5	Hold
N/A	SSI-62	Horizontal delineation	18	1.5	As
			60	5	Hold
			90	7.5	Hold
N/A	SSI-63	Horizontal delineation	6	0.5	As
			18	1.5	As
			36	3	Hold
N/A	SSI-64	Horizontal delineation	6	0.5	As, Pb
			36	3	As, Pb
			60	5	Hold

N/A = Not applicable

TABLE 2
ANALYTICAL RESULTS FOR LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	**ft bgs**	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
JH-2	SSI-2-30"	6/13/18	2.5	4.47			--		
	SSI-2-E-18"	6/13/18	1.5	56.1	2.32	ND<0.50	--	--	--
	SSI-2-E-30"	6/13/18	2.5	3.93			--		
	SSI-2-S-18"	6/13/18	1.5	28.5			--		
	SSI-2-S-30"	6/13/18	2.5	4.28			--		
	SSI-2-W-18"	6/13/18	1.5	15.2			--		
	SSI-2-W-30"	6/13/18	2.5	5.20			--		
	SSI-2-N/4-S-18"	6/13/18	1.5	20.4			3.42		
	SSI-2-N/4-S-30"	6/13/18	2.5	4.67			2.71		
JH-3	SSI-3-30"	6/14/18	0.5	--			3.61		
	DUP22	6/14/18	1.5	--			3.62		
	SSI-3-E/4-W-18"	6/13/18	1.5	32.4			11.0		
	DUP14	6/13/18	1.5	41.7			10.9		
	SSI-3-E/4-W-30"	6/13/18	2.5	6.40			3.80		
	SSI-3-S-18"	6/14/18	1.5	--			4.15		
	SSI-3-S-30"	6/14/18	2.5	--			2.62		
	SSI-3-W-18"	6/12/18	1.5	--			3.71		
	SSI-3-W-30"	6/12/18	2.5	--			1.09		
	SSI-3-N-18"	6/14/18	1.5	--			11.3		
	SSI-3-N-30"	6/14/18	2.5	--			30.7		
	SSI-3-N-42"	6/14/18	3.5	--			2.58		
	SSI-3-N-A-18"	7/17/18	1.5	--			10.5		
	SSI-3-N-A-30"	7/17/18	2.5	--			3.45		
	SSI-3-N-B-18"	7/17/18	1.5	--			10.5		
	SSI-3-N-B-30"	7/17/18	2.5	--			16.2		
	SSI-3-N-B-42"	7/17/18	3.5	--			2.59		
	SSI-3-N-C-18"	7/17/18	1.5	--			22.7		
	DUP42	7/17/18	1.5	--			11.5		
	SSI-3-N-C-30"	7/17/18	2.5	--			14.5		
	SSI-3-N-C-42"	7/17/18	3.5	--			1.55		
	SSI-3-N-F-30"	7/17/18	2.5	--			12.9		
	SSI-3-N-F-42"	7/17/18	3.5	--	--	--	100	1.30	ND<0.50
	SSI-3-N-F-60"	8/10/18	5.0	--			2.58		
	SSI-3-N-G-18"	7/17/18	1.5	--			16.2		
	SSI-3-N-G-30"	7/17/18	2.5	--			6.59		

TABLE 2
ANALYTICAL RESULTS FOR LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	**ft bgs**	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
JH-4	SSI-4-30"	6/13/18	2.5	7.39			3.94		
	DUP12	6/13/18	2.5	6.43			3.85		
	SSI-4-N-18"	6/13/18	1.5	40.6			19.2		
	SSI-4-N-30"	6/13/18	2.5	4.84			3.16		
	SSI-4-N-A-18"	7/17/18	1.5	--			12.2		
	SSI-4-N-A-30"	7/17/18	2.5	--			52.9	ND<0.50	ND<0.50
	SSI-4-N-A-60"	8/10/18	5.0	--			2.70		
	SSI-4-N-B-18"	7/17/18	1.5	--			7.59		
	SSI-4-N-C-18"	7/17/18	1.5	--			10.0		
	SSI-4-N-D-18"	7/17/18	1.5	--			30.4		
	SSI-4-N-D-30"	7/17/18	2.5	--			17.9		
	SSI-4-N-D-60"	8/10/18	5.0	--			2.82		
	SSI-4-E/5-W-6"	6/13/18	0.5	28.8			8.04		
	DUP11	6/13/18	0.5	36.9			7.70		
	SSI-4-E/5-W-18"	6/13/18	1.5	20.4			2.49		
	SSI-4-E/5-W-30"	6/13/18	2.5	5.62			4.33		
JH-5	SSI-5-E-1"	6/13/18	0	30.1			9.38		
	SSI-5-E-6"	6/13/18	0.5	10.5			10.1		
	SSI-5-S-1"	6/13/18	0	20.4			3.24		
	SSI-5-S-6"	6/13/18	0.5	50.3	1.88	ND<0.50	3.34	--	--
	SSI-5-N-1"	6/13/18	0	47.8			14.0		
	SSI-5-N-6"	6/13/18	0.5	42.2			42.8		
	SSI-5-N-24"	6/13/18	2.0	--			2.98		
	SSI-5-N-A-6"	7/12/18	0.5	--			17.3		
	SSI-5-N-A-18"	7/12/18	1.5	--			2.12		
	SSI-5-N-B-6"	7/12/18	0.5	--	--	--	93.3	3.71	1.01
	SSI-5-N-B-18"	7/12/18	1.5	--			2.18		
	SSI-5-N-C-6"	7/13/18	0.5	--			26.2		
	SSI-5-N-C-18"	7/13/18	1.5	--			6.46		
	SSI-5-N-D-6"	7/12/18	0.5	--			7.78		
	SSI-5-N-F-6"	7/12/18	0.5	--			7.20		
	SSI-5-N-G-6"	7/13/18	0.5	--			19.8		
	SSI-5-N-G-18"	7/13/18	1.5	--			2.32		

TABLE 2
ANALYTICAL RESULTS FOR LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	**ft bgs**	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
JH-6	SSI-6-30"	6/14/18	2.5	2.11			3.28		
	DUP18	6/14/18	2.5	20.3			4.38		
	SSI-6-E-18"	6/14/18	1.5	75.5	1.87	ND<0.50	27.8	--	--
	SSI-6-E-30"	6/14/18	2.5	34.2			25.4		
	SSI-6-E-42"	6/14/18	3.5	--			3.99		
	SSI-6-E-A-18"	7/12/18	1.5	--			9.47		
	DUP24	7/12/18	1.5	--			7.46		
	SSI-6-E-A-30"	7/12/18	2.5	--			13.9		
	SSI-6-E-A-42"	7/12/18	3.5	--			46.5		
	SSI-6-E-A-60"	8/10/18	5.0	--			2.72		
	SSI-6-E-B-18"	7/12/18	1.5	--	--	--	51.4	2.77	--
	SSI-6-E-B-30"	7/12/18	2.5	--			5.53		
	SSI-6-E-C-18"	7/12/18	1.5	--			6.63		
	SSI-6-E-C-30"	7/12/18	2.5	--			4.71		
	SSI-6-E-D-18"	7/12/18	1.5	--			3.78		
	SSI-6-E-F-18"	7/12/18	1.5	--			12.9		
	SSI-6-E-F-30"	7/12/18	2.5	--			31.4		
	SSI-6-E-F-60"	8/10/18	5.0	--			0.934		
	SSI-6-S-18"	6/14/18	1.5	7.42			13.1		
	SSI-6-S-30"	6/14/18	2.5	4.18			4.26		
	SSI-6-S-A-18"	7/12/18	1.5	--			24.7		
	SSI-6-S-A-30"	7/12/18	2.5	--			2.88		
	SSI-6-S-B-18"	7/12/18	1.5	--			8.92		
	SSI-6-S-C-18"	7/12/18	1.5	--			8.14		
	SSI-6-S-D-18"	7/12/18	1.5	--			9.82		
	SSI-6-W-18"	6/14/18	1.5	12.0			9.01		
	SSI-6-W-30"	6/14/18	2.5	5.69			2.99		
	SSI-6-N/10-S-6"	6/14/18	0.5	--			12.3		
	SSI-6-N/10-S-18"	6/14/18	1.5	5.89			3.83		
	SSI-6-N/10-S-36"	6/14/18	3.0	5.68			4.04		
	SSI-6-N/10-S-48"	6/14/18	4.0	7.05			6.03		
	SSI-6-N/10-S-60"	6/14/18	5.0	--			1.77		
	SSI-6-N/10-S-A-6"	7/12/18	0.5	--			3.60		
	SSI-6-N/10-S-B-6"	7/12/18	0.5	--			12.5		
	SSI-6-N/10-S-B-18"	7/12/18	1.5	--			4.43		
	SSI-6-N/10-S-C-6"	7/12/18	0.5	--			18.3		
	SSI-6-N/10-S-C-18"	7/12/18	1.5	--			47.7		
	SSI-6-N/10-S-C-36"	8/10/18	3.0	--			4.05		
	SSI-6-N/10-S-F-6"	7/12/18	0.5	--			7.10		
	SSI-6-N/10-S-G-6"	7/12/18	0.5	--			23.1		
	SSI-6-N/10-S-G-18"	7/12/18	1.5	--			25.1		
	SSI-6-N/10-S-G-36"	8/10/18	3.0	--			30.9		
	DUP60	8/10/18	3.0	--			23.4		
	SSI-6-N/10-S-G-60"	8/10/18	5.0	--			2.42		

TABLE 2
ANALYTICAL RESULTS FOR LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	**ft bgs**	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
JH-7	SSI-7-30"	6/13/18	2.5	--			55.6	1.28	ND<0.50
	SSI-7-42"	6/13/18	3.5	--			29.8		
	SSI-7-60"	7/17/18	5.0	--			2.62		
	DUP44	7/17/18	5.0	--			2.16		
	SSI-7-A-30"	7/17/18	2.5	--			4.82		
	SSI-7-B-30"	7/17/18	2.5	--			4.33		
	SSI-7-C-30"	7/17/18	2.5	--			4.18		
	SSI-7-E-18"	6/14/18	1.5	--			7.80		
	SSI-7-E-30"	6/14/18	2.5	--			4.14		
	SSI-7-S-18"	6/13/18	1.5	--			19.9		
	SSI-7-S-30"	6/13/18	2.5	--			11.1		
	SSI-7-S-A-18"	7/17/18	1.5	--			8.72		
	SSI-7-S-B-18"	7/17/18	1.5	--			12.4		
	SSI-7-S-B-30"	7/17/18	2.5	--			4.86		
	SSI-7-S-C-18"	7/17/18	1.5	--			6.54		
	SSI-7-S-F-18"	7/17/18	1.5	--			8.30		
	SSI-7-W-18"	6/13/18	1.5	--			7.78		
	SSI-7-W-30"	6/13/18	2.5	--			3.80		
	SSI-7-N-18"	6/13/18	1.5	--			29.7		
	SSI-7-N-30"	6/13/18	2.5	--			3.84		
	SSI-7-N-A-18"	7/13/18	1.5	--			12.0		
	SSI-7-N-A-30"	7/13/18	2.5	--			4.80		
	SSI-7-N-B-18"	7/13/18	1.5	--			38.7		
	SSI-7-N-B-30"	7/13/18	2.5	--			10.6		
	SSI-7-N-C-18"	7/13/18	1.5	--			41.4		
	SSI-7-N-C-30"	7/13/18	2.5	--			13.4		
	SSI-7-N-C-42'	7/13/18	3.5	--			3.64		
	SSI-7-N-D-18"	7/13/18	1.5	--	--	--	105	6.37	1.42
	SSI-7-N-D-30"	7/13/18	2.5	--			31.6		
	SSI-7-N-D-42"	7/13/18	3.5	--			5.23		
	SSI-7-N-F-18"	7/13/18	1.5	--			24.8		
	SSI-7-N-F-30"	7/13/18	2.5	--			4.13		
	SSI-7-N-G-18"	7/13/18	1.5	--			15.2		
	SSI-7-N-G-30"	7/13/18	2.5	--			11.7		

TABLE 2
ANALYTICAL RESULTS FOR LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	**ft bgs**	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
JH-8	SSI-8-30"	6/14/18	2.5	--			4.76		
	DUP20	6/14/18	2.5	--			4.11		
	SSI-8-E-18"	6/13/18	1.5	--			10.5		
	SSI-8-E-30"	6/13/18	2.5	--			12.6		
	SSI-8-E-42"	6/13/18	3.5	--			4.12		
	SSI-8-E-A-18"	7/17/18	1.5	--			16.6		
	SSI-8-E-A-30"	7/17/18	2.5	--			24.1		
	SSI-8-E-A-42"	7/17/18	3.5	--			3.74		
	SSI-8-E-B-18"	7/17/18	1.5	--			18.9		
	DUP40	7/17/18	1.5	--			13.4		
	SSI-8-E-B-30"	7/17/18	2.5	--			5.20		
	SSI-8-E-C-18"	7/17/18	1.5	--			10.8		
	SSI-8-E-C-30"	7/17/18	2.5	--			4.87		
	SSI-8-E-D-18"	7/17/18	1.5	--			13.5		
	SSI-8-E-D-30"	7/17/18	2.5	--			6.72		
	SSI-8-E-F-18"	7/17/18	1.5	--			22.9		
	SSI-8-E-F-30"	7/17/18	2.5	--			7.4		
	SSI-8-S-18"	6/14/18	1.5	--			5.94		
	SSI-8-S-30"	6/14/18	2.5	--			3.07		
	SSI-8-W-18"	6/12/18	1.5	--			5.47		
	SSI-8-W-30"	6/12/18	2.5	--			3.06		
	SSI-8-N/15-S-6"	6/13/18	0.5	--			9.58		
	SSI-8-N/15-S-18"	6/13/18	1.5	22.3			10.5		
	SSI-8-N/15-S-36"	6/13/18	3.0	--			4.00		
	SSI-8-N/15-S-48"	6/13/18	4.0	--			1.76		
JH-10	SSI-10-48"	6/11/18	4.0	--			12.5		
	SSI-10-60"	6/11/18	5.0	--			6.22		
	SSI-10-A-48"	7/12/18	4.0	--			32.3		
	SSI-10-A-60"	7/12/18	5.0	--			26.9		
	SSI-10-B-48"	7/12/18	4.0	--			3.59		
	SSI-10-C-48"	7/12/18	4.0	--			1.63		

TABLE 2
ANALYTICAL RESULTS FOR LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	**ft bgs**	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
JH-12	SSI-12-48"	6/11/18	4.0	--	--	--	67.7	2.72	ND<0.50
	DUP1	6/11/18	4.0	--			57.9		
	SSI-12-60"	6/11/18	5.0	--			36.7		
	DUP2	6/11/18	5.0	--			58.3		
	SSI-12-90"	7/13/18	7.5	--			14.6		
	SSI-12-120"	7/13/18	10.0	--			2.85		
	SSI-12-A-48"	7/13/18	4.0	--			2.67		
	SSI-12-A-90"	7/13/18	7.5	--			2.84		
	SSI-12-B-48"	7/13/18	4.0	--			8.66		
	SSI-12-B-90"	7/13/18	7.5	--			33.2		
	SSI-12-B-120"	7/13/18	10.0	--			1.28		
	SSI-12-C-90"	7/13/18	7.5	--			3.66		
	SSI-12-S/13-S-18"	6/14/18	1.5	13.8			15.7		
	SSI-12-S/13-S-36"	6/14/18	3.0	4.75	--	--	2.97		
	SSI-12-S/13-S-48"	6/14/18	4.0	2.29			1.26		
	SSI-12-S/13-S-A-18"	7/13/18	1.5	--			25.9		
	DUP32	7/13/18	1.5	--			48.8		
	SSI-12-S/13-S-A-36"	7/13/18	3.0	--			57.8	0.973J	ND<0.50
	SSI-12-S/13-S-A-60"	8/10/18	5.0	--			1.38		
	SSI-12-S/13-S-B-18"	7/13/18	1.5	--			4.25		
	SSI-12-S/13-S-C-18"	7/13/18	1.5	--			3.44		
	SSI-12-S/13-S-D-18"	7/13/18	1.5	--			13.6		
	SSI-12-S/13-S-D-36"	7/13/18	3.0	--			4.44		
JH-13	SSI-13-48"	6/11/18	4.0	--			11.3		
	SSI-13-W-18"	6/11/18	1.5	--			3.22		
	SSI-13-W-36"	6/11/18	3.0	--	--	--	96.5	4.34	0.724J
	SSI-13-W-60"	6/11/18	5.0	--			94.2		
	SSI-13-W-90"	7/13/18	7.5	--			1.54		
	SSI-13-W-A-18"	7/13/18	1.5	--			3.39		
	SSI-13-W-A-36"	7/13/18	3.0	--			38.9		
	SSI-13-W-A-60"	7/13/18	5.0	--			6.71		
	SSI-13-W-B-18"	7/13/18	1.5	--			3.45		
	SSI-13-W-B-36"	7/13/18	3.0	--	--	--	80.8	3.59	0.952J
	SSI-13-W-B-60"	7/13/18	5.0	--	--	--	55.8	1.09	ND<0.50
	SSI-13-W-B-90"	7/13/18	7.5	--			16.9		
	SSI-13-W-B-120"	7/13/18	10.0	--			1.69		
	SSI-13-W-C-18"	7/13/18	1.5	--			3.25		
	SSI-13-W-C-36"	7/13/18	3.0	--			8.11		
	SSI-13-W-D-36"	7/13/18	3.0	--	--	--	127	2.38	ND<0.50
	SSI-13-W-D-60"	7/13/18	5.0	--			44.2		
	SSI-13-W-D-120"	7/13/18	10.0				1.36		
	SSI-13-W-F-36"	7/13/18	3.0	--			6.30		

TABLE 2
ANALYTICAL RESULTS FOR LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	ft bgs	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
JH-14	SSI-14-48"	6/11/18	4.0	--			46.1		
	SSI-14-60"	6/11/18	5.0	--			50.0		
	SSI-14-90"	7/16/18	7.5	--			1.03		
	SSI-14-A-48"	7/16/18	4.0	--	--	--	143	6.31	1.05
	DUP36	7/16/18	4.0	--			34.5		
	SSI-14-A-60"	7/16/18	5.0	--	--	--	59.0	2.16	ND<0.50
	SSI-14-A-90"	7/16/18	7.5	--			25.0		
	SSI-14-A-120"	7/16/18	10.0	--			3.39		
	SSI-14-B-48"	7/16/18	4.0	--			5.54		
	SSI-14-C-48"	7/16/18	4.0	--	--	--	94.2	3.39	ND<0.50
	SSI-14-C-60"	7/16/18	5.0	--	--	--	81.8	2.57	ND<0.50
	SSI-14-C-90"	7/16/18	7.5	--	--	--	61.8	2.05	ND<0.50
	SSI-14-C-120"	7/16/18	10.0	--			36.9		
	SSI-14-C-150"	8/10/18	12.5	--			33.1		
	SSI-14-C-180"	8/10/18	15.0	--			21.1		
	SSI-14-D-48"	7/16/18	4.0	--	--	--	78.9	3.94	ND<0.50
	SSI-14-D-90"	7/16/18	7.5	--			11.9		
	SSI-14-D-120"	7/16/18	10.0	--			5.11		
	SSI-14-G-48"	7/16/18	4.0	--	--	--	66.2	2.83	ND<0.50
	SSI-14-G-90"	7/16/18	7.5	--	--	--	56.9	0.917	ND<0.50
	SSI-14-G-120"	7/16/18	10.0	--			14.1		
	SSI-14-G-150"	8/10/18	12.5	--			12.6		
	SSI-14-G-180"	8/10/18	15.0	--			6.66		
	SSI-14-E-6"	6/11/18	0.5	--			11.2		
	SSI-14-E-18"	6/11/18	1.5	38.8			8.75		
	SSI-14-E-36"	6/11/18	3.0	--			12.1		
	SSI-14-E-48"	6/11/18	4.0	--			23.1		
	SSI-14-E-60"	6/11/18	5.0	--			50.2		
	SSI-14-E-90"	7/16/18	7.5	--			15.2		
	SSI-14-E-120"	7/16/18	10.0	--			2.89		
	SSI-14-E-A-6"	7/16/18	0.5	--			2.71		
	SSI-14-E-A-18"	7/16/18	1.5	--			27.3		
	SSI-14-E-A-36"	7/16/18	3.0	--			49.5		
	SSI-14-E-A-48"	7/16/18	4.0	--			44.6		
	SSI-14-E-A-60"	7/16/18	5.0	--			8.07		
	SSI-14-E-B-6"	7/16/18	0.5	--			12.9		
	SSI-14-E-B-18"	7/16/18	1.5	--			9.01		
	SSI-14-E-B-36"	7/16/18	3.0	--			5.99		
	SSI-14-E-B-48"	7/16/18	4.0	--			11.5		
	SSI-14-E-C-36"	7/16/18	3.0	--			30.3		
	SSI-14-E-C-48"	7/16/18	4.0	--			13.2		
	SSI-14-E-C-60"	7/16/18	5.0	--			16.5		
	SSI-14-E-C-120"	7/16/18	10.0	--			2.73		
	SSI-14-E-D-6"	7/16/18	0.5	--			36		
	SSI-14-E-D-18"	7/16/18	1.5	--			52.5	2.76	0.705J
	SSI-14-E-D-120"	7/16/18	10.0	--			2.04		
	SSI-14-S-6"	6/13/18	0.5	--			8.78		
	SSI-14-S-18"	6/13/18	1.5	31.3			12.1		
	DUP15	6/13/18	1.5	32.8			10.6		
	SSI-14-S-36"	6/13/18	3.0	--			5.30		
	SSI-14-S-48"	6/13/18	4.0	--			1.89		
	SSI-14-S-A-18"	7/16/18	1.5	--			22.9		
	DUP38	7/16/18	1.5	--			22.8		
	SSI-14-S-A-36"	7/16/18	3.0	--			4.5		
	SSI-14-S-B-18"	7/16/18	1.5	--			13.6		
	SSI-14-S-B-36"	7/16/18	3.0	--			5.96		

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Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	ft bgs	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
JH-14 (cont.)	SSI-14-S-C-18"	7/16/18	1.5	--			12.0		
	SSI-14-S-C-36"	7/16/18	3.0	--			7.07		
	SSI-14-S-D-18"	7/16/18	1.5	--			9.99		
	SSI-14-S-F-18"	7/16/18	1.5	--	--	--	57.1	0.798	ND<0.50
	SSI-14-S-F-36"	7/16/18	3.0	--			18.2		
	SSI-14-S-F-48"	7/16/18	4.0	--			2.38		
	SSI-14-S-G-18"	7/16/18	1.5	--			12.9		
	SSI-14-S-G-36"	7/16/18	3.0	--			7.49		
JH-15	SSI-15-6"	6/11/18	0.5	--			15.5		
	SSI-15-18"	6/11/18	1.5	252	4.09	ND<0.50	90.2	8.55	1.47
	SSI-15-36"	6/11/18	3.0	10.3	--	--	144	6.01	0.660J
	SSI-15-48"	6/11/18	4.0	--	--	--	54.8	1.75	ND<0.50
	SSI-15-60"	6/11/18	5.0	--			50.7		
	SSI-15-90"	7/16/18	7.5	--			44.5		
	SSI-15-120"	7/16/18	10.0	--			17.7		
	SSI-15-150"	7/16/18	12.5	--			6.18		
	SSI-15-A-6"	7/16/18	0.5	--			42.5		
	SSI-15-A-18"	7/16/18	1.5	195	8.32	ND<0.50	118	10.6	2.48
	SSI-15-A-36"	7/16/18	3.0	18.3	--	--	109	5.52	ND<0.50
	SSI-15-A-48"	7/16/18	4.0	--	--	--	57.8	2.12	ND<0.50
	SSI-15-A-60"	7/16/18	5.0	--	--	--	63.5	2.09	ND<0.50
	SSI-15-A-90"	7/16/18	7.5	--	--	--	53.5	2.04	ND<0.50
	SSI-15-A-120"	7/16/18	10.0	--			20.1		
	SSI-15-B-6"	7/16/18	0.5	--			32.4		
	SSI-15-B-18"	7/16/18	1.5	6.42			8.86		
	SSI-15-B-36"	7/16/18	3.0	--			11.7		
	SSI-15-B-48"	7/16/18	4.0	--	--	--	54.9	1.98	ND<0.50
	SSI-15-B-60"	7/16/18	5.0	--			41.4		
	SSI-15-B-90"	7/16/18	7.5	--			5.09		
	SSI-15-C-6"	7/16/18	0.5	--	--	--	180	2.19	ND<0.50
	DUP34	7/16/18	0.5	--			150		
	SSI-15-C-18"	7/16/18	1.5	11.8	--	--	204	9.64	1.58
	SSI-15-C-36"	7/16/18	3.0	--	--	--	109	4.98	0.860J
	SSI-15-C-48"	7/16/18	4.0	--	--	--	114	4.54	0.695J
	SSI-15-C-60"	7/16/18	5.0	--	--	--	50.9	2.15	ND<0.50
	SSI-15-C-90"	7/16/18	7.5	--	--	--	60.6	1.75	0.521J
	SSI-15-C-120"	7/16/18	10.0	--	--	--	65.9	1.02	ND<0.50
	SSI-15-D-6"	7/16/18	0.5	--			10.3		
	SSI-15-D-48"	7/16/18	4.0	--			4.80		
	SSI-15-F-6"	7/16/18	0.5	--			8.76		
	SSI-15-F-18"	7/16/18	1.5	--	--	--	89.1	3.39	0.604J
	SSI-15-F-48"	7/16/18	4.0	--	--	--	107	1.25	0.579J
	SSI-15-F-120"	7/16/18	10.0	--			3.32		
JH-17	SSI-17-E-6"	6/11/18	0.5	--			4.24		
	DUP4	6/11/18	0.5	--			4.30		
	SSI-17-W-6"	6/11/18	0.5	--			23.8		
	SSI-17-W-24"	6/11/18	2.0	--			41.1		
	SSI-17-W-48"	7/17/18	4.0	--			3.57		
	SSI-17-W-A-6"	7/17/18	0.5	--			6.35		
	SSI-17-W-A-24"	7/17/18	2.0	--			3.77		
	SSI-17-W-B-6"	7/17/18	0.5	--			11.1		
	SSI-17-W-B-24"	7/17/18	2.0	--			6.12		
	SSI-17-W-C-6"	7/17/18	0.5	--			4.02		
	SSI-17-W-C-24"	7/17/18	2.0	--			4.99		

TABLE 2
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Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	ft bgs	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
JH-18	SSI-18-E-6"	6/11/18	0.5	--			11.1		
	SSI-18-W-6"	6/11/18	0.5	--			20.2		
	SSI-18-W-24"	6/11/18	2.0	--			4.70		
	SSI-18-W-A-6"	7/18/18	0.5	--			15.5		
	SSI-18-W-A-24"	7/18/18	2.0	--			3.04		
	SSI-18-W-B-6"	7/18/18	0.5	--			3.73		
	SSI-18-W-C-6"	7/18/18	0.5	--			10.7		
	SSI-18-W-D-6"	7/18/18	0.5	--			8.51		
JH-19	SSI-19-E-18"	6/11/18	1.5	9.56			--		
	DUP5	6/11/18	1.5	11.3			--		
	SSI-19-W-18"	6/11/18	1.5	21.8			--		
JH-28	SSI-28-E-6"	6/12/18	0.5	33.4			--		
	SSI-28-N-6"	6/12/18	0.5	17.4			--		
	SSI-28-W/29-E-6"	6/12/18	0.5	31.2			--		
JH-29	SSI-29-W-6"	6/12/18	0.5	46.7			--		
	SSI-29-N-6"	6/12/18	0.5	26.6			--		
JH-30	SSI-30-S-6"	6/12/18	0.5	--	--	--	140	9.27	3.04
	SSI-30-S-24"	6/12/18	2.0	--			226	12.7	3.43
	SSI-30-S-36"	7/18/18	3.0	--	--	--	119	7.67	1.44
	SSI-30-S-60"	7/18/18	5.0	--			3.08		
	SSI-30-S-A-6"	7/18/18	0.5	--			1.64		
	DUP50	7/18/18	0.5	--			2.31		
	SSI-30-S-A-36"	7/18/18	3.0	--			7.47		
	SSI-30-S-B-6"	7/18/18	0.5	--	--	--	143	8.56	2.69
	SSI-30-S-B-24"	7/18/18	2.0	--	--	--	123	5.10	1.11
	SSI-30-S-B-36"	7/18/18	3.0	--	--	--	96.6	3.59	0.723J
	SSI-30-S-B-60"	8/10/18	5.0	--			23.4		
	SSI-30-S-B-90"	8/10/18	7.5	--			1.93		
	SSI-30-S-C-6"	7/18/18	0.5	--			2.58		
	SSI-30-S-C-36"	7/18/18	3.0	--			2.32		
	SSI-30-S-D-6"	7/18/18	0.5	--			27.8		
	SSI-30-S-D-36"	7/18/18	3.0	--			1.92		
	SSI-30-W-6"	6/12/18	0.5	--			39.0		
	SSI-30-W-24"	6/12/18	2.0	--			1.67		
	SSI-30-W-A-6"	7/18/18	0.5	--			8.32		
	SSI-30-W-B-6"	7/18/18	0.5	--			2.90		
	SSI-30-W-C-6"	7/18/18	0.5	--			3.07		
	SSI-30-N-6"	6/12/18	0.5	--			33.8		
	SSI-30-N-24"	6/12/18	2.0	--			2.77		
	SSI-30-N-A-6"	7/18/18	0.5	--			13.9		
	SSI-30-N-A-24"	7/18/18	2.0	--			2.29		
	SSI-30-N-B-6"	7/18/18	0.5	--			13.6		
	SSI-30-N-B-24"	7/18/18	2.0	--			2.99		
	SSI-30-N-C-6"	7/18/18	0.5	--			4.67		
	SSI-30-N-D-6"	7/18/18	0.5	--			3.68		
	SSI-30-N-F-6"	7/18/18	0.5	--			11.4		

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Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	ft bgs	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
JH-31	SSI-31-E-6"	6/12/18	0.5	--			17.7		
	SSI-31-E-24"	6/12/18	2.0	--			5.25		
	SSI-31-E-A-6"	7/18/18	0.5	--			3.71		
	DUP52	7/18/18	0.5	--			3.01		
	SSI-31-E-B-6"	7/18/18	0.5	--			3.52		
	SSI-31-E-C-6"	7/18/18	0.5	--			2.91		
	SSI-31-S-6"	6/12/18	0.5	--			4.81		
	SSI-31-W-6"	6/12/18	0.5	--			3.64		
	SSI-31-N-6"	6/12/18	0.5	--	--	--	79.1	2.60	0.562J
	SSI-31-N-24"	6/12/18	2.0	--			2.19		
	SSI-31-N-A-6"	7/19/18	0.5	--	--	--	52.6	1.53	ND<0.50
	SSI-31-N-A-24"	7/19/18	2.0	--			1.65		
	SSI-31-N-B-6"	7/19/18	0.5	--	--	--	91.2	2.96	0.750
	SSI-31-N-B-24"	7/19/18	2.0	--			2.5		
	SSI-31-N-C-6"	7/19/18	0.5	--			9.18		
	SSI-31-N-D-6"	7/19/18	0.5	--			49.1		
	SSI-31-N-D-24"	7/19/18	2.0	--			2.37		
	SSI-31-N-F-6"	7/19/18	0.5	--	--	--	57.6	2.80	ND<0.50
	SSI-31-N-F-24"	7/19/18	2.0	--			2.46		
N/A	SSI-32-6"	6/12/18	0.5	327	19.2	0.590J	21.1	--	--
	SSI-32-18"	6/12/18	1.5	68.4	4.29	ND<0.50	18.8	--	--
	SSI-32-36"	6/12/18	3.0	4.23			2.88		
	SSI-32-A-6"	7/19/18	0.5	1,220	105	ND<0.50	34.6	--	--
	SSI-32-A-18"	7/19/18	1.5	13.70			5.11		
	SSI-32-B-6"	7/19/18	0.5	874	4.65	ND<0.50	55.2	1.56	ND<0.50
	SSI-32-B-18"	7/19/18	1.5	88.5	2.01	ND<0.50	48.2	1.03	ND<0.50
	DUP54	7/19/18	1.5	11.3			14.2		
	SSI-32-B-36"	7/19/18	3.0	8.89			10.1		
	SSI-32-C-6"	7/19/18	0.5	--			6.67		
	SSI-32-C-18"	7/19/18	1.5	--			5.75		
	SSI-32-D-6"	7/19/18	0.5	7.78			16.9		
	SSI-32-D-18"	7/19/18	1.5	--			13.7		
	SSI-32-D-36"	7/19/18	3.0	--			3.46		
	SSI-32-E-6"	8/10/18	0.5	--			6.72		
N/A	SSI-33-6"	6/11/18	0.5	23.5			5.43		
	SSI-33-18"	6/11/18	1.5	53.8	1.89	ND<0.50	5.35	--	--
	SSI-33-36"	6/11/18	3.0	8.13			2.20		
	SSI-33-S-6"	8/10/18	0.5	19.8			15.6		
	SSI-33-S-18"	8/10/18	1.5	11.7			2.69		
N/A	SSI-34-6"	6/11/18	0.5	23.7			4.30		
	SSI-34-18"	6/11/18	1.5	271	17.3	ND<0.50	5.18	--	--
	SSI-34-36"	6/11/18	3.0	9.72			2.87		
	SSI-34-A-6"	7/19/18	0.5	152	10.8	ND<0.50	--	--	--
	DUP56	7/19/18	0.5	146			--		
	SSI-34-A-18"	7/19/18	1.5	430	0.942	ND<0.50	--	--	--
	SSI-34-A-36"	7/19/18	3.0	11.5			--		
	SSI-34-B-6"	7/19/18	0.5	31.4	2.18	ND<0.50	--	--	--
	SSI-34-B-18"	7/19/18	1.5	11.5			--		
	SSI-34-C-6"	7/19/18	0.5	52.1	0.672	ND<0.50	--	--	--
	SSI-34-C-18"	7/19/18	1.5	14.2			--		
N/A	SSI-35-6"	6/11/18	0.5	22.9			4.46		
	DUP6	6/11/18	0.5	25.9			4.61		
	SSI-35-18"	6/11/18	1.5	55.1	0.840	ND<0.50	5.53	--	--
	SSI-35-36"	6/11/18	3.0	5.48			2.36		

