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: March 28, 2018

Leighton Project No. 11640.004

Attention: Mr. Dane Robinson

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Subject: Removal Action Workplan (RAW), Burroughs Middle School Comprehensive Modernization Project, 600 South McCadden Place, Los Angeles, California, 90005

LEIGHTON CONSULTING, INC.

By: Kris Lutton, PG

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REMOVAL ACTION WORKPLAN
BURROUGHS MIDDLE SCHOOL COMPREHENSIVE MODERNIZATION PROJECT
600 SOUTH MCCADDEN PLACE
LOS ANGELES, CALIFORNIA, 90005

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. 11640.004

February 8, 2018

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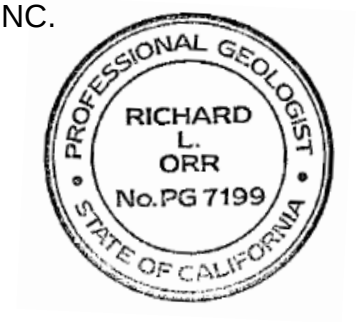
Removal Action Workplan (RAW)

Burroughs Middle School Comprehensive Modernization Project
600 South McCadden Place,
Los Angeles, California, 90005

Leighton Consulting, Inc. (Leighton) is pleased to present this Removal Action Workplan (RAW) for the proposed comprehensive modernization project to address areas of elevated arsenic and lead in soil at the Site on portions of the existing Burroughs Middle School campus located at 600 South McCadden Place 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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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
Enthalpy	Enthalpy Analytical
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
ESD	Explanation of Significant Difference
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
PEA-E	Preliminary Environmental Assessment Equivalent Document
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
RAOs	Removal Action Objectives
RAW	Removal Action Workplan
RCRA	Resource Conservation and Recovery Act

List of Abbreviations/Acronyms (Continued)

REC	Recognized environmental condition
RWQCB	Regional Water Quality Control Board
School property	Burroughs Middle School Campus
Site	Burroughs Middle School Comprehensive Modernization Project
Spectrum	Spectrum Geophysics
STLC	Soluble Threshold Limit Concentration
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TBD	To be determined
TCLP	Toxicity Characteristic Leaching Procedure
TLVs	Threshold Limit Values
TPH	Total petroleum hydrocarbons
TTLC	Total Threshold Limit Concentration
UCL	Upper confidence limit
USA	Underground Service Alert
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOCs	Volatile Organic Compounds
WET	Waste Extraction Test
µg/kg	Micrograms per kilogram

REMOVAL ACTION WORKPLAN

Name of Project Site (Site): Burroughs Middle School Comprehensive Modernization Project

Name of Project Proponent: Los Angeles Unified School District (the District) (see Section 2.1.2)

Chemicals of Concern (COCs): Arsenic and Lead (see Section 3.1)

Cleanup Goal (CG): 12.0 milligrams per kilogram (mg/kg) for arsenic and 80 mg/kg for lead in soil (see Section 4.4)

Estimated Volume of Soil Removal (see Section 3.3):

- Approximately 54 cubic yards (CY) of arsenic and lead-impacted soil with non-hazardous waste classification (Areas A, E, and G shown on Figures 4 and 5), and
- Approximately 106 CY of arsenic and lead-impacted soil with California-restricted non-RCRA hazardous waste classification due to elevated lead levels (Areas B, C, D, F, H, I, J, K, L and M shown on Figures 4 through 7).

1.0 INTRODUCTION

This *Removal Action Workplan (RAW)* has been prepared to address the removal of soils impacted with the chemicals of concern (COCs) at the existing Burroughs Middle School Comprehensive Modernization Project (Site) (Figures 1, 2 and 3). The RAW includes a detailed engineering plan for conducting the removal action (RA), a description of the onsite contamination, and the goals to be achieved by the RA, as required by the California Health and Safety Code (H&SC) section 25323.1. The RAW is also consistent with the criteria specified in the H&SC section 25356.1(h).

A *Draft Final Preliminary Environmental Assessment Equivalent* (PEA-E) (Leighton, 2017) was previously conducted at the Site. Elevated levels of the COCs arsenic and lead were detected in the Site soils that pose a potential threat to human health and/or the environment. Based on the data collected during the PEA-E, the District will require a “Response Action” to address the potential threat or hazard posed by the presence of elevated levels of the COCs detected at the Site.

This report was prepared by Leighton Consulting Inc. (Leighton) on behalf of the District in general conformance with various existing guidance documents related to site assessment, characterization, and investigation published by the California Environmental Protection Agency (Cal/EPA) – Department of Toxic Substances Control (DTSC, 2015). Pertinent references related to the Site are listed in Appendix A.

(Select all that are applicable)

__X__ There are sufficient data to support the RA as proposed in this RAW. A Supplemental Site Investigation (SSI) at this Site is therefore not warranted.

_____ An SSI at this Site was subsequently conducted to determine the source and extent of the identified soil contamination. There are sufficient data to support the RA as proposed in this RAW.

__X__ (Type in site-specific situations) WorleyParsons completed a Phase I Environmental Site Assessment (ESA) for the School Property in May 2016 (WorleyParsons, 2016). A PEA-E at this Site was conducted to determine the source and extent of the identified soil contamination (Leighton, 2017). There are sufficient data to support the RA as proposed in this RAW. Due to the physical and chemical nature of the COCs, onsite releases of the COCs would likely persist in shallow Site soil. Because the COCs typically have a low migration potential within a soil column, it is recommended that a RA be performed to mitigate the identified potential threat to human health and/or the environment prior to construction activities for the comprehensive modernization project at the existing school.

(Select all that are applicable)

_____ Construction of the proposed school.

__X__ Construction of the proposed school addition/expansion.

_____ Converting the Site as the proposed charter school site.

_____ (Type in site-specific situations)

1.1 Removal Action Objectives

Removal action objectives (RAOs), that are protective of human health and the environment, have been established as shown below:

- To minimize exposure of humans to the COCs in shallow soil through inhalation, dermal absorption, and ingestion.
- To minimize potential for migration of the COC from the soil to other media.
- To remove or treat impacted soils that:

  1. exceed the following human health risk criteria, to prevent exposure to the excessive COC (only those that are applicable are shown):

     __X__ the DTSC Screening Level of 80 mg/kg for total lead in soils at school sites.

     __X__ the DTSC Screening Level of 12.0 mg/kg for arsenic in soils at school sites.

  2. exceed the following environmental risk criteria (only those that are applicable are shown):

     ___X__ the California hazardous waste classification concentration of 5.0 mg/L for soluble lead in soils.

The removal goals developed and adopted for impacted media at the Site will be responsive to these RAOs. The primary remedial goal for the Site is performance based and focuses on restoring the soils to acceptable conditions in regard to the COCs detected in shallow soil. The goal of this RA is for significant contamination to be excavated, removed from the Site, and disposed of offsite. The proposed action at the Site focuses on the removal and disposal of soils impacted with the COC to reduce the threat to human health, safety and the environment and to provide a permanent solution that reduces the toxicity, mobility, and volume of impacted soil. The District has preliminarily determined that the proposed action (removal of affected soils) is the preferred RA remedy in terms of the three broad technology evaluation criteria: effectiveness, implementability, and cost.