TABLE 2
ANALYTICAL RESULTS FOR LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	**ft bgs**	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
N/A	SSI-36-6"	6/11/18	0.5	26.1			3.76		
	SSI-36-18"	6/11/18	1.5	18.4			3.12		
	SSI-36-36"	6/11/18	3.0	17.7			2.59		
N/A	SSI-37-6"	6/11/18	0.5	33.8			4.70		
	SSI-37-18"	6/11/18	1.5	10.9			3.49		
	SSI-37-36"	6/11/18	3.0	3.86			2.55		
N/A	SSI-38-6"	6/11/18	0.5	72.8	6.89	ND<0.50	17.5	--	--
	SSI-38-18"	6/11/18	1.5	119	2.88	ND<0.50	5.39	--	--
	SSI-38-36"	6/11/18	3.0	5.15			3.13		
	SSI-38-A-6"	7/18/18	0.5	53.1	2.50	ND<0.50	8.41	--	--
	DUP48	7/18/18	0.5	11.0			3.04		
	SSI-38-A-18"	7/18/18	1.5	6.20			--		
	SSI-38-B-6"	7/18/18	0.5	35.6			6.14		
	SSI-38-B-18"	7/18/18	1.5	14.7			--		
	SSI-38-C-6"	7/18/18	0.5	139	11.7	ND<0.50	5.34	--	--
	SSI-38-C-18"	7/18/18	1.5	5.66			--		
	SSI-38-G-6"	7/18/18	0.5	103	2.49	ND<0.50	--	--	--
	SSI-38-G-18"	7/18/18	1.5	6.19			--		
N/A	SSI-39-6"	6/11/18	0.5	44.9			10.7		
	SSI-39-18"	6/11/18	1.5	43.5			4.35		
	SSI-39-36"	6/11/18	3.0	4.52			2.45		
N/A	SSI-40-6"	6/12/18	0.5	83.3	2.39	ND<0.50	7.07	--	--
	SSI-40-18"	6/12/18	1.5	10.4			3.74		
	SSI-40-36"	6/12/18	3.0	3.97			1.80		
	SSI-40-A-6"	7/18/18	0.5	44.9			--		
	SSI-40-B-6"	7/18/18	0.5	5.51			--		
	SSI-40-C-6"	7/18/18	0.5	5.25			--		
N/A	SSI-41-6"	6/12/18	0.5	28.5			4.05		
	DUP9	6/12/18	0.5	27.3			4.22		
	SSI-41-18"	6/12/18	1.5	6.94			3.06		
	SSI-41-36"	6/12/18	3.0	2.37			1.37		
N/A	SSI-42-6"	6/14/18	0.5	70.3	2.55	ND<0.50	18.6	--	--
	DUP17	6/14/18	0.5	73.9			18.3		
	SSI-42-18"	6/14/18	1.5	7.49			3.55		
	SSI-42-36"	6/14/18	3.0	3.63			2.16		
	SSI-42-A-6"	7/12/18	0.5	--			15.3		
	SSI-42-A-18"	7/12/18	1.5	--			1.66		
	SSI-42-B-6"	7/12/18	0.5	--			4.05		
	SSI-42-C-6"	7/12/18	0.5	--			6.72		
	SSI-42-D-6"	7/12/18	0.5	--			4.01		
N/A	SSI-43-6"	6/14/18	0.5	10.3			3.07		
	SSI-43-18"	6/14/18	1.5	8.85			6.95		
	SSI-43-36"	6/14/18	3.0	3.15			15.0		
	SSI-43-48"	6/14/18	4.0	--			9.47		
	SSI-43-A-6"	7/12/18	0.5	--			6.58		
	DUP28	7/12/18	0.5	--			19.7		
	SSI-43-A-18"	7/12/18	1.5	--			6.63		
	SSI-43-A-36"	7/12/18	3.0	--			2.76		
	SSI-43-B-6"	7/12/18	0.5	--			8.56		
	SSI-43-B-18"	7/12/18	1.5	--	--	--	50.7	ND<0.50	ND<0.50
	SSI-43-B-36"	7/12/18	3.0	--			11.0		
	SSI-43-C-6"	7/12/18	0.5	--			4.55		
	SSI-43-C-18"	7/12/18	1.5	--			1.91		
	SSI-43-C-36"	7/12/18	3.0	--			4.52		
	SSI-43-D-6"	7/12/18	0.5	--			4.43		
	SSI-43-F-18"	7/12/18	1.5	--			3.95		

TABLE 2
ANALYTICAL RESULTS FOR LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	ft bgs	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
N/A	SSI-44-6"	6/14/18	0.5	22.4			6.96		
	SSI-44-18"	6/14/18	1.5	21.9			3.43		
	SSI-44-36"	6/14/18	3.0	3.18			2.39		
N/A	SSI-45-6"	6/14/18	0.5	26.4			5.63		
	SSI-45-18"	6/14/18	1.5	173	6.54	ND<0.50	7.05	--	--
	SSI-45-36"	6/14/18	3.0	4.04			2.67		
	SSI-45-A-6"	7/13/18	0.5	82.7	4.33	ND<0.50	--	--	--
	SSI-45-A-18"	7/13/18	1.5	258	2.06	ND<0.50	--	ND<0.50	ND<0.50
	SSI-45-A-36"	7/13/18	3.0	5.14			--		
	SSI-45-B-6"	7/13/18	0.5	64.5	1.15	ND<0.50	--	ND<0.50	ND<0.50
	SSI-45-B-18"	7/13/18	1.5	4.32			--		
	SSI-45-C-6"	7/13/18	0.5	6.82			--		
	SSI-45-C-18"	7/13/18	1.5	45.1			4.50		
	SSI-45-C-36"	7/13/18	3.0	186	11.3	ND<0.50	--	--	--
	SSI-45-C-60"	8/10/18	5.0	1.68			--		
	SSI-45-D-6"	7/13/18	0.5	65.9	2.09	ND<0.50	--	--	--
	SSI-45-D-18"	7/13/18	1.5	6.47			--		
	SSI-45-G-6"	7/13/18	0.5	--			23.5		
	SSI-45-G-18"	7/13/18	1.5	106	5.96	ND<0.50	16.7	--	--
	SSI-45-G-36"	7/13/18	3.0	ND <0.25			4.32		
N/A	SSI-46-6"	6/14/18	0.5	19.7			21.2		
	SSI-46-18"	6/14/18	1.5	5.18			2.48		
	SSI-46-36"	6/14/18	3.0	3.01			2.58		
	SSI-46-A-6"	7/13/18	0.5	--			31.1		
	SSI-46-A-18"	7/13/18	1.5	--			4.61		
	SSI-46-B-6"	7/13/18	0.5	--			9.39		
	SSI-46-C-6"	7/13/18	0.5	--			12.8		
	SSI-46-C-18"	7/13/18	1.5	--			3.05		
	SSI-46-D-6"	7/13/18	0.5	--			11.2		
	SSI-46-G-6"	7/13/18	0.5	--			7.04		
N/A	SSI-50-0.5'	8/11/18	0.5	48.1			3.10		
	DUP62	8/11/18	0.5	27.6			3.35		
N/A	SSI-51-0.5'	8/11/18	0.5	34.6			4.59		
N/A	SSI-52-6"	8/10/18	0.5	41.3			8.32		
N/A	SSI-53-6"	8/10/18	0.5	38.9			4.54		
N/A	SSI-54-6"	8/10/18	0.5	--			3.67		
N/A	SSI-55-6"	8/10/18	0.5	--			3.73		
N/A	SSI-56-6"	8/10/18	0.5	69.3	2.42	ND<0.50	13.9		
	DUP61	8/10/18	0.5	16.4			4.78		
	SSI-56-24"	8/10/18	2.0	--			3.96		
N/A	SSI-57-18"	8/10/18	1.5	--			26.8		
	SSI-57-30"	8/10/18	2.5	--			13.3		
	SSI-57-42"	8/10/18	3.5	--			4.92		
N/A	SSI-58-18"	8/10/18	1.5	--			7.80		
N/A	SSI-59-18"	8/10/18	1.5	--			12.1		
	SSI-59-42"	8/10/18	3.5	--			2.55		
N/A	SSI-60-18"	8/10/18	1.5	--			27.2		
	SSI-60-42"	8/10/18	3.5	--			3.60		
N/A	SSI-61-18"	8/10/18	1.5	--			7.77		
N/A	SSI-62-18"	8/10/18	1.5	--			4.12		
N/A	SSI-63-6"	8/10/18	0.5	--			18.4		
	SSI-63-18"	8/10/18	1.5	--			7.52		

TABLE 2
ANALYTICAL RESULTS FOR LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead			Arsenic		
		Units	**ft bgs**	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/L
		USEPA Test Method	--	6020	STLC	TCLP	6020	STLC	TCLP
		Screening Level/Hazardous Waste Threshold	--	80	5	5	12	5	5
N/A	SSI-64-6"	8/10/18	0.5	48.0			25.6		
	SSI-64-36"	8/10/18	3.0	7.47			5.84		

Notes:

1. Arsenic and lead analyzed by USEPA Method 6020

ft bgs = feet below ground surface

mg/kg = milligrams per kilogram

"--" = not analyzed

Concentration exceeds screening level

Concentration indicates sample meets CAL-HAZ waste criteria

TABLE 3

COMBINED ANALYTICAL RESULTS FOR TPH IN SOIL

LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	TPH-g	TPH-d	TPH-o
		Units	ft bgs	mg/kg	mg/kg	mg/kg
		USEPA Test Method	--	8015M	8015M	8015M
SFB RWQCB ONL/LA RWQCB SSL (GW protection)			--	500	1,000	10,000
JH-21	A-10'	6/12/18	10	<0.1	<1.0	<1.0
	A-15'	6/12/18	15	<0.1	<1.0	<1.0
	A-20'	6/12/18	20	<0.1	2,110	<1.0
	A-25'	6/12/18	25	<0.1	<1.0	<1.0
	B-10'	6/12/18	10	<0.1	<1.0	<1.0
	DUP8	6/12/18	10	<0.1	<1.0	<1.0
	B-15'	6/12/18	15	<0.1	<1.0	<1.0
	B-20	6/12/18	20	<0.1	<1.0	<1.0
	B-25	6/12/18	25	<0.1	<1.0	<1.0
	C-10	6/12/18	10	<0.1	<1.0	<1.0
	C-15	6/12/18	15	<0.1	<1.0	<1.0
	C-20	6/12/18	20	<0.1	<1.0	<1.0
	C-25	6/12/18	25	<0.1	<1.0	<1.0
n/a	SSI-34-10'	7/19/18	10	<0.1	<1.0	<1.0
	SSI-34-15'	7/19/18	15	<0.1	<1.0	<1.0
	SSI-34-20'	7/19/18	20	<0.1	<1.0	<1.0
	SSI-34-25'	7/19/18	25	<0.1	<1.0	<1.0
n/a	SSI-36-60"	6/11/18	5	53.2	3,760	295
	SSI-36-10'	6/14/18	10	388	6,220	289
	SSI-36-15'	6/14/18	15	464	1,580	41.1
	SSI-36-20'	6/14/18	20	<0.1	1,640	37.1
	SSI-36-25'	6/14/18	25	<0.1	<1.0	<1.0
	SSI-36-30'	6/14/18	30	<0.1	<1.0	<1.0
n/a	SSI-47-10'	7/19/18	10	<0.1	<1.0	<1.0
	SSI-47-15'	7/19/18	15	<0.1	652	252
	SSI-47-20'	7/19/18	20	<0.1	6.5	<1.0
	DUP58	7/19/18	20	<0.1	<1.0	<1.0
	SSI-47-25'	7/19/18	25	<0.1	<1.0	<1.0
n/a	SSI-48-10'	7/19/18	10	<0.1	<1.0	<1.0
	SSI-48-15'	7/19/18	15	<0.1	309	40.5
	SSI-48-20'	7/19/18	20	<0.1	<1.0	<1.0
	DUP59	7/19/18	20	<0.1	<1.0	<1.0
	SSI-48-25'	7/19/18	25	<0.1	<1.0	<1.0

TABLE 3
COMBINED ANALYTICAL RESULTS FOR TPH IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	TPH-g	TPH-d	TPH-o
		Units	ft bgs	mg/kg	mg/kg	mg/kg
		USEPA Test Method	--	8015M	8015M	8015M
SFB RWQCB ONL/LA RWQCB SSL (GW protection)			--	500	1,000	10,000
n/a	SSI-49-10'	7/19/18	10	<0.1	<1.0	<1.0
	SSI-49-15'	7/19/18	15	<0.1	<1.0	<1.0
	SSI-49-20'	7/19/18	20	<0.1	<1.0	<1.0
	SSI-49-25'	7/19/18	25	<0.1	<1.0	<1.0
n/a	SSI-50-15'	8/13/18	15	<0.1	<1.0	<1.0
	DUP63	8/13/18	15	<0.1	<1.0	<1.0
	SSI-50-20'	8/13/18	20	<0.1	<1.0	<1.0
n/a	SSI-51-15'	8/13/18	15	<0.1	<1.0	<1.0
	SSI-51-20'	8/13/18	20	<0.1	<1.0	<1.0
n/a	30N/645E/DPT68-5	12/7/16	5	<0.5	<25	<400
	30N/645E/DPT68-5-DUP527	12/7/16	5	<0.5	<25	<400
	30N/645E/DPT68-10	12/7/16	10	<0.5	<25	<400
	30N/645E/DPT68-15	12/7/16	15	<0.5	<25	<400
	30N/645E/DPT68-20	12/7/16	20	<0.5	<25	<400
	30N/645E/DPT68-25	12/7/16	25	<0.5	<25	<400
n/a	30N/675E/DPT69-5	12/7/16	5	<0.5	<25	<400
	30N/675E/DPT69-10	12/7/16	10	<0.5	<25	<400
	30N/675E/DPT69-15	12/7/16	15	984	14,400	<400
	30N/675E/DPT69-15-DUP528	12/7/16	15	4.62	2,130	<400
	30N/675E/DPT69-20	12/7/16	20	<0.5	<25	<400
	30N/675E/DPT69-25	12/7/16	25	<0.5	<25	<400
n/a	30N/695E/DPT70-5	12/7/16	5	<0.5	<25	<400
	30N/695E/DPT70-10	12/7/16	10	<0.5	<25	<400
	30N/695E/DPT70-15	12/7/16	15	<0.5	138	<400
	30N/695E/DPT70-20	12/7/16	20	18.2	5,630	<400
	30N/695E/DPT70-20-DUP529	12/7/16	20	298	4,600	<400
	30N/695E/DPT70-25	12/7/16	25	<0.5	<25	<400
n/a	30N/720E/DPT71-5	12/7/16	5	<0.5	<25	<400
	30N/720E/DPT71-10	12/7/16	10	<0.5	<25	<400
	30N/720E/DPT71-15	12/7/16	15	<0.5	<25	<400
	30N/720E/DPT71-20	12/7/16	20	26.0	225	<400
	30N/7205E/DPT71-25	12/7/16	25	<0.5	<25	<400

TABLE 3
COMBINED ANALYTICAL RESULTS FOR TPH IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	TPH-g	TPH-d	TPH-o
		Units	ft bgs	mg/kg	mg/kg	mg/kg
		USEPA Test Method	--	8015M	8015M	8015M
SFB RWQCB ONL/LA RWQCB SSL (GW protection)			--	500	1,000	10,000
n/a	50N/645E/DPT65-5	12/7/16	5	<0.5	<25	<400
	50N/645E/DPT65-10	12/7/16	10	<0.5	<25	<400
	50N/645E/DPT65-15	12/7/16	15	<0.5	<25	<400
	50N/645E/DPT65-20	12/7/16	20	<0.5	<25	<400
	50N/645E/DPT65-25	12/7/16	25	<0.5	<25	<400
	50N/645E/DPT65-25-DUP526	12/7/16	25	<0.5	<25	<400
n/a	50N/695E/DPT66-5	12/7/16	5	9.3	3,070	<400
	50N/695E/DPT66-10	12/7/16	10	22.3	11,100	460
	50N/695E/DPT66-15	12/7/16	15	23.3	8,490	<400
	50N/695E/DPT66-20	12/7/16	20	1,050	10,800	<400
	50N/695E/DPT66-25	12/7/16	25	0.763	<25	<400
n/a	50N/720E/DPT67-5	12/7/16	5	<0.5	<25	<400
	50N/720E/DPT67-10	12/7/16	10	<0.5	<25	<400
	50N/720E/DPT67-15	12/7/16	15	<0.5	<25	<400
	50N/720E/DPT67-20	12/7/16	20	0.749	169	<400
	50N/720E/DPT67-25	12/7/16	25	<0.5	<25	<400
n/a	50.5N/662E/DPT50-5	9/23/16	5	12.2	10,300	<400
	50.5N/662E/DPT50-10	9/23/16	10	1,290	20,300	<400
	50.5N/662E/DPT50-15	9/23/16	15	12.9	3,680	<400
	50.5N/662E/DPT50-20	9/23/16	20	335	1,390	<400
	50.5N/662E/DPT50-25	9/23/16	25	<0.5	<25	<400
	50.5N/662E/DPT50-30	9/23/16	30	<0.5	<25	<400
	50.5N/662E/DPT50-35	9/23/16	35	<0.5	<25	<400
	50.5N/662E/DPT50-40	9/23/16	40	<0.5	<25	<400

TPH-g = total petroleum hydrocarbons in the gasoline range (C4-C12)
TPH-d = total petroleum hydrocarbons in the diesel range (C13-C22)
TPH-o = total petroleum hydrocarbons in the oil range (C23-C40)
ft bgs = feet below ground surface
mg/kg = milligrams/kilogram
SFB RWQCB = San Francisco Bay Regional Water Quality Control Board
LA RWQCB = Los Angeles Regional Water Quality Control Board
ONL = Odor Nuisance Level; SSL = Soil Screening Level
SL = Screening Level; GW = Groundwater

TABLE 4
STATISTICAL ANALYSIS OF LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
JH-2	SSI-2-30"	6/13/18	2.5	4.47	--
	SSI-2-E-18"	6/13/18	1.5	56.1	--
	SSI-2-E-30"	6/13/18	2.5	3.93	--
	SSI-2-S-18"	6/13/18	1.5	28.5	--
	SSI-2-S-30"	6/13/18	2.5	4.28	--
	SSI-2-W-18"	6/13/18	1.5	15.2	--
	SSI-2-W-30"	6/13/18	2.5	5.20	--
	SSI-2-N/4-S-18"	6/13/18	1.5	20.4	3.42
	SSI-2-N/4-S-30"	6/13/18	2.5	4.67	2.71
JH-3	SSI-3-30"	6/14/18	0.5	--	3.62
	SSI-3-E/4-W-18"	6/13/18	1.5	41.7	11.0
	SSI-3-E/4-W-30"	6/13/18	2.5	6.40	3.80
	SSI-3-S-18"	6/14/18	1.5	--	4.15
	SSI-3-S-30"	6/14/18	2.5	--	2.62
	SSI-3-W-18"	6/12/18	1.5	--	3.71
	SSI-3-W-30"	6/12/18	2.5	--	1.09
	SSI-3-N-18"	6/14/18	1.5	--	11.3
	SSI-3-N-30"	6/14/18	2.5	--	30.7
	SSI-3-N-42"	6/14/18	3.5	--	2.58
	SSI-3-N-A-18"	7/17/18	1.5	--	10.5
	SSI-3-N-A-30"	7/17/18	2.5	--	3.45
	SSI-3-N-B-18"	7/17/18	1.5	--	10.5
	SSI-3-N-B-30"	7/17/18	2.5	--	16.2
	SSI-3-N-B-42"	7/17/18	3.5	--	2.59
	SSI-3-N-C-18"	7/17/18	1.5	--	22.7
	SSI-3-N-C-30"	7/17/18	2.5	--	14.5
	SSI-3-N-C-42"	7/17/18	3.5	--	1.55
	SSI-3-N-F-30"	7/17/18	2.5	--	12.9
	SSI-3-N-F-42"	7/17/18	3.5	--	100
	SSI-3-N-F-60"	8/10/18	5.0	--	2.58
	SSI-3-N-G-18"	7/17/18	1.5	--	16.2
	SSI-3-N-G-30"	7/17/18	2.5	--	6.59

TABLE 4
STATISTICAL ANALYSIS OF LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
JH-4	SSI-4-30"	6/13/18	2.5	7.39	3.94
	SSI-4-N-18"	6/13/18	1.5	40.6	19.2
	SSI-4-N-30"	6/13/18	2.5	4.84	3.16
	SSI-4-N-A-18"	7/17/18	1.5	--	12.2
	SSI-4-N-A-30"	7/17/18	2.5	--	52.9
	SSI-4-N-A-60"	8/10/18	5.0	--	2.70
	SSI-4-N-B-18"	7/17/18	1.5	--	7.59
	SSI-4-N-C-18"	7/17/18	1.5	--	10.0
	SSI-4-N-D-18"	7/17/18	1.5	--	30.4
	SSI-4-N-D-30"	7/17/18	2.5	--	17.9
	SSI-4-N-D-60"	8/10/18	5.0	--	2.82
	SSI-4-E/5-W-6"	6/13/18	0.5	36.9	8.04
	SSI-4-E/5-W-18"	6/13/18	1.5	20.4	2.49
	SSI-4-E/5-W-30"	6/13/18	2.5	5.62	4.33
JH-5	SSI-5-E-1"	6/13/18	0	30.1	9.38
	SSI-5-E-6"	6/13/18	0.5	10.5	10.1
	SSI-5-S-1"	6/13/18	0	20.4	3.24
	SSI-5-S-6"	6/13/18	0.5	50.3	3.34
	SSI-5-N-1"	6/13/18	0	47.8	14.0
	SSI-5-N-6"	6/13/18	0.5	42.2	42.8
	SSI-5-N-24"	6/13/18	2.0	--	2.98
	SSI-5-N-A-6"	7/12/18	0.5	--	17.3
	SSI-5-N-A-18"	7/12/18	1.5	--	2.12
	SSI-5-N-B-6"	7/12/18	0.5	--	93.3
	SSI-5-N-B-18"	7/12/18	1.5	--	2.18
	SSI-5-N-C-6"	7/13/18	0.5	--	26.2
	SSI-5-N-C-18"	7/13/18	1.5	--	6.46
	SSI-5-N-D-6"	7/12/18	0.5	--	7.78
	SSI-5-N-F-6"	7/12/18	0.5	--	7.20
	SSI-5-N-G-6"	7/13/18	0.5	--	19.8
	SSI-5-N-G-18"	7/13/18	1.5	--	2.32

TABLE 4
STATISTICAL ANALYSIS OF LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
JH-6	SSI-6-30"	6/14/18	2.5	20.3	4.38
	SSI-6-E-18"	6/14/18	1.5	75.5	27.8
	SSI-6-E-30"	6/14/18	2.5	34.2	25.4
	SSI-6-E-42"	6/14/18	3.5	--	3.99
	SSI-6-E-A-18"	7/12/18	1.5	--	9.47
	SSI-6-E-A-30"	7/12/18	2.5	--	13.9
	SSI-6-E-A-42"	7/12/18	3.5	--	46.5
	SSI-6-E-A-60"	8/10/18	5.0	--	2.72
	SSI-6-E-B-18"	7/12/18	1.5	--	51.4
	SSI-6-E-B-30"	7/12/18	2.5	--	5.53
	SSI-6-E-C-18"	7/12/18	1.5	--	6.63
	SSI-6-E-C-30"	7/12/18	2.5	--	4.71
	SSI-6-E-D-18"	7/12/18	1.5	--	3.78
	SSI-6-E-F-18"	7/12/18	1.5	--	12.9
	SSI-6-E-F-30"	7/12/18	2.5	--	31.4
	SSI-6-E-F-60"	8/10/18	5.0	--	0.934
	SSI-6-S-18"	6/14/18	1.5	7.42	13.1
	SSI-6-S-30"	6/14/18	2.5	4.18	4.26
	SSI-6-S-A-18"	7/12/18	1.5	--	24.7
	SSI-6-S-A-30"	7/12/18	2.5	--	2.88
	SSI-6-S-B-18"	7/12/18	1.5	--	8.92
	SSI-6-S-C-18"	7/12/18	1.5	--	8.14
	SSI-6-S-D-18"	7/12/18	1.5	--	9.82
	SSI-6-W-18"	6/14/18	1.5	12.0	9.01
	SSI-6-W-30"	6/14/18	2.5	5.69	2.99
	SSI-6-N/10-S-6"	6/14/18	0.5	--	12.3
	SSI-6-N/10-S-18"	6/14/18	1.5	5.89	3.83
	SSI-6-N/10-S-36"	6/14/18	3.0	5.68	4.04
	SSI-6-N/10-S-48"	6/14/18	4.0	7.05	6.03
	SSI-6-N/10-S-60"	6/14/18	5.0	--	1.77
	SSI-6-N/10-S-A-6"	7/12/18	0.5	--	3.60
	SSI-6-N/10-S-B-6"	7/12/18	0.5	--	12.5
	SSI-6-N/10-S-B-18"	7/12/18	1.5	--	4.43
	SSI-6-N/10-S-C-6"	7/12/18	0.5	--	18.3
	SSI-6-N/10-S-C-18"	7/12/18	1.5	--	47.7
	SSI-6-N/10-S-C-36"	8/10/18	3.0	--	4.05
	SSI-6-N/10-S-F-6"	7/12/18	0.5	--	7.10
	SSI-6-N/10-S-G-6"	7/12/18	0.5	--	23.1
	SSI-6-N/10-S-G-18"	7/12/18	1.5	--	25.1
	SSI-6-N/10-S-G-36"	8/10/18	3.0	--	30.9
	SSI-6-N/10-S-G-60"	8/10/18	5.0	--	2.42

TABLE 4
STATISTICAL ANALYSIS OF LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
JH-7	SSI-7-30"	6/13/18	2.5	--	55.6
	SSI-7-42"	6/13/18	3.5	--	29.8
	SSI-7-60"	7/17/18	5.0	--	2.62
	SSI-7-A-30"	7/17/18	2.5	--	4.82
	SSI-7-B-30"	7/17/18	2.5	--	4.33
	SSI-7-C-30"	7/17/18	2.5	--	4.18
	SSI-7-E-18"	6/14/18	1.5	--	7.80
	SSI-7-E-30"	6/14/18	2.5	--	4.14
	SSI-7-S-18"	6/13/18	1.5	--	19.9
	SSI-7-S-30"	6/13/18	2.5	--	11.1
	SSI-7-S-A-18"	7/17/18	1.5	--	8.72
	SSI-7-S-B-18"	7/17/18	1.5	--	12.4
	SSI-7-S-B-30"	7/17/18	2.5	--	4.86
	SSI-7-S-C-18"	7/17/18	1.5	--	6.54
	SSI-7-S-F-18"	7/17/18	1.5	--	8.30
	SSI-7-W-18"	6/13/18	1.5	--	7.78
	SSI-7-W-30"	6/13/18	2.5	--	3.80
	SSI-7-N-18"	6/13/18	1.5	--	29.7
	SSI-7-N-30"	6/13/18	2.5	--	3.84
	SSI-7-N-A-18"	7/13/18	1.5	--	12.0
	SSI-7-N-A-30"	7/13/18	2.5	--	4.80
	SSI-7-N-B-18"	7/13/18	1.5	--	38.7
	SSI-7-N-B-30"	7/13/18	2.5	--	10.6
	SSI-7-N-C-18"	7/13/18	1.5	--	41.4
	SSI-7-N-C-30"	7/13/18	2.5	--	13.4
	SSI-7-N-C-42'	7/13/18	3.5	--	3.64
	SSI-7-N-D-18"	7/13/18	1.5	--	105
	SSI-7-N-D-30"	7/13/18	2.5	--	31.6
	SSI-7-N-D-42"	7/13/18	3.5	--	5.23
	SSI-7-N-F-18"	7/13/18	1.5	--	24.8
	SSI-7-N-F-30"	7/13/18	2.5	--	4.13
	SSI-7-N-G-18"	7/13/18	1.5	--	15.2
	SSI-7-N-G-30"	7/13/18	2.5	--	11.7

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LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
JH-8	SSI-8-30"	6/14/18	2.5	--	4.76
	SSI-8-E-18"	6/13/18	1.5	--	10.5
	SSI-8-E-30"	6/13/18	2.5	--	12.6
	SSI-8-E-42"	6/13/18	3.5	--	4.12
	SSI-8-E-A-18"	7/17/18	1.5	--	16.6
	SSI-8-E-A-30"	7/17/18	2.5	--	24.1
	SSI-8-E-A-42"	7/17/18	3.5	--	3.74
	SSI-8-E-B-18"	7/17/18	1.5	--	18.9
	SSI-8-E-B-30"	7/17/18	2.5	--	5.20
	SSI-8-E-C-18"	7/17/18	1.5	--	10.8
	SSI-8-E-C-30"	7/17/18	2.5	--	4.87
	SSI-8-E-D-18"	7/17/18	1.5	--	13.5
	SSI-8-E-D-30"	7/17/18	2.5	--	6.72
	SSI-8-E-F-18"	7/17/18	1.5	--	22.9
	SSI-8-E-F-30"	7/17/18	2.5	--	7.4
	SSI-8-S-18"	6/14/18	1.5	--	5.94
	SSI-8-S-30"	6/14/18	2.5	--	3.07
	SSI-8-W-18"	6/12/18	1.5	--	5.47
	SSI-8-W-30"	6/12/18	2.5	--	3.06
	SSI-8-N/15-S-6"	6/13/18	0.5	--	9.58
	SSI-8-N/15-S-18"	6/13/18	1.5	22.3	10.5
	SSI-8-N/15-S-36"	6/13/18	3.0	--	4.00
	SSI-8-N/15-S-48"	6/13/18	4.0	--	1.76
JH-10	SSI-10-48"	6/11/18	4.0	--	12.5
	SSI-10-60"	6/11/18	5.0	--	6.22
	SSI-10-A-48"	7/12/18	4.0	--	32.3
	SSI-10-A-60"	7/12/18	5.0	--	26.9
	SSI-10-B-48"	7/12/18	4.0	--	3.59
	SSI-10-C-48"	7/12/18	4.0	--	1.63

TABLE 4
STATISTICAL ANALYSIS OF LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
JH-12	SSI-12-48"	6/11/18	4.0	--	67.7
	SSI-12-60"	6/11/18	5.0	--	58.3
	SSI-12-90"	7/13/18	7.5	--	14.6
	SSI-12-120"	7/13/18	10.0	--	2.85
	SSI-12-A-48"	7/13/18	4.0	--	2.67
	SSI-12-A-90"	7/13/18	7.5	--	2.84
	SSI-12-B-48"	7/13/18	4.0	--	8.66
	SSI-12-B-90"	7/13/18	7.5	--	33.2
	SSI-12-B-120"	7/13/18	10.0	--	1.28
	SSI-12-C-90"	7/13/18	7.5	--	3.66
	SSI-12-S/13-S-18"	6/14/18	1.5	13.8	15.7
	SSI-12-S/13-S-36"	6/14/18	3.0	4.75	2.97
	SSI-12-S/13-S-48"	6/14/18	4.0	2.29	1.26
	SSI-12-S/13-S-A-18"	7/13/18	1.5	--	48.8
	SSI-12-S/13-S-A-36"	7/13/18	3.0	--	57.8
	SSI-12-S/13-S-A-60"	8/10/18	5.0	--	1.38
	SSI-12-S/13-S-B-18"	7/13/18	1.5	--	4.25
	SSI-12-S/13-S-C-18"	7/13/18	1.5	--	3.44
	SSI-12-S/13-S-D-18"	7/13/18	1.5	--	13.6
	SSI-12-S/13-S-D-36"	7/13/18	3.0	--	4.44
JH-13	SSI-13-48"	6/11/18	4.0	--	11.3
	SSI-13-W-18"	6/11/18	1.5	--	3.22
	SSI-13-W-36"	6/11/18	3.0	--	96.5
	SSI-13-W-60"	6/11/18	5.0	--	94.2
	SSI-13-W-90"	7/13/18	7.5	--	1.54
	SSI-13-W-A-18"	7/13/18	1.5	--	3.39
	SSI-13-W-A-36"	7/13/18	3.0	--	38.9
	SSI-13-W-A-60"	7/13/18	5.0	--	6.71
	SSI-13-W-B-18"	7/13/18	1.5	--	3.45
	SSI-13-W-B-36"	7/13/18	3.0	--	80.8
	SSI-13-W-B-60"	7/13/18	5.0	--	55.8
	SSI-13-W-B-90"	7/13/18	7.5	--	16.9
	SSI-13-W-B-120"	7/13/18	10.0	--	1.69
	SSI-13-W-C-18"	7/13/18	1.5	--	3.25
	SSI-13-W-C-36"	7/13/18	3.0	--	8.11
	SSI-13-W-D-36"	7/13/18	3.0	--	127
	SSI-13-W-D-60"	7/13/18	5.0	--	44.2
	SSI-13-W-D-120"	7/13/18	10.0		1.36
	SSI-13-W-F-36"	7/13/18	3.0	--	6.30