As part of the final remediation, the District's environmental consultant will certify that all necessary removal actions have been completed in accordance with the approved RAW and that post-RAW Site conditions do not pose a significant risk to human health, safety, or the environment.

2.0 SITE BACKGROUND

A Phase I ESA was completed for the School property on May 18, 2016 by WorleyParsons (WorleyParson, 2016). The purpose of the Phase I ESA is to identify recognized environmental conditions (RECs) in order to assist in the evaluation of historical land use, assess potential environmental impacts on- and off-site, and evaluate if potential environmental impacts may pose a threat to on-site occupants, off-site individuals, and the environment. Leighton completed a subsequent PEA-E in 2016-2017 (Leighton, 2017).

2.1 Site Location and Description

The School property is identified by the Los Angeles County Assessor's Office with Assessor's Parcel Number (APN) 5507-017-900 and occupies approximately 10.23 acres. The property is owned and operated by the Los Angeles Unified School District (LAUSD) (hereinafter also referred to as 'the District' or LAUSD). The School property is bounded to the north by residential properties across West 6th Street, to the east by residential properties and a commercial building, to the south by residential properties, Wilshire Private School, and commercial buildings across Wilshire Boulevard and to the west by residential properties across South McCadden Place.

The Site is part of the Burroughs Middle School property (hereinafter also referred to as 'the School property'), which is located at 600 South McCadden Place, Los Angeles, California, 90005. The majority of the Site is paved and currently developed with three two-story administrative/classroom buildings, 23 single-story multi-purpose buildings that contain such things as classrooms, restrooms, gymnasiums, lounges and storage rooms. Two paved parking areas are located in the northeast corner and the southwest corner of the Site. Two tennis courts are located in the center of the Site. A paved and dirt playground area is located in the southern portion of the Site.

2.1.1 Site Name and Address

Site Name: Burroughs Middle School Comprehensive Modernization Project Site

Address: 600 South McCadden Place, Los Angeles, California, 90005

Site Size: Area B = 10.23 acres

2.1.2 Contact Person, Mailing Address and Telephone Number

The project proponent for this RAW is the Los Angeles Unified School District. For the purposes of this RAW, the current Site contact related to the environmental matters is listed below:

Mr. Dane Robinson
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

Common regulatory agency databases may include USEPA's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Information System (CERCLIS) or Resource Conservation and Recovery Act (RCRA) Information System (RCRIS), DTSC's RCRA database (managed by Hazardous Waste Management Program) and EnviroStor database (managed by Site Mitigation and Brownfields Reuse Program), and State Water Resources Control Board's Geotracker database [for Leaking Underground Fuel Tank (LUFT) program sites or Spills Leaks Investigation and Cleanup (SLIC) program sites].

The EPA ID number assigned to the Site for the Burroughs MS is CAD982039505. Nonhazardous and Non-RCRA CA-Restricted wastes are expected to be generated during this RA. The waste is to be handled, transported, and disposed under Nonhazardous and Non-RCRA CA-Restricted waste manifests, as appropriate.

Review of selected regulatory agency databases did not identify records of database numbers assigned to the Site, and no active EnviroStor record for school site cleanup was found.

2.1.4 Assessor's Parcel Number

The School property is identified by the Los Angeles County Assessor's Office with Assessor's Parcel Number (APN) 5507-017-900.

2.1.5 Ownership

Property Owner: Los Angeles Unified School District

2.1.6 Township, Range, Section and Meridian

Based on a review of the United States Geological Survey (USGS) 7.5–Minute Topographic Map Series, Hollywood, California Quadrangle Map, dated 1991, the Site is located in the southeast ¼ of the southwest ¼ of Section 22, Township 1 South, Range 14 West of the San Bernardino Baseline and Meridian (USGS, 1981).

Longitude: -118.33627° West

Latitude: 34.06375° North

2.2 Operational History and Status

The school opened as "John Burroughs Junior High School" in 1924. Since 1924, various construction activities at the Site added and removed various structures, added parking lots and paved areas. From at least 1894 to 1921, the land was undeveloped with the exception of a small building located on the southern portion of the Site adjacent to Wilshire Boulevard (WorleyParsons, 2016). WorleyParsons completed a Phase I ESA for the School Property in May 2016.

WorleyParsons identified RECs for the Site. Identified RECs include the potential presence of lead-based paint (LBP) residue, organochlorine pesticide (OCP), and arsenic in soils at the Site; asbestos containing material (ACM) in the Site building materials, the historical presence of a heating oil aboveground storage tank (AST) on-Site, the historical presence of an incinerator on-Site, and the former presence of two nearby off-site gasoline service stations.

Based on the Phase I ESA's investigation of historical aerial images, topographic maps, site reconnaissance, and fire insurance maps, existing and former building footprints were identified within the proposed development area at the Site (WorleyParsons, 2016). Existing and former building footprints are shown on Figure 2.

Leighton completed a subsequent PEA-E in 2016-2017. The information in the report for this PEA-E was evaluated in the preparation of the RAW.

2.3 Topography

Based on a review of the USGS 7.5-Minute Topographic Map Series, Hollywood Quadrangle Map, dated 2012, the Site lies at an approximate elevation of 213 feet above mean sea level. The local area surrounding the Site slopes gently toward the southwest.

2.4 Regional Geology and Hydrogeology

Geologic Setting: Locally, the Site is located in the Hollywood Basin within the central block of the Los Angeles Basin, a structural trough, characterized as a northwest-trending alluvial lowland plain approximately 50 miles long and 20 miles wide. The Santa Monica Mountains, Beverly Hills and Elysian Hills that generally expose Late Cretaceous to Late Pleistocene-age sedimentary and igneous rocks bound the Hollywood Basin along the north, northeast and east (Yerkes, 1965).

The sediments deposited in the Hollywood Basin have subsequently been faulted and folded during uplift of the Santa Monica Mountains and contraction of the basin (Tsutsumi et al., 2001; Catchings et al., 2001). Uplift of the Santa Monica Mountains is occurring along a zone of faults that comprise the Santa Monica Fault System, and include the Malibu Coast, Santa Monica and the Hollywood faults (Tsutsumi et al., 2001; Catchings et al., 2001; Dolan, et al., 2000). Deformation caused by the Hollywood Fault of the near-surface sediments has resulted in the formation of the Hollywood Basin. The Hollywood Basin is situated between the Hollywood fault and the Santa Monica Mountains on its north, and a subsurface fold to the south, known as the Wilshire Arch, located near Wilshire Boulevard (Dolan et al., 1997 and 2000; Hildenbrand et al., 2001; Hummon et al., 1994; California Department of Water Resources, 1988).