TABLE 4
STATISTICAL ANALYSIS OF LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
JH-14	SSI-14-48"	6/11/18	4.0	--	46.1
	SSI-14-60"	6/11/18	5.0	--	50.0
	SSI-14-90"	7/16/18	7.5	--	1.03
	SSI-14-A-48"	7/16/18	4.0	--	143
	SSI-14-A-60"	7/16/18	5.0	--	59.0
	SSI-14-A-90"	7/16/18	7.5	--	25.0
	SSI-14-A-120"	7/16/18	10.0	--	3.39
	SSI-14-B-48"	7/16/18	4.0	--	5.54
	SSI-14-C-48"	7/16/18	4.0	--	94.2
	SSI-14-C-60"	7/16/18	5.0	--	81.8
	SSI-14-C-90"	7/16/18	7.5	--	61.8
	SSI-14-C-120"	7/16/18	10.0	--	36.9
	SSI-14-C-150"	8/10/18	12.5	--	33.1
	SSI-14-C-180"	8/10/18	15.0	--	21.1
	SSI-14-D-48"	7/16/18	4.0	--	78.9
	SSI-14-D-90"	7/16/18	7.5	--	11.9
	SSI-14-D-120"	7/16/18	10.0	--	5.11
	SSI-14-G-48"	7/16/18	4.0	--	66.2
	SSI-14-G-90"	7/16/18	7.5	--	56.9
	SSI-14-G-120"	7/16/18	10.0	--	14.1
	SSI-14-G-150"	8/10/18	12.5	--	12.6
	SSI-14-G-180"	8/10/18	15.0	--	6.66
	SSI-14-E-6"	6/11/18	0.5	--	11.2
	SSI-14-E-18"	6/11/18	1.5	38.8	8.75
	SSI-14-E-36"	6/11/18	3.0	--	12.1
	SSI-14-E-48"	6/11/18	4.0	--	23.1
	SSI-14-E-60"	6/11/18	5.0	--	50.2
	SSI-14-E-90"	7/16/18	7.5	--	15.2
	SSI-14-E-120"	7/16/18	10.0	--	2.89
	SSI-14-E-A-6"	7/16/18	0.5	--	2.71
	SSI-14-E-A-18"	7/16/18	1.5	--	27.3
	SSI-14-E-A-36"	7/16/18	3.0	--	49.5
	SSI-14-E-A-48"	7/16/18	4.0	--	44.6
	SSI-14-E-A-60"	7/16/18	5.0	--	8.07
	SSI-14-E-B-6"	7/16/18	0.5	--	12.9
	SSI-14-E-B-18"	7/16/18	1.5	--	9.01
	SSI-14-E-B-36"	7/16/18	3.0	--	5.99
	SSI-14-E-B-48"	7/16/18	4.0	--	11.5
	SSI-14-E-C-36"	7/16/18	3.0	--	30.3
	SSI-14-E-C-48"	7/16/18	4.0	--	13.2
	SSI-14-E-C-60"	7/16/18	5.0	--	16.5
	SSI-14-E-C-120"	7/16/18	10.0	--	2.73
	SSI-14-E-D-6"	7/16/18	0.5	--	36
	SSI-14-E-D-18"	7/16/18	1.5	--	52.5
	SSI-14-E-D-120"	7/16/18	10.0	--	2.04
	SSI-14-S-6"	6/13/18	0.5	--	8.78
	SSI-14-S-18"	6/13/18	1.5	32.8	12.1
	SSI-14-S-36"	6/13/18	3.0	--	5.30
	SSI-14-S-48"	6/13/18	4.0	--	1.89
	SSI-14-S-A-18"	7/16/18	1.5	--	22.9
	SSI-14-S-A-36"	7/16/18	3.0	--	4.5
	SSI-14-S-B-18"	7/16/18	1.5	--	13.6
	SSI-14-S-B-36"	7/16/18	3.0	--	5.96

TABLE 4
STATISTICAL ANALYSIS OF LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
JH-14 (cont.)	SSI-14-S-C-18"	7/16/18	1.5	--	12.0
	SSI-14-S-C-36"	7/16/18	3.0	--	7.07
	SSI-14-S-D-18"	7/16/18	1.5	--	9.99
	SSI-14-S-F-18"	7/16/18	1.5	--	57.1
	SSI-14-S-F-36"	7/16/18	3.0	--	18.2
	SSI-14-S-F-48"	7/16/18	4.0	--	2.38
	SSI-14-S-G-18"	7/16/18	1.5	--	12.9
	SSI-14-S-G-36"	7/16/18	3.0	--	7.49
JH-15	SSI-15-6"	6/11/18	0.5	--	15.5
	SSI-15-18"	6/11/18	1.5	252	90.2
	SSI-15-36"	6/11/18	3.0	10.3	144
	SSI-15-48"	6/11/18	4.0	--	54.8
	SSI-15-60"	6/11/18	5.0	--	50.7
	SSI-15-90"	7/16/18	7.5	--	44.5
	SSI-15-120"	7/16/18	10.0	--	17.7
	SSI-15-150"	7/16/18	12.5	--	6.18
	SSI-15-A-6"	7/16/18	0.5	--	42.5
	SSI-15-A-18"	7/16/18	1.5	195	118
	SSI-15-A-36"	7/16/18	3.0	18.3	109
	SSI-15-A-48"	7/16/18	4.0	--	57.8
	SSI-15-A-60"	7/16/18	5.0	--	63.5
	SSI-15-A-90"	7/16/18	7.5	--	53.5
	SSI-15-A-120"	7/16/18	10.0	--	20.1
	SSI-15-B-6"	7/16/18	0.5	--	32.4
	SSI-15-B-18"	7/16/18	1.5	6.42	8.86
	SSI-15-B-36"	7/16/18	3.0	--	11.7
	SSI-15-B-48"	7/16/18	4.0	--	54.9
	SSI-15-B-60"	7/16/18	5.0	--	41.4
	SSI-15-B-90"	7/16/18	7.5	--	5.09
	SSI-15-C-6"	7/16/18	0.5	--	180
	SSI-15-C-18"	7/16/18	1.5	11.8	204
	SSI-15-C-36"	7/16/18	3.0	--	109
	SSI-15-C-48"	7/16/18	4.0	--	114
	SSI-15-C-60"	7/16/18	5.0	--	50.9
	SSI-15-C-90"	7/16/18	7.5	--	60.6
	SSI-15-C-120"	7/16/18	10.0	--	65.9
	SSI-15-D-6"	7/16/18	0.5	--	10.3
	SSI-15-D-48"	7/16/18	4.0	--	4.80
	SSI-15-F-6"	7/16/18	0.5	--	8.76
	SSI-15-F-18"	7/16/18	1.5	--	89.1
	SSI-15-F-48"	7/16/18	4.0	--	107
	SSI-15-F-120"	7/16/18	10.0	--	3.32
JH-17	SSI-17-E-6"	6/11/18	0.5	--	4.3
	SSI-17-W-6"	6/11/18	0.5	--	23.8
	SSI-17-W-24"	6/11/18	2.0	--	41.1
	SSI-17-W-48"	7/17/18	4.0	--	3.57
	SSI-17-W-A-6"	7/17/18	0.5	--	6.35
	SSI-17-W-A-24"	7/17/18	2.0	--	3.77
	SSI-17-W-B-6"	7/17/18	0.5	--	11.1
	SSI-17-W-B-24"	7/17/18	2.0	--	6.12
	SSI-17-W-C-6"	7/17/18	0.5	--	4.02
	SSI-17-W-C-24"	7/17/18	2.0	--	4.99

TABLE 4
STATISTICAL ANALYSIS OF LEAD AND ARSENIC IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
JH-18	SSI-18-E-6"	6/11/18	0.5	--	11.1
	SSI-18-W-6"	6/11/18	0.5	--	20.2
	SSI-18-W-24"	6/11/18	2.0	--	4.70
	SSI-18-W-A-6"	7/18/18	0.5	--	15.5
	SSI-18-W-A-24"	7/18/18	2.0	--	3.04
	SSI-18-W-B-6"	7/18/18	0.5	--	3.73
	SSI-18-W-C-6"	7/18/18	0.5	--	10.7
	SSI-18-W-D-6"	7/18/18	0.5	--	8.51
JH-19	SSI-19-E-18"	6/11/18	1.5	11.3	--
	SSI-19-W-18"	6/11/18	1.5	21.8	--
JH-28	SSI-28-E-6"	6/12/18	0.5	33.4	--
	SSI-28-N-6"	6/12/18	0.5	17.4	--
	SSI-28-W/29-E-6"	6/12/18	0.5	31.2	--
JH-29	SSI-29-W-6"	6/12/18	0.5	46.7	--
	SSI-29-N-6"	6/12/18	0.5	26.6	--
JH-30	SSI-30-S-6"	6/12/18	0.5	--	140
	SSI-30-S-24"	6/12/18	2.0	--	226
	SSI-30-S-36"	7/18/18	3.0	--	119
	SSI-30-S-60"	7/18/18	5.0	--	3.08
	SSI-30-S-A-6"	7/18/18	0.5	--	2.31
	SSI-30-S-A-36"	7/18/18	3.0	--	7.47
	SSI-30-S-B-6"	7/18/18	0.5	--	143
	SSI-30-S-B-24"	7/18/18	2.0	--	123
	SSI-30-S-B-36"	7/18/18	3.0	--	96.6
	SSI-30-S-B-60"	8/10/18	5.0	--	23.4
	SSI-30-S-B-90"	8/10/18	7.5	--	1.93
	SSI-30-S-C-6"	7/18/18	0.5	--	2.58
	SSI-30-S-C-36"	7/18/18	3.0	--	2.32
	SSI-30-S-D-6"	7/18/18	0.5	--	27.8
	SSI-30-S-D-36"	7/18/18	3.0	--	1.92
	SSI-30-W-6"	6/12/18	0.5	--	39.0
	SSI-30-W-24"	6/12/18	2.0	--	1.67
	SSI-30-W-A-6"	7/18/18	0.5	--	8.32
	SSI-30-W-B-6"	7/18/18	0.5	--	2.90
	SSI-30-W-C-6"	7/18/18	0.5	--	3.07
	SSI-30-N-6"	6/12/18	0.5	--	33.8
	SSI-30-N-24"	6/12/18	2.0	--	2.77
	SSI-30-N-A-6"	7/18/18	0.5	--	13.9
	SSI-30-N-A-24"	7/18/18	2.0	--	2.29
	SSI-30-N-B-6"	7/18/18	0.5	--	13.6
	SSI-30-N-B-24"	7/18/18	2.0	--	2.99
	SSI-30-N-C-6"	7/18/18	0.5	--	4.67
	SSI-30-N-D-6"	7/18/18	0.5	--	3.68
	SSI-30-N-F-6"	7/18/18	0.5	--	11.4

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LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
JH-31	SSI-31-E-6"	6/12/18	0.5	--	17.7
	SSI-31-E-24"	6/12/18	2.0	--	5.25
	SSI-31-E-A-6"	7/18/18	0.5	--	3.71
	SSI-31-E-B-6"	7/18/18	0.5	--	3.52
	SSI-31-E-C-6"	7/18/18	0.5	--	2.91
	SSI-31-S-6"	6/12/18	0.5	--	4.81
	SSI-31-W-6"	6/12/18	0.5	--	3.64
	SSI-31-N-6"	6/12/18	0.5	--	79.1
	SSI-31-N-24"	6/12/18	2.0	--	2.19
	SSI-31-N-A-6"	7/19/18	0.5	--	52.6
	SSI-31-N-A-24"	7/19/18	2.0	--	1.65
	SSI-31-N-B-6"	7/19/18	0.5	--	91.2
	SSI-31-N-B-24"	7/19/18	2.0	--	2.5
	SSI-31-N-C-6"	7/19/18	0.5	--	9.18
	SSI-31-N-D-6"	7/19/18	0.5	--	49.1
	SSI-31-N-D-24"	7/19/18	2.0	--	2.37
	SSI-31-N-F-6"	7/19/18	0.5	--	57.6
	SSI-31-N-F-24"	7/19/18	2.0	--	2.46
N/A	SSI-32-6"	6/12/18	0.5	327	21.1
	SSI-32-18"	6/12/18	1.5	68.4	18.8
	SSI-32-36"	6/12/18	3.0	4.23	2.88
	SSI-32-A-6"	7/19/18	0.5	1,220	34.6
	SSI-32-A-18"	7/19/18	1.5	13.70	5.11
	SSI-32-B-6"	7/19/18	0.5	874	55.2
	SSI-32-B-18"	7/19/18	1.5	88.5	48.2
	SSI-32-B-36"	7/19/18	3.0	8.89	10.1
	SSI-32-C-6"	7/19/18	0.5	--	6.67
	SSI-32-C-18"	7/19/18	1.5	--	5.75
	SSI-32-D-6"	7/19/18	0.5	7.78	16.9
	SSI-32-D-18"	7/19/18	1.5	--	13.7
	SSI-32-D-36"	7/19/18	3.0	--	3.46
	SSI-32-E-6"	8/10/18	0.5	--	6.72
N/A	SSI-33-6"	6/11/18	0.5	23.5	5.43
	SSI-33-18"	6/11/18	1.5	53.8	5.35
	SSI-33-36"	6/11/18	3.0	8.13	2.20
	SSI-33-S-6"	8/10/18	0.5	19.8	15.6
	SSI-33-S-18"	8/10/18	1.5	11.7	2.69
N/A	SSI-34-6"	6/11/18	0.5	23.7	4.30
	SSI-34-18"	6/11/18	1.5	271	5.18
	SSI-34-36"	6/11/18	3.0	9.72	2.87
	SSI-34-A-6"	7/19/18	0.5	152	--
	SSI-34-A-18"	7/19/18	1.5	430	--
	SSI-34-A-36"	7/19/18	3.0	11.5	--
	SSI-34-B-6"	7/19/18	0.5	31.4	--
	SSI-34-B-18"	7/19/18	1.5	11.5	--
	SSI-34-C-6"	7/19/18	0.5	52.1	--
	SSI-34-C-18"	7/19/18	1.5	14.2	--
N/A	SSI-35-6"	6/11/18	0.5	25.9	4.61
	SSI-35-18"	6/11/18	1.5	55.1	5.53
	SSI-35-36"	6/11/18	3.0	5.48	2.36

TABLE 4
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LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
N/A	SSI-36-6"	6/11/18	0.5	26.1	3.76
	SSI-36-18"	6/11/18	1.5	18.4	3.12
	SSI-36-36"	6/11/18	3.0	17.7	2.59
N/A	SSI-37-6"	6/11/18	0.5	33.8	4.70
	SSI-37-18"	6/11/18	1.5	10.9	3.49
	SSI-37-36"	6/11/18	3.0	3.86	2.55
N/A	SSI-38-6"	6/11/18	0.5	72.8	17.5
	SSI-38-18"	6/11/18	1.5	119	5.39
	SSI-38-36"	6/11/18	3.0	5.15	3.13
	SSI-38-A-6"	7/18/18	0.5	53.1	8.41
	SSI-38-A-18"	7/18/18	1.5	6.20	--
	SSI-38-B-6"	7/18/18	0.5	35.6	6.14
	SSI-38-B-18"	7/18/18	1.5	14.7	--
	SSI-38-C-6"	7/18/18	0.5	139	5.34
	SSI-38-C-18"	7/18/18	1.5	5.66	--
	SSI-38-G-6"	7/18/18	0.5	103	--
	SSI-38-G-18"	7/18/18	1.5	6.19	--
N/A	SSI-39-6"	6/11/18	0.5	44.9	10.7
	SSI-39-18"	6/11/18	1.5	43.5	4.35
	SSI-39-36"	6/11/18	3.0	4.52	2.45
N/A	SSI-40-6"	6/12/18	0.5	83.3	7.07
	SSI-40-18"	6/12/18	1.5	10.4	3.74
	SSI-40-36"	6/12/18	3.0	3.97	1.80
	SSI-40-A-6"	7/18/18	0.5	44.9	--
	SSI-40-B-6"	7/18/18	0.5	5.51	--
	SSI-40-C-6"	7/18/18	0.5	5.25	--
N/A	SSI-41-6"	6/12/18	0.5	28.5	4.22
	SSI-41-18"	6/12/18	1.5	6.94	3.06
	SSI-41-36"	6/12/18	3.0	2.37	1.37
N/A	SSI-42-6"	6/14/18	0.5	73.9	18.6
	SSI-42-18"	6/14/18	1.5	7.49	3.55
	SSI-42-36"	6/14/18	3.0	3.63	2.16
	SSI-42-A-6"	7/12/18	0.5	--	15.3
	SSI-42-A-18"	7/12/18	1.5	--	1.66
	SSI-42-B-6"	7/12/18	0.5	--	4.05
	SSI-42-C-6"	7/12/18	0.5	--	6.72
	SSI-42-D-6"	7/12/18	0.5	--	4.01
N/A	SSI-43-6"	6/14/18	0.5	10.3	3.07
	SSI-43-18"	6/14/18	1.5	8.85	6.95
	SSI-43-36"	6/14/18	3.0	3.15	15.0
	SSI-43-48"	6/14/18	4.0	--	9.47
	SSI-43-A-6"	7/12/18	0.5	--	19.7
	SSI-43-A-18"	7/12/18	1.5	--	6.63
	SSI-43-A-36"	7/12/18	3.0	--	2.76
	SSI-43-B-6"	7/12/18	0.5	--	8.56
	SSI-43-B-18"	7/12/18	1.5	--	50.7
	SSI-43-B-36"	7/12/18	3.0	--	11.0
	SSI-43-C-6"	7/12/18	0.5	--	4.55
	SSI-43-C-18"	7/12/18	1.5	--	1.91
	SSI-43-C-36"	7/12/18	3.0	--	4.52
	SSI-43-D-6"	7/12/18	0.5	--	4.43
	SSI-43-F-18"	7/12/18	1.5	--	3.95

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LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
N/A	SSI-44-6"	6/14/18	0.5	22.4	6.96
	SSI-44-18"	6/14/18	1.5	21.9	3.43
	SSI-44-36"	6/14/18	3.0	3.18	2.39
N/A	SSI-45-6"	6/14/18	0.5	26.4	5.63
	SSI-45-18"	6/14/18	1.5	173	7.05
	SSI-45-36"	6/14/18	3.0	4.04	2.67
	SSI-45-A-6"	7/13/18	0.5	82.7	--
	SSI-45-A-18"	7/13/18	1.5	258	--
	SSI-45-A-36"	7/13/18	3.0	5.14	--
	SSI-45-B-6"	7/13/18	0.5	64.5	--
	SSI-45-B-18"	7/13/18	1.5	4.32	--
	SSI-45-C-6"	7/13/18	0.5	6.82	--
	SSI-45-C-18"	7/13/18	1.5	45.1	4.50
	SSI-45-C-36"	7/13/18	3.0	186	--
	SSI-45-C-60"	8/10/18	5.0	1.68	--
	SSI-45-D-6"	7/13/18	0.5	65.9	--
	SSI-45-D-18"	7/13/18	1.5	6.47	--
	SSI-45-G-6"	7/13/18	0.5	--	23.5
	SSI-45-G-18"	7/13/18	1.5	106	16.7
	SSI-45-G-36"	7/13/18	3.0	*0.125*	4.32
N/A	SSI-46-6"	6/14/18	0.5	19.7	21.2
	SSI-46-18"	6/14/18	1.5	5.18	2.48
	SSI-46-36"	6/14/18	3.0	3.01	2.58
	SSI-46-A-6"	7/13/18	0.5	--	31.1
	SSI-46-A-18"	7/13/18	1.5	--	4.61
	SSI-46-B-6"	7/13/18	0.5	--	9.39
	SSI-46-C-6"	7/13/18	0.5	--	12.8
	SSI-46-C-18"	7/13/18	1.5	--	3.05
	SSI-46-D-6"	7/13/18	0.5	--	11.2
	SSI-46-G-6"	7/13/18	0.5	--	7.04
N/A	SSI-50-0.5'	8/11/18	0.5	48.1	3.35
N/A	SSI-51-0.5'	8/11/18	0.5	34.6	4.59
N/A	SSI-52-6"	8/10/18	0.5	41.3	8.32
N/A	SSI-53-6"	8/10/18	0.5	38.9	4.54
N/A	SSI-54-6"	8/10/18	0.5	--	3.67
N/A	SSI-55-6"	8/10/18	0.5	--	3.73
N/A	SSI-56-6"	8/10/18	0.5	69.3	13.9
	SSI-56-24"	8/10/18	2.0	--	3.96
N/A	SSI-57-18"	8/10/18	1.5	--	26.8
	SSI-57-30"	8/10/18	2.5	--	13.3
	SSI-57-42"	8/10/18	3.5	--	4.92
N/A	SSI-58-18"	8/10/18	1.5	--	7.80
N/A	SSI-59-18"	8/10/18	1.5	--	12.1
	SSI-59-42"	8/10/18	3.5	--	2.55
N/A	SSI-60-18"	8/10/18	1.5	--	27.2
	SSI-60-42"	8/10/18	3.5	--	3.60
N/A	SSI-61-18"	8/10/18	1.5	--	7.77
N/A	SSI-62-18"	8/10/18	1.5	--	4.12
N/A	SSI-63-6"	8/10/18	0.5	--	18.4
	SSI-63-18"	8/10/18	1.5	--	7.52

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LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	Lead	Arsenic
		Units	**ft bgs**	mg/kg	mg/kg
		USEPA Test Method	--	6020	6020
		Screening Level/Hazardous Waste Threshold	--	80	12
N/A	SSI-64-6"	8/10/18	0.5	48.0	25.6
	SSI-64-36"	8/10/18	3.0	7.47	5.84
Number of Samples				143	469
Number of Detects				142	469
Frequency				99%	100%
Maximum				1220	226
Minimum				0.13	0.93
Arithmetic Mean				54.32	19.97
Standard Deviation				136.17	30.19
tn-1(0.05)				1.659	1.654
95% UCL				73.21	22.27
Reporting Limit				0.250	0.500

Notes:

Arsenic and lead analyzed by USEPA Method 6020

ft bgs = feet below ground surface

mg/kg = milligrams per kilogram

"--" = not analyzed

Concentration exceeds screening level

Numbers in italics are 1/2 the detection limit.

UCL- Upper Confidence Limit

Calculation for 95% UCL: arith.mean + {tn-1(0.05)*[std dev/(# samples)^.5]}

The maximum concentrations detected in duplicate samples were used in the statistical analysis.

TABLE 5

STATISTICAL ANALYSIS OF COMBINED ANALYTICAL RESULTS FOR TPH IN SOIL

LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	TPH-g	TPH-d	TPH-o
		Units	ft bgs	mg/kg	mg/kg	mg/kg
		USEPA Test Method	--	8015M	8015M	8015M
SFB RWQCB ONL/LA RWQCB SSL (GW protection)			--	500	1,000	10,000
JH-21	A-10'	6/12/18	10	*0.05*	*0.5*	*0.5*
	A-15'	6/12/18	15	*0.05*	*0.5*	*0.5*
	A-20'	6/12/18	20	*0.05*	2,110	*0.5*
	A-25'	6/12/18	25	*0.05*	*0.5*	*0.5*
	B-10'	6/12/18	10	*0.05*	*0.5*	*0.5*
	DUP8	6/12/18	10	*0.05*	*0.5*	*0.5*
	B-15'	6/12/18	15	*0.05*	*0.5*	*0.5*
	B-20	6/12/18	20	*0.05*	*0.5*	*0.5*
	B-25	6/12/18	25	*0.05*	*0.5*	*0.5*
	C-10	6/12/18	10	*0.05*	*0.5*	*0.5*
	C-15	6/12/18	15	*0.05*	*0.5*	*0.5*
	C-20	6/12/18	20	*0.05*	*0.5*	*0.5*
	C-25	6/12/18	25	*0.05*	*0.5*	*0.5*
n/a	SSI-34-10'	7/19/18	10	*0.05*	*0.5*	*0.5*
	SSI-34-15'	7/19/18	15	*0.05*	*0.5*	*0.5*
	SSI-34-20'	7/19/18	20	*0.05*	*0.5*	*0.5*
	SSI-34-25'	7/19/18	25	*0.05*	*0.5*	*0.5*
n/a	SSI-36-60"	6/11/18	5	53.2	3,760	295
	SSI-36-10'	6/14/18	10	388	6,220	289
	SSI-36-15'	6/14/18	15	464	1,580	41.1
	SSI-36-20'	6/14/18	20	*0.05*	1,640	37.1
	SSI-36-25'	6/14/18	25	*0.05*	*0.5*	*0.5*
	SSI-36-30'	6/14/18	30	*0.05*	*0.5*	*0.5*
n/a	SSI-47-10'	7/19/18	10	*0.05*	*0.5*	*0.5*
	SSI-47-15'	7/19/18	15	*0.05*	652	252
	SSI-47-20'	7/19/18	20	*0.05*	6.5	*0.5*
	DUP58	7/19/18	20	*0.05*	*0.5*	*0.5*
	SSI-47-25'	7/19/18	25	*0.05*	*0.5*	*0.5*
n/a	SSI-48-10'	7/19/18	10	*0.05*	*0.5*	*0.5*
	SSI-48-15'	7/19/18	15	*0.05*	309	40.5
	SSI-48-20'	7/19/18	20	*0.05*	*0.5*	*0.5*
	DUP59	7/19/18	20	*0.05*	*0.5*	*0.5*
	SSI-48-25'	7/19/18	25	*0.05*	*0.5*	*0.5*

TABLE 5
STATISTICAL ANALYSIS OF COMBINED ANALYTICAL RESULTS FOR TPH IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	TPH-g	TPH-d	TPH-o
		Units	ft bgs	mg/kg	mg/kg	mg/kg
		USEPA Test Method	--	8015M	8015M	8015M
SFB RWQCB ONL/LA RWQCB SSL (GW protection)			--	500	1,000	10,000
n/a	SSI-49-10'	7/19/18	10	*0.05*	*0.5*	*0.5*
	SSI-49-15'	7/19/18	15	*0.05*	*0.5*	*0.5*
	SSI-49-20'	7/19/18	20	*0.05*	*0.5*	*0.5*
	SSI-49-25'	7/19/18	25	*0.05*	*0.5*	*0.5*
n/a	SSI-50-15'	8/13/18	15	*0.05*	*0.5*	*0.5*
	DUP63	8/13/18	15	*0.05*	*0.5*	*0.5*
	SSI-50-20'	8/13/18	20	*0.05*	*0.5*	*0.5*
n/a	SSI-51-15'	8/13/18	15	*0.05*	*0.5*	*0.5*
	SSI-51-20'	8/13/18	20	*0.05*	*0.5*	*0.5*
n/a	30N/645E/DPT68-5	12/7/16	5	*0.25*	*12.5*	*200*
	30N/645E/DPT68-5-DUP527	12/7/16	5	*0.25*	*12.5*	*200*
	30N/645E/DPT68-10	12/7/16	10	*0.25*	*12.5*	*200*
	30N/645E/DPT68-15	12/7/16	15	*0.25*	*12.5*	*200*
	30N/645E/DPT68-20	12/7/16	20	*0.25*	*12.5*	*200*
	30N/645E/DPT68-25	12/7/16	25	*0.25*	*12.5*	*200*
n/a	30N/675E/DPT69-5	12/7/16	5	*0.25*	*12.5*	*200*
	30N/675E/DPT69-10	12/7/16	10	*0.25*	*12.5*	*200*
	30N/675E/DPT69-15	12/7/16	15	984	14,400	*200*
	30N/675E/DPT69-15-DUP528	12/7/16	15	4.62	2,130	*200*
	30N/675E/DPT69-20	12/7/16	20	*0.25*	*12.5*	*200*
	30N/675E/DPT69-25	12/7/16	25	*0.25*	*12.5*	*200*
n/a	30N/695E/DPT70-5	12/7/16	5	*0.25*	*12.5*	*200*
	30N/695E/DPT70-10	12/7/16	10	*0.25*	*12.5*	*200*
	30N/695E/DPT70-15	12/7/16	15	*0.25*	138	*200*
	30N/695E/DPT70-20	12/7/16	20	18.2	5,630	*200*
	30N/695E/DPT70-20-DUP529	12/7/16	20	298	4,600	*200*
	30N/695E/DPT70-25	12/7/16	25	*0.25*	*12.5*	*200*
n/a	30N/720E/DPT71-5	12/7/16	5	*0.25*	*12.5*	*200*
	30N/720E/DPT71-10	12/7/16	10	*0.25*	*12.5*	*200*
	30N/720E/DPT71-15	12/7/16	15	*0.25*	*12.5*	*200*
	30N/720E/DPT71-20	12/7/16	20	26.0	225	*200*
	30N/7205E/DPT71-25	12/7/16	25	*0.25*	*12.5*	*200*

TABLE 5
STATISTICAL ANALYSIS OF COMBINED ANALYTICAL RESULTS FOR TPH IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	TPH-g	TPH-d	TPH-o
		Units	ft bgs	mg/kg	mg/kg	mg/kg
		USEPA Test Method	--	8015M	8015M	8015M
SFB RWQCB ONL/LA RWQCB SSL (GW protection)			--	500	1,000	10,000
n/a	50N/645E/DPT65-5	12/7/16	5	*0.25*	*12.5*	*200*
	50N/645E/DPT65-10	12/7/16	10	*0.25*	*12.5*	*200*
	50N/645E/DPT65-15	12/7/16	15	*0.25*	*12.5*	*200*
	50N/645E/DPT65-20	12/7/16	20	*0.25*	*12.5*	*200*
	50N/645E/DPT65-25	12/7/16	25	*0.25*	*12.5*	*200*
	50N/645E/DPT65-25-DUP526	12/7/16	25	*0.25*	*12.5*	*200*
n/a	50N/695E/DPT66-5	12/7/16	5	9.3	3,070	*200*
	50N/695E/DPT66-10	12/7/16	10	22.3	11,100	460
	50N/695E/DPT66-15	12/7/16	15	23.3	8,490	*200*
	50N/695E/DPT66-20	12/7/16	20	1,050	10,800	*200*
	50N/695E/DPT66-25	12/7/16	25	0.763	*12.5*	*200*
n/a	50N/720E/DPT67-5	12/7/16	5	*0.25*	*12.5*	*200*
	50N/720E/DPT67-10	12/7/16	10	*0.25*	*12.5*	*200*
	50N/720E/DPT67-15	12/7/16	15	*0.25*	*12.5*	*200*
	50N/720E/DPT67-20	12/7/16	20	0.749	169	*200*
	50N/720E/DPT67-25	12/7/16	25	*0.25*	*12.5*	*200*
n/a	50.5N/662E/DPT50-5	9/23/16	5	12.2	10,300	*200*
	50.5N/662E/DPT50-10	9/23/16	10	1,290	20,300	*200*
	50.5N/662E/DPT50-15	9/23/16	15	12.9	3,680	*200*
	50.5N/662E/DPT50-20	9/23/16	20	335	1,390	*200*
	50.5N/662E/DPT50-25	9/23/16	25	*0.25*	*12.5*	*200*
	50.5N/662E/DPT50-30	9/23/16	30	*0.25*	*12.5*	*200*
	50.5N/662E/DPT50-35	9/23/16	35	*0.25*	*12.5*	*200*
	50.5N/662E/DPT50-40	9/23/16	40	*0.25*	*12.5*	*200*
Number of Samples				89	89	89
Number of Detects				18	23	7
Frequency				20%	26%	8%
Maximum				1290	20300	460
Minimum				0.05	0.50	0.50
Arithmetic Mean				56.21	1270.97	119.47
Standard Deviation				213.89	3436.24	107.67
tn-1(0.05)				1.666	1.666	1.666
95% UCL				93.98	1877.80	138.48

TABLE 5
STATISTICAL ANALYSIS OF COMBINED ANALYTICAL RESULTS FOR TPH IN SOIL
LAUSD David Starr Jordan Senior High School SSI

Location	Sample ID	Sample Date	Sample Depth	TPH-g	TPH-d	TPH-o
		Units	ft bgs	mg/kg	mg/kg	mg/kg
		USEPA Test Method	--	8015M	8015M	8015M
SFB RWQCB ONL/LA RWQCB SSL (GW protection)			--	500	1,000	10,000
Reporting Limit				0.100	1.000	1.000

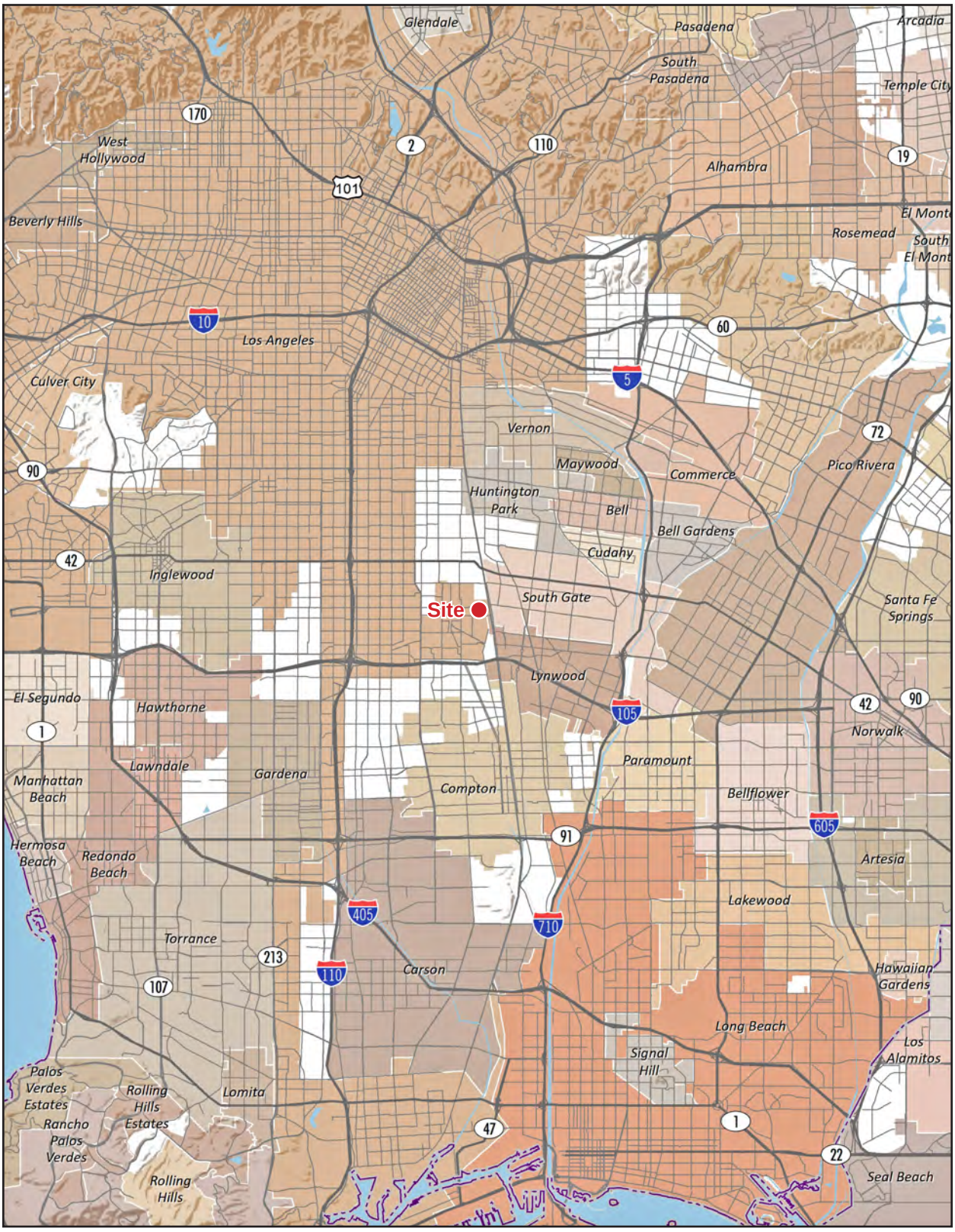
TPH-g = total petroleum hydrocarbons in the gasoline range (C4-C12)
TPH-d = total petroleum hydrocarbons in the diesel range (C13-C22)
TPH-o = total petroleum hydrocarbons in the oil range (C23-C40)
ft bgs = feet below ground surface
mg/kg = milligrams/kilogram
SFB RWQCB = San Francisco Bay Regional Water Quality Control Board
LA RWQCB = Los Angeles Regional Water Quality Control Board
ONL = Odor Nuisance Level; SSL = Soil Screening Level
SL = Screening Level; GW = Groundwater
Reporting Limits were as follows for Anderson Environmental data: TPH-g - 0.5 mg/kg; TPH-d - 25 mg/kg; TPH-o - 400 mg/kg
Numbers in italics are 1/2 the detection limit.
UCL- Upper Confidence Limit
Calculation for 95% UCL: arith.mean + {tn-1(0.05)*[std dev/(# samples)^.5]}
The maximum concentrations detected in duplicate samples were used in the statistical analysis.

TABLE 6
ESTIMATED IN-SITU SOIL REMOVAL VOLUMES
LAUSD David Starr Jordan Senior High School SSI

Excavation Area Name	Surface Area (ft^2)	Bottom (ft bgs)	Total Volume (yd^3)	Volume of Cal-Hazardous Waste (yd^3)	Volume of Non-Hazardous Waste (yd^3)
2	100	2.5	9.26		9.26
3	100	2.5	9.26		9.26
3-N/59	2400	5	444		444
4	100	2.5	9.26		9.26
4-N/61	625	5	116		116
5/5-N	1400	1.5	77.8		77.8
6	100	2.5	9.26		9.26
6-E/6-N/10-S	1050	5	194		194
6-S	225	2.5	20.8		20.8
7	100	5	18.5		18.5
7-N	600	4	38.5	1.39	37.11
7-S	225	2.5	20.8		20.8
8	100	2.5	9.26		9.26
8-E	500	4	74.1		74.1
10	300	7.5	83.3		83.3
12	600	10	222		222
12-S/13-S	600	5	111		111
13	100	4	14.8		14.8
13-W	450	10	167		167
14/14-E/16	1050	10	389	3.70	385.3
14-S	750	4	111		111
15	100	15	55.6	22.2	33.4
17	100	1.5	5.56		5.56
17-W	100	4	14.8		14.8
18	100	1.5	5.56		5.56
18-W	150	2	11.1		11.1
19	450	3	50		50
28	450	1.5	25		25
29	450	1.5	25		25
30	100	1.5	5.56		5.56
30-N/56	600	2	44.4		44.4
30-S	250	7.5	69.4	11.1	58.3
30-W	100	2	7.41		7.41
31	100	1.5	5.56		5.56
31-E	100	2	7.41		7.41
31-N	600	2	44.4		44.4
32/33-S	650	3	72.2	3.70	68.5
34	150	3	16.7	8.33	8.37
36	1355	10-20	652		652
38	250	3	27.8	2.78	25.02
40	100	1.5	5.56		5.56
42	225	1.5	12.5		12.5
43	300	4	44.4		44.4
45/64	600	5	111	22.2	88.8
46	300	1.5	16.7		16.7
Grand Total (yd^3)			**3484.52**	**75.4**	**3409.12**

Figures

Figure 1 - Site Location



Note: Unincorporated county areas are shown in white.

0 3
Scale (Miles)

Source: ESRI, 2018

Figure 2 - Aerial Photograph

School Boundary

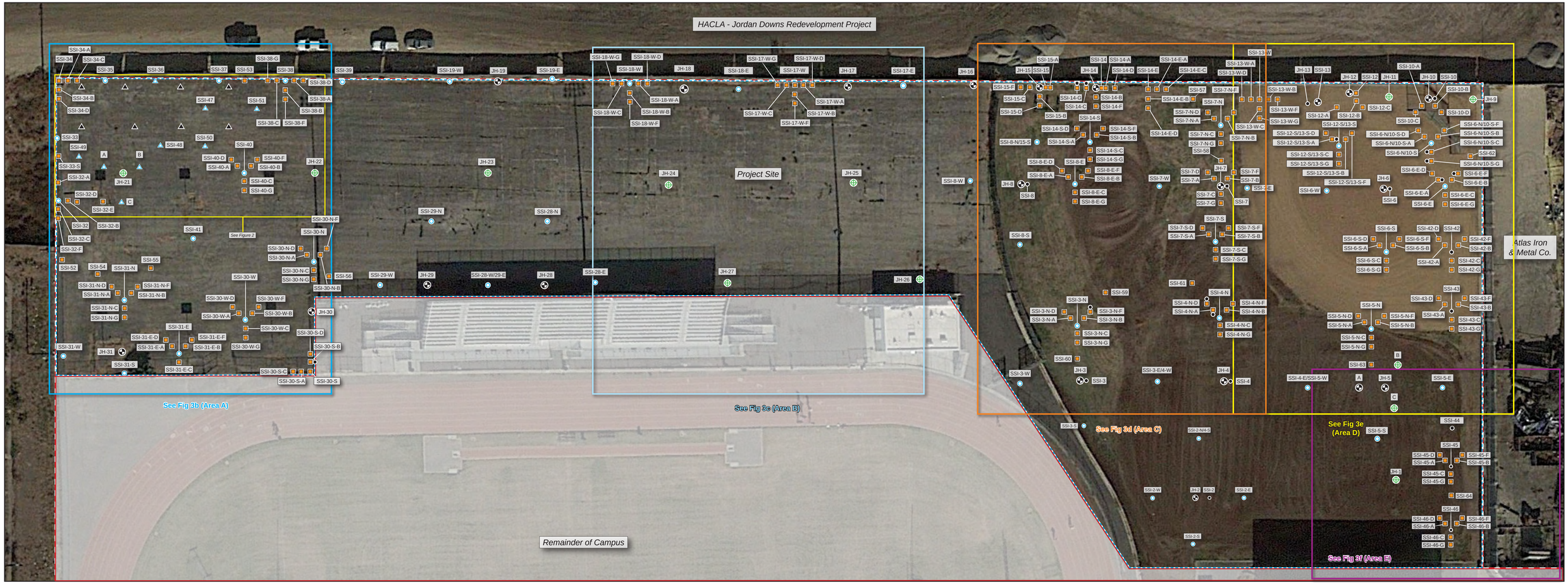
Southern Boundary of Site

0 350

Scale (Feet)

Source: Google Earth Pro, 2017

Figure 3a - Sample Locations



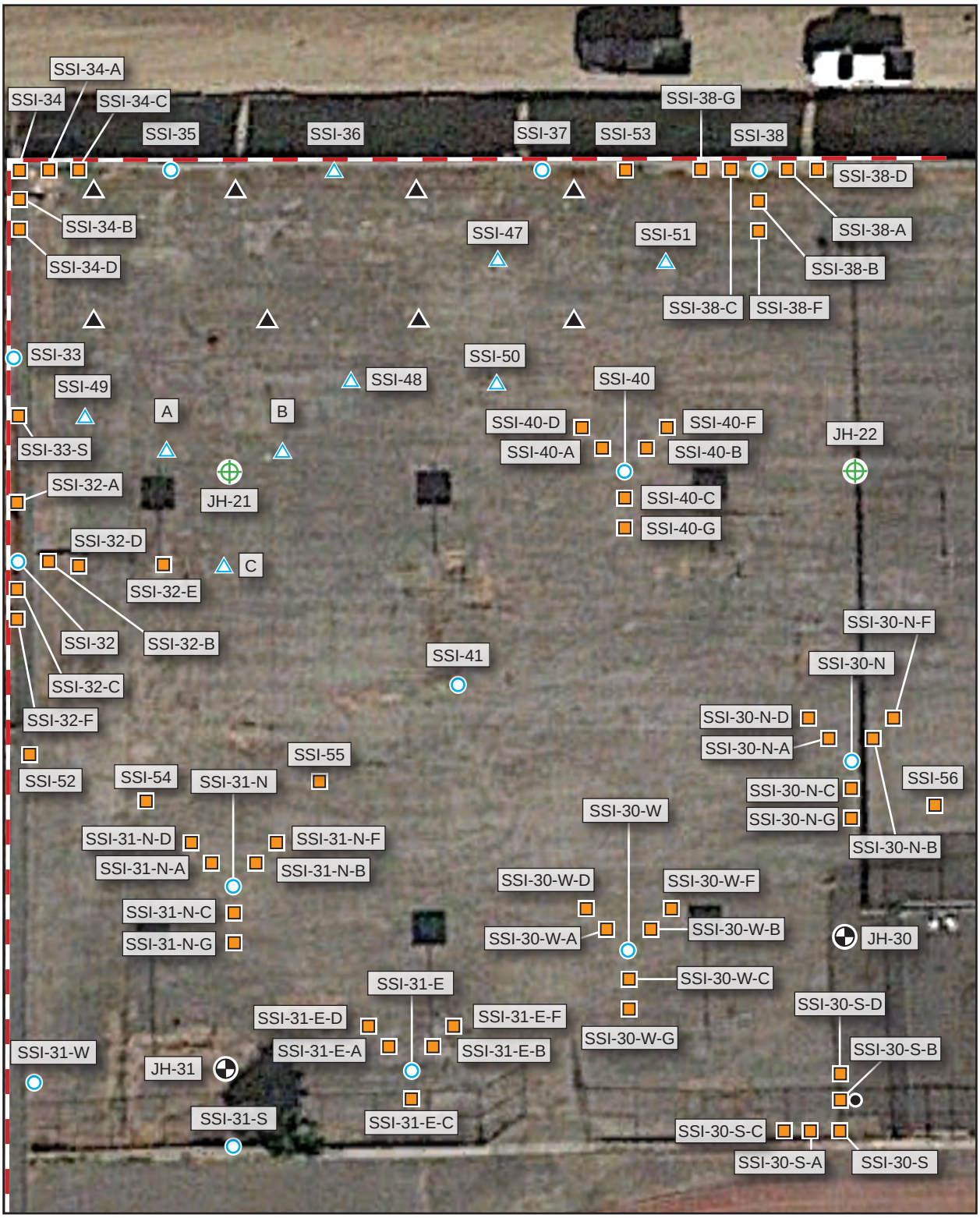
Project Boundary
School Boundary
Southern Boundary of Site
Clean Sample Location
Impacted Soil Sample Location
Vertical Delineation Sample
SSI Sample Location
Current TPH Sample Location
A-C SSI TPH Sample Location
Additional Samples

Source: ESRI, 2018

0 20
Scale (Feet)

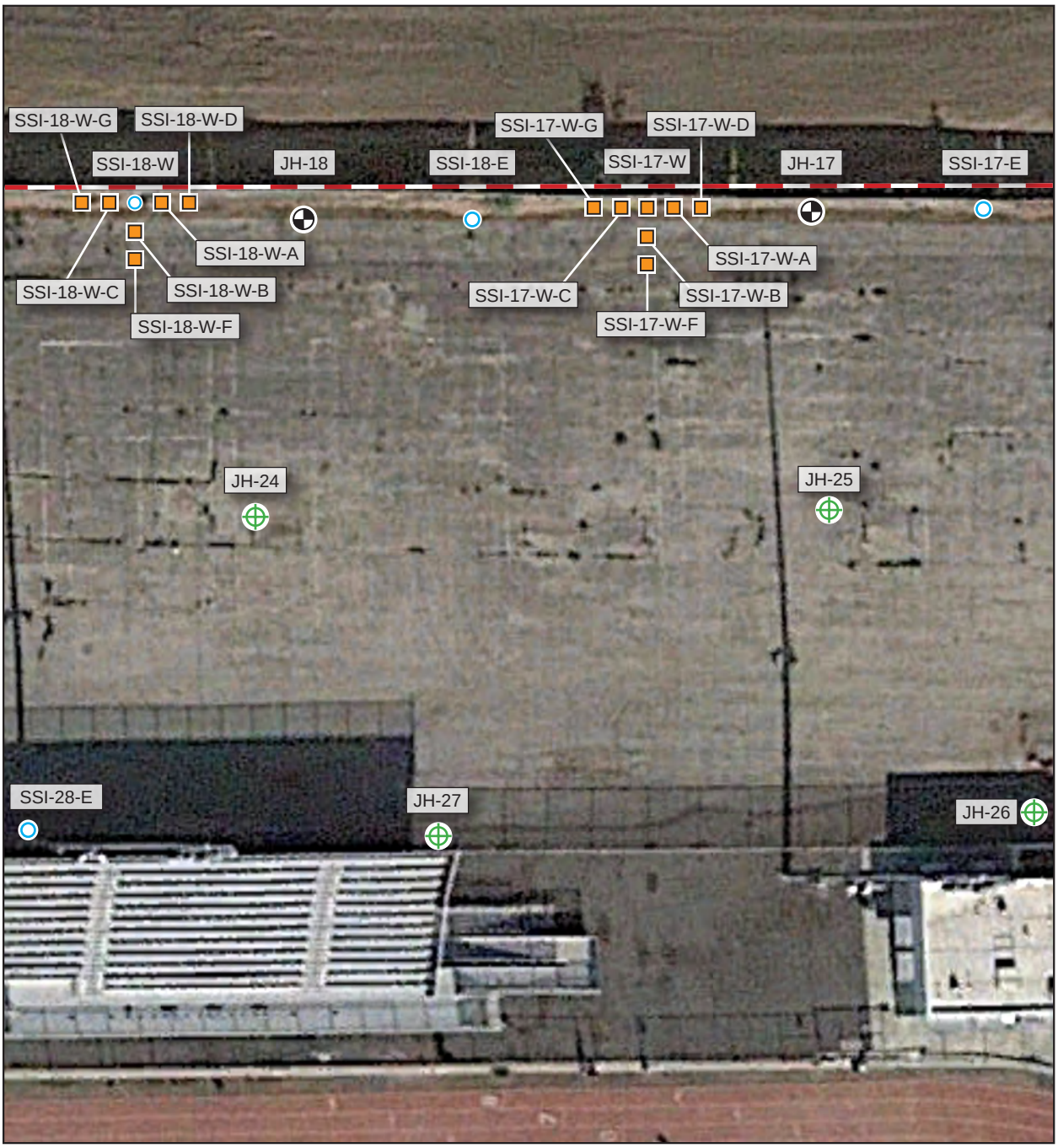
PlanWorks

Figure 3b - Lead and Arsenic Sample Locations - Area A



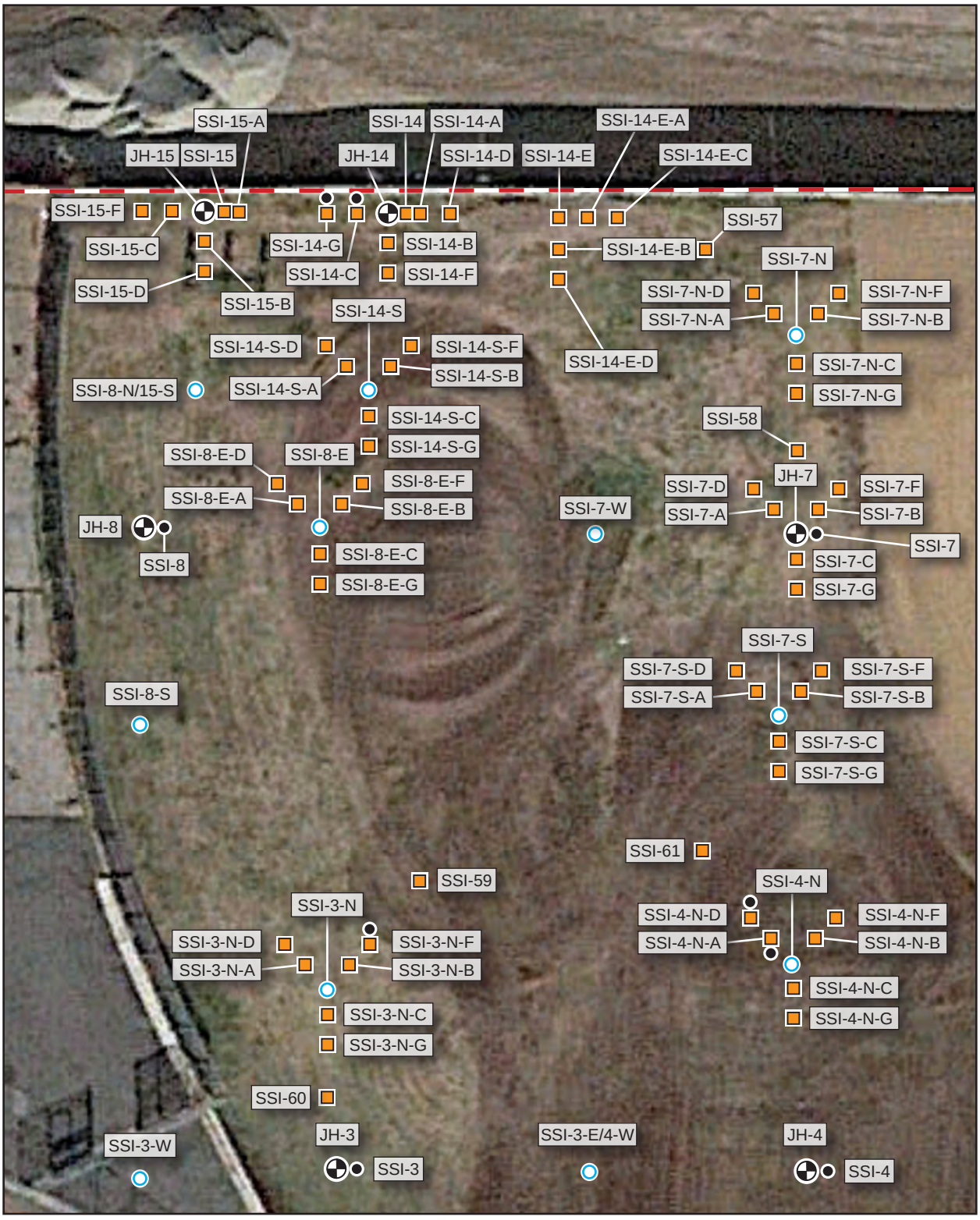
Source: ESRI, 2018

Figure 3c - Lead and Arsenic Sample Locations - Area B



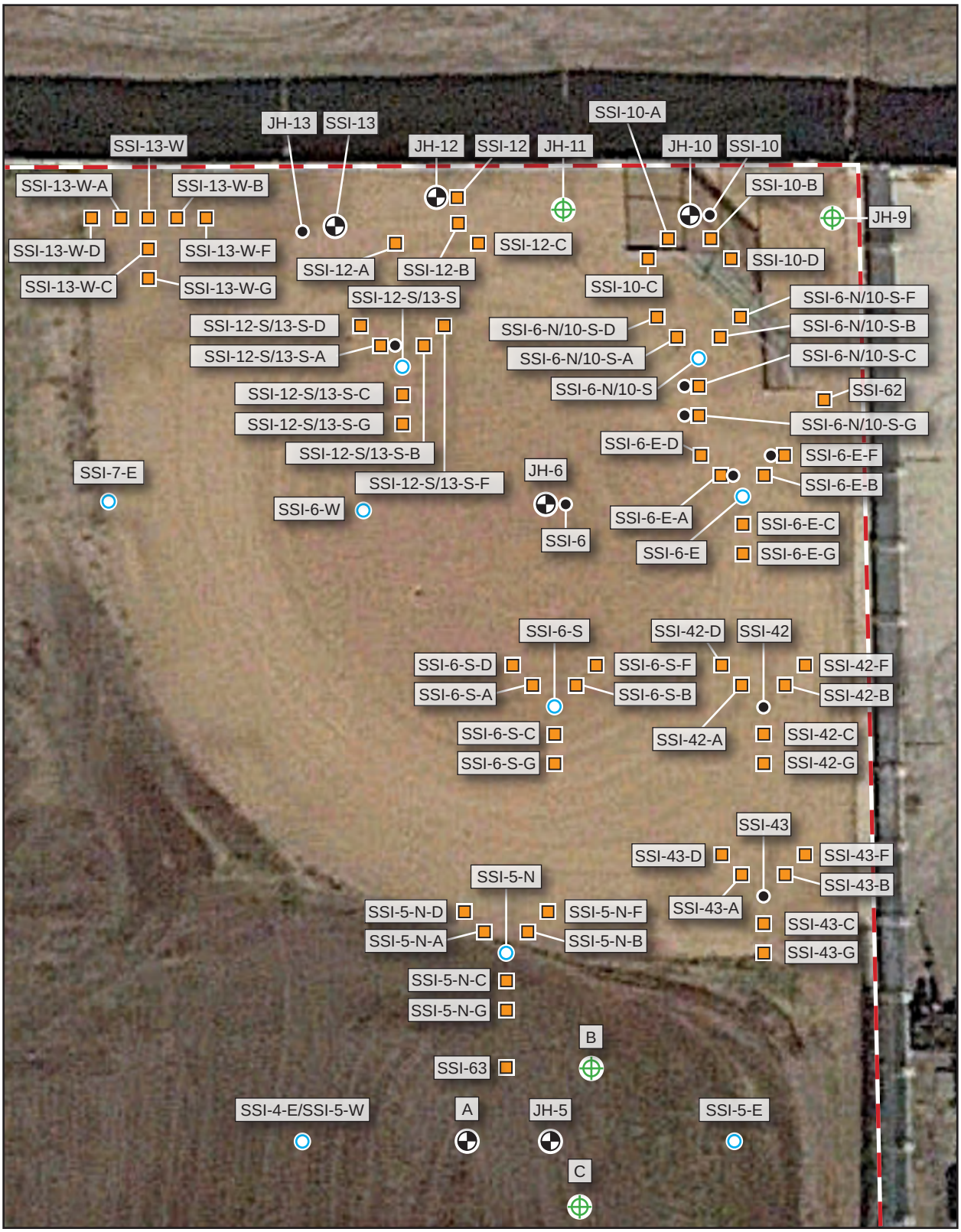
Source: ESRI, 2018

Figure 3d - Lead and Arsenic Sample Locations - Area C



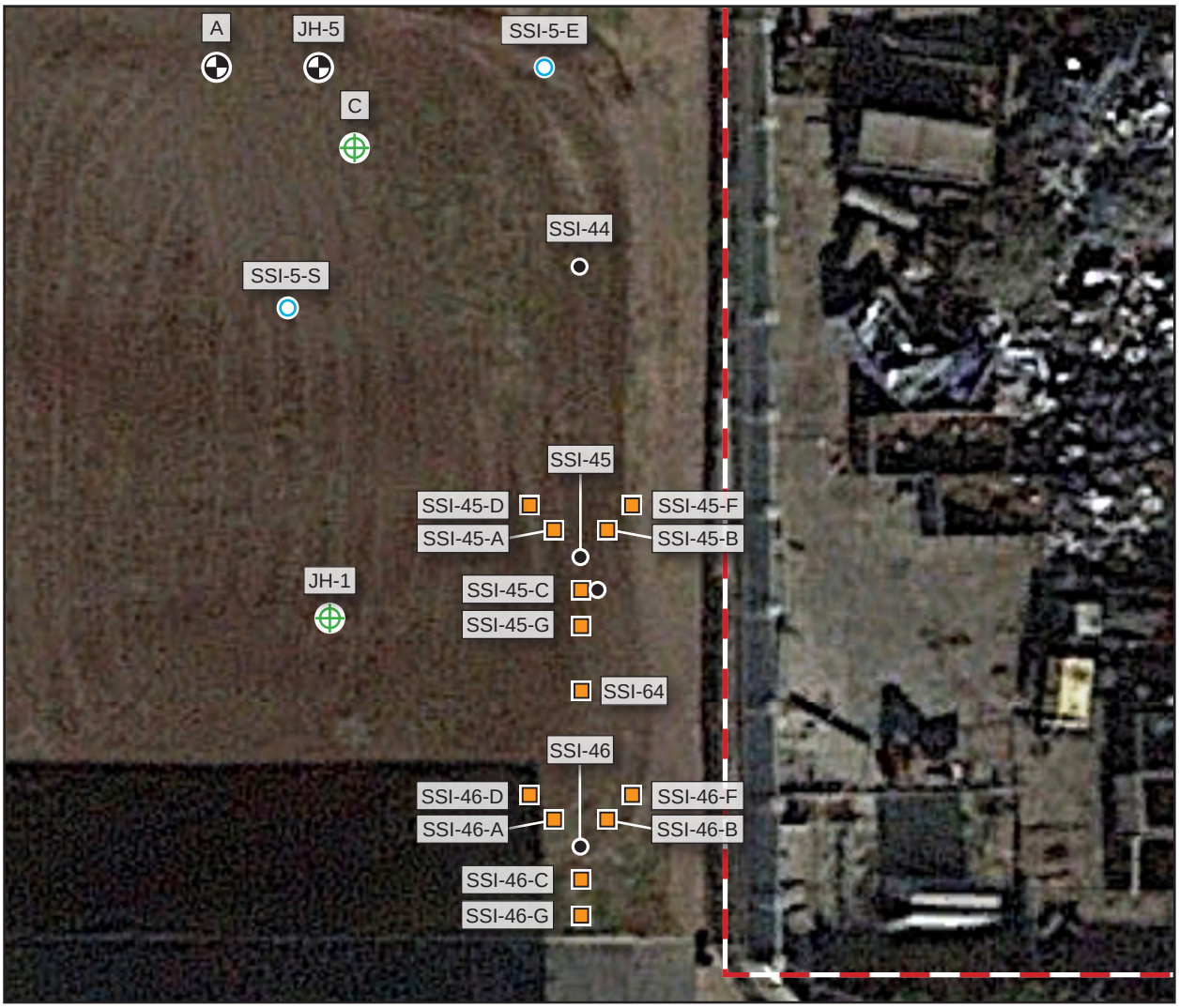
Source: ESRI, 2018

Figure 3e - Lead and Arsenic Sample Locations - Area D



Source: ESRI, 2018

Figure 3f - Lead and Arsenic Sample Locations - Area E

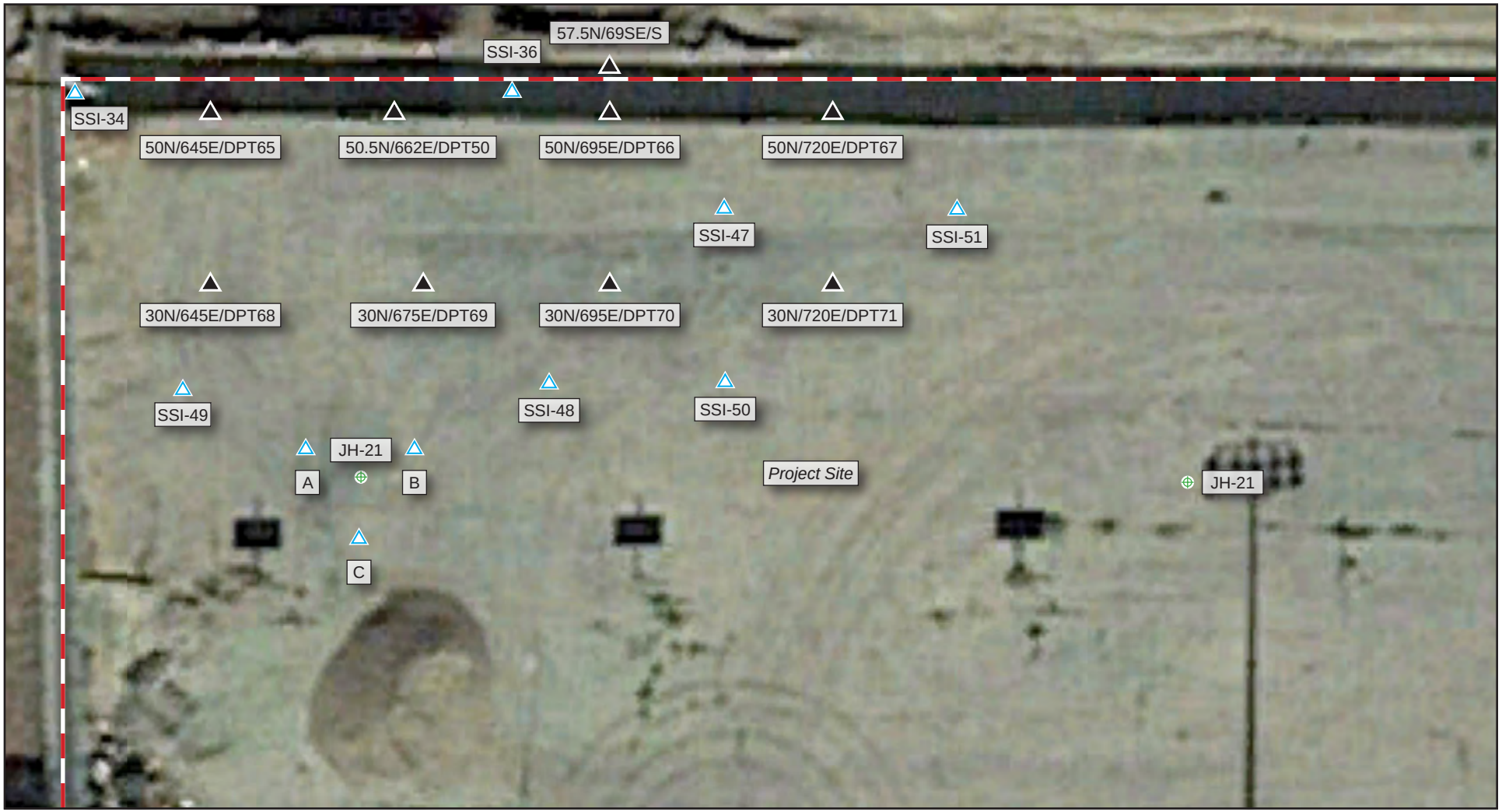


School Boundary
SSI Sample Location
Clean Sample Location
Impacted Soil Sample Location
Vertical Delineation Sample
Additional Samples

0 25
Scale (Feet)

Source: ESRI, 2018

Figure 4 - TPH Sample Locations

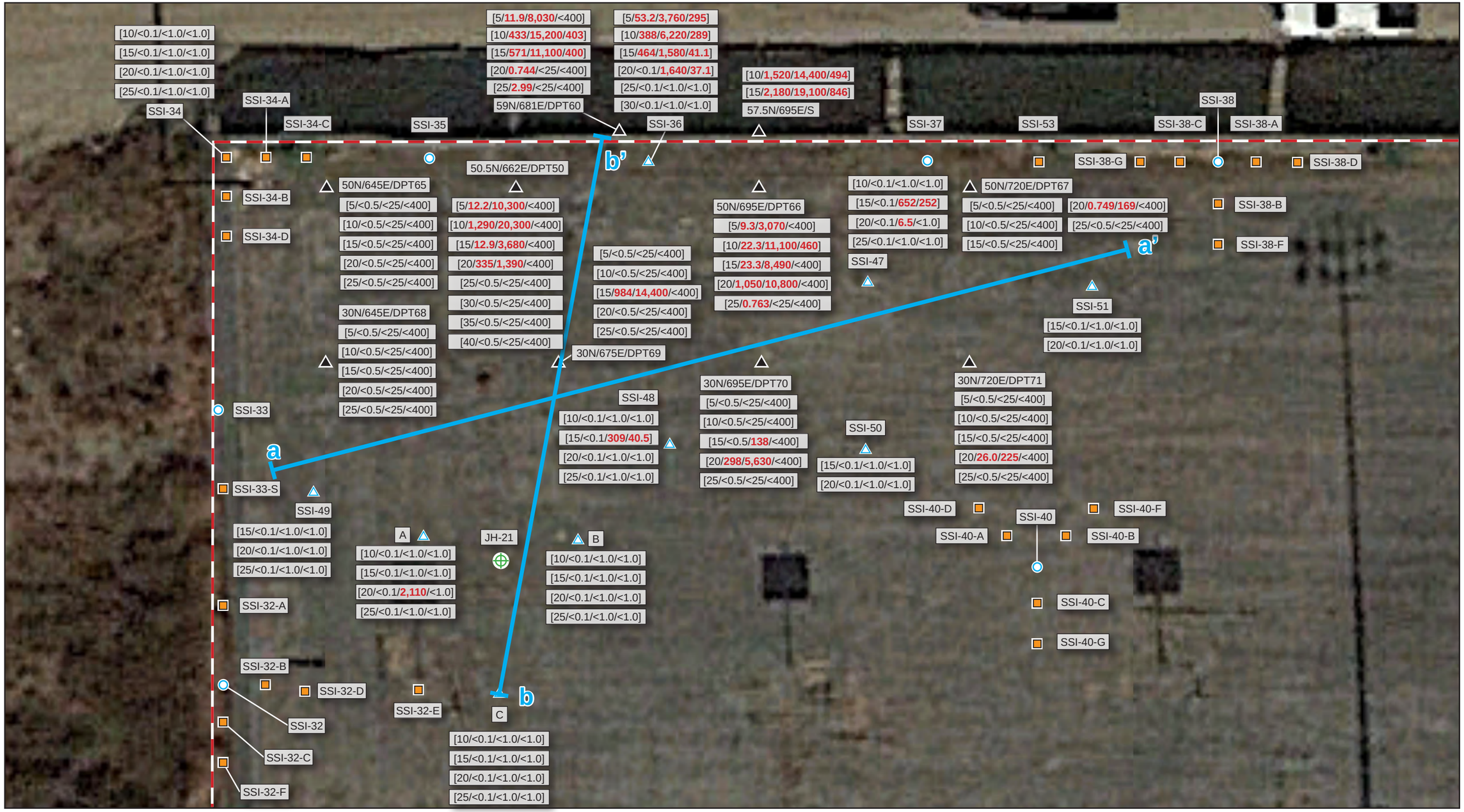


Source: Google Earth Pro, 2017

Figure 5 - TPH-d Concentrations in Soil - Area A

Source: Google Earth Pro, 2017

Figure 6a - Plan View



School Boundary
SSI Sample Location
Current TPH Sample Location
Additional Samples
Clean Sample Location
A-C SSI TPH Sample Location

Note: Depth in feet/TPH-g concentration in mg/kg/TPH-d concentration in mg/kg/TPH-o concentration in mg/kg

0 15
Scale (Feet)