The Site, southeast of the Salt Lake Oilfield, is underlain by surficial sediments consisting generally of clay, sand and gravel including gravel of minor stream channels (Dibblee, 1991). Older surficial sediments underlying the site can be expected to consist generally of unconsolidated to weakly consolidated, dissected alluvial fan sediments consisting chiefly of clay, silt, sand and gravels overlying the Lakewood and San Pedro Formations. At depth, petroliferous sands (tar sand) present within the San Pedro Formation can be expected.

Groundwater: The Site lies within the northeastern part of the Coastal Plain at an approximate elevation of 209 feet above mean sea level (amsl) (USGS, 1972)

and located within the Hollywood sub-basin. This groundwater basin is bound on the north by the Santa Monica Mountains and the Hollywood fault, on the east by the Elysian Hills and on the west by the Newport-Inglewood fault zone. Southerly, the basin is bound by anticlinal structure termed the La Brea High were the San Pedro formation was eroded prior to deposition of the Lakewood Formation. This anticlinal structure brings less permeable bedrock close to the surface forcing groundwater to shallow depths primarily within the Pleistocene sands and gravels. Based on the approximate site elevation (Elev. 209 feet) and depth to groundwater recorded at 5020 to 5044 Wilshire Boulevard (1,000 feet southwest of the site) groundwater is likely to occur at approximate elevations (Elev.) 189 feet to Elev. 186 feet (Western Environmental Engineers Company, 2006). These elevations suggest groundwater may be encountered beneath the Site at approximately 20 to 23 feet below grade.

2.5 Soil Type and Groundwater

The limited subsurface investigation conducted at the Site included a total of one hundred and ninety (190) soil borings to facilitate soil sampling and thirty (30) soil borings to facilitate methane probe installation (Leighton, 2017).

A majority of soil borings were completed in paved areas consisting of 3-4 inches of asphaltic concrete with the exception of borings completed on the athletic field and the locations adjacent to the southern margin of the Site. Soil logging within shallow boreholes, up to 2.5 feet bgs, generally consisted of fine-grained soils of predominantly silt and clay with varying amounts of fine to medium-grained sand as a secondary component. Deeper borings, or methane probe locations, completed to approximately 15.5 feet bgs encountered similar native fine-grained soils dominated by silt and clay. Artificial fill materials were identified in several deeper boring locations (M-3, M-8, M-9) primarily based on the coarse nature of the soil and presence of construction debris, brick or asphalt, observed between 0.5 and 11.5 feet in specific locations.

Varying levels of naturally occurring bitumen or tar were noted in soil from 10 methane probe locations including M-1, M-2, M-12, M-13, M-14, M-23, M-24, M-25, M-26, and M-30. These locations were generally located in the southern half of the Site and/or near the eastern Site boundary. Observations ranged from gray to black soil coloration with a distinct tar-like odor to soil saturated with black, viscous bitumen. Soils that exhibited these characteristics were noted as “bituminous” in the methane probe construction log. Natural deposits of bitumen

are not uncommon for this area as seen in the nearby La Brea Tar Pits, which is located approximately one mile west of the Site. Soils exhibiting the presence of bitumen were generally encountered at depths greater than 5 feet below grade.

Groundwater was not encountered in the borings completed during the investigation with the exception of boring location M-30. The M-30 boring was advanced to 15.5 feet bgs and soil was noted as "moist" during drilling from 9 feet to total depth. Upon reaching total depth, the drill rod was removed from the borehole and water was observed pooling in the bottom of the borehole up to approximately 12 feet bgs. Methane probes were set at 5 feet bgs and 9.5 feet bgs at location M-30. This occurrence is likely an isolated zone of perched groundwater related to irrigation water infiltration taking place on the athletic field. Groundwater was not observed in the remaining borings installed between December 23, 2016 and July 17, 2017.

2.6 Land Uses, Sensitive Receptors, Ecosystems and Cultural Resources

The Site is currently zoned for school use. Surrounding land use consists primarily of residential properties. Figure 1 shows land uses on the Site and within approximately 3,000 feet of the Site.

The Site is not in an area of known significant biological or cultural resources. The Site is on an existing middle school campus. Excavation areas exist east of existing building 9 along the eastern property line, which lie adjacent to residential properties (Figure 3).

2.7 Meteorology

Los Angeles climate is categorized as Mediterranean. This climate type is characterized by pronounced seasonal changes in rainfall with a dry summer and a rainy winter, but relatively modest transitions in temperature. Most of the rainfall occurs during the months of December through March. While precipitation during summer months does occur, it is infrequent. Rainless periods of several months are common in Los Angeles County (NOAA, 2014).

A prevailing wind direction table and average wind speed chart for Los Angeles, Downtown, located approximately 4.5 southeast of the Site, is included as Table 4 (WRCC, 2018). Greatest wind velocities are generally associated with

the Santa Ana winds season, typically in late October through November, and can reach 60+ miles per hour (mph).

2.8 Previous Site Actions

No previous removals or remedial actions are known for the Site.

2.9 Phase I Environmental Site Assessment

The Phase I ESA (WorleyParsons, 2016) found no evidence of the storage or release of hazardous materials during the on-site inspection at the School property with the exception of the storage of small quantities of janitorial supplies and a 55-gallon steel drum containing gasoline, stored in a flammable materials storage building located southeast of Building No. 9 (Shop Building). Staining on the concrete floor adjacent to this drum was observed during the reconnaissance inspection. During review of regulatory databases, the John Burroughs Middle School is identified as a large quantity hazardous waste generator; as a result of past school renovation activities, which included the abatement of asbestos and polychlorinated biphenyls (PCBs)-containing equipment. According to Mr. Martin Nevarez, the Site Plant Manager, these wastes are not and have not been disposed at the Site. Based on the site reconnaissance and records reviewed as part of the Phase I ESA, WorleyParsons identified the following RECs associated with the Site:

- Potential presence of lead based paint (LBP) residue in shallow soils around the drip lines of the existing and former buildings at the Site.
- Potential presence of organochlorine pesticides (OCPs) in shallow soils around the foundations of the existing and former buildings at the Site.
- Potential presence of arsenic in shallow soils under pavement at the Site.
- Potential presence of asbestos containing materials (ACM) in Site building materials.
- Potential presence of hydrocarbons in groundwater due to the historical presence of two gasoline service stations approximately 60 and 250 feet west of the Site.

- Potential presence of petroleum products in soil and groundwater due to the historical presence of a heating oil AST located adjacent to Building No. 1 (Main/Auditorium Building).

- Potential presence of burn ash in soils due to the historical presence of an incinerator located adjacent to Building No. 9 (Shop Building).

Based on the age of the existing Site buildings, it is possible that LBP has been applied to the exterior finishes of the buildings. As such, it is possible that LBP residue is present in soils around the perimeters of the existing and former buildings (WorleyParsons, 2016). DTSC guidance indicates that LBP residue from paint or surface coatings may be present in soil around school structures that are adjacent or near unpaved areas where runoff could occur and were constructed prior to January 1993 (DTSC, 2006).