Source: Google Earth Pro, 2018

Figure 6b - a-a' Cross-Section

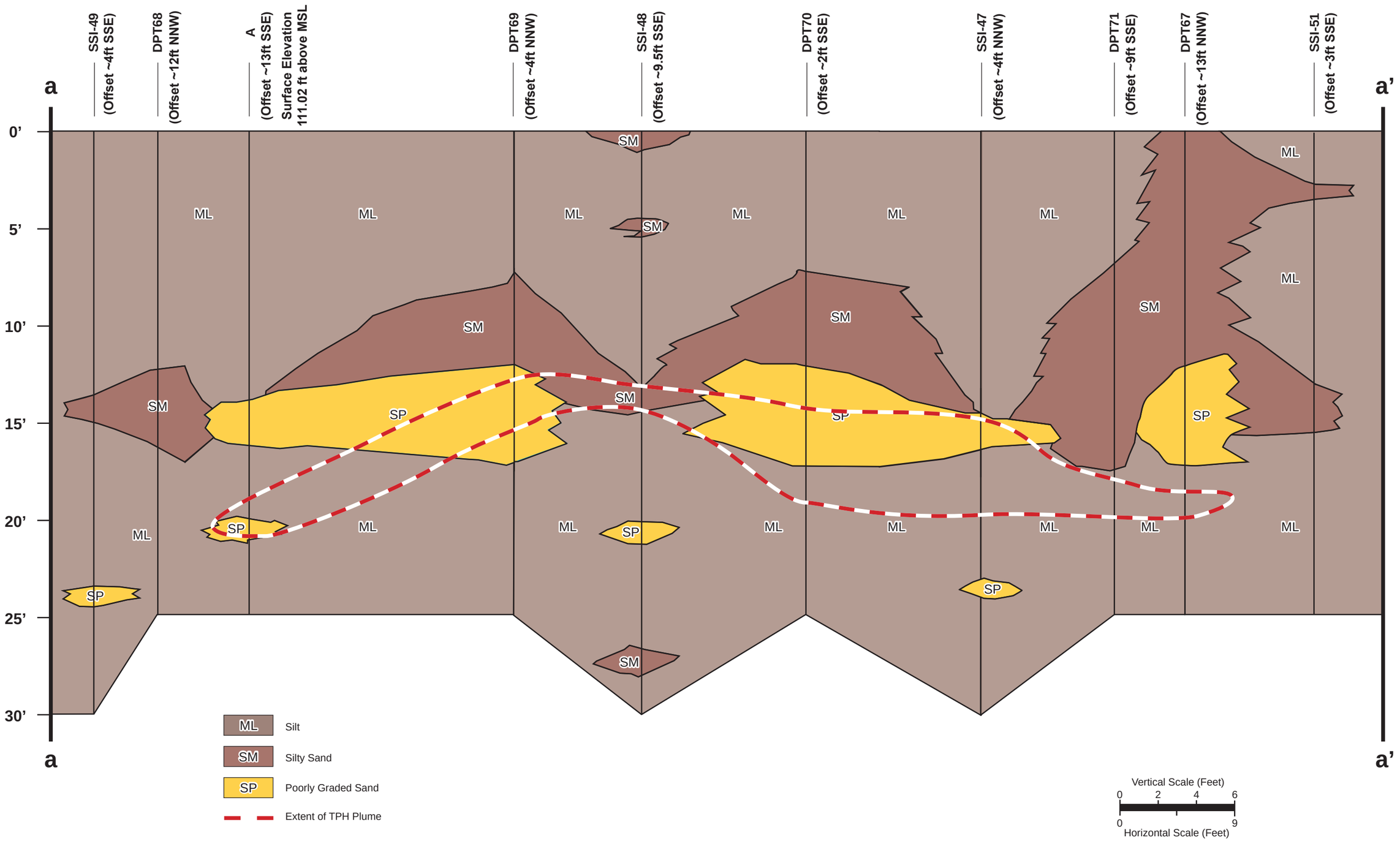


Figure 6c - b-b' Cross-Section

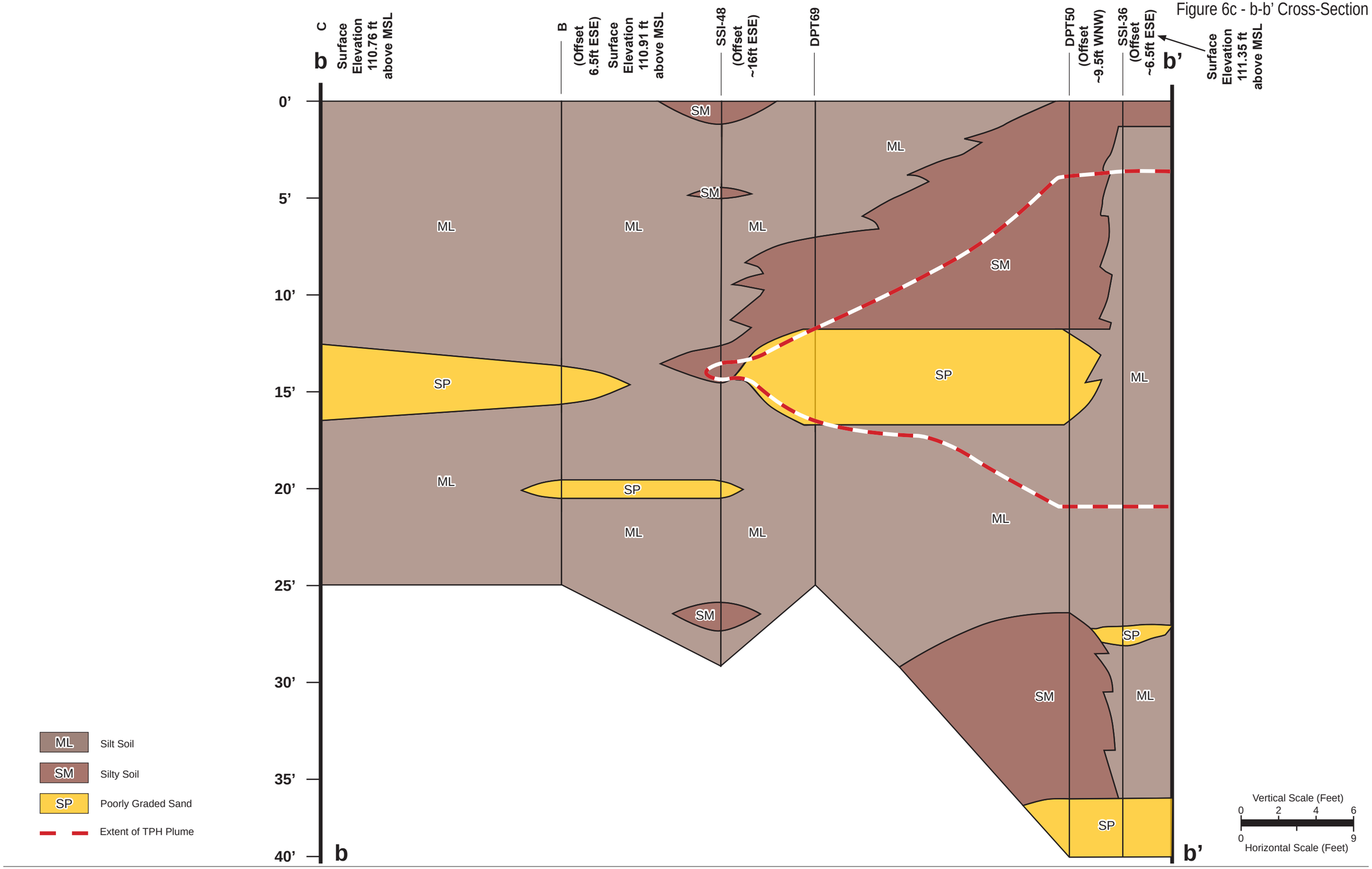


Figure 7 - Proposed Soil Excavations

Figure 8 - Proposed California Regulated Hazardous Soil Excavation Areas

APPENDIX C

COMMUNITY PROFILE

Leighton

California Environmental Protection Agency
Department of Toxic Substances Control
5796 Corporate Avenue, Cypress, California 90630

COMMUNITY PROFILE

NORTHERN PORTION OF

DAVID STARR JORDAN HIGH

2265 EAST 103RD STREET

LOS ANGELES, CALIFORNIA 90002

Prepared For:

LOS ANGELES UNIFIED SCHOOL DISTRICT

OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY

333 South Beaudry Avenue, 28th Floor

Los Angeles, California 90017

Project No. 11640.011

July 1, 2019

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Figures

Leighton

1.0 INTRODUCTION

1.1 Purpose of the Community Profile and Project Overview

The Los Angeles Unified School District (LAUSD), under the oversight of the California Department of Toxic Substances Control (DTSC), prepared this Community Profile to describe the community and identify potential community concerns regarding the investigation and mitigation of environmental conditions within the northern portion of the David Starr Jordan Senior High School (Jordan High School) and Animo College Preparatory Academy (Animo Academy), located at 2265 East 103rd Street, Los Angeles, California 90002 (the "Site" - Figure 1). In 2013, the LAUSD embarked on a redevelopment project at Jordan High School and Animo Academy that will reconfigure the existing campus to accommodate three academies, each comprised of approximately 500 seats.

The redevelopment project will remove and/or replace substandard and inefficient educational facilities. This project will modernize or replace core facilities including school administration, athletics, art programs, career technical opportunities, and related facilities to support the school's operational restructuring.

In 2017, an environmental investigation was conducted in the northern portion of the campus that identified concentrations of arsenic, lead, gasoline range petroleum hydrocarbons (TPH-g), diesel range petroleum hydrocarbons (TPH-d), and oil range petroleum hydrocarbons (TPH-o) in soil. The concentrations of arsenic identified on the site exceeded the DTSC-recognized southern California background arsenic concentration. The concentrations of lead identified on the Site exceeded the DTSC Human and Ecological Risk Office (HERO) screening level for residential soils. The concentrations of TPH-g, TPH-d, and TPH-o exceeded the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Environmental Screening Levels (ESLs) for commercial land use.

1.2 DTSC Oversight Responsibilities

This Community Profile was prepared under the direct oversight of the DTSC. The DTSC is the state regulatory department responsible for protecting the public by cleaning up properties contaminated by toxic chemicals, setting and imposing strict permit standards on facilities that handle hazardous waste and enforcing California's tough hazardous waste laws on violators. The DTSC also oversees environmental reviews and cleanup actions of proposed sites for new schools

and existing school expansion projects throughout the State. The DTSC ensures that school properties are safe from harmful hazardous substances prior to construction and occupancy. Because the LAUSD is seeking State funds for the redevelopment project, the DTSC has been engaged to oversee the investigation and remediation of the Jordan High School and Animo Academy site and approve the final cleanup (see Section 2.4).

1.3 Sources of Information for the Community Profile

The Community Profile is based on information from a variety of sources, including file reviews, Site visits, publically-available demographic data, LAUSD records, LAUSD officials, and the community.

1.4 Organization of the Community Profile

The Community Profile contains “Introduction,” “Community Background,” and “References” information sections. Appendices are included to provide supplemental information.

2.0 COMMUNITY BACKGROUND

2.1 Site Location and Description

The proposed removal action will occur in select areas located at the northern portion of the Jordan High School and Animo Academy campus. Jordan High School and Animo Academy are located at 2265 East 103rd Street, in Los Angeles, California (Figure 1). The removal action area is bounded by Jordan Downs Redevelopment Project immediately to the north and west; Atlas Iron and Metal Company to the east; and the Jordan High School football stadium and associated structures to the south. The Jordan High School and Animo Academy campus is located approximately 1.1 miles north of the Interstate 105 (I-105) Freeway and approximately 2.7 miles east of the Interstate 110 (I-110) Freeway. The property has two assigned Los Angeles County Tax Assessor's Parcel Numbers (APN) of 6046-021-918 and 6046-021-901 and are zoned for "public facilities" (PF). The proposed removal action area has no APN as the parcel was deeded to LAUSD by Housing Authority of the City of Los Angeles in 1974.

2.1.1 Current Land Use

The northern portion of Jordan High School and Animo Academy consists of asphalt-paved athletic courts and a softball field.

2.1.2 Future Land Use

The future land use in the proposed removal action area will include four (4) new tennis courts, three (3) futsal courts, two (2) volleyball courts, and a softball field. The paved area will be reconstructed and upgraded. The softball field will undergo similar improvements.

2.1.3 Surrounding Land Use

A mix of residential and commercial/industrial development is present in the Site vicinity, including extensive commercial/industrial development along South Alameda Boulevard. Land uses immediately bordering the proposed remediation area are as follows:

- East: Atlas Metal and Iron Company
- North: Jordan Downs Residential Redevelopment Project

- West: Jordan Downs Residential Redevelopment Project
- South: Jordan High School and Animo Academy football stadium and associated structures.

A Phase I Environmental Site Assessment (ESA) was conducted for Jordan High School and Animo Academy in 2011 (Accord Engineering, Inc. 2011). The ESA concluded that offsite properties and onsite recognized environmental conditions may represent an environmental concern with respect to the proposed remediation area.

2.2 Site History

David Starr Jordan High School became a part of the Los Angeles City School System in 1925. It was originally a junior high school in the Compton School District. It served in the Los Angeles School District as a 6-year school until February 1957 when it was converted to a 4-year high school.

Animo College Preparatory Academy is located on the David Starr Jordan High School campus. Jordan High School was split between the two entities by the City of Los Angeles. Animo College Preparatory Academy is a charter high school located in Los Angeles, California. The school currently has students enrolled in grades 9 through 12.

2.3 Environmental Conditions

Following an incident involving an inert artillery projectile that landed on the Jordan High School softball field following an explosion on the Atlas Iron and Metal Company site, the DTSC requested that Robin Environmental Management Company, Inc. (Robin Environmental) perform a Phase I ESA for the northeastern corner of the Site (current softball field) (Robin Environmental, 2004). The DTSC also conducted a soil investigation of the former steel mill property north of the Site and the metal recycling property east of the campus. The investigation identified elevated concentrations of lead, arsenic, polychlorinated biphenyls (PCBs), copper, chromium, and antimony in the soil (Waterstone, 2018).

In 2004, the DTSC issued an Imminent and Substantial Endangerment Determination for the softball field at Jordan High School and Animo Academy. Accord Engineering, Inc. (Accord) was commissioned by the DTSC to perform an

emergency excavation at the softball field to prevent further exposure of site occupants (Accord, 2005).

In 2016, the DTSC commissioned Waterstone Environmental, Inc. (Waterstone) to conduct a limited soil screening investigation for the northern portion of the Jordan High School campus (Waterstone, 2016). The investigation assessed the concentrations of lead and arsenic in the soils on the northern portion of the campus.

Thirty-four (34) locations on the softball field, along the northern property boundary, and on the paved portions of the northern portion of the campus were sampled at various depths. A total of 121 samples were collected during the investigation. Sixteen locations contained concentrations of arsenic in excess of the DTSC recognized background screening level of 12 milligrams per kilogram (mg/kg) for southern California soils. Eleven locations contained concentrations of lead in excess of the DTSC screening level of 80 mg/kg for unrestricted land use (Waterstone, 2016).

In 2017, Anderson Environmental, Inc. (Anderson) performed a limited soil screening investigation on the west side of the northern portion of the Jordan High School and Animo Academy campus. The purpose of the investigation was to characterize the lateral extent of petroleum hydrocarbon (TPH) impacted soils identified on the adjacent Jordan Downs Residential Project (JDRP) site (Anderson, 2017). Samples were collected from 8 locations at various depths. A total of 47 samples were analyzed for TPH and volatile organic compounds (VOCs). VOCs were not detected at concentrations exceeding the regional screening levels. Elevated concentrations of gasoline, diesel, and oil range TPH were identified on the west side of the northern portion of the campus (Anderson, 2017).

In 2018, a Supplemental Site Investigation (SSI) of the northern portion of the Site was performed by Placeworks (Placeworks, 2018). The SSI was performed under the oversight of the DTSC. A total of 974 soil samples were collected during the SSI. Samples were analyzed for TPH, total lead, total arsenic, soluble lead, and soluble arsenic. Concentrations of lead and arsenic exceeding California hazardous waste criteria were identified at 16 locations on the northern portion of the Jordan High School and Animo Academy campus. TPH-d concentrations exceeding the SFBRWQCB ESL for commercial land use were identified at six locations in the northeastern corner of the campus. It was recommended that soils containing lead, arsenic, or TPH-d at concentrations

exceeding their respective screening levels be excavated and removed from the northern portion of the Site.

2.4 Agency Involvement

The LAUSD recently decided to seek State bond funding for the Jordan High School and Animo Academy redevelopment project. In order to be reimbursed for the costs of construction, the DTSC must review and approve the environmental investigation and remediation activities conducted at a site and provide a certification that the site is safe prior to school occupancy. Accordingly, the redevelopment project was added to the *Master School Cleanup Agreement* between the LAUSD and DTSC on June 17, 2013. At that time, all of the previous environmental assessment and remediation reports that had been prepared were provided to the DTSC for review and use in its oversight responsibilities.

In general, the DTSC's responsibilities include oversight of environmental investigations at proposed new or expanding school sites and the evaluation of potential hazardous substances that may pose a health risk to students and staff of the school. If contamination is found, the DTSC oversees the cleanup of the property in accordance with Federal and State laws and regulations.

2.5 History of Community Involvement

Previous public participation activities for this project were undertaken by the LAUSD Office of Environmental Health and Safety (OEHS) with the assistance of the LAUSD Community Relations Department. All such activities were conducted in accordance with applicable provisions of the California Education Code (CEC), Section 17213.1(a)(6)(A), and the California Health and Safety Code (H&SC), Section 25358.7. LAUSD Community Outreach hosted a series of meetings during which parents, teachers, and community stakeholders of Jordan High School were invited to learn of the proposed plans for modernizing the campus and to ask questions and provide input. Public participation activities will take place for the remedial activities on the northern portion of the Site once the RAW has been approved by the DTSC.

The following public participation activities may be conducted for the RAW for the northern portion of the Site based on public interest in the project:

- A public notice regarding the RAW 30-day comment period and public meeting will be published in English and Spanish and mailed to students and staff of Jordan High School and Animo Academy as well as the surrounding businesses and residents within one quarter mile of the campus.

- A public meeting will be held at the Jordan High School Multi-Purpose Building for the RAW, at which time information contained in the SSI and RAW for the northern portion of the Site will be presented and audience questions will be solicited and answered. Spanish translation and transcription services will be provided during the meetings.

- Prior to executing the RAW, a work notice will be prepared (in English and Spanish) and hand-delivered to businesses and residences within line-of-sight of the campus. Additionally, sufficient numbers of copies of the work notice will be provided to the Jordan High School and Animo Academy administrative staffs for distribution to faculty, staff, and students. RAW work notices will be posted along the perimeter of the school.

- Construction update notices will be prepared, in English and Spanish, and will be distributed to key contacts, LAUSD personnel, parents of the students who attend Jordan High School and Animo Academy, and addresses within line-of- sight of the Jordan High School and Animo Academy campus.

2.6 Community Concerns and Issues

The LAUSD will solicit public comment during the 30-day public comment period and prior to execution of the approved RAW.

2.7 Student Demographic Profile

The current Jordan High School (2017) population is classified as approximately 81% Hispanic Alone, 17% Black or African American Alone, <1% American Indian and Native American Alone, <1% Asian Alone, 1% White Alone, <1% Pacific Islander Alone, and 1% Two or More Races (Public School Review, 2016). Of this area's total population, 76% reported that they were of Hispanic origin (US Census, 2017). The demographic makeup of the Animo Academy is similar.

2.8 Key Contact List

A Key Contact List has been prepared that includes individuals representing the LAUSD, State and local elected officials, local regulatory and safety agencies, environmental organizations, community activist groups, and the DTSC (see Appendix A). Key contacts of particular note for the redevelopment project and their telephone numbers are summarized below:

Organization/Position	Name	Phone
LAUSD Superintendent	Austin Beuter	(213) 241-1000
LAUSD-OEHS Interim Director	Carlos Torres	(213) 241-3915
LAUSD-OEHS Environmental Health Manager	Pat Schanen	(213) 241-3199
LAUSD-OEHS Project Manager	Andrew Modugno	(213) 241-3433
LAUSD Community Outreach	Jay Quijano	(213) 241-6521
Jordan High School Principal	Lucia Cerda	(323) 568-4107
State Assembly Member, District 64	Michael Gipson	(310) 223-1201
State Senator, District, District 35	Steven Bradford	(310) 412-0393
U.S. Congress Representative, District 44	Nannette Barragan	(310) 605-5520
LA County Board of Supervisors	Mark Thomas	(213) 974-3333
Los Angeles City Mayor	Eric Garcetti	(213) 978-0600
LA City Councilman, District 15	Joe Buscaino	(213) 473-7015
DTSC Project Manager	Joe Hwong	(714) 484-5320
DTSC Public Participation Specialist	To Be Determined	(818) 717-6567
Leighton Consulting, Inc. Project Manager	Ross Surrency	(949) 681-4264

2.9 Information Repositories

Documents related to the environmental investigation and proposed Site cleanup action will be available for public review at the following information repositories:

Jordan High School Administration Office
2265 East 103rd Street
Los Angeles, CA 90002
Phone: (323) 568-4107

Animo College Preparatory Academy Administration Office
2265 East 103rd Street
Los Angeles, CA 90002
Phone: (323) 568-4136

Department of Toxic Substances Control
Regional Records Office 5796 Corporate Avenue
Cypress, CA 90630
Call: (714) 484-5337
Hours: Monday-Friday: 8:00 am-5:00 pm

Watts Branch Library
Reference Desk
10205 Compton Avenue
Los Angeles, CA 90002
Phone: (323) 789-2850
Hours: Mon. & Wed.: 10:00 am – 8:00 pm
Tues. & Thurs.: 12:30 pm – 8:00 pm
Fri. & Sat.: 10:00 am – 5:30 pm; Sun.: Closed

Los Angeles Unified School District
Office of Environmental Health and Safety
333 South Beaudry Avenue, 28th Floor
Los Angeles, CA 90017
Contact: Andrew Fowler at (213) 241-3890
Hours: Mon. to Fri.: 8:00 am – 5:00 pm

2.10 DTSC Contacts

Joe Hwong DTSC Project Manager 5796 Corporate Avenue Cypress, CA 90630 Joe.hwong@dtsc.ca.gov	TBD DTSC Public Participation Specialist 9211 Oakdale Avenue Chatsworth, CA 91311	Russ Edmondson DTSC Public Information Officer 1101 I Street Sacramento, CA (916) 323-3372

2.11 Recommended Public Participation

The DTSC will ensure that the community has the opportunity to be involved in the decision-making process for this project. All public participation activities will be conducted in accordance with California H&SC Sections 25358.7 and 25356.1(e), the DTSC's *Public Participation Policy and Procedures Manual*, and with the DTSC's review and approval. The DTSC will gauge the level of community interest based on responses to the community survey that will be mailed to community members, students, and staff of Jordan High School and Animo Academy during the public participation period. The DTSC recommends the following public participation activities:

- A **Site Mailing List** will be developed that can be used to distribute copies of the Community Update. This list includes: 1) key contacts; 2) DTSC Mandatory Mailing List; and 3) addresses within 0.25 mile of the Site. The current list of key contacts and DTSC mandatory recipients is provided in Appendix A.

- A Community Survey will be mailed out to residents, students, and staff of Jordan High School and Animo Academy. To supplement the survey community phone interviews may also be conducted.

- Once the DTSC has approved the RAW for public review, a **Public Notice** will be prepared and published in local English and Spanish newspapers (The Daily Journal and La Opiñion). The Public Notice will notify the public of the availability of the RAW for review and comment. The public notice will also provide contact information for the DTSC Project Manager and Public Participation Specialist.

- At the same time as the preparation and publication of the Public Notice, a **Community Update** will be prepared and distributed to individuals and addresses on the Mailing List. The Community Notice will provide background information, describe current Site conditions, provide information on the removal action, and include contact information for the DTSC Project Manager and Public Participation Specialist. The Community Notice will be sent to individuals included on the Site Mailing List.

- Newspaper publication of the Public Notice and distribution of the Community Update will start a minimum **30-day Public Comment Period**. During this period, key contacts, members of the community, and parents of students will

have the opportunity to submit comments on the draft RAW. Any comments received will be evaluated by the DTSC, who will prepare and distribute a Response to Comments to those who submit comments and those who wish to receive the Response to Comments Summary.

Copies of the draft RAW and the Community Profile will be placed in the **Public Repositories** listed in Section 2.9, where they will be available for review during the 30-day public comment period. They will also be available online at DTSC's Envirostor website at the address below:

http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001889

- If the community assessment shows that a Public Meeting is recommended, DTSC and LAUSD will hold a public meeting at the Jordan High School and provide individual briefings, if requested.

3.0 REFERENCES

Accord Engineering, Inc., (Accord) 2005, Emergency Excavation Completion Report, Jordan High School, Los Angeles, California, Dated, March 4, 2005.

_____, 2011, Phase I Environmental Site Assessment, David Starr Jordan High School Redevelopment, 2265 East 103rd Street, Los Angeles, California, April 22, 2011.

Anderson Environmental, Inc., (Anderson) 2017, Technical memorandum – Assessment of Petroleum Impacts at David Starr Jordan High School South of Sub Area 2, Jordan Downs Redevelopment Cleanup (JDRC), 9901 South Alameda Street, Los Angeles, California 90002, Dated, February 20, 2017.

Los Angeles Unified School District, 2013. *Construction Update Notice, Jordan High School Redevelopment Project*. October.

_____, 2014. *Construction Update Notice, Jordan High School Redevelopment Project*. June.

Placeworks, 2018, Supplemental Site Investigation Report, David Starr Jordan Senior High School, prepared for Los Angeles Unified School District, dated November 2018.

Public School Review, 2016, David Starr Jordan Senior High School, https://www.publicschoolreview.com/david-starr-jordan-senior-high-school-profile, dated 2016, Accessed January 23, 2019.

Robin Environmental Management Company, (Robin Environmental), 2004, Phase I Environmental Site Assessment, Baseball Field at the Northeastern Corner of Jordan High School, 2265 East 103rd Street, Los Angeles, CA and Land Immediately Adjacent to the East Site of the Baseball Field Site Currently Belonging to Atlas Metals & Recycling, 10019 S. Alameda Street, Los Angeles, CA and Land Immediately Adjacent to the North Side of the Baseball Field Site Currently Occupied by Lex-West, 9901 S. Alameda Street, Los Angeles, CA, Dated May 19, 2004.

US Census Bureau, 2017, American Fact Finder Community, 2017 American Community Survey, Zip Code 90002, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF, Dated 2017, Accessed January 23, 2019.

Waterstone Environmental, Inc, 2016, Limited Soil Screening Investigation of David Starr Jordan Senior High School, prepared for Los Angeles Unified School District, dated September 29, 2016.

APPENDIX D

HEALTH AND SAFETY PLAN

Leighton

HEALTH AND SAFETY PLAN FOR REMOVAL ACTION IMPLEMENTATION OVERSIGHT NORTHERN PORTION OF DAVID STARR JORDAN SENIOR HIGH SCHOOL LOS ANGELES, CALIFORNIA 90002

Prepared for:

Los Angeles Unified School District
333 South Beaudry Avenue, 21st Floor
Los Angeles, California 90017

Prepared by:

Leighton Consulting, Inc.
17781 Cowan
Irvine, California 92614

Project No. 11640.011

July 1, 2019

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

HEALTH AND SAFETY PLAN

David Starr Jordan Senior High School
2265 East 103rd Street
Los Angeles, California 90002

Plan Prepared by: Sabrina Gonzalez, Staff Geologist **Date:** July 1, 2019

Plan Reviewed by: Ross Surrency, Associate Geologist **Date:** July 1, 2019

17781 Cowan ▪ Irvine, CA 92614-6009
949.250.1421 ▪ 949.250.1114 Fax

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Leighton

1.0 INTRODUCTION

Los Angeles Unified School District (LAUSD) will be performing soil excavation, removal, and transportation in the northern portion of the David Starr Jordan High School campus located at 2265 East 103rd Street in Los Angeles, CA (the "Site"). Activities will be performed or directly overseen by a California Professional Geologist or Professional Engineer (Environmental Professional).

This health and safety plan (HASP) describes the basic safety requirements for performing field activities related to the Site, and addresses the potential hazards that may arise during the course of conducting the field activities associated with this project. The provisions of this HASP apply to all contractor personnel, subcontractors and company-sponsored personnel. Subcontractors are responsible for their own health and safety program. Modifications to this HASP may be incorporated in the event of a change of conditions or if special circumstances change (i.e. change in the scope of work, chemical, biological, or physical hazards arise that were not anticipated at the time of the HASP development, etc.). The modifications will be communicated to the personnel onsite prior to the start of work via a daily tailgate briefing.

1.1 Site History

The Site is approximately 2.8 acres in size and is bounded by the Jordan Downs Redevelopment Project (JDRP) currently under construction to the north, Atlas Iron and Metals to the east, the remainder of the David Starr Jordan Senior High School campus to the south, and Jordan Downs Public Housing apartments to the west. The Site is located in an area generally developed for mixed use (commercial, residential, and industrial). LAUSD was deeded the easement for use as a school yard in 1974. The northwestern portion of the Site was historically occupied with low income housing in the early 1950s. The central and eastern portions of the Site were formerly used as a laydown yard for the steel mill from 1948 to 1959. The excavation area includes a softball field and former basketball and tennis courts. Soil sampling has confirmed that elevated levels of arsenic, lead, and total petroleum hydrocarbons (TPH) are identified in the soil.

1.2 Purpose

The purpose of this HASP is to define the health and safety requirements, which are to be observed by all Contractor personnel, their subcontractors, and visitors during implementation of the removal action at the Site.

1.3 Scope of Work

Leighton has prepared a Removal Action Workplan (RAW) describing the activities that will occur during the removal effort. The RAW will be reviewed by DTSC prior to the initiation of field activities. This HASP will be submitted as part of the RAW and will describe safety aspects of the work to be performed at the Site by Leighton and its sub-contractor(s).

The proposed field activities consist of excavation of soil impacted with arsenic, lead, and total petroleum hydrocarbons (TPH) followed by confirmation sampling at the bottom and sidewalls of the excavations. The work will be scheduled following approval of the RAW by DTSC and is expected to last approximately one month. An environmental professional will be onsite to oversee the excavation and sampling activities and collect confirmation soil samples. Upon completion of field activities and receipt of final laboratory analytical reports, a Removal Action Completion Report (RACR) will be prepared as described in the RAW.

Prior to beginning work at the facility, all Contractor personnel, subcontractors and company-sponsored personnel will be required to be familiar with this HASP and emergency procedures specific to this facility. Project management duties will be performed as described in the sampling plan.

2.0 ORGANIZATION AND MANAGEMENT

2.1 Key Personnel

Technical Consultant/Project Manager:	*Ross Surrency*
Project Geologist:	*TBD*
Site Safety Officer:	*TBD*
Industrial Hygienist/Project Health and Safety Officer:	*Ines Cadavid-Parr*

Site Safety Officer

Specific duties of the SSO will include:

1. Conduct safety orientation for all Contractor personnel, subcontractor personnel, and sponsored visitors new to the project site. All personnel will be notified of hazards associated with work being performed and scheduled, and maintain orientation documentation on site.

2. Conduct all safety-related training required for work being performed by company employees, subcontractor personnel, and visitors.
3. Monitor Company's own compliance with site-specific safety rules and HASP guidelines.
4. Verify compliance with OSHA regulations.
5. The SSO will conduct daily briefing and record all health and safety activities.
6. Personnel documentation of training, medical surveillance, and fit-testing will be available onsite at all times.
7. Post safety posters, OSHA statistics, and worker's compensation posters as required by law.
8. Prepare appropriate investigative report forms for any accident causing injury to Contractor employee and submit to corporate headquarters.
9. **The SSO has the authority to suspend work at any time he/she determines that the provisions of the HASP are inadequate to ensure worker safety.**

Onsite Project Safety

The Project Manager, Project Geologist, and the SSO are responsible for ensuring compliance with safety procedures established for the performance of the work. The Project Manager may modify work practices to meet the safety requirements. The SSO has the primary responsibility in determining the modifications of any safety procedures. The Project Manager is responsible for the dissemination of the information contained in the HASP to the field personnel and to the responsible representative of each subcontractor working on the project. The Project Manager may also act as SSO and will be required to ensure the all applicable health and safety rules, Contractors procedures and health and safety related documentation to be completed accurately and on time.

3.0 JOB HAZARD ANALYSIS

3.1 Job-Specific Hazards

Hazards include trauma from physical hazards (including slips, trips, and falls), operation of heavy equipment on the Site (including truck traffic), and minimal exposure to chemicals through inhalation during the excavation activities.

Physical hazards will be minimized through hazard awareness and adherence to Leighton's standard operating procedures (SOPs). Daily safety meetings will emphasize the hazards that may exist that day and the precautions that should be taken to avoid injuries. Hazards due to chemical exposures will be minimized through the use of PPE and monitoring as outlined in Section 6.0. A first-aid kit and a fire extinguisher will be present as part of the Leighton's field equipment.

3.2 Job Task Analysis and Mitigation Measures

Task	Description of Task	Chemical Hazards	Physical Hazard	Biological Hazards
Excavation	Excavating soil and transporting it offsite.	Metals and TPH in soil (risk of exposure is low)	Slip, trips, falls, lifting and abrasions	Common biological hazards (i.e. spiders, snakes, poisonous plants, bees, etc.).
Mitigation Measures				
Chemical Hazards - No chemical hazards are anticipated. **Physical Hazards** - Only personnel associated with the field activities will be allowed in the work area. Caution tape, cones, barricades, etc. will be provided to delineated the work area and prevent unauthorized personnel from entering work area, as necessary. Personnel will inspect tools prior to their use. PPE required consists of hardhat, safety glasses, safety vest, gloves, hearing protection devices, and steel toed boots. **Biological Hazards** - The following precautions shall be taken to avoid exposure to these hazards: *Poisonous plants* -- Avoid areas where there are poisonous plants; Immediately wash affected areas that come in contact with plants; Use protective clothing as appropriate in areas with known poisonous plants. *Bees, spiders, other insects* - Always where gloves; Be aware of surroundings (i.e. snake holes); Have appropriate first-aid kit on hand at all times. Note: biological hazards that may be encountered include spiders and other insects that may be present in storage areas. Good hygienic practices will be implemented. No smoking, eating, drinking, applying lip balm, or chewing gum in chemical storage areas. Gloves shall be used in these areas and hands to be washed thoroughly during breaks and prior to eating.			
Soil Confirmation Sampling	Sampling by excavator bucket or by entering shallow excavations (<4 feet deep).	TPH and metals in soil (risk of exposure is low)	Injuries related to manual labor, lifting, bending, etc. Pinch points, tool use.	Same as above
Mitigation Measures				
Chemical Hazards – None anticipated **Physical Hazards** - Only personnel associated with the field activities will be allowed in the work area. Caution tape, cones, barricades, etc. will be provided to delineated the work area and prevent unauthorized personnel from entering work area, as necessary. Personnel will inspect tools prior to their use. PPE required consists of hardhat, safety glasses, safety vest, gloves, hearing protection devices, and steel toed boots. Personnel will use proper methods when lifting, twisting, etc. Note: biological hazards that may be encountered include spiders and other insects that may be present in storage areas. Good hygienic practices will be implemented. No smoking, eating, drinking, applying lip balm, or chewing gum in chemical storage areas. Gloves shall be used in these areas and hands are to be washed thoroughly during breaks and prior to eating.			