It is possible that OCPs in the form of termiticides have been applied around the foundations of these Site buildings or in the areas (WorleyParsons, 2016). OCPs were commonly used as insecticides for termite control around structures between 1948 and 1989 (DTSC, 2006).

There is the potential presence of arsenic underneath pavement that may have been applied as an herbicide (WorleyParsons, 2016).

Based on the age of the existing Site buildings, it is possible that ACM are present in building materials (WorleyParsons, 2016).

Two “oil and gas” service stations were located west of the Site (approximately 60 feet west of the Site and cross/upgradient with respect the reported groundwater flow direction), at the northwest intersection of South McCadden Place and Wilshire Boulevard and at the northeast corner of South Highland Avenue and Wilshire Boulevard, from at least 1938 to at least 1964. Based on their location relative to the Site, it is possible that groundwater beneath the Site has been impacted by releases of petroleum hydrocarbons at these facilities (WorleyParsons, 2016).

A heating oil AST was located on the Site adjacent to the east of Building No. 1 (Main/Auditorium Building). Based on this, it is possible that leaks or spills from this tank have impacted soil and groundwater at the Site (WorleyParsons, 2016).

An incinerator, presumably for solid waste, was located on the Site near the southwest corner of Building No. 9 (Shop Building). Based on this, it is possible that adjacent soils have been impacted by burn ash containing combustion by-products such as polycyclic aromatic hydrocarbons (PAHs), furans, and heavy metals (WorleyParsons, 2016).

A hazardous material property condition survey was recommended in the Phase I ESA to identify and quantify hazardous construction-related materials (ACM, LBP, mold, PCBs, mercury, tritium, radium and universal wastes). The hazardous material survey is not addressed in this RAW.

2.10 PEA-Equivalent

Leighton was contracted by the District to complete a PEA-Equivalent (PEA-E) study to address soil concerns identified in the Phase I ESA, specifically to collect soil samples near former and existing buildings at the Site and analyze select samples for lead, OCPs, arsenic, PCBs, petroleum hydrocarbons, PAH's, and CA Title 22 metals (CAM-17). Where elevated levels of chemicals of potential concern (COPCs) are identified, a human health risk screening assessment is included to determine if the levels may pose a risk to future Site occupants. PCBs were used widely in caulking and elastic sealant materials, particularly from 1950 through the 1970s until PCBs were banned in 1979. DTSC guidance indicates that PCBs may exist in soil near exterior caulking present in buildings meeting the age criteria and adjacent to unpaved areas (DTSC, 2006). Although not identified as a COPC in soil by WorleyParsons, screening for PCBs was included in the PEA-E for select samples.

Based upon the findings presented in the PEA-E study, elevated levels of COPCs were identified at the Site in soil, including arsenic and lead in soil in select areas (Table 1). With the exception of arsenic and lead in select borings, the soil matrix analytical results (Tables 1 through 3) indicate that remaining COPCs at the Site were either below detection or below regulatory screening levels. On behalf of the District, Leighton recommended preparation of a Removal Action Workplan (RAW) to address areas of elevated arsenic and lead in soil at the Site per DTSC guidelines (DTSC, 2017 and 2008).

Information provided by the City of Los Angeles NavigateLA Web site, the Los Angeles Department of Building and Safety (LADBS), and the City's Public Works Departments, indicates that the Site lies within a City of Los Angeles

designated methane zone. The Salt Lake Oil Field lies approximately 1,500 feet north of the Site and 2,000 feet west of the Site. One plugged oil and gas production well is also located approximately 1,300 feet west/southwest of the Site (API 03720045). Based on this, the Project may create a new or exacerbate an existing significant safety hazard to students from a known methane zone. Screening of soil gas for methane was included in the PEA-E, per the PEA-E Scope of Services (OEHS, 2016). Based on the field measurements and the laboratory results from the PEA-E the Site is categorized as Design Level V at all pressures per the LADBS criteria. It is Leighton understands that methane mitigation will be addressed by the District per Los Angeles Department of Building and Safety requirements and regulatory agency requirements, as applicable. Methane mitigation is not included in this RAW.

3.0 NATURE, SOURCE AND EXTENT OF CHEMICALS OF CONCERN

3.1 Chemicals of Concern: Arsenic and Lead

During the PEA equivalent, arsenic was detected in soil samples collected from the Site, ranging from below the PQL of 0.70 mg/kg up to 82 mg/kg. Elevated levels of arsenic (in excess of the CG of 12.0 mg/kg TTLC) were detected in three areas of concern (AOCs) at the Site. These AOCs include: A2, E and G, and are designated on Figures 4 and 5, and detailed in Table 1.

Elevated levels of lead (in excess of the CG of 80 mg/kg TTLC) were detected in eleven AOCs. These AOCs include: A1, B, C, D, F, H, I, J, K, L and M, and are designated on Figures 4 through 7, and detailed in Table 1.

In addition, waste soil containing total arsenic and lead concentrations at 50 mg/kg or above requires leachability testing 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. None of the arsenic samples above 50 mg/kg exceeded the STLC or TCLP criteria for RCRA or California hazardous waste. Most of the lead samples above 50 mg/kg exceeded the STLC California Hazardous waste criteria, but were below the RCRA TCLP criteria of 5 mg/l (Table 1).

3.2 Source and Location of Chemicals of Concern

Sources of COCs: Unknown, possible arsenical herbicides used prior to school construction or as weed abatement at the school site. Unknown, possible lead paint use on adjacent structures.

Location of COCs: A total of 14 AOCs (A1 and A2 through M) are located in the modernization area of the campus. The impacts from lead and arsenic are generally distinct, they do not appear to be collocated, and are generally located in distinct AOCs. See Figures 4 through 7 for the AOCs and excavation locations.

3.3 Extent and Volume of Soil Removal

Based on the data presented in the PEA-E, the lateral and vertical extent of arsenic and lead impacts above the CGs have been characterized in most

locations. The excavation areas for each AOC to meet the CGs are described below:

AOCs A1, A2, B and C: Existing Building 5 and Existing Building 23 (EB5-3, EB5-4 and EB23-2), Excavation Area and Proposed Confirmation Samples [Table 1, Figure 4]

AOCs D, E, F, G, H, I, and J: Existing Building 9 and vicinity (EB9-1, EB9-6, EB9-7, EB10-2, EB11-1, EB11-2, EB12-1, EB13-1, EB13-2, EB15-1, FB9-1 and FB9-4), Excavation Area and Proposed Confirmation Samples [Table 1, Figure 5]

AOC K: Former Building 14 (FB14-1), Excavation Area [Table 1, Figure 6]

AOCs L and M: Existing Building 20 and Former Building 16 (EB-20-6 and FB16-1), Excavation Area [Table 1, Figure 7]

The total estimated volume of soil removal is:

- Approximately 54 cubic yards (CY) of arsenic-impacted soil with non-hazardous waste classification (Areas A, E, and G shown on Figures 4 and 5), and

- Approximately 106 CY of lead-impacted soil with California-restricted non-RCRA hazardous waste classification due to elevated soluble lead levels (Areas B, C, D, F, H, I, J, K, L and M shown on Figures 4 through 7).

Detailed Discussion of Soil Results from the PEA-E: Between December 28, 2016 and July 17, 2017, a total of one hundred and ninety (190) soil borings were advanced using hand auger or direct push drilling methods for the purpose of collecting soil samples in the vicinity of existing and former buildings, a former incinerator and a former AST (Figures 3 through 7). Tables 1 through 3 summarize data collected during the PEA-E from these soil borings at various depths, as follows:
The soil matrix analytical results indicate the following for screening for arsenic, lead, OCPs and/or PCBs at one hundred and eighty-eight (188) total soil borings in the vicinity of existing and former buildings (Table 1):

- One hundred and eighty-one (181) soil borings were advanced to a target maximum total depth of 2.5 feet below ground surface (bgs), with soil samples typically collected from 0.5, 1.5 and 2.5 feet bgs, to the extent

practicable. Seven (7) step-out borings were advanced to a target maximum total depth of 4 feet to delineate the vertical extent of arsenic impacts in soil in select areas, with soil samples typically collected at 0.5, 1.5, 2.5, 3, and 4 feet bgs (EB9-6 step-out samples and EB15-1 step-out sample).

- An initial round of soil sampling conducted between December 28, 2017 and January 3, 2017, identified lead or arsenic impacts in soil in eighteen (18) borings. Subsequent sampling events conducted April 10-12, 2017 and July 17, 2017 further delineated the extent of lead or arsenic contamination in these areas (Figures 3 through 7). Borings installed in April and July 2017 are referred to as step-outs or step-out borings throughout this report.

- During the PEA-E, three hundred and fifty-one (351) original and step-out samples were analyzed for arsenic in soil with the following results (Table 1).

  – Arsenic was reported above the practical quantitation limit (PQL) in three hundred and twenty-six (326) samples at concentrations ranging between 1.0 mg/kg (EB6-3 at 1.5 feet bgs and EB9-6-E10 at 2.5 feet bgs) and a maximum of 82 mg/kg (EB15-1-S5 step-out at 0.5 feet bgs).

  – The DTSC-adopted ambient background arsenic concentration is 12 mg/kg (DTSC, 2008), and thirty-four (34) of the soil samples analyzed reported concentrations above 12 mg/kg (Table 1).

  – Additionally, nine (9) samples were also analyzed for arsenic using the Waste Extraction Test (WET) for STLC and/or TCLP by EPA Method 6010B, because the TTLC arsenic result in these samples was greater than 50 mg/kg. Each resulting arsenic concentration was below the STLC and TCLP regulatory limits of 5 milligrams per liter (mg/L). Additionally, no arsenic results exceeded the California hazardous waste criteria of 500 mg/kg TTLC for arsenic. Based on these TTLC, STLC and TCLP results, the levels of arsenic in soil are representative of non-hazardous material under California waste disposal regulations, per the California Code of Regulations, Title 22, Chapter 11, Article 3.

- During the PEA-E, five hundred and twenty-one (521) original and step-out samples were analyzed for lead in soil with the following results (Table 1):

  – Lead was reported above the PQL in all five hundred and twenty-one (521) samples at concentrations ranging between 1.3 mg/kg (FB16-1-E5

step-out at 0.5 feet bgs) and a maximum of 2,700 mg/kg (EB9-1-S5 step-out at 1.5 feet bgs).

- The EPA Region 9 Regional Screening Level (RSL) for lead is 400 mg/kg (RSL for soil considering residential land use) (EPA, 2017), and three (3) of the soil samples analyzed showed concentrations above 400 mg/kg (Table 1).

- The DTSC-modified screening level is 80 mg/kg (screening level for use in human health risk assessments) (DTSC, 2017), and fifty-three (53) of the soil samples analyzed showed concentrations above 80 mg/kg (Table 1).

- Additionally, ninety-nine (99) samples were analyzed for lead using the WET-STLC and/or TCLP by EPA Method 6010B, because the TTLC-lead result in these samples was greater than 50 mg/kg. Each resulting lead concentration is shown on Table 1. One (1) lead result (EB9-1-S5 step-out at 1.5 feet bgs) exceeded the state hazardous waste criteria of 1,000 mg/kg TTLC-lead, and thirty-eight (38) STLC-lead results exceeded the STLC-lead limit of 5 mg/L. STLC-lead results were between 0.24 mg/L (FB9-1-N5 at 1.5 feet bgs) and 51 mg/L (EB9-1-E5 step-out at 0.5 feet bgs). TCLP-lead ranged between <0.014 mg/L (multiple samples) and 3.8 mg/L (FB14-4 at 1.5 feet bgs), so all TCLP-lead concentrations were below the TCLP regulatory limit of 5 mg/L for RCRA Hazardous waste criteria.

- Because lead results in select samples exceeded the state hazardous waste criteria of 1,000 mg/kg TTLC-lead or 5 mg/L STLC-lead, areas were identified with soil representative of hazardous material under California waste disposal regulations, per the California Code of Regulations, Title 22, Chapter 11, Article 3 (California-restricted non-RCRA hazardous waste was identified).

- Federal RCRA hazardous waste was not identified based on the TCLP-lead results, which were all below 5 mg/L.

- As presented on Table 1, low concentrations of OCPs were detected above the laboratory PQL in forty-seven (47) out of two hundred and eighty (280) samples analyzed for OCPs between December 28, 2016 and January 3, 2017. OCP compounds with detections above the PQL included 4,4-DDD,

4,4-DDE, 4,4-DDT, alpha-Chlordane, Chlordane, gamma-Chlordane, and Methoxychlor in the following ranges:

- 4,4-DDD from 2.1 micrograms per kilogram (µg/kg) (FB9-3 at 0.5 feet bgs) to 21 µg/kg (FB14-4 at 0.5 feet bgs),
- 4,4-DDE from 2.2 µg/kg (FB15-2 at 0.5 feet bgs, and FB15-4 at 0.5 feet bgs) to 600 µg/kg (EB5-3 at 0.5 feet bgs),
- 4,4-DDT from 2.1 µg/kg (FB4-3 at 0.5 feet bgs) to 25 µg/kg (FB14-4 at 0.5 feet bgs),
- alpha-Chlordane from 1.1 µg/kg (FB1-3 at 1.5 feet bgs [duplicate], and EB20-3 at 0.5 feet bgs) to 38 µg/kg (FB15-3 at 2.5 feet bgs),
- Chlordane (total) from 8.9 µg/kg (FB1-3 at 1.5 feet bgs [duplicate]) to 280 µg/kg (EB15-3 at 2.5 feet bgs),
- gamma-Chlordane from 1.0 µg/kg (EB20-2 at 1.5 feet bgs) to 29 µg/kg (FB15-3 at 2.5 feet bgs), and
- Methoxychlor from 48 µg/kg (EB5-4 at 0.5 feet bgs) to 180 µg/kg (EB5-3 at 1.5 feet bgs).
- The above reported concentrations for OCP compounds were below published regulatory screening levels in all borings sampled for OCPs between December 28, 2016 and January 3, 2017 (Table 1). Based on these initial results, no step-out samples were analyzed for OCPs in subsequent soil sampling events in April and July 2017.