3.3 Chemicals of Concern

The possible chemicals to encounter on the job site are the following:

- Arsenic
- Lead
- Fuel hydrocarbons

Additional information and chemical hazard information are provided as an attachment following the HASP.

4.0 HAZARD ASSESSMENT SUMMARY

Based on the proposed removal action for the Site (soil excavation and offsite transportation), and the presence of arsenic, lead, and TPH above screening levels, the Site should be considered as potentially hazardous. The use of personal protective equipment (PPE) and work site inspections will significantly reduce the potential for exposure. Nearby public exposure is considered insignificant due to the proximity, and the fact that the public access to this site and work zone is prohibited.

The potential of serious injuries will be reduced by daily safety meetings, worker awareness, and a full-time health and safety officer present at the site.

5.0 AIR MONITORING PLAN

Personal and environmental exposure to airborne hazards are not expected at the Site due to dust suppression techniques; however particulate monitoring will be conducted following the Rule 1466 and Rule 403 requirements implemented by SCAQMD. Air monitoring with a photo-ionization detector (PID) will be performed while excavating soil in the TPH-impacted area located in the northwest corner of the Site. The data provided from this field monitoring activity will be used to evaluate the levels of protection required and to help establish decontamination and disposal procedures. Periodic readings shall be taken with the PID to monitor for volatile organic compounds (VOCs).

6.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

6.1 Rationale for Selection of PPE

All site workers shall wear, at a minimum, steel-toed boots or shoes, safety glasses, hardhat, high visibility vest, and hearing protection. Leather or cloth work gloves will be worn when a potential exists for puncture wounds associated with the use of wood, cable, wire, etc., or temperatures warrant. A minimum of latex or nitrile gloves will be worn when hazardous materials are being handled. Level D PPE is anticipated for this project.

6.2 Equipment

The anticipated level of protection for the activities is Level D. However, descriptions of the US EPA levels of protection are listed below as reference.

Level of Protection: ***A ☐ B ☐ C ☒ D ☐***

Respiratory Protection: Air Purifying ☒
If Air-Purifying: Canister ☐ Cartridge ☒
Half Face ☒ Full Face ☒
Canister/Cartridge Type: HEPA Filter

Suit Type: Tyvek Boot Type Steel-toed, sturdy leather

Glove Type(s): Latex or nitrile Head Protection Type: Hat

Eye Protection Type: Glasses/Goggles Other Protection Clothing: N/A

Hearing Protection: Muff Type or Foam Inserts

Level of Protection: ***A ☐ B ☐ C ☐ D ☒***

Respiratory Protection: None ☒
If Air-Purifying: Canister ☐ Cartridge ☐ None ☒
Half Face ☐ Full Face ☐
Canister/Cartridge Type: N/A

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Protective Clothing:

Suit Type:	Tyvek	Boot Type	Steel-toed, sturdy leather
Glove Type(s):	Leather, cloth, Neoprene and/or nitrile	Head Protection Type:	Hat
Eye Protection Type:	Glasses/Goggles	Other Protection Clothing:	N/A
Hearing Protection:	Muff Type or Foam Inserts		

6.3 Action Levels

Action levels for upgrade and downgrade of respiratory protection and PPE will be adjusted if new data indicates such action.

7.0 WORK ZONES AND SECURITY MEASURES

Work is anticipated to be completed during the summer when school is not in session. Security and work zone measures will be implemented including:

- Visitors who do not have business related to the project will be excluded from the site.
- Traffic routes will be clearly established. All site workers and visitors will be briefed as to routes.
- Workers in work zones and all visitors will be required to wear high visibility vests.
- All visitors and personnel who are authorized to come onsite shall abide by facility safety rules at all times.

The work zone for this site shall consist of the individual excavation locations and a setback providing sufficient room to provide safe working distances for all personnel. No equipment other than that needed for field activities shall be placed in this area. Persons outside this area should place their equipment and themselves upwind of any open sampling activities.

In the event that hazardous or potentially hazardous waste is encountered, exclusion, decontamination and support zones will be established. Personnel and equipment

entering the established zone will be required to follow all health and safety requirements provided in this HASP.

8.0 DECONTAMINATION PROCEDURES

8.1 Personnel Decontamination

If hazardous materials are encountered, to prevent or reduce the physical transfer of contaminants by people, the following procedures will be instituted for decontaminating all personnel leaving the Exclusion Zone and Contamination Reduction Zone (CRZ). These procedures include the decontamination of personnel and equipment. In general, personnel decontamination at the site will consist of washing with a detergent/water solution and then rinsing with copious amounts of water. Used solution, brushes, sponges, and containers will be properly disposed of. Based on the level of protection (B, C, D), the decontamination step-off will be modified. Reusable personal equipment shall be decontaminated and stored for air drying. Personnel who are working in the Exclusion Zone shall adhere to the following decontamination procedures:

Decontamination – Level C

1. Segregated equipment drop;
2. Outer boot and outer glove wash (Tyvek disposable outer boot covers, if used, shall be removed here prior to boot wash);
3. Outer boot and outer glove rinse;
4. Tape removal;
5. Outer boot removal;
6. Outer glove removal
7. Disposable suit removal;
8. Respirator removal;
9. Inner glove removal/disposal

CRZ/SAFE ZONE BOUNDARY

10. Field Wash

If Level D decontamination is required, adhere to steps 1 through 6.

Decontamination – Level B

1. Segregate equipment drop/decontaminate if necessary;

2. Outer boot cover and outer glove wash;
3. Outer boot cover and outer glove rinse;
4. Tape removal;
5. Outer boot cover removal;
6. Outer glove removal;
7. Remove SCBA backpack; remain on supplied air;
8. Disposable suit removal;
9. Disconnect from supplied air;
10. Face-piece removal;
11. Inner glove removal/disposal;

CRZ/SAFETY ZONE BOUNDARY

12. Field Wash.

During short rest breaks, workers may remain in the CRZ area and drink water after they have removed their outer gloves. All respiratory PPE will be stored in a sealable plastic bag to protect against dust, sunlight, extreme temperatures, excessive moisture, or damaging chemicals.

During lunch breaks and at the end of the work shift, personnel will be required to doff their disposable PPE and wash their hands and face prior to eating, drinking, or smoking.

Hand Tools and Personal Equipment

All hand and personal equipment contaminated by activities at the site will be decontaminated using the procedure described in Section 1.3 above. All contaminated site equipment will be decontaminated both before and after site activities. All uncontaminated site equipment should be wiped with a wet towel at the close of site activities to remove dust.

Heavy Equipment

The movement of all heavy equipment will be restricted in a manner which reduces the surfaces of the equipment which come into contact with contaminated water or waste. All portions of equipment which have been placed in direct contact with contaminated waste or water will be cleaned prior to leaving

the work area. All uncontaminated portions of the equipment will be wiped with a wet rag, or brushed clean.

9.0 CONFINED SPACE ENTRY PROCEDURES

There are no confined spaces anticipated as part of this scope of work.

10.0 CONTINGENCY PLAN

The potential of encountering liquid wastes at the facility is considered to be very low. Liquid waste may be generated by routine equipment maintenance and repairs, and on occasion by failures of equipment hoses or parts.

The potential of exposure to liquid waste by site personnel will be minimized by worker awareness, preparation, and adherence to the following spill contingency plan.

Spills and exposure to liquid waste will be minimized by worker awareness to conditions which exist prior to, or in the event of, a spill. Three stages of response will facilitate reduction of waste generated.

- Identification – Identification of potential sources of liquid hazards will be made by regular inspections of containers, and of equipment to determine if mechanical parts or hoses are worn or defective. Spills or releases of liquid wastes will be immediately reported to the nearest grading foreman or site manager.
- Prevention/Response – A rapid response to the spill will be initiated by all personnel involved. The following responses will be followed to minimize spills.
  - Release of liquids from site equipment will be minimized by immediately stopping and shutting down the affected equipment, and safely relieving all system pressure if possible.
  - Visqueen will be stored onsite and will be placed beneath the equipment to contain leaking fluids, when conditions permit. Absorbent material will be stored onsite and will be used in conjunction with plastic.
  - Spill protection (Visqueen, absorbent material, and/or appropriate containers) will be strategically placed beneath equipment being repaired or maintained which requires draining of fluids.

  - Transfer of fluids from containers to equipment reservoirs will be performed in a controlled manner.

- Storage – Liquid wastes will be stored in DOT approved, sealable containers, and properly labeled. A specific area will be designated for liquid waste storage.

  - The designated storage area will be lined with a minimum of 6-MIL Visqueen to preclude contact of liquids.

  - The storage area will be demarcated to preclude entry by unauthorized personnel.

  - Absorbent material will be stored onsite and will be readily available in the event of spills or leaks within the storage area.

Handling of Contaminated Material

  - Advise Owner of spill and notification requirements. Do not transport or approve transportation of hazardous materials/waste. Do not sign manifests as generator of waste. Notify Client compliance manager or Owner representative for waste disposal procedures.

11.0 GENERAL SAFE WORK PRACTICES

Leighton shall provide all the equipment necessary to meet safe operating practices and procedures for their personnel onsite (this includes respirators, cartridges, steel-toed boots, eye protection, Tyvek suits, hearing protectors, and neoprene and/or nitrile gloves) and be responsible for the safety of their workers. All general safety guidelines and procedures will conform to:

- Title 8 CCR 5192 - Hazwoper Standard;
- Title 8 CCR 5194 - Hazard Communication Standard;
- Title 8 Construction Safety Orders,
- Leighton Consulting Standard Operating Procedures

Leighton Consulting will utilize a “three warning” system to enforce compliance with health and safety procedures as follows:

- First infraction – violator receives a verbal warning;

- Second infraction of same rule – violator receives a written warning; and
- Third infraction of same rule – violators will be requested to leave the site.

The “three warning” system applies to the following safe work practices which will be implemented at the site for worker safety:

- Eating, drinking, chewing gum or tobacco, and smoking will be allowed only in designated areas;
- Wash facilities will be utilized by workers in the work areas before eating, drinking, or use of the toilet facilities;
- Containers will be labeled identifying them as waste, debris, or contaminated clothing;
- Personnel at the site will use the “buddy system” when wearing any respiratory protective equipment. No one will be allowed to engage in sampling operations alone;
- No facial hair which interferes with a satisfactory fit of the mask-to face seal will be allowed (no beards, large mustaches, or long sideburns);
- All respiratory protection selection, use, and maintenance will meet the requirements of established procedures, recognized consensus standards (AIHA, ANSI, MSHA, and NIOSH), and will comply in all respects to the requirements set forth in 8 CCR 5144;
- All site personnel will be required to wear hats, protective glasses and adequate hand protection when in the work zone;
- Any other action which is determined to be unsafe by the SSO; and
- Lighting will be at a minimum of 5 foot-candles. If needed, additional lighting will be provided.

12.0 EMERGENCY RESPONSE PLAN

Site Address: David Starr Jordan High School, 2265 East 103rd Street, Los Angeles, California 90002
Nearest Cross Street: Alameda Street

Contractor Name: Leighton Consulting, Inc.
Leighton Phone: (949) 572-8129

Emergency Numbers

Person	Title	Phone #
Ross Surrency Robert Lovdahl Ines Cadavid-Parr	Project Manager/SSO Project Geologist/SSO Industrial Hygienist	(949) 880-4439 (949) 307-0527 (818) 235-6266
	Fire Police or Paramedic- Emergency Response	**Emergency Only – 911**
	Centers for Disease Control	(Day) (404) 329-3311 (Night) (404) 329-2888
	National Response Center	(800) 424-8802
	Superfund/RCRA Hotline	(800) 424-9346
	TSCA Hotline	(800) 424-9065
	National Pesticide Information Service	(800) 845-7633
	Underground Service Alert	(800) 422-4133
Nearest Hospital	St. Francis Medical Center 3630 East Imperial Highway, Lynwood, CA, 90262	**310-900-8900**
ROUTE TO THE HOSPITAL LOCATED IN THE ATTACHMENTS TO THIS HASP. POST MAP AT THE SITE PRIOR TO COMMENCEMENT OF ACTIVITIES PER LOCATION		

Pre-planning Activities

The following preplanning precautions shall be taken prior to start of field activities:

- Identify local emergency response agencies (post numbers). Coordinate action with Owner of the facility.
- Establish location of shutoff valves, power, water, control switches.
- Check emergency equipment; first-aid equipment, fire extinguishers, absorbent materials, etc.

- Post appropriate signs, barricades, emergency phone numbers, route to the hospital, permits, and “No Smoking” signs, 50 feet from hazardous work area, as applicable.

- Conduct monitoring before, during and after any work in and around work areas.

- Ensure that appropriate permits are in place prior to start of work.

Site Emergency Procedures

In the event of an emergency that necessitates an evacuation of the site, the following alarm procedures will be implemented:

1. Equipment and/or portable air horns will be used to alert ALL site personnel of an evacuation emergency. The primary and secondary meeting area will be established on a site-specific basis during the morning safety briefing. Two longs blasts followed by one short blast will direct personnel to the primary assembly area. Two long blasts followed by two short blasts will direct personnel to the alternate assembly area. A head count will be completed by the Site Supervisor at the meeting area and further directions or response discussions coordinated at that point.

2. In the event that a facility-wide evacuation is necessary, radio and telephone communication will be used to cue employees to evacuate the site.

Normal traffic flow patterns will be in effect unless a local detour is required. Following an Emergency Alarm signal, access to the site and immediate vicinity of the incident will be restricted. Depending upon the severity and location of the incident, physical barriers or banner guard will be used to delineate restricted areas. Site Control will be the responsibility of the Site Supervisor who will establish the new work area boundaries if necessary. Future entries into restricted areas will require permission from the Site Supervisor.

Personnel Emergency Signals

The following communication signals will be utilized, if necessary, in case of an emergency onsite.

Gesture	Meaning
Hand clutching throat	Out of air/can't breathe
Hands on top of head	Need assistance
Thumbs up	OK/I'm all right/I understand
Thumbs down	No/negative
Grip partner's wrists	Informing partner to leave area immediately

Emergency Notification

Initial emergency notification: Dial 911.

Emergency Decontamination

In an emergency, the primary concern is to prevent the loss of life or severe injury to site personnel. If immediate medical treatment is required to save a life, decontamination should be delayed until the victim is stabilized. If decontamination can be performed without interfering with essential life-saving techniques or first aid, or if a worker has been contaminated with an extremely toxic or corrosive material that could cause severe injury or loss of life, decontamination must be performed immediately. If an emergency due to heat-related illness develops, protective clothing should be removed from the victim as soon as possible to reduce heat stress. All emergency decontamination procedures must be supervised by the SSO/Field Team Leader.

Onsite Emergencies

In the event of an accident resulting in physical injury, first-aid will be administered, and the injured worker will be transported to the nearest hospital for emergency treatment. In the event of a chemical exposure or the potential for chemical exposure, site personnel shall safely evacuate from the "contaminated zone" and meet at the designated assemble area. First-aid shall be administered in the assemble area and the exposed worker shall be transported to the nearest hospital for treatment.

Offsite Emergencies

In the event of an offsite emergency, the station owner/operator will be notified and an Owner representative will be immediately notified. If necessary, local fire, and/or emergency response agencies will be notified.

Access for Emergency Personnel and Vehicles

Operations at the facility will be conducted such that there is always access for emergency vehicles and personnel. The SSO will be responsible for directing personnel safely through the work area.

Nearby Community Protection

All possible measures will be taken to prevent a release from the site. Immediate notifications will be made to the operator and Owner representative. If necessary, local fire, and/or emergency response agencies will be notified.

13.0 TRAINING REQUIREMENTS

Prior to mobilization at the job site or at any time during site activities, if the Contractor, Project Manager or SSO requests, all applicable personnel and Contractor sub-contractors shall submit evidence that site workers have completed a 40-hour course and 8 hour refresher course in hazardous waste site operations training as specified in 8 CCR 5192, along with a letter from a physician stating that they have received a physical examination within one year and are physically capable of working on hazardous sites and wearing respiratory protection devices.

All Leighton personnel working onsite have completed the OSHA mandatory 40-hour hazardous waste operations and emergency response (Hazwoper) training and are trained annually in accordance with 8 CCR 5192. Personnel are also trained in CPR and first-aid (every 3 years), Hazard Communication (Right-to-Know), (8 CCR 5194), Respiratory Protection (8 CCR 5144), and Noise (8 CCR 5095-5100). Personnel are also trained in the Company's Injury & Illness Prevention Plan (IIPP) (8 CCR 3203) (Current version available on the Leighton Resources Drive at R:\Human Resources\Safety\IIPP Manuals).

Leighton performs a variety of field work (i.e. drilling, sampling, remediation system installations, groundwater well installations, earthwork, confined space entry work, environmental audits, etc.), therefore personnel are also trained in various topics

including Benzene (8 CCR 5218), Lead Awareness (8 CCR 5198), Bloodborne Pathogens (8 CCR 5193), Confined Spaces (8 CCR 5156-5159), Trenching and Excavation (8 CCR 1539-1543), and construction related topics such as Fall Protection (8 CCR 1669-1672), Ladder Safety (8 CCR 1675-1678), Fire Protection and Prevention (8 CCR 1920-1938) and Heat Illness Prevention (8 CCR 3395), depending on the specific work anticipated at the site (Current versions available on the Leighton Resources Drive at R:\Human Resources\Safety).

Prior to involvement in any field program, all personnel will attend a safety briefing. The briefing will include the nature of the wastes at the site, donning PPE, decontamination procedures, respirator fit testing, and emergency procedures. Included in the initial briefing will be a review of:

- Site emergency signals;
- Use of visual emergency signals;
- The limitations and capabilities of the equipment and PPE;
- Proper use and maintenance of the selected PPE;
- Lead Hazards and Control Measures;
- The nature of the hazards and the consequences of not using the PPE;
- The human factor influencing PPE performance;
- Inspection, donning, checking, fitting, and using the PPE;
- Provide individualized respirator fit testing to ensure proper fit;
- The user's responsibility for decontamination, cleaning, maintenance, and repair (if any) of PPE. Personnel will be required to clean and maintain respirators after each use;
- Emergency procedures and self-rescue in the event of PPE failure; and
- The Site Safety Plan and the individual's responsibilities and duties in an emergency.

Daily, prior to commencement of operations, all personnel involved with the remedial investigations shall attend a short "tailgate" safety briefing which will cover:

- Expected conditions at the site;
- Daily activities;

- Safety deficiencies previously observed; and
- Any changes in the emergency procedure.

Record of Training – Upon completion of the project safety briefing, all personnel will sign a statement indicating that they have read and understand and that they agree to abide by this project Health and Safety Plan. A record of attendance will be kept for all safety briefings.

14.0 MEDICAL SURVEILLANCE PROGRAM

Prior to assignment to any task requiring a level of personal protection above Level D, personnel will submit, if requested by the Contractor project manager, evidence that they have received a physical examination within the previous twelve months which incorporates the federal and state requirements.

Workers shall maintain evidence that they have received a physical examination within the previous twelve months which incorporates the following:

- An occupation and general physical history;
- Complete physical examination which incorporates the head, torso, abdomen, limbs, and musculo-skeletal system;
- Chest X-ray;
- Pulmonary function test;
- Audiometric exam for persons working around drill rigs;
- Laboratory testing of blood and urine to include the following: C.B.C., albumin phosphatase, total bilirubin, SGOT, SGPT, cholesterol, total protein, albumin, globulin, A/G ratio, BUN, and creatinin.
- Vision test;
- Electrocardiogram; and
- Physicians' certification that the employee is physically capable of wearing respiratory protection.

14.1 Heat Stress

Heat stress monitoring will commence when the ambient temperature reaches 70 Degrees Fahrenheit if Tyvek or Saranex (Level C) garments are in use. Otherwise, heat stress monitoring will commence at an ambient temperature of 85 degrees Fahrenheit. The monitoring will consist of the following:

- Heart rate (HR) will be measured by the radial pulse during 30 seconds as early as possible in the resting period. The heart rate at the beginning of the rest period should not exceed 110 beats per minute. If the HR is in excess of the above value, the next work period will be shortened by 33% while the length of the rest period stays the same. if the pulse rate is in excess of 110 beats per minute at the beginning of the next rest period, the following work cycle will be further shortened by 33%.

- Workers will be asked to report any dizziness, faintness, cramps, or other symptoms of heat stress as discussed above.

- Workers will also be questioned about any history of asthma, or if currently taking asthma medications. Persons taking asthma medications are typically more susceptible to heat stress reactions.

California regulations pertaining to Heat Stress require the following:

1. Where unlimited drinking water is not immediately available from a plumbed system, the employer must provide enough water for every employee to be able to drink one quart of water, or four 8-ounce cups, per hour.

2. Water must always be readily accessible.

3. When temperatures exceed 90 degrees F, having ice on hand to cool the water is recommended.

4. Having shade present is considered a requirement of the standard when the outdoor dry-bulb temperature high for the area closest to the location at which employees are to work is forecast, as of 5 p.m. the previous day, to be over 85 degrees F, according to the National Weather Service. Shade must be up at the beginning of the shift and present throughout.

5. Regardless of what the predicted high is, employers are expected to know if the actual temperature is exceeding 90 degrees F at their worksite. If the

temperature enters this range, shade must be present regardless of the predicted high.

6. Cal-OSHA considers the amount of shade to be sufficient is enough to accommodate 25% of the employees on a shift so that they can sit comfortably in the shade without touching each other. However, if more than 25% of a shift's workers require shade at the same time, the employer must provide it immediately.

7. Shade must be located less than a ¼ mile or five-minute walk away, whichever is shorter.

15.0 REFERENCES

1. Casarett and Doull's Toxicology. Eds. Curtis Klaassen, et. al. Macmillan Co., New York, 1986.
2. The Merck Index, 10th ed. Ed. M. Windholz, Merck & Co., Inc., Rathway, New Jersey
3. Pocket Guide to Chemical Hazards. - National Institute for Occupational Safety and Health
4. Hazardous Chemicals Desk Reference - Third Edition, Richard J. Lewis, Sr.
5. Title 8 Code of California Regulations
6. Google Maps October 2018
7. 8 CCR General Industry Safety Orders
8. 8 CCR Construction Safety Orders

CHEMICALS OF CONCERN

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

The National Institute for Occupational Safety and Health (NIOSH)

NIOSH Pocket Guide to Chemical Hazards

Promoting productive workplaces through safety and health research NIOSH

Arsenic (inorganic compounds, as As)

Synonyms & Trade Names

Arsenia, Arsenic metal [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)

DOT ID & Guide

1558 152(metal)
1562 152(dust)

Formula

As (metal)

Conversion

IDLH

Ca [5 mg/m³ (as As)]
See: 7440382

Exposure Limits

NIOSH REL
Ca C 0.002 mg/m³ [15-minute] See Appendix A
OSHA PEL
[1910.1018] TWA 0.010 mg/m³

Measurement Methods

NIOSH 7300 , 7301 , 7303 , 7900 , 9102;
OSHA ID105
See: NMAM or OSHA Methods

Physical Description

Metal: Silver-gray or tin-white, brittle, odorless solid.

Molecular Weight	Boiling Point	Melting Point	Solubility	Vapor Pressure	Ionization Potential
74.9	Sublimes	1135°F (Sublimes)	Insoluble	0 mmH	NA

				g (approx)	
Specific Gravity 5.73 (metal)	**Flash Point** NA	**Upper Explosive Limit** NA	**Lower Explosive Limit** 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.]

Exposure Routes

inhalation, skin absorption, skin and/or eye contact, ingestion

Symptoms

Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, resp irritation, hyperpigmentation of skin, [potential occupational carcinogen]

Target Organs

Liver, kidneys, skin, lungs, lymphatic system

Cancer Site

[lung & lymphatic cancer]

Personal Protection/Sanitation

(See protection codes)
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated/Daily
Remove: When wet or contaminated
Change: Daily
Provide: Eyewash, Quick drench

First Aid

(See procedures)
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

(See Appendix E)

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted acid gas canister having an N100, R100, or P100 filter.
Click here for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection

See also

INTRODUCTION ICSC CARD: 0013 (https://www.ilo.org/dyn/icsc/showcard.display?p_lang=en&p_card_id=0013&p_version=2) MEDICAL TESTS: 0017

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Centers for Disease Control and Prevention
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The National Institute for Occupational Safety and Health (NIOSH)

NIOSH Pocket Guide to Chemical Hazards

Promoting productive workplaces through safety and health research NIOSH

Gasoline

Synonyms & Trade Names

Motor fuel, Motor spirits, Natural gasoline, Petrol [Note: A complex mixture of volatile hydrocarbons (paraffins, cycloparaffins, and aromatics).]

CAS No.

8006-61-9

RTECS No.

LX3300000

DOT ID & Guide

1203 128

Formula

Conversion

1 ppm = 4.5 mg/m^3 (approx)

IDLH

Ca [N.D.]
See: IDLH INDEX

Exposure Limits

NIOSH REL
Ca See Appendix A
OSHA PEL
none See Appendix G

Measurement Methods

OSHA PV2028
See: NMAM or OSHA Methods

Physical Description

Clear liquid with a characteristic odor.

Molecular Weight	Boiling Point	Freezing Point	Solubility	Vapor Pressure	Ionization Potential
110 (approx)	102°F	?	Insoluble	38-300 mmHg	?

Specific Gravity	Flash Point	Upper Explosive Limit	Lower Explosive Limit		
(60° F): 0.72-0.76	-45°F	7.6%	1.4%		

Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.

Incompatibilities & Reactivities

Strong oxidizers such as peroxides, nitric acid & perchlorates

Exposure Routes

inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms

irritation eyes, skin, mucous membrane; dermatitis; headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis (aspiration liquid); possible liver, kidney damage; [potential occupational carcinogen]

Target Organs

Eyes, skin, respiratory system, central nervous system, liver, kidneys

Cancer Site

[in animals: liver & kidney cancer]

Personal Protection/Sanitation

(See protection codes)
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet (flammable)
Change: No recommendation
Provide: Eyewash, Quick drench

First Aid

(See procedures)
Eye: Irrigate immediately
Skin: Soap flush immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection

See also

INTRODUCTION

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NIOSH Pocket Guide to Chemical Hazards

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Lead

Synonyms & Trade Names

Lead metal, Plumbum

CAS No.

7439-92-1

RTECS No.

OF7525000

DOT ID & Guide

Formula

Pb

Conversion

IDLH

100 mg/m³ (as Pb)
See: 7439921

Exposure Limits

NIOSH REL
TWA (8-hour) 0.050 mg/m³ See Appendix C [*Note: The REL also applies to other lead compounds (as Pb) -- see Appendix C.]
OSHA PEL
[1910.1025] TWA 0.050 mg/m³ See Appendix C [*Note: The PEL also applies to other lead compounds (as Pb) -- see Appendix C.]

Measurement Methods

NIOSH 7082 , 7105 , 7300 , 7301 , 7303 , 7700 , 7701 , 7702 , 9100 , 9102 , 9105;
OSHA ID206 , ID121 , ID125G
See: NMAM or OSHA Methods

Physical Description

A heavy, ductile, soft, gray solid.

Molecular Weight	Boiling Point	Melting Point	Solubility	Vapor Pressure	Ionization Potential
207.2	3164° F	621°F	Insoluble	0 mmHg	NA

				(approx)	
Specific Gravity 11.34	**Flash Point** NA	**Upper Explosive Limit** NA	**Lower Explosive Limit** NA		

Noncombustible Solid in bulk form.

Incompatibilities & Reactivities

Strong oxidizers, hydrogen peroxide, acids

Exposure Routes

inhalation, ingestion, skin and/or eye contact

Symptoms

lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension

Target Organs

Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue

Personal Protection/Sanitation

(See protection codes)
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: Daily
Remove: When wet or contaminated
Change: Daily

First Aid

(See procedures)
Eye: Irrigate immediately
Skin: Soap flush promptly
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

(See Appendix E)
NIOSH/OSHA

Up to 0.5 mg/m³:
(APF = 10) Any air-purifying respirator with an N100, R100, or P100 filter (including N100, R100, and P100 filtering facepieces) except quarter-mask respirators.
Click here for information on selection of N, R, or P filters.
(APF = 10) Any supplied-air respirator

Up to 2.5 mg/m³:
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.
Click here for information on selection of N, R, or P filters.
(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 50 mg/m³:
(APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode

Up to 100 mg/m³:
(APF = 2000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.
Click here for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection

See also

INTRODUCTION ICSC CARD: 0052 (https://www.ilo.org/dyn/icsc/showcard.display?p_lang=en&p_card_id=0052&p_version=2) MEDICAL TESTS: 0127

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TOTAL PETROLEUM HYDROCARBONS (TPH)

Agency for Toxic Substances and Disease Registry ToxFAQs August 1999

This fact sheet answers the most frequently asked health questions (FAQs) about total petroleum hydrocarbons (TPH). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: TPH is a mixture of many different compounds. Everyone is exposed to TPH from many sources, including gasoline pumps, spilled oil on pavement, and chemicals used at home or work. Some TPH compounds can affect your nervous system, causing headaches and dizziness. TPH has been found in at least 23 of the 1,467 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are total petroleum hydrocarbons?

(Pronounced tōt′l pə-trō′lē-əm hī′drə-kär′bənz)

Total petroleum hydrocarbons (TPH) is a term used to describe a large family of several hundred chemical compounds that originally come from crude oil. Crude oil is used to make petroleum products, which can contaminate the environment. Because there are so many different chemicals in crude oil and in other petroleum products, it is not practical to measure each one separately. However, it is useful to measure the total amount of TPH at a site.

TPH is a mixture of chemicals, but they are all made mainly from hydrogen and carbon, called hydrocarbons. Scientists divide TPH into groups of petroleum hydrocarbons that act alike in soil or water. These groups are called petroleum hydrocarbon fractions. Each fraction contains many individual chemicals.

Some chemicals that may be found in TPH are hexane, jet fuels, mineral oils, benzene, toluene, xylenes, naphthalene, and fluorene, as well as other petroleum products and gasoline components. However, it is likely that samples of TPH will contain only some, or a mixture, of these chemicals.

What happens to TPH when it enters the environment?

- ❑ TPH may enter the environment through accidents, from industrial releases, or as byproducts from commercial or private uses.
- ❑ TPH may be released directly into water through spills or leaks.
- ❑ Some TPH fractions will float on the water and form surface films.
- ❑ Other TPH fractions will sink to the bottom sediments.
- ❑ Bacteria and microorganisms in the water may break down some of the TPH fractions.
- ❑ Some TPH fractions will move into the soil where they may stay for a long time.

How might I be exposed to TPH?

- ❑ Everyone is exposed to TPH from many sources.
- ❑ Breathing air at gasoline stations, using chemicals at home or work, or using certain pesticides.
- ❑ Drinking water contaminated with TPH.
- ❑ Working in occupations that use petroleum products.
- ❑ Living in an area near a spill or leak of petroleum products.
- ❑ Touching soil contaminated with TPH.

ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html

How can TPH affect my health?

Some of the TPH compounds can affect your central nervous system. One compound can cause headaches and dizziness at high levels in the air. Another compound can cause a nerve disorder called "peripheral neuropathy," consisting of numbness in the feet and legs. Other TPH compounds can cause effects on the blood, immune system, lungs, skin, and eyes.

Animal studies have shown effects on the lungs, central nervous system, liver, and kidney from exposure to TPH compounds. Some TPH compounds have also been shown to affect reproduction and the developing fetus in animals.

How likely is TPH to cause cancer?

The International Agency for Research on Cancer (IARC) has determined that one TPH compound (benzene) is carcinogenic to humans. IARC has determined that other TPH compounds (benzo[a]pyrene and gasoline) are probably and possibly carcinogenic to humans. Most of the other TPH compounds are considered not to be classifiable by IARC.

Is there a medical test to show whether I've been exposed to TPH?

There is no medical test that shows if you have been exposed to TPH. However, there are methods to determine if you have been exposed to some TPH compounds. Exposure to kerosene can be determined by its smell on the breath or clothing. Benzene can be measured in exhaled air and a breakdown product of benzene can be measured in urine. Other TPH compounds can be measured in blood, urine, breath, and some body tissues.

Has the federal government made recommendations to protect human health?

There are no regulations or advisories specific to TPH. The following are recommendations for some of the TPH fractions and compounds:

The EPA requires that spills or accidental releases into the environment of 10 pounds or more of benzene be reported to the EPA.

The Occupational Safety and Health Administration has set an exposure limit of 500 parts of petroleum distillates per million parts of air (500 ppm) for an 8-hour workday, 40-hour workweek.

Glossary

Carcinogenicity: Ability to cause cancer.

CAS: Chemical Abstracts Service.

Immune system: Body organs and cells that fight disease.

Pesticides: Chemicals used to kill pests.

Source of Information

Agency for Toxic Substances and Disease Registry (ATSDR). 1999. Toxicological profile for total petroleum hydrocarbons (TPH). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Animal testing is sometimes necessary to find out how toxic substances might harm people and how to treat people who have been exposed. Laws today protect the welfare of research animals, and scientists must follow strict guidelines.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 404-639-6359. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

HOSPITAL ROUTE MAP

bing maps

A 2265 E 103rd St, Los Angeles, CA 90002

B St. Francis Medical Center, 3630 E Imperial Hwy, Lynwood, CA 90262

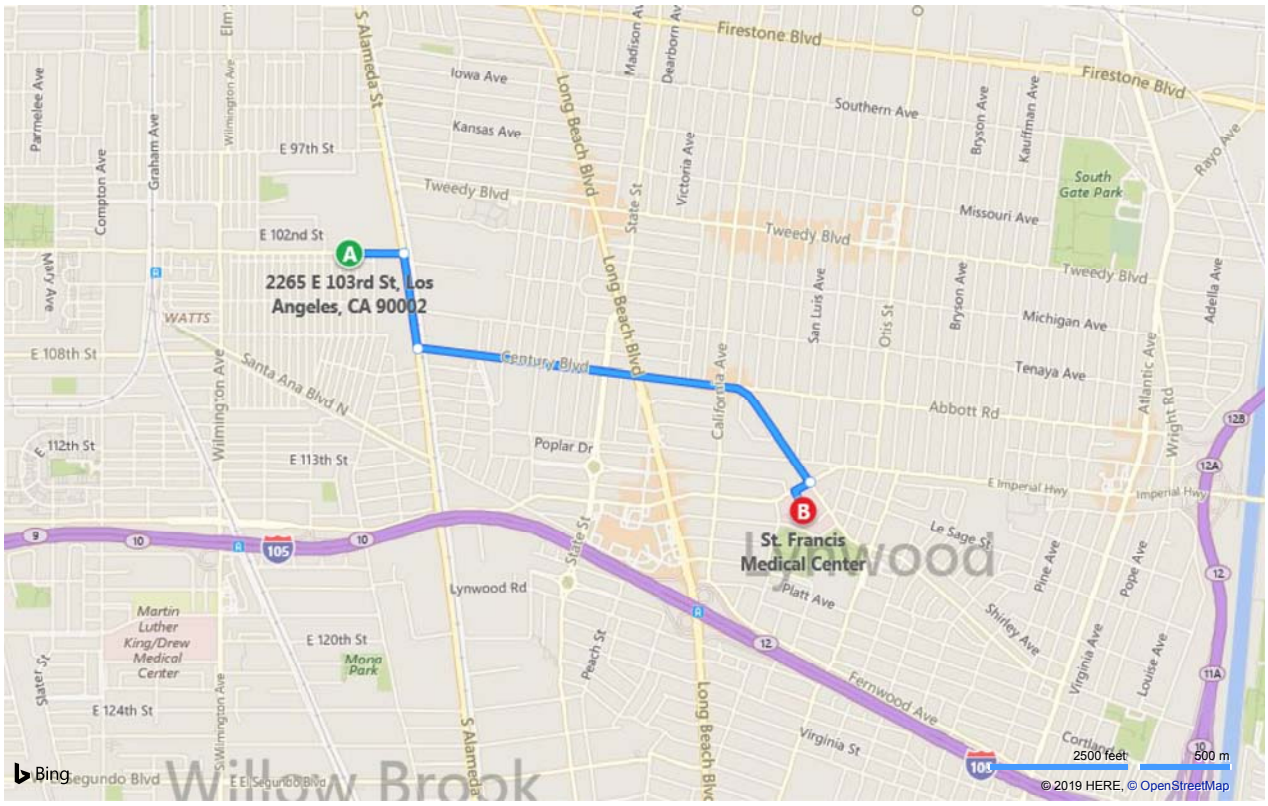
13 min , 2.2 mi
Heavy traffic (6 min delay)
Via S Alameda St, Martin Luther King Jr Blvd · *Local roads*

Type your route notes here

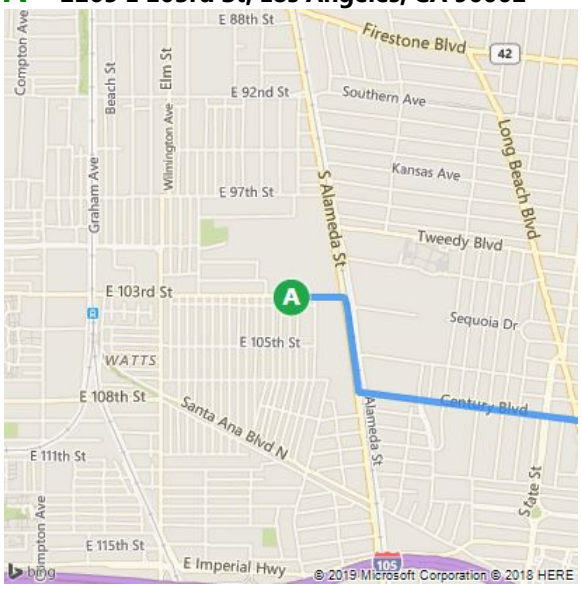
A 2265 E 103rd St, Los Angeles, CA 90002

↑	1.	Depart **E 103rd St** toward Gorman Ave	0.2 mi
↱	2.	Turn **right** onto **S Alameda St**	0.3 mi
↰	3.	Turn **left** onto **Martin Luther King Jr Blvd**	1.6 mi
↱	4.	Turn **right** onto **E Imperial Hwy** Carl's Jr on the corner	318 ft
↰	5.	Turn **left** onto **road** Carl's Jr on the corner	397 ft
	6.	Arrive on the left The last intersection is E Imperial Hwy	

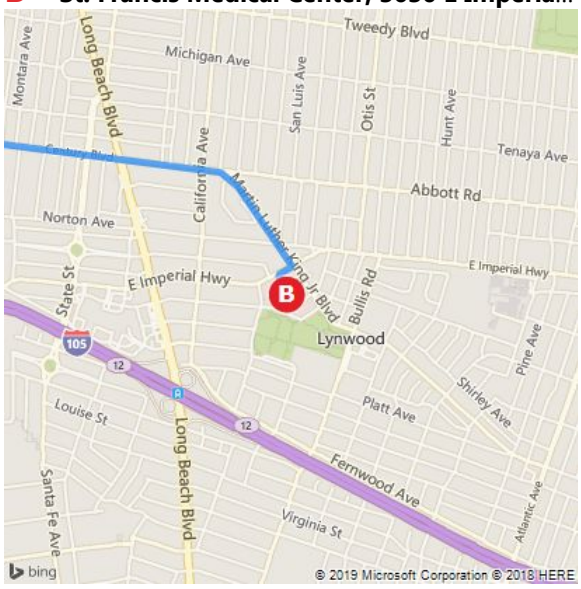
B St. Francis Medical Center



A **2265 E 103rd St, Los Angeles, CA 90002**



B **St. Francis Medical Center, 3630 E Imperia...**



HEALTH AND SAFETY FORMS

HEALTH AND SAFETY FORMS
2017/2018

Employee Acknowledgment Form - To be signed by each person onsite including subcontractors

Tailgate Safety Meeting Form - Daily

Daily Work Record - Daily

Daily Health & Safety Inspection Checklist - Daily

Daily PID Monitoring Field Log - Daily

ENVIRONMENTAL SAMPLING

Field Logs (Soil Borings, Groundwater Wells, As necessary

Groundwater monitoring)

OTHER

Accident/Injury Forms To be completed and submitted to H&S/HR

LEIGHTON
Employee Acknowledgement Form

This form has been developed to assure that all personnel and subcontractors working at _____ have read and understand the Site Specific Health and Safety Plan that has been prepared by Leighton in accordance with 8 CCR 5192.

Date	Name	Company	Signature	40 Hour Trained

LEIGHTON
Tailgate Safety Meeting Form

Date:_____ Time:_____ Job Number:___ _____
Client _____Address:_____
Specific Location/ Area: _____Building :._____
Scope of Work: _____

SAFETY TOPIC PRESENTED

Protective Clothing/Equipment: _____
Chemical Hazards: _____
Physical Hazards: _____
Emergency Procedures: _____
Special Equipment: _____
Injuries Occurred: _____
Other Topics Discussed: _____

ATTENDEES

PRINTED NAME	SIGNATURE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

MEETING CONDUCTED BY:
Printed Name: _____Signature: _____
Site Supervisor: _____ Project Manager:_____

ALL TAILGATE SAFETY MEETING FORMS TO BE RETURNED TO THE HEALTH & SAFETY DEPARTMENT AT COMPLETION OF EACH PROJECT

LEIGHTON
Daily Project Log

Site Address _____

_____

_____

Job No. _____

Date _____

Completed by _____

Signature _____

Hours	Personnel	Hours	Personnel
Hours	**Subcontractors**	**Hours**	**Equipment**

Log

LEIGHTON
DAILY HEALTH & SAFETY INSPECTION LOG

Date: _____ Time: _____ Location: _____

Housekeeping & Sanitation	**YES**	**NO**	**Corrective Action**
General neatness of work	_____	_____	_____
Disposal of waste/trash/misc. scrap	_____	_____	_____
Full and empty cylinders separated (5'tall) ½ hour firewall or a 20' distance	_____	_____	_____
Walk ways clear (trip hazards)	_____	_____	_____
Site secure, free from pedestrian traffic	_____	_____	_____
Eyewash station clean and accessible	_____	_____	_____
First-aid kit accessible	_____	_____	_____
Drinking water available	_____	_____	_____
Fire Prevention			
Extinguisher checked	_____	_____	_____
Extinguisher posted 75' in any direction	_____	_____	_____
Electrical			
Exposed wires/cord on tools	_____	_____	_____
Panels unobstructed and in place	_____	_____	_____
Tools & Machinery			
Good working condition	_____	_____	_____
Inspection and maintenance	_____	_____	_____
Exposed wires/cords on tools	_____	_____	_____
GFCI extension cords being used	_____	_____	_____

THESE INSPECTIONS SHOULD BE MADE DAILY, BEFORE JOB BEGINS, AFTER LUNCH, AND AT THE END OF THE DAY. THEY SHOULD BE MADE BY THE JOB SITE FOREMAN OR SUPERINTENDENT, BY USING THIS CHECKLIST AND SENDING IT TO THE SAFETY OFFICER TO FILE IT IN THE JOB FOLDER.

_____	_____	_____	_____
SIGNATURE	**DATE**	**POSITION**	**JOB NUMBER**

LEIGHTON
Monitoring Log

Site Address

_____
_____
_____

Job No. _____

Date _____

Completed by _____

Signature _____

CALIBRATION RECORD FOR INSTRUMENT

Instrument: _____

Model Number: _____Serial Number:_____

Date Last Calibrated:_____ By:_____

Span Setting Remarks (include type of calibration gas, weather, etc.)

____ _____ _____ _____
____ _____ _____ _____
____ _____ _____ _____
____ _____ _____ _____

MONITORING RECORD FOR INSTRUMENT

Monitoring Recorded

Date	Time	Location	Reading	By:	Remarks (include weather, etc.)

LEIGHTON GROUP, INC.
EMPLOYEE'S ACCIDENT REPORT

Contact Human Resources Immediately @ 949-681-4248

Date of Accident:_____ Time of Accident: _____AM/PM

Injured Employee: _____ Company: _____

Employee Job Title: _____ Employee Office Location: _____

Supervisor's Name: _____ Has Supervisor been notified: ___ Yes ___ No

Project Name: _____ Client: _____

Project Location: _____

_____

What were you doing when the accident occurred (include tools, equipment, terrain, etc): _____

_____

_____

_____

Describe accident in detail: _____

_____

_____

_____

_____

_____

Nature of Injury:

_____

_____

List names of any witnesses, their company and phone numbers: _____

_____

Did you obtain first aid or medical treatment? ___ Yes ___No: Is yes, provide name, address, & phone number and attach copy of the 'Doctor's First Report' and/or 'Return-To-Work Authorization: _____

_____

_____

What will you do to prevent this incident from happening again? _____

_____

Was any equipment damaged? Yes___ No___ List: _____

I wish to file a Worker's Compensation claim Yes_____ No_____

Employee Signature: _____ Date: _____

LEIGHTON GROUP, INC.
SUPERVISOR'S ACCIDENT INVESTIGATION REPORT

Contact Human Resources Immediately @ 949-681-4248

Date of Accident:_____ Time of Accident: _____AM/PM

Injured Employee: _____ Company: _____

Employee Job Title: _____ Employee Office Location: _____

Project Name: _____ Client: _____

Project Location: _____

_____

Describe accident in detail: _____

_____

_____

_____

Described what caused the accident: _____

_____

_____

_____

List names of any witnesses, their company and phone numbers: _____

_____

List names, companies and phone numbers of anyone working in the immediate area: _____

_____

Did you interview the witnesses and write down their statements? Yes___ No___ If yes, please attach.

Have other accidents of a similar nature happened in the last 12 months? If yes, how many? _____

Was any equipment damaged? Yes___ NO___ List: _____

Was any emergency equipment used? Yes___ No___ Was it replaced? Yes___ No___

Was any first aid treatment performed at the site of the accident? If so, describe: _____

_____

Was the employee sent to a medical treatment facility (medical center, hospital, etc.)? If, so where? _____

What will you do to prevent a recurrence? _____

_____

What does the company need to provide or do to prevent a recurrence? _____

_____

Supervisor Signature: _____ Date: _____

APPENDIX E

QUALITY ASSURANCE PROJECT PLAN

Leighton

QUALITY ASSURANCE PROJECT PLAN
NORTHERN PORTION OF
DAVID STARR JORDAN HIGH SCHOOL
2265 EAST 103rd STREET
LOS ANGELES, CALIFORNIA

Prepared For:

LOS ANGELES UNIFIED SCHOOL DISTRICT

Office of Environmental Health and Safety
333 South Beaudry Avenue, 21st Floor
Los Angeles, California 90017

Project No. 11640.011

July 1, 2019

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

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Leighton

1.0 QUALITY OBJECTIVES

1.1 Data Quality Objectives

Data Quality Objectives (DQOs) are established to verify that the data collected are sufficient and of adequate quality for intended uses. The following five levels of data quality are recognized by the United States Environmental Protection Agency (US EPA):

Screening (DQO Level I): This level provides the lowest data quality but the most rapid results. It is often used for health and safety monitoring at the site, preliminary comparison to Applicable or Relevant and Appropriate Requirements (ARARs), and initial site characterization to locate areas for subsequent and more accurate analysis. The data are typically collected using portable field equipment. Field analyses are used for gross engineering assessments and for health and safety screening.

Field Analyses (DQO Level II): Field analyses are performed using instruments and procedures equivalent to field laboratory analyses, and they produce legally defensible data if Quality Control (QC) procedures are implemented. This level provides rapid results and higher quality than in Level I. Quality Assurance (QA)/QC procedures are usually less rigorous than Level III but more stringent than Level I. No Level II procedures are planned for this project.

Engineering (DQO Level III): This level provides an intermediate level of data quality and is often used for site or waste characterization. Level III data are generated by laboratories using US EPA SW-846 procedures without full reporting requirements. Level III data packages will be provided for waste profile analysis.

Conformational (DQO Level IV): This provides the highest level of data quality and is used for purposes of risk assessment and evaluation of remedial alternatives. These analyses require full analytical and data validation procedures in accordance with US EPA recognized protocols. A level IV-type data package will be used for the confirmation samples collected for this project and will include the following: analytical report, chain-of-custody (COC), narrative, corrective action reports, surrogate recoveries for gas chromatograph (GC)/mass spectrometer (MS) analysis with control limits, detection limits and

reporting limits, laboratory control sample (LCS) / matrix spike (MS) / matrix spike duplicate (MSD) with control limits and method blanks in order to comply with the US EPA National Functional Guidelines.

Non-Standard (DQO Level V): This refers to analyses by non-standard protocols, for example, when exacting detection limits or analysis of an unusual chemical compound is required. These analyses often require method development or adaptation. This level of quality control is usually similar to DQO Level IV data.

The overall data quality objective is to produce data of sufficient quality for use in risk assessment and to support remedial alternative selection. These policies are intended to provide analytical data that will yield comprehensive and valid results and will comply with applicable federal and state regulations.

1.2 Problem Definition/Background

Soils impacted by arsenic, lead, and total petroleum hydrocarbons (TPH) were identified at the site. Soil remediation through excavation and offsite disposal is the preferred remedial technology. Confirmation soil samples will be collected and analyzed for arsenic, lead, and TPH. Waste profile samples will be collected for waste characterization suitable for acceptance at a designated landfill. Air monitoring of dust levels and potential airborne contaminants will be performed in accordance with South Coast Air Quality Management District (SCAQMD) Rule 1466 requirements.

1.3 Project Task Description

This project includes attending a scoping meeting with the DTSC, preparing a Removal Action Workplan (RAW), remedial excavation and offsite disposal, and preparing a Removal Action Completion Report (RACR). Upon completion of the RACR, copies will be submitted to the DTSC.

1.4 Project Quality Objectives

The necessary QA/QC procedures will be performed in accordance with acceptable protocols, and that the data generated meet the overall project objectives for precision and accuracy. Sampling and analysis procedures, personnel requirements, chain-of-custody and documentation requirements, and

specific criteria for evaluating data acceptability will be traceable. Procedures will be followed on how to address data deficiencies, data reduction and evaluation, and preparation of field observation reports, which will be produced so that outputs are accurate and technically sound.

1.5 Documentation and Records

The following information will be included in each laboratory data report package.

1. Cover Letter and Laboratory Manager (or designee's) signature.
2. Data reports for each sample submitted which include at a minimum:
   - Results, reporting units for each parameter;
   - Project detection limits and reporting limits;
   - Date of extraction(s) and analyses;
   - List of project specified methodologies for each parameter; and
   - Dates of sample collection and laboratory receipt.
3. Quality Control Summary Forms with method blank results, GC, GC/MS or MS/MSD recoveries with control limits and relative percent difference (RPD) calculations.
4. LCS / MS / MSD with control limits.
5. Chain-of-Custody forms.
6. A Sample Receipt Record documenting the condition of the samples upon receipt by the laboratory.
7. A Case Narrative, as necessary, to discuss quality control limit exceedances, specific sample problems, and analytical methodology problems observed.
8. Corrective Action Reports (as required).

2.0 DATA GENERATION AND ACQUISITION

2.1 Sampling Process Design

The primary objective of this project is to remove soil identified in the northern portion of the Site as having chemicals of concern (COCs) above applicable

screening levels which may pose a potential risk to human health and the environment and to verify remediation performance.
The sampling program assumes that conditions will be generally consistent throughout the sampling locations and that the analytical instrument response will be consistent with samples within the same medium.

Forty-five (45) locations ranging in size from approximately 100 square feet to approximately 2,400 square feet will be excavated to between 1.5 and 15 feet below ground surface (bgs).

Once complete, the excavation areas will be sampled at the sidewalls in areas that do not contain existing compliance point samples to verify contaminant removal and to confirm that elevated COC concentrations exceeding the removal action goals horizontally beyond the excavation boundaries. Additional soil removal and confirmation sampling will be performed if confirmation soil sample results are above the removal action goals.

2.2 Sampling Methods

Confirmation samples will be collected either by using a clean stainless steel trowel then transferred directly into clean laboratory-provided 4-oz. glass jars with Teflon-lined plastic lids, or by using the jar itself to collect the sample. The confirmation samples will be properly labeled and placed in individual air-tight plastic bags. The confirmation samples will be stored onsite in an ice-cooled chest prior to delivery to a California ELAP-certified laboratory.

2.3 Sample Handling and Custody

Samples will be delivered to the laboratory on the same day collected, if time permits, and no later than the day following collection. In the event the samples are delivered the day after they are collected, the samples will be secured under proper chain of custody documentation at the environmental professional's office until delivery.

2.4 Analytical Methods

The confirmation soil samples will be analyzed by the following methods:

- Arsenic by US EPA Method 6020;

- Lead by US EPA Method 6010B; and
- TPH gasoline range organics (GRO), diesel range organics (DRO) and oil range organics (ORO) by US EPA Method 8015.

Samples will be extracted within 14 days and analyzed within 40 days of extraction. Analytical procedures applicable to samples obtained from the Site are presented below. The laboratory will be instructed to report estimated values as J-flag values (e.g., concentrations above the method detection limit [MDL] and below the practical quantitation limit [PQL]).

2.5 Quality Control

The Project Manager will be responsible for implementing the quality control requirements for the project.

The quality control procedures specified in the current SW-846 methodologies and specified US EPA methods will be followed in the laboratory and the field.

2.5.1 Field QC Requirements

Field sampling procedures call for preparation and submittal of two types of QC samples.

- Equipment blanks – These samples are prepared in the field to evaluate if a sampling device (e.g., hand trowel) has been effectively cleaned. The sampling device will be scrubbed with non-phosphate detergent, rinsed with tap water, and double-rinsed with organic-free, de-ionized water that will then be poured over the device, transferred to the appropriate sample bottles, preserved, and returned to the laboratory for analysis. One equipment blank will be collected per sampling tool used at the Site each day. The equipment blank will be analyzed for the same analyses requested for the associated primary samples collected. If the samples are collected directly with the sample jar or a disposable scoop, then an equipment blank is not necessary.

- Field duplicates– Two sets of samples (primary and duplicate) each from a single source will be prepared, labeled with unique sample numbers, and submitted to the laboratory without cross-referencing data and without identification as duplicates on the chain of custody.

2.5.2 Laboratory QC Requirements

To obtain data on the precision, accuracy, and recovery, the analytical laboratory will analyze the QC samples as specified in Section 2.5.1. The control limits and corrective actions for each parameter are specified in each analytical method.

For inorganic analyses of soil and water, the analytical methods require analyses of the following QC samples:

- Calibration verification following instrument calibration and once every tenth sample thereafter through the working day.
- Laboratory blank verification at instrument calibration and once every tenth sample thereafter through the working day to check instrument drift.
- Method blank analysis at a rate of once per batch of samples or one per 20 samples of a single matrix, whichever is more frequent, to evaluate contamination levels during preparation.
- MS/MSD analyses at a rate of one per batch of samples for each matrix type (e.g., soil, water) and concentration level (e.g., low, medium) or one in 20 samples, whichever is more frequent. The MS/MSDs are used to check for the ability to accurately and precisely recover compounds of interest from the matrix.

The results of analyses of these QC samples will be used as independent, external checks on laboratory and field contamination.

2.6 Instrument Testing, Inspection, and Maintenance

Each analyst is responsible for conducting a daily inspection of critical systems on instruments under their charge. Inspections include vacuum lines and pumps for GC/MS, automatic injection systems, controlled reagent-feed motors, temperature-controlled ovens in GCs, capillary columns, detectors and support systems, gas control system for AA's, and many others. Wear-dependent items such as septa on GC injection systems are to be replaced as needed. The performance of instruments is to be checked against known standards at the beginning of each working day or shift. Failure to achieve proper performance

indicates a system problem, which will be dealt with by laboratory personnel or by the manufacturer's service representative.

In addition, laboratory personnel or the manufacturer's service representative will service working systems according to a fixed schedule. A record of service and repairs, whether accomplished by laboratory personnel or by the manufacturer's service representative, will be maintained in a logbook kept with each instrument.

2.7 Instrument Calibration and Frequency

Field monitoring and analytical equipment will be maintained in accordance with the manufacturers' recommended schedules and procedures. Maintenance activities will be documented by either field or laboratory personnel. Calibration will be performed on a routine basis and as otherwise required. Calibrating equipment will also be routinely recalibrated and documented. Routine inspection of equipment is intended to identify problems requiring maintenance before they cause a major disruption of the field monitoring or analytical activities or adversely affect the validity and precision of the data being measured.

2.8 Data Acquisition Requirements

Data used for project decisions and reports that were obtained from data tables, other sources, or calculations will be verified by at least two project personnel prior to use. Data tables or other data summaries will include "Prepared by" and "Checked by" fields at the end of the data to document this two-person review process.

2.9 Data Management

Data resulting from laboratory analysis will be consistent with the appropriate methods and equations stated in the procedure. Individual laboratory supervisors will review data before forwarding it to the data management supervisor. Final reports will be reviewed by the laboratory QA Manager for error or deviations before release. Final reports will include the Quality Control Summary data required to perform data assessment. Procedures used for analyses will be compared with the reference methods. Discrepancies or deviations will be noted and explained.

The data generated during the sample collection and analysis will be centralized into one project file including information about the instrument conditions. The data management system allows review by project personnel.

3.0 ASSESSMENT AND OVERSIGHT

3.1 Technical Systems Audit

Audit programs are established and directed by the consultant's quality assurance staff to monitor that field and laboratory activities are performed in compliance with project controlling documents.

Laboratory audits include reviews of sample handling procedures, internal sample tracking, SOPs, analytical data documentation, QA/QC protocols, and data reporting. The selected mobile or offsite laboratory will be licensed by the State of California as a certified testing laboratory, and will participate in the WP/WS Performance Program for hazardous waste, wastewater, and/or drinking water analyses.

3.2 Performance Evaluation Audits

Field audits focus on appropriateness of personnel assignments and expertise, availability of field equipment, adherence to project controlling documents for sample collection and identification, sample handling and transport, use of QA samples, chain-of-custody procedures, equipment decontamination and documentation. Field audits are not required, but may be performed in the event significant discrepancies are identified that warrant evaluation of field practices.

Data audits will be performed on analytical results received from the laboratories. These audits will be accomplished through the process of data validation as described in Section 4, or may involve a more detailed review of laboratory analytical results. Data audits require the laboratory to submit complete raw data files to the consultant for validation. Staff or subcontracted chemists will perform a review of the data consistent with the level of effort described in the *National Functional Guidelines*. This level of validation consists of a detailed review of sample data, including verification of data calculations for calibration and quality control samples to assess if these data are consistent with method requirements. Upon request, the laboratory will make available supporting documentation in a timely fashion.

3.3 Reports to Management

A summary of QA/QC related reports are listed below:

- Data Validation Report;
- Data Assessment Reports; and
- Progress Reports.

4.0 DATA VALIDATION AND USABILITY

4.1 Data Review, Verification, and Validation

Proper data management is as important as proper analysis and custody procedures in obtaining representativeness. Data review, verification, and validation procedures function to control data handling from field collection through laboratory analysis and data processing to the point where data are turned over to the data user.

Data review is the in-house examination to ensure that the data have been recorded, transmitted, and processed correctly. That includes, for example, checking for data entry, transcription, calculation, reduction, and transformation errors. It may also mean ensuring that there is a complete list of sample information available, such as sample matrixes, blanks, duplicates, shipping dates, preservatives, holding times, etc., and verifying that there are no programming errors. It is also a completeness check to evaluate if there are any deficiencies, such as data missing or integrity lost (for example, due to corruption or loss in storage or processing).

Data verification is the process for evaluating the completeness, correctness, and conformance/compliance of a specific data set against the method, procedural, or contractual specifications. It essentially evaluates performance against pre-determined specifications, for example, in an analytical method, or a software or hardware operations system.

Data validation is an analyte- and sample-specific process that extends the evaluation of data beyond method, procedure, or contractual compliance (e.g., data verification) to evaluate the quality of a specific data set relative to the end use. It focuses on the project's specifications or needs, designed to meet the

needs of the decision makers/data users and should note potentially unacceptable departures from the Quality Assurance Project Plan (QAPP). The potential effects of the deviation will be evaluated during the data quality assessment.

Data verification is generally done first, internally by those generating the data or by an organization external to that group. Data validation is generally performed on the verified data later in the process and by someone independent or external to the data generator and the data user. These processes may occur both during and at the end of the project.

Data quality and utility depend on many factors including sampling methods, sample preparation, analytical methods, QC, and documentation. Subcontractors, such as laboratories or sampling personnel, will be advised of applicable documentation and procedural requirements. Once the data are assembled, satisfaction of validation criteria will be documented as listed below. Chemical data must meet criteria of: (1) quantitative statistical significance; (2) custody and document control; and (3) sample representativeness.

To evaluate the quantitative statistical significance of chemical data, items will be documented as appropriate (e.g., with laboratory records, with laboratory Standard Operating Procedures (SOPs) by reference to an approved SOP manual, or with equipment manufacturer/supplier records).

Documentation may be either direct (for example, listing of dates, names, and methodologies) or by reference to existing documents. Referenced documents will be specifically identified. The precise and retrievable location of nonstandard documents (e.g., in-house procedure manuals, chain-of-custody forms, and laboratory reports) will be stated.

To evaluate sample representativeness, the following items will be checked:

- Compatibility between field and laboratory measurements or suitable explanation of a discrepancy;
- Sample preservation techniques and holding time;
- Sample storage within suitable temperature, light, and moisture conditions;
- Use of proper sample containers;

- Use of proper sample collection equipment;
- Use of proper decontamination procedures;
- Use of proper laboratory preparation techniques; and
- Proper sample site selection.

To evaluate the physical data that support the analytical data, the following items will be documented:

- Sampling date and time;
- Sampling team; observer and recorder, team leader;
- Sampling location and physical description;
- Sample depth increment for soils;
- Sample collection techniques;
- Field preparation techniques (e.g., containerization, transfer, and compositing);
- Visual classification of sample using an accepted classification system;
- A thorough description of the methodology used, and a rationale for the use of that methodology; and
- Examination of documentation of record keeping practices.

Field Measurements

Raw data from field measurements and sample collection activities will be appropriately recorded in the daily field report (DFR). If the data are to be used in the project reports, they will be reduced or summarized and the method of reduction will be documented in the report.

Laboratory Analysis

The following sections describe the data reduction, validation, and reporting procedures to be performed by the laboratory and the consultant.

Data Review

The analyst will perform the analysis and enter the data on the parameter bench sheet and corresponding data station(s). Bench sheets contain necessary

information to establish sample identity, integrity, calibration evaluation, and analytical observation and results. A bench sheet key is provided to the analyst which specifies the way in which bench sheets are to be filled out (e.g., notation, significant figures, etc.), the data reduction formula and the QC samples required, and their control criteria. QC samples include duplicates, MS or MSDs, continuing calibration verification samples (CCVs), etc.

For the duration of the study, the laboratory will keep raw, preliminary, and final data and instrument readouts (e.g., chromatograms, printed digital readouts, etc). Ultimately, data will be archived along with other project records.

Data Verification and Validation

Data will be summarized as they are generated and submitted to the project team. The data will be considered preliminary until completion of review and validation.

One hundred percent of the data will be validated by an electronic data management system. Approximately 20 percent of the data will be randomly selected for more detailed data validation and further reviewed by a project chemist to assess whether they have met the project DQOs for intended data uses. If the subset of data validated indicates a potential QA/QC problem, additional data will be validated. Data validation will be performed using criteria described in this QAPP and specific analytical methods.

The data review and validation consists of checking samples and QC results to show that the analyses are within prescribed criteria for precision, accuracy, completeness, sensitivity, selectivity, blank contamination, etc. In addition to tabulated results, instrument readouts (e.g., calibration curves, summary reports, etc.) are checked.

The review will consist of an evaluation of the routine QA/QC performed by the laboratory. This will include review of the following QA/QC controls:

- Extraction blanks;
- Matrix spike and matrix spike duplicates;
- Surrogate spikes, if applicable;
- Laboratory control samples;

- Preparation blanks;
- Sample preservation (e.g., 4°C);
- Holding times (e.g., 14 days to extraction, 40 days to analysis); and
- Continuing calibration verification samples.

If data points are qualified, they will receive data qualifiers. The qualifiers will indicate if results are usable as-is, usable as-estimated, or unusable (rejected). A case narrative will be generated for each analytical package submitted by the laboratory. This narrative represents a summary on the quality of the data. Standard data qualifiers will be used to classify data as to their conformance to QA/QC requirements.

The Field Coordinator or other qualified personnel will perform validation of data obtained from field measurements (dust concentrations, wind speed, temperature). Data validity will be evaluated by checking calibration procedures utilized in the field as appropriate and by comparing the data to previous measurements obtained at the Site. Variations in data that cannot be explained will be assigned a lower level of validity and will be used for limited purposes. The Field Technician will summarize the data obtained from the field measurements and will include this information on the DFRs.

4.2 Reconciliation with Data Quality Objectives

Data reconciliation requires evaluation of precision, accuracy, representativeness, comparability, and completeness (PARCC) criteria, field quality control results, and conformance to method standards (including sample holding times).

Precision

Precision is a measure of the degree to which two or more measurements are in agreement. Precision is based on the relative percent difference (RPD) of duplicates analyses or duplicate spike analyses.

Field precision is assessed through the collection and measurement of field duplicates at a rate of 1 duplicate per 10 primary analytical samples. RPDs will be calculated as shown below.

Precision in the laboratory is assessed through the calculation of RPDs for two or more replicate samples. The RPD equation is given by:

RPD = A –B /[(A + B)/2] x 100%

Where: RPD = Relative Percent Difference
A = First sample value
B = Second sample value

Laboratory precision will be assessed at a rate of 1 per 10 primary analytical samples.

Duplicate samples are analyzed to check for sampling and analytical reproducibility. Duplicates are discussed in Section 2.5.1 Field QC Requirements. Duplicate sample locations are listed in Table 5 of the RAW.

Matrix spikes (MS) and matrix spike duplicate (MSD) samples are field samples spiked by the laboratory with target analytes prior to preparation and analysis. These samples measure the overall efficiency of the analytical method in recovering target analytes from an environmental matrix. A laboratory control sample (LCS) is similar to an MS/MSD sample in that the LCS is spiked with the same target analytes prior to preparation and analysis. However, the LCS is prepared using a controlled interference-free matrix instead of a field sample aliquot. Laboratory reagent water is used to prepare aqueous LCS. Non-aqueous LCSs are prepared using solid media approved by the American Society for Testing and Materials (ASTM) for their homogeneity. The LCS measures laboratory efficiency in recovering target analytes from either a solid or aqueous matrix in the absence of matrix interferences.

For inorganic analysis, one primary sample is analyzed and accompanied by an unspiked laboratory duplicate. The data reviewer compares the reported results of the primary analysis and the laboratory duplicate, and then calculates RPDs, which are used to assess laboratory precision.

An RPD outside the numerical QC limit in either MS/MSD samples or LCS/LCSD indicates imprecision. Imprecision is the variance in the consistency with which the laboratory arrives at a particular reported result. Thus, the actual analyte concentration may be higher or lower than the reported result.

Possible causes of poor precision include sample matrix interference, improper sample collection or handling, inconsistent sample preparation, and poor instrument stability. In some duplicate pairs, results maybe reported in either the primary or duplicate samples at levels below the reporting limit or non-detected. Since these values are considered to be estimates, RPD exceedances from these duplicate pairs do not suggest a significant impact on the data quality.

Accuracy

Accuracy is a measure of the agreement of an experimental result and the true value of the parameter being measured. It is used to identify bias in a given measurement system. Recoveries outside acceptable QC limits may be caused by factors such as instrumentation, analyst error, or matrix interference. Accuracy is assessed through the analysis of MS, MSD, LCS, and samples containing surrogate spikes. In some cases, samples from multiple sample delivery groups (SDGs) are within one QC batch and therefore are associated with the same laboratory QC samples. Surrogate spikes are either isotopically labeled compounds or compounds that are not typically detected in the samples. Surrogate spikes are added to every blank, environmental sample, MS/MSD, and standard. Accuracy of inorganic analyses is assessed using the percent recoveries of MS and LCS analyses.