- PCB concentrations were below the laboratory PQL in the subset of soil samples chosen for PCB analysis (38 samples collected from a depth of 0.5 or 1.5 feet bgs) (Table 1).

The soil matrix analytical results indicate the following for screening for PCBs, PAHs, and Title 22 metals in soil in the vicinity of a former incinerator (Tables 1 and 2):

- For one (1) soil boring (EB9-7), and one (1) step-out soil boring located 6 feet to the west (EB9-7-W6), soil samples were collected from target depths of 0.5, 1.5, and 2.5 feet bgs. Borings EB9-7 and EB9-7-W6 lie in the vicinity of a

former on-site incinerator. The EB9-7 samples were analyzed for PAHs, PCBs, and Title 22 metals at each depth. The EB9-7-W6 step-out samples were analyzed for copper and lead at each depth. Additional step-out borings were attempted in the compass directions around the EB-9-7 boring. An aboveground structure prevented step-outs to the north, and utilities prevented step-outs to the east, south, and further west.

- PCB concentrations were below the laboratory PQL in each of the EB9-7 samples (0.5, 1.5, and 2.5 feet bgs samples) (Table 1).
- PAHs concentrations were below the laboratory PQL in each of the EB9-7 samples (0.5, 1.5, and 2.5 feet bgs samples) (Table 2).
- Metals with detections above the PQL included arsenic, barium, chromium, cobalt, copper, lead, mercury, nickel, vanadium and zinc in the following ranges:
  - Arsenic from 1.5 mg/kg (EB9-7 at 2.5 feet bgs) to 2.3 mg/kg (EB9-7 at 0.5 feet bgs),
  - Barium from 88 mg/kg (EB9-7 at 2.5 feet bgs) to 180 mg/kg (EB9-7 at 1.5 feet bgs),
  - Chromium from 14 mg/kg (EB9-7 at 0.5 feet bgs) to 20 mg/kg (EB9-7 at 2.5 feet bgs),
  - Cobalt from 8.0 mg/kg (EB9-7 at 0.5 feet bgs) to 9.0 mg/kg (EB9-7 at 2.5 feet bgs),
  - Copper from 25 mg/kg (EB9-7 at 2.5 feet bgs) to 2,800 mg/kg (EB9-7 at 0.5 feet bgs),
  - Lead from 11 mg/kg (EB9-7 at 2.5 feet bgs) to 250 mg/kg (EB9-7 at 0.5 feet bgs),
  - Mercury at 0.12 mg/kg (EB9-7 at 1.5 feet bgs) and below the PQL in remaining samples analyzed at EB9-7,
  - Nickel from 13 mg/kg (EB9-7 at 0.5 feet bgs) to 18 mg/kg (EB9-7 at 2.5 feet bgs),

  - Vanadium from 26 mg/kg (EB9-7 at 0.5 feet bgs) to 31 mg/kg (EB9-7 at 1.5 feet bgs and 2.5 feet bgs), and

  - Zinc from 38 mg/kg (EB9-7 at 2.5 feet bgs) to 170 mg/kg (EB9-7 at 1.5 feet bgs).

- With the exception of copper, lead, and arsenic, Title 22 metals results were below published regulatory screening levels in each sample in the vicinity of the former incinerator (Table 2).

- None of the EB9-7 sample results for arsenic exceeded the DTSC-adopted background arsenic concentration of 12 mg/kg (DTSC, 2008), and arsenic was not analyzed in the step out samples from EB9-7-W6 (Table 1 and Table 2). Arsenic was not elevated above 12 mg/kg in the vicinity of the former incinerator. Arsenic results from the EB9-7 and EB9-7-W6 borings were included in the data set for arsenic in soil surrounding existing and former buildings at the Site (Table 1), as discussed in Section 4.0.

- For lead results, none of the EB9-7 or EB9-7-W6 step-out samples exceeded the EPA Region 9 RSL of 400 mg/kg lead. Two (2) of the soil samples analyzed showed concentrations above 80 mg/kg (250 mg/kg and 130 mg/kg lead were reported for EB9-7 soil samples at 0.5 and 1.5 feet bgs, respectively). Lead results from the EB9-7 and EB9-7-W6 borings were included in the data set for lead in soil surrounding existing and former buildings at the Site (Table 1), as discussed in Section 4.0.

- For potential waste characterization purposes, EB9-7 soil samples at 0.5 and 1.5 feet bgs were analyzed for lead using the WET-STLC and TCLP by EPA Method 6010B. Each resulting lead concentration is shown on Table 1. Both STLC-lead results exceeded the STLC-lead limit of 5 mg/L. All TTLC-lead results were below the state hazardous waste criteria of 1,000 mg/kg TTLC-lead. Because lead results in select samples exceeded the 5 mg/L STLC-lead limit, areas were identified with soil representative of hazardous material under California waste disposal regulations, per the California Code of Regulations, Title 22, Chapter 11, Article 3 (California-restricted non-RCRA hazardous waste was identified). Federal RCRA hazardous waste was not identified based on the TCLP-lead results, which were all below 5 mg/L.

- For copper results, none of the EB9-7 or EB9-7-W6 step-out samples exceeded the EPA Region 9 RSL of 3,100 mg/kg copper. For waste

characterization purposes, one 2,800 mg/kg TTLC-copper result at EB9-7 at 0.5 feet bgs exceeded the state hazardous waste criteria of 2,500 mg/kg TTLC-copper. Because copper results in the 0.5 feet bgs sample exceeded the state TTLC limit, areas were identified California-restricted non-RCRA hazardous waste was identified. There is no federal TCLP limit for copper. Elevated copper was not identified in other deeper samples at EB9-7 or in step-out samples at EB9-7-W6. The elevated copper result in the one sample from EB9-7 at 0.5 feet bgs was co-located with elevated lead results that also indicated California-restricted non-RCRA hazardous waste identified based on lead results.

The soil matrix analytical results indicate the following for screening for TPH in Soil in the Vicinity of a Former AST (Table 3):

- One (1) boring installed in the vicinity of a former fuel oil AST (EB1-1) was advanced to a target maximum total depth of 10 feet bgs, with soil samples collected from 1, 5 and 10 feet bgs. The samples from EB1-1 were analyzed for TPH.

- As shown on Table 3, TPH results were below published regulatory screening levels in each sample in the vicinity of the former fuel AST.

The soil matrix analytical results indicate the following for Supplemental Soil Samples from methane probe location M-3 where stained soil was screened for TPH and VOCs (potentially naturally-occurring tar sand) (Table 3):

- To screen for methane in soil gas, thirty (30) additional soil borings were advanced between December 23 and 28, 2016 to a maximum total depth of 15.5 feet bgs. Soil samples were not typically collected from methane probe locations; however, in consultation with OEHS, two supplemental soil samples were collected from one location (M-3 at 10 and 12.5 feet bgs) where soil staining (potentially tar sand) was observed.

- The M-3 soil samples were analyzed for TPH and VOCs, and results from the limited soil sampling at the M-3 location are presented in Table 3. As shown on Table 3, TPH results were below published regulatory screening levels in the M-3 samples at 10 and 12.5 feet bgs. VOCs in the M-3 samples were below the laboratory PQL.

Duplicate samples collected during the PEA-E are included in Tables 1 to 2 in the row beneath the relevant original sample. Duplicate samples show similar results to the original samples considering the observed heterogeneity of the soil matrix. Equipment blank sample results indicated levels of COPCs below the laboratory PQLs. Field procedures (sampling and decontamination) were conducted in compliance with the above procedures. Laboratory procedures were in compliance with the method requirements, including acceptable reporting limits, laboratory selection, and laboratory reporting of quality control information. Samples from borings and quality control samples were analyzed as planned; therefore, an acceptable level of completeness was achieved. Borings that could not be installed due to refusal, proximity to utilities, or surface obstructions/structures were not considered in the assessment of completeness. Acceptable sensitivity was achieved by selecting analytical methods with reporting limits suitable for comparison with action levels. Overall, the dataset is considered to be of acceptable quality. As such, the data set is considered acceptable for use in assessing human health risk at the Site.

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). Average site concentrations above this concentration may pose an increased health risk to site occupants and are considered actionable levels.

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 concentration may pose an increased health risk to site occupants and are considered actionable levels.

3.5 Targets Potentially Affected by the Site

A conceptual site 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 are 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 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 shall operate in compliance with all California OSHA requirements. A copy of the Conceptual Site Exposure Model is attached as Appendix B.

4.0 RISK EVALUATION AND CLEANUP GOALS

This section presents detailed information regarding the CGs for the identified arsenic and lead contamination at the Site. The CGs, 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 PEA-E, shows an increased human health risk over background to human receptors at the Site due to elevated levels of arsenic and lead detected in soils. Areas surrounding existing and former buildings are typically paved at the Site. There is no direct pathway between the current Site occupants and shallow soil in paved areas.

Elevated levels of arsenic and lead were identified at the Site based upon the initial soil sampling activities conducted between December 28, 2017 and January 3, 3017, during which select samples were analyzed for arsenic, lead, OCPs, PCBs, TPH, PAHs, Title 22 metals, and/or VOCs (Tables 1 through 3), as described in Section 3, above. Results for remaining Title 22 Metals, OCPs, PCBs, TPH, PAHs, and VOCs were below their respective screening levels (Human and Ecological Risk Office (HERO) Note #3, and RSLs).

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 actually a 95% upper confidence limit (UCL) (DTSC, 2008). The 12 mg/kg concentration was used as the screening level for arsenic at the Site.

Arsenic was reported above the PQL in three hundred and twenty-six (326) samples at concentrations ranging between 1.0 mg/kg (EB6-3 at 1.5 feet bgs and EB9-6-E10 at 2.5 feet bgs) and a maximum of 82 mg/kg (EB15-1-S5 step-out at 0.5 feet bgs) (Table 1). Due to the presence of sample results above 12 mg/kg in thirty-four (34) of the samples, a 95% upper confidence limit (UCL) analysis was completed. The analysis used the three hundred and twenty-six (326) 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 95% UCL Analysis Report is included in Appendix G of the PEA-E. The result was 9.842 mg/kg for arsenic. The median arsenic result is 2.4 mg/kg.

The arsenic data set is consistent with the southern California arsenic data set and the central tendencies are also similar.

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

Due to the presence of sample results above 80 mg/kg in fifty-three (53) of the samples, a 95% UCL analysis was completed. The analysis used the five hundred and twenty-one (521) 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 95% UCL Analysis Report is included as Appendix G of the PEA-E. The result was 61.28 mg/kg for lead. The median lead result is 11 mg/kg. The lead data set indicates that the 95% UCL is below the screening level of 80 mg/kg.

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).

Other COPCs in Soil (remaining Title 22 Metals, OCPs, PCBs, TPH, PAHs, and VOCs):

With the exception of limited areas with elevated arsenic and lead in soil, the PEA-E sampling results, indicate that soil analytical results for remaining Title 22 Metals, OCPs, PCBs, TPH, PAHs, and VOCs were either below the laboratory PQL or below regulatory screening levels.

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

4.2 Environmental Screening Risk Evaluation

Arsenic and lead were detected in Site soil, at concentrations above the CGs of 12 mg/kg and 80 mg/kg, respectively. This has identified a release of hazardous material into the Site soil from previous onsite activities. A cleanup of the identified releases is necessary. There are no potential threats to the environment other than the potential for wind and surface water runoff to cause the migration of impacted soils from the Site to other areas during construction. Covering the impacted soils impedes wind or surface runoff induced erosion of soil impacted with arsenic. The low average annual precipitation and asphalt cover in the area of impact reduces the potential for surface water runoff and thereby limits erosion.

Information on 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 2.4. No evidence has been found to suggest a release or threatened release from the Site to groundwater. Therefore, 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 air borne dust. There is no documentation of a release of hazardous materials from the Site to the atmosphere. Therefore, the potential for releases of hazardous materials from the Site to the atmosphere is considered to be de minimus.

4.3 Endangerment Determination

Arsenic and lead are “hazardous substances” as defined in H&SC section 25316. There has been a “release” and/or there is a “threatened release” of arsenic and lead 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 and lead 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 Cleanup Goals (CGs)

As discussed in Section 3.1, the COCs for this Site are arsenic and lead. The CG for arsenic is 12.0 mg/kg, based on ambient background concentrations in southern California soils. The CG for lead is 80 mg/kg, based on the DTSC human health screening level for lead.

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)

This Engineering Evaluation/Cost Analysis (EE/CA) was conducted for the proposed RA at the Site in accordance with the USEPA guidance, titled "Guidance on Conducting Non-Time-Critical Removal Actions under CERCLA" (USEPA, 1993). It was prepared, as part of the RAW developed for the Site, to aid in the evaluation of remediation alternatives for the mitigation of impacted soils at the Site. The proposed RA at the Site has been determined to be a non-time-critical removal, based on the risk evaluation and Site considerations. 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 of the NCP, an EE/CA is required to address the implementability, effectiveness, and cost of a non-time-critical RA.

This EE/CA will be used as the basis for the planned non-time-critical RA. As the project proponent, the District will have final authority of the selected alternative and of overall public participation activities.

5.1 Removal Action Scope

This RAW outlines the remedy to address the COCs at the Site. It is prepared to address the arsenic and lead-impacted soils identified in the AOCs (Figures 4 to 7).