Percent recovery (%R) is calculated using the following equation:

$$\%R = (A-B)/C \times 100$$

Where:

A = measured concentration in the spiked sample
B = measured concentration of the spike compound in the unspiked sample
C = concentration of the spike

The percent recovery of each analyte spiked in MS/MSD samples, LCS, and surrogate compounds added to environmental samples is evaluated with the acceptance criteria specified by the previously noted documents. Spike recoveries outside the acceptable QC accuracy limits provide an indication of bias, where the reported data may overestimate or underestimate the actual concentration of compounds detected or quantification limits reported for environmental samples.

Representativeness

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population. It is evaluated by reviewing the QC results of blank samples and holding times. Positive detects of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks collected and analyzed are method blanks.

A method blank is a laboratory grade water or solid matrix that contains the method reagents and has undergone the same preparation and analysis as the environmental samples. The method blank provides a measure of the combined contamination derived from the laboratory source water, glassware, instruments, reagents, and sample preparation steps. Method blanks are prepared for each sample of a similar matrix extracted by the same method at a similar concentration level.

Comparability

Comparability is a qualitative expression of the confidence with which one data set may be compared to another. It provides an assessment of the equivalence of the analytical results to data obtained from other analyses. It is important that data sets be comparable if they are used in conjunction with other data sets. The factors affecting comparability include the following: sample collection and handling techniques, matrix type, and analytical method. If these aspects of sampling and analysis are carried out according to standard analytical procedures, the data are considered comparable. Comparability is also dependent upon other PARCC criteria, because only when precision, accuracy, and representativeness are known can data sets be compared with confidence.

Completeness

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness is evaluated to assess if an acceptable amount of usable data were obtained so that a valid scientific site assessment can be completed. Completeness equals the total number of sample results for each fraction minus the total number of rejected sample results divided by the total number of sample results multiplied by 100. As specified in the project DQOs, the goal for completeness for target analytes in each analytical fraction is 90 percent.

Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

Where:

%C = percent completeness
T = total number of sample results
R = total number of rejected sample results

Completeness is also evaluated by comparing the planned number of samples per method and matrix with the number determined above.

Field QC

Equipment blanks consist of analyte-free water poured over or through the sample collection equipment. The water is collected in a sample container for laboratory analysis. These blanks are collected after the sampling equipment is decontaminated and measure efficiency of the decontamination procedure. Equipment blanks will be collected and analyzed for each target analyte.

Field blanks consist of analyte-free source water stored at the sample collection site. The water is collected from each source used during each sampling event. Because the chemicals of concern are arsenic, lead, and TPH, field blanks will not be collected for this investigation.

Contaminants found in both the environmental sample and a blank sample are assumed to be laboratory artifacts if the concentration in the environmental sample is less than 10 times the blank value for common laboratory contaminants including methylene chloride, acetone, 2-butanone, and phthalate esters or 5 times the blank value for other laboratory contaminants.

Method Holding Times

Holding times are evaluated to verify that the sample integrity is intact for accurate sample preparation and analysis. Holding times are specific for each method and matrix analyzed. Holding time exceedances can cause loss of sample constituents due to biodegradation, precipitation, volatilization, and chemical degradation.

APPENDIX F

SURVEY DATA

Leighton

SURVEY DATA
DAVID STARR JORDAN HIGH SCHOOL
LOS ANGELES, CALIFORNIA

SOIL BORING LOCATIONS					
LOCATION	**NORTHING** (FEET)	**EASTING** (FEET)	**LATITUDE (DD)**	**LONGITUDE (DD)**	**FS/NG** (ELEVATION)
A	1802773.63	6491088.09	33.9458943	-118.2327045	111.02
B	1802773.13	6491106.33	33.9458931	-118.2326444	110.91
C	1802755.48	6491097.33	33.9458445	-118.2326739	110.76
JH-16	1802807.81	6491568.24	33.9459913	-118.2311217	111.38
JH-17	1802809.36	6491491.68	33.9459951	-118.2313741	111.24
JH-18	1802810.03	6491415.53	33.9459964	-118.2316252	111.29
JH-19	1802810.35	6491317.22	33.9459967	-118.2319493	111.20
JH-21	1802769.23	6491097.16	33.9458823	-118.2326746	110.84
JH-22	1802766.72	6491198.68	33.9458760	-118.2323399	110.73
JH-23	1802765.64	6491295.53	33.9458737	-118.2320205	110.74
JH-24	1802766.44	6491402.70	33.9458765	-118.2316672	110.78
JH-25	1802758.22	6491503.57	33.9458546	-118.2313345	110.76
JH-26	1802704.91	6491533.26	33.9457083	-118.2312362	109.93
JH-27	1802704.96	6491431.03	33.9457078	-118.2315733	110.10
JH-28	1802703.78	6491328.27	33.9457039	-118.2319121	110.05
JH-29	1802703.82	6491295.18	33.9457038	-118.2320212	109.98
JH-31	1802665.84	6491096.69	33.9455982	-118.2326754	109.41
SSI-2	1802598.26	6491701.59	33.9454163	-118.2306805	110.71
SSI-2-E	1802595.79	6491731.79	33.9454097	-118.2305809	110.81
SSI-2-N/4-S	1802627.85	6491700.84	33.9454976	-118.2306831	110.95
SSI-2-S	1802566.76	6491700.66	33.9453297	-118.2306833	110.42
SSI-2-W	1802598.22	6491671.46	33.9454160	-118.2307798	110.52
SSI-3	1802659.92	6491626.49	33.9455853	-118.2309285	110.58
SSI-3-E/4-W	1802658.23	6491657.50	33.9455808	-118.2308263	110.83
SSI-3-N	1802688.89	6491620.31	33.9456648	-118.2309491	110.74
SSI-3-S	1802630.20	6491629.98	33.9455036	-118.2309168	110.11
SSI-3W	1802657.75	6491600.05	33.9455791	-118.2310157	109.89
SSI-4	1802658.23	6491699.60	33.9455811	-118.2306875	111.09
SSI-4-E/5-W	1802652.99	6491767.29	33.9455671	-118.2304643	111.12
SSI-4-N	1802689.75	6491699.17	33.9456677	-118.2306891	111.09
SSI-5-E	1802649.90	6491829.05	33.9455590	-118.2302606	111.39
SSI-5-N	1802678.99	6491799.31	33.9456388	-118.2303589	111.33
SSI-5-S	1802619.19	6491801.53	33.9454744	-118.2303511	111.08
SSI-6	1802751.15	6491802.44	33.9458371	-118.2303491	112.27
SSI-6-E	1802753.20	6491832.97	33.9458429	-118.2302485	112.54
SSI-6-N/10-S	1802789.45	6491829.19	33.9459425	-118.2302612	112.57
SSI-6-S	1802723.41	6491802.23	33.9457608	-118.2303496	111.97
SSI-6-W	1802750.47	6491772.12	33.9458350	-118.2304491	111.93
SSI-7	1802750.42	6491698.00	33.9458344	-118.2306935	111.52
SSI-7-E	1802750.49	6491730.74	33.9458348	-118.2305855	111.44
SSI-7-N	1802781.95	6491697.83	33.9459210	-118.2306942	111.76
SSI-7-S	1802719.90	6491699.09	33.9457505	-118.2306896	111.23
SSI-7-W	1802750.37	6491668.34	33.9458341	-118.2307912	111.42

SURVEY DATA
DAVID STARR JORDAN HIGH SCHOOL
LOS ANGELES, CALIFORNIA

SOIL BORING LOCATIONS					
LOCATION	**NORTHING** (FEET)	**EASTING** (FEET)	**LATITUDE (DD)**	**LONGITUDE (DD)**	**FS/NG** (ELEVATION)
SSI-8	1802750.90	6491592.80	33.9458351	-118.2310403	110.94
SSI-8-E	1802750.07	6491623.22	33.9458330	-118.2309400	111.43
SSI-8-N/15-S	1802781.94	6491604.26	33.9459204	-118.2310027	111.60
SSI-8-S	1802720.43	6491591.36	33.9457513	-118.2310448	110.59
SSI-8-W	1802752.00	6491567.37	33.9458379	-118.2311241	110.77
SSI-10	1802810.09	6491829.72	33.9459992	-118.2302596	112.52
SSI-12	1802810.76	6491775.40	33.9460007	-118.2304387	111.98
SSI-12-S/13-S	1802791.06	6491772.56	33.9459465	-118.2304479	112.06
SSI-13	1802807.28	6491770.62	33.9459911	-118.2304544	112.07
SSI-13-W	1802810.63	6491741.63	33.9460001	-118.2305500	111.69
SSI-14	1802811.51	6491623.71	33.9460018	-118.2309388	111.76
SSI-14-E	1802811.14	6491654.99	33.9460010	-118.2308357	111.77
SSI-14-S	1802781.78	6491623.16	33.9459201	-118.2309404	111.53
SSI-15	1802812.13	6491604.74	33.9460034	-118.2310014	111.47
SSI-17-E	1802808.38	6491521.77	33.9459926	-118.2312749	111.39
SSI-17-W	1802810.07	6491462.17	33.9459968	-118.2314715	111.29
SSI-18-E	1802809.97	6491445.44	33.9459964	-118.2315266	111.24
SSI-18-W	1802809.71	6491385.76	33.9459953	-118.2317234	111.38
SSI-19-E	1802809.74	6491346.87	33.9459952	-118.2318516	111.36
SSI-19-W	1802810.07	6491286.75	33.9459957	-118.2320498	111.28
SSI-28-E	1802703.20	6491358.14	33.9457025	-118.2318136	109.97
SSI-28-N	1802733.42	6491328.67	33.9457854	-118.2319110	110.42
SSI-28-W/29-E	1802703.50	6491313.36	33.9457031	-118.2319613	110.08
SSI-29-N	1802733.78	6491295.99	33.9457861	-118.2320188	110.43
SSI-29-W	1802704.27	6491265.44	33.9457049	-118.2321193	110.03
SSI-30-N	1802716.45	6491197.66	33.9457379	-118.2323428	110.24
SSI-30-S	1802656.73	6491199.25	33.9455738	-118.2323371	109.71
SSI-30-W	1802688.01	6491168.01	33.9456596	-118.2324404	109.70
SSI-31-E	1802665.66	6491126.61	33.9455979	-118.2325767	109.35
SSI-31-N	1802695.58	6491096.32	33.9456799	-118.2326768	110.02
SSI-31-S	1802655.45	6491096.62	33.9455696	-118.2326755	109.32
SSI-31-W	1802665.30	6491066.62	33.9455965	-118.2327745	109.82
SSI-32	1802760.25	6491056.08	33.9458573	-118.2328100	111.41
SSI-33	1802785.02	6491056.02	33.9459254	-118.2328104	111.63
SSI-34	1802814.58	6491055.98	33.9460066	-118.2328107	111.66
SSI-35	1802814.90	6491076.32	33.9460077	-118.2327437	111.54
SSI-36 40'DEPTH	1802814.15	6491096.51	33.9460057	-118.2326771	111.35
SSI-36 5'DEPTH	1802814.33	6491096.85	33.9460062	-118.2326760	111.34
SSI-37	1802814.29	6491137.19	33.9460064	-118.2325430	111.27
SSI-38	1802813.17	6491172.09	33.9460035	-118.2324279	111.29
SSI-39	1802812.50	6491206.93	33.9460019	-118.2323130	111.38
SSI-40	1802767.55	6491169.30	33.9458781	-118.2324367	110.77
SSI-41	1802726.60	6491133.31	33.9457654	-118.2325551	110.36

SURVEY DATA
DAVID STARR JORDAN HIGH SCHOOL
LOS ANGELES, CALIFORNIA

SOIL BORING LOCATIONS

LOCATION	NORTHING (FEET)	EASTING (FEET)	LATITUDE (DD)	LONGITUDE (DD)	FS/NG (ELEVATION)
SSI-42	1802722.54	6491848.56	33.9457587	-118.2301968	112.18
SSI-43	1802692.79	6491849.17	33.9456770	-118.2301946	112.10
SSI-44	1802628.26	6491850.27	33.9454997	-118.2301905	111.43
SSI-45	1802591.59	6491851.34	33.9453989	-118.2301867	111.21
SSI-46	1802560.91	6491851.87	33.9453146	-118.2301847	110.93

Professional's Name:
Armando D. Dupont

Professional's License Type:
Professional Land Surveyor

Professional's License Number:
7780

NOTE:
RISER_HT - RISER HEIGHT
RISER HEIGHT: THE MEASURED DISTANCE FROM GROUND SURFACE TO TOP OF WELL CASING
DD: DECIMAL DEGREES
NG: NATURAL GROUND
FS: FINISHED SURFACE

SURVEY DATE: JUNE 18, 2018

BENCHMARK:
THE ELEVATIONS SHOWN HEREON ARE BASED UPON STATIC GPS OBSERVATION,
HOLDING THE LEICA S.N.N.A. C.O.R.S. "CASF"; ELEVATION = 157.99 FEET (NAVD 88)

COORDINATES:
THE COORDINATES SHOWN HEREON ARE BASED UPON THE CALIFORNIA COORDINATE SYSTEM (CCS 83),
ZONE 5, 1983 DATUM, DEFINED BY SECTIONS 8801 TO 8819 OF THE CALIFORNIA PUBLIC RESOURCES CODE
BASED UPON STATIC GPS OBSERVATION, HOLDING THE LEICA S.N.N.A. C.O.R.S. "CASF"

APPENDIX G

TRANSPORTATION PLAN

Leighton

TRANSPORTATION PLAN
FOR REMOVAL ACTION WORK PLAN
NORTHERN PORTION OF DAVID STARR JORDAN HIGH SCHOOL
2265 EAST 103rd STREET
LOS ANGELES, CALIFORNIA

Prepared For:

LOS ANGELES UNIFIED SCHOOL DISTRICT

Office of Environmental Health and Safety
333 South Beaudry Avenue, 21st Floor
Los Angeles, California 90017

Project No. 11640.011

July 1, 2019

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

TRANSPORTATION PLAN

Leighton Consulting Inc. (Leighton) has prepared a Removal Action Workplan (RAW) to address arsenic-, lead- and total petroleum hydrocarbon (TPH)-impacted soils as part of a proposed comprehensive modernization project (Project). The Project Site is defined as the northern 2.8-acre portion of David Starr Jordan High School and Animo College Preparatory Charter High School campus (School Property), located at 2265 E. 103rd Street in Los Angeles, California (Site). The response action (RA) proposed in the RAW includes impacted soil removal and offsite disposal.

As part of the implementation of the RAW, excavated soil will be generated during removal activities. This Transportation Plan is prepared to address excavated soil that will be generated as part of the implementation of the RAW. Removal, transportation, and disposal activities will be performed in accordance with applicable federal, state, and local laws, regulations and ordinances.

WASTE CHARACTERIZATION AND QUANTITY

Soil sampling results from recent subsurface investigations in the areas of the proposed remediation activities generally contain chemicals of concern (COCs) above the Department of Toxic Substances Control (DTSC) Screening Levels for arsenic (>12.0 milligrams per kilogram [mg/kg]), lead (>80 mg/kg), and the California Regional Water Quality Control Board – San Francisco Bay Region's Environmental Screening Levels (ESLs) for TPH. Discrete soil analytical results collected as part of a recent Supplemental Site Investigation (SSI) Report will be utilized for waste characterization purposes (PlaceWorks, 2018).

According to the SSI Report, an estimated total 3,159.7 cubic yards of impacted-material will be removed from 45 identified excavation areas at the Site (proposed excavation areas are shown on Figures 5 through 8 of the RAW). Of the 45 excavation areas, eight contain identified concentrations of arsenic and lead in soil that was determined to be non-Resource Control and Recovery Act (RCRA), California-regulated hazardous waste (non-RCRA hazardous). The estimated total of non-RCRA hazardous waste is 75.4 cubic yards. The remaining 3,084.3 cubic yards of impacted material can be managed as non-hazardous waste.

During field activities, the contractor will perform dust control measures including wetting disturbed ground with water as needed and the use of gravel blankets at truck ingress and egress points to reduce tracked material. Work will be stopped if 1) the

average wind speed is above 15 miles per hour averaged over a 15-minute period, or 2) the instantaneous wind speed exceeds 25 miles per hour. Dust control measures will follow the South Coast Air Quality Management District (AQMD) Rule 403 for Fugitive Dust and Rule 1466 for Control of Particulate Emissions from Soils with Toxic Air Contaminants (arsenic and lead).

Waste Profile

The waste materials will be profiled in advance of their transportation to a disposal or recycling facility. Working with the Remediation Contactor, the Environmental Professional will make a decision on the source of data for profiling. Details of the soil disposal profiling procedures are provided in Section 7.7.1 of the RAW.

Hazardous Waste Management

During a previous SSI completed by PlaceWorks, soils from the Project Site were analyzed and found to contain elevated concentrations of arsenic and lead. The soils from within the modernization area were evaluated to contain non-hazardous levels of arsenic. Soluble arsenic and lead was present in select areas above the standard for non-RCRA (California) hazardous waste designation. Based on the soluble lead content in select excavation areas (Figures 5 through 8 of the RAW), soils from portions of the modernization area will be handled and disposed as non-RCRA hazardous waste. Wastes will be properly managed, manifested, and transported by a registered waste hauler to a permitted waste disposal facility. Specific disposal facilities will be determined prior to beginning the removal action.

SOIL STAGING

According to AQMD Rule 1466, excavated soil with applicable “toxic air contaminants” must be immediately placed in leak-tight containers (e.g. plastic-lined, covered roll-off bins), direct loaded into trucks, or staged in a fenced area that is not accessible to the public. Once excavated, soil waste containing applicable “toxic air contaminants” must be removed from the School Property within five (5) days, regardless of the selected staging or storage method.

REQUIREMENTS OF TRANSPORTERS

The RA contractor will retain qualified transporters for hauling the excavated soils offsite. The selected transporters will be fully licensed and insured to transport the

excavated soils. For transportation of hazardous wastes, the selected transporter will be a registered hazardous waste hauler.

TRAFFIC CONTROL PROCEDURES

Soil for offsite disposal will be loaded, covered, and transported to the designated disposal facility. Prior to loading, trucks will be staged onsite to avoid impacts to the local streets. It is anticipated that approximately 121 truckloads will be removed from the Site. While at the Site, all vehicles will be required to maintain slow speeds (less than five miles per hour) for safety and dust control purposes.

TRUCK LOADING OPERATIONS

Excavation and loading operations will commence no earlier than 7:00 am and continue until no later than 6:00 pm during weekdays and between 8:00 am and 6:00 pm on Saturdays in conformance with local noise ordinance (Los Angeles Municipal Code 41.40). Earth-moving activities of impacted soil should not be conducted during normal school hours or during youth activities taking place on the northern portion of the School Property (e.g. youth organized sports or education center sponsored activities). It is anticipated that approximately 121 truckloads of soil will be removed from the Site. The excavation and soil hauling activities are expected to span several weeks depending on construction equipment and truck availability, weather conditions, etc.

Trucks will enter the School Property along Alameda Street and proceed to the truck loading area at the Site (Figure 1). After loading, trucks will proceed to the decontamination area. The decontamination area will consist of an area just southeast of the Project Site boundary with asphaltic concrete surface covered in visqueen. Trucks will drive over a rumble plate and onto the visqueen-covered decontamination area and their wheels and sides will be brushed and swept of loose contaminated soil. Trucks will be decontaminated by dry brushing and sweeping then proceed east away from the Site through the campus and exit the School Property via Alameda Street (Figure 1). A street sweeping truck will be utilized to remove dirt that is inadvertently tracked out of the excavation area onto paved surfaces. Excavating equipment used during the removal action will be swept and decontaminated in similar fashion. The trucks will then leave the School Property by turning right (south) on S. Alameda Street. Trucks will turn right (west) onto E. Imperial Highway, then turn left to merge onto the westbound I-105 freeway, at which point they will travel to the designated disposal facility for non-hazardous waste soil and non-RCRA hazardous waste soil, respectively (Figure 2).

SHIPMENT DOCUMENTATION

Hazardous Waste Shipment

Non-hazardous waste manifests will be used to track non-hazardous waste. A Uniform Hazardous Waste Manifest (UHWM) form will be used to track the movement of non-RCRA hazardous waste soils at the Project Site from the point of generation to the point of final deposition. Prior to transporting the excavated soil offsite, an authorized LAUSD representative will sign each waste manifest. The waste hauler will then sign the manifest and distribute one signed copy to the RA contractor's site manager. The environmental professional will maintain a copy of the waste manifest for each truckload onsite until completion of the RA. At a minimum, the shipping document will include the following information:

- Name and address of waste generator (LAUSD)
- Name and address of waste transporter
- Name and address of disposal facility
- Description of the waste
- Quantity of waste shipped

TRANSPORTATION ROUTES

Transportation of impacted soils will be on arterial streets and/or freeways, approved for truck traffic, to minimize potential impact on the local neighborhood. In general, the transport trucks will exit the Site, turn right onto S Alameda Street, turn right onto E. Imperial Highway, and turn left to merge onto the westbound I-105. This route was chosen to minimize the time trucks would spend on residential streets. There are numerous alternate routes that can be taken to the designated disposal facility as determined by the RA contractor.

OFFSITE LAND DISPOSAL FACILITIES

Based on the results of the subsurface investigation, the excavated soil will be transported to a proper offsite land disposal facility. Final evaluation of the landfill selected for disposal will be based on an approved profile from the landfill. Once the landfill is determined, copies of soil analytical reports used to secure disposal permission from the landfill will be provided to DTSC.

Compliance with the land disposal restrictions and land ban requirements for California hazardous wastes, as necessary, will be documented and provided to DTSC once it is evaluated which disposal facility will be used.

RECORDKEEPING

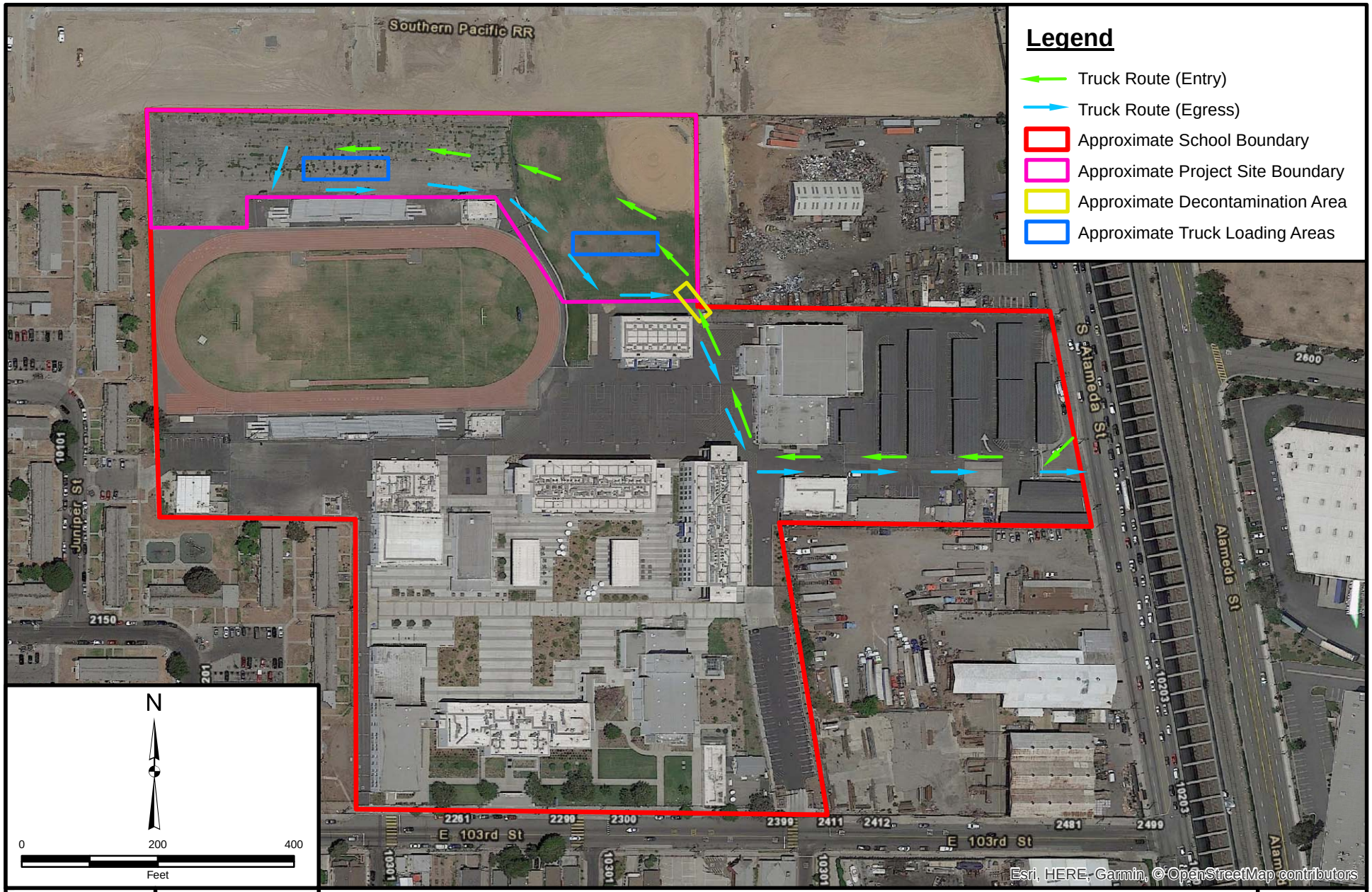
The environmental professional will be responsible for maintaining daily reports during the removal action activities. The daily reports will serve to document observation, personnel onsite, truck arrival and departure times, and other vital project information.

HEALTH AND SAFETY

The health and safety plan (HASP) is included as an Appendix to the RAW. Personnel working at the Site will be required to be familiar with the HASP.

CONTINGENCY PLAN

Waste haulers are required to have a contingency plan prepared for emergency situations (e.g., vehicle breakdown, accident, waste spill, waste leak, fire, and explosion) during transportation of excavated soils from the Site to the designated disposal facility.



Project: 11640.011	Eng/Geol: RS
Scale: 1 " = 200 '	Date: February 2019

Base Map: ESRI ArcGIS Online 2019
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

ONSITE TRANSPORTATION ROUTE

David Starr Jordan High School
2265 E. 103rd Street
Los Angeles, California

Figure 1

Leighton

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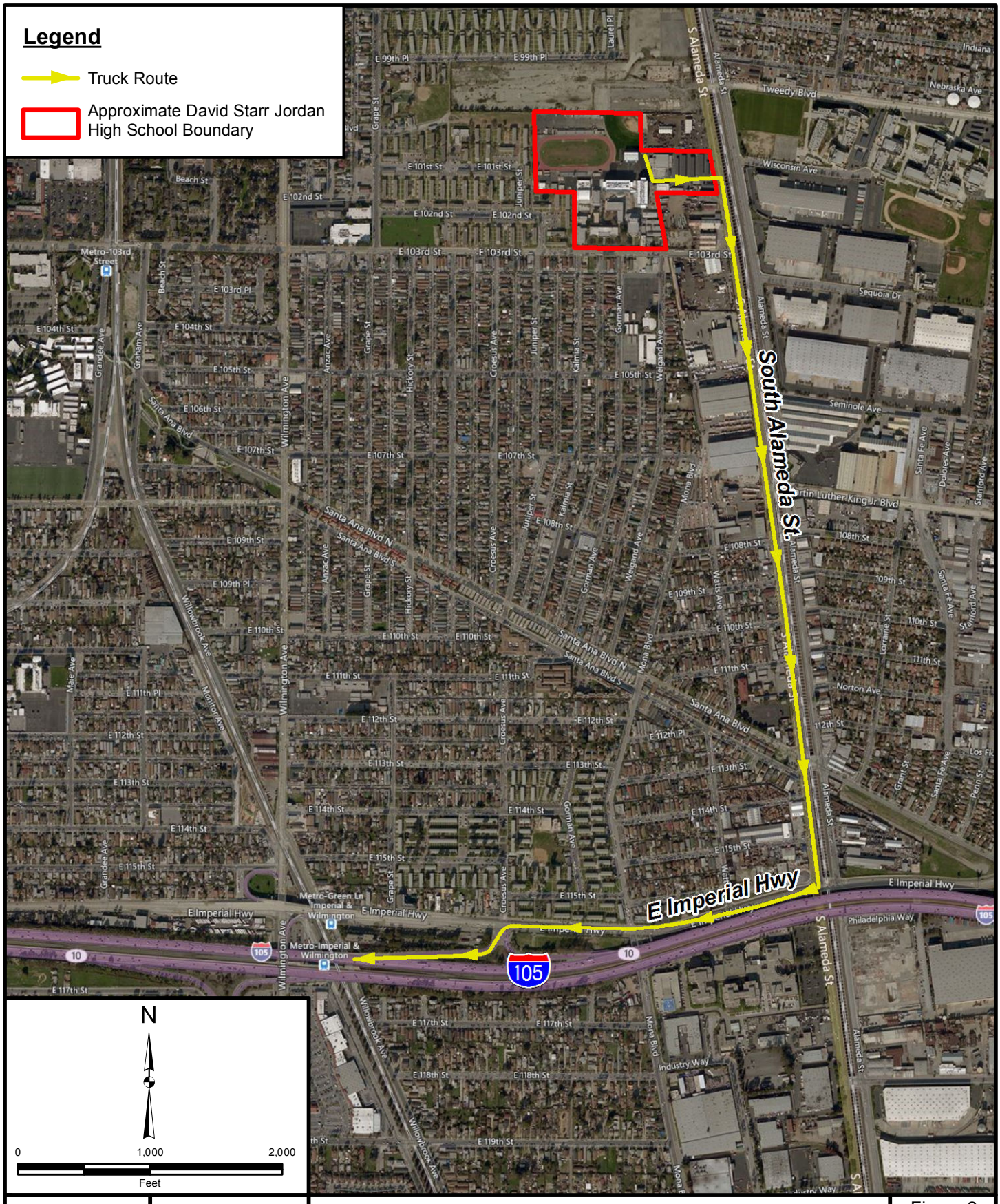

Project: 11640.011	Eng/Geol: RS
Scale: 1 " = 1,000 '	Date: February 2019

Base Map: ESRI ArcGIS Online 2019
Thematic Information: Leighton
Author: Leighton Geomatics (mmurphy)

SOIL TRANSPORTATION ROUTE TO 105 FREEWAY

David Starr Jordan High School
Los Angeles, California

Figure 2

Leighton

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APPENDIX H

RULE 1466 – AQMD PRE-APPROVED PM_{10} MONITORS

Leighton

Rule 1466 – Executive Officer Pre-Approved PM10 Monitors

This listing is not an endorsement by the SCAQMD to use any particular instrument.

- **Thermo ADR-1500 Area Dust Monitor (https://www.thermofisher.com/order/catalog/product/ADR1500?SID=srch-hj-ADR1500)**
  - Accessories Needed
    - Red Cyclone Assembly with Cyclone Adapter
    - External Cable Assembly and External Power Supply (when not using AC power)
- **TSI DustTrak 8530 (http://www.tsi.com/dusttrak-ii-aerosol-monitor-8530/)**
  - Accessories Needed
    - TSI Environmental Enclosure – Model Number 8535
    - TSI Auto Zero Module and Heated Inlet – Model Number 801850
    - Environmental Enclosure Internal Battery System (when not using AC power) – Model Number 801807
- **TSI DustTrak 8530EP (http://www.tsi.com/dusttrak-ii-aerosol-monitor-8530ep.aspx)**
  - Accessories Needed
    - TSI Environmental Enclosure – Model Number 8535
    - TSI Auto Zero Module and Heated Inlet – Model Number 801850
    - Environmental Enclosure Internal Battery System (when not using AC power) – Model Number 801807
- **TSI DustTrak 8533 (http://www.tsi.com/dusttrak-drx-aerosol-monitor-8533/)**
  - Accessories Needed
    - TSI Environmental Enclosure – Model Number 8535
    - TSI Auto Zero Module and Heated Inlet – Model Number 801850

        - Environmental Enclosure Internal Battery System (when not using AC power) – Model Number 801807

- (http://www.tsi.com/dusttrak-drx-aerosol-monitor-8533ep/)**TSI DustTrak 8533EP (http://www.tsi.com/dusttrak-drx-aerosol-monitor-8533ep/)**
    - Accessories Needed
        - TSI Environmental Enclosure – Model Number 8535
        - TSI Auto Zero Module and Heated Inlet – Model Number 801850
        - Environmental Enclosure Internal Battery System (when not using AC power) – Model Number 801807

- **TSI Environmental DustTrak DRX (http://www.tsi.com/environmental-dusttrak-aerosol-monitor/)**
    - Accessories Needed
        - Heated Inlet Sample Conditioner for Environmental DustTrak
        - Rechargeable Battery System for Environmental DustTrak Aerosol Monitor – (when not using AC power) – Model Number 854036

- **TSI Environmental DustTrak PM10 (http://www.tsi.com/environmental-dusttrak-aerosol-monitor/)**
    - Accessories Needed
        - Heated Inlet Sample Conditioner for Environmental DustTrak
        - Rechargeable Battery System for Environmental DustTrak Aerosol Monitor – (when not using AC power) – Model Number 854036

For assistance regarding Rule 1466 Executive Officer pre-approved monitors or to obtain pre-approved monitor status, send an email to Rule1466@aqmd.gov (mailto:Rule1466@aqmd.gov).

YOU MAY ALSO LIKE ...

Business (/home/programs/business)
Incentives and programs for the business community.

Guidelines (/nav/about/authority/guidelines)
General enforcement guidelines from the SCAQMD district prosecutor's office

Self-Reporting Policy (/nav/about/authority/self-reporting-policy)
SCAQMD's Prosecutor's Office encourages companies to audit their own facilities and correct any \rule violations in a timely manner.

SEP Penalties (/nav/about/authority/sep-penalties)
SEP penalties are a form of civil penalty that create a direct or indirect air pollution benefit.

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SUBMIT

South Coast Air Quality Management District

21865 Copley Dr, Diamond Bar, CA 91765

909-396-2000

APPENDIX I

GENERIC
REMOVAL ACTION COMPLETION REPORT
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