The estimated volume of soil proposed for the RA was calculated to be:

- Approximately 54 cubic yards (CY) of arsenic and lead-impacted soil with non-hazardous waste classification (Areas A, E, and G shown on Figures 4 and 5), and
- Approximately 106 CY of arsenic and lead-impacted soil with California-restricted non-RCRA hazardous waste classification due to elevated lead levels (Areas B, C, D, F, H, I, J, K, L and M shown on Figures 4 through 7).

The goals and objectives of the proposed RA are presented in Section 1.1.

5.2 Identification and Evaluation of Removal Action Alternatives

This RAW describes a RA to prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release of a hazardous waste or substance at the Site. Based on historical patterns of remedy selection for sites where arsenic and lead

are the only COC, the “No Action” alternative and three (3) common alternatives were identified. A screening process was then used to generally evaluate the applicability of options to treat or otherwise remediate the COCs that drive risk at the Site, based on EE/CA evaluation criteria (effectiveness, implementability, and relative cost) and general scientific and engineering evaluation.

5.2.1 EE/CA Alternative Evaluation Criteria

The criteria listed below were used during this evaluation process.

Effectiveness:

- Performance and reliability to eliminate or reduce the risk associated with the identified COCs (in terms of toxicity, mobility, or volume) at the Site.
- Overall protection of public health and the environment (threshold factor).
- Compliance with the applicable or relevant and appropriate requirements (ARARs) presented in Section 6.0 (threshold factor).
- Long- and short-term effectiveness (balancing factor).
    - o Reduction of toxicity, mobility, or volume through treatment (balancing factor).
    - o Ability to meet the RAOs presented in Section 1.1 (threshold factor).

Implementability: a balancing factor

- Capability of the alternative with respect to administrative and technical feasibility to Site conditions, (e.g., space limitations, equipment availability, resource availability, utility requirements, monitoring concerns, and operation and maintenance).
- Ability of the alternate to meet applicable federal, state, and local regulations and permitting requirements.
- Ability of the alternate to meet the project schedule and facility operations requirements.

Cost: a balancing factor

- Assess the relative cost of each alternative based on estimated capital cost for construction or initial implementation and ongoing operation and maintenance (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 the identified remedial alternatives were considered for application at this Site, but were screened out immediately without 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 in achieving RAOs, inappropriate technologies for remediating the COC, or could not be implemented in a cost-effective manner.

5.2.2.1 No Action

The "No Action" alternative does not meet the criteria of effectiveness. While the "No Action" alternative was not considered by the District, it was evaluated (as required under the NCP) as a baseline to which the relative benefits of the other alternatives could be compared. The No Action alternative would not address the existing impacts and would result in the materials being disturbed and distributed during the scheduled construction activities of the modernization project.

5.2.2.2 Treatment

A range of treatment technologies was identified. Arsenic and lead contamination generally cannot be destroyed or biodegraded in an efficient or practical manner. The soil composition and contaminant concentrations are the key considerations for selection of a proper treatment. The 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. Therefore, this alternative was not considered further for this Site.

5.2.2.3 Institutional Controls and Onsite Containment (Capping)

The total cost (capital, land use restriction, and O&M) for the capping alternative is expected to be much higher than the cost for the recommended RA alternative (remedy). The capping alternative was considered and determined to be unacceptable since the contaminated soils are surficial and would be disturbed during any form of capping response and are in the area to be disturbed by scheduled site modernization activities.

5.2.2.4 Excavation and Offsite Disposal

Due to the shallow nature of the soil contamination, an immediate soil removal will be required prior to future school construction activities in Area B. Therefore, the alternative of soil excavation and offsite disposal has been accepted by the District as the preferred remedial action. No other alternative removal options will be considered further for this RAW.

Excavation: Excavation involves the removal of soil containing the COC. Excavation includes using loaders, backhoes, large diameter augers, and/or other appropriate equipment. Excavation operations may generate fugitive dust emissions. Suppressant foam, 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 COC (see HASP in Appendix D). The depth of excavations may be limited due to physical constraints associated with the Site. Due to the shallow impacts of less than 3 feet bgs, sloping excavation sidewalls is not anticipated and may result in increased volume of soil requiring excavation. Any soils excavated outside of the plan area will be tested and segregated as clean fill. The excavations will extend to known points below the CGs. Where confirmation soil sampling

and analysis will be conducted to verify that CGs were met at the excavation bottoms and sidewalls are designated in Figures 4 through 7. The sampling and analysis program and confirmation sample list are provided in Tables 5 and 6, respectively. The confirmation samples will be evaluated to confirm the remaining soils meet the CGs of 12.0 mg/kg for arsenic and 80 mg/kg for lead. Excavations may require additional area for soil stockpiling, prior to transporting offsite for disposal. Imported backfill material is not required as the modernization area will be mass graded prior to construction activities. Excavation would be an effective means for removing impacted soil from the Site and would be used in conjunction with appropriate disposal options.

The estimated volume of soil proposed for the RA was calculated to be:

- Approximately 54 CY of arsenic and lead-impacted soil with non-hazardous waste classification (Areas A, E, and G shown on Figures 4 and 5), and

- Approximately 106 CY of arsenic and lead-impacted soil with California-restricted non-RCRA hazardous waste classification due to elevated lead levels (Areas B, C, D, F, H, I, J, K, L and M shown on Figures 4 through 7).

Offsite Disposal: Offsite disposal involves removing impacted soil from the Site and transporting it to an appropriate offsite facility for disposal. Approximately 54 CY of soil is considered nonhazardous and is expected to be disposed of at a Class III landfill. Approximately, 106 CY is considered California-restricted non-RCRA hazardous waste and is expected to be disposed of at a Class I landfill under hazardous waste manifest.

This would be an effective means of removing impacted soil from the Site and meeting the RAOs for soil.

5.2.2.4 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
Capping & Containment	$150,000	$150,000	$300,000	Feasible
Excavation & Disposal	$125,000	N/A	$125,000	Feasible

*Estimate for 10 years

5.3 Description of Recommended Remedy

The recommended RA remedy combines excavation with offsite disposal of the impacted soil at a landfill. The activities that would be conducted to implement this RA are described below:

- In order to expedite the confirmation sample results, initial potholing and/or hand augering will be performed in the designated locations (Table 5) and laboratory analysis (Table 6) expedited on same day or 24-hour turn-around time prior to start of the bulk of the excavation activities. Subsequent confirmation step-out sampling will be performed as needed in areas not meeting the CGs.

- Waste profile samples will also be collected and analyzed as needed during the initial activity to provide the contractor with the necessary analyses for waste acceptance at the designated disposal facility.

- Excavate approximately 160 bank CY of impacted soil from identified locations (Figures 4 through 7).

- If necessary, segregate and stockpile impacted soils that contain the COC at concentrations greater than the CG presented in Section 4.3 on visqueen sheeting or hard surfaces and cover with visqueen to protect from precipitation runoff.

- Load and transport approximately 160 bank CY or ~192 loose "fluff" CY of impacted soil to an appropriate disposal facility (65 CY loose to a Class III landfill and 127 CY loose to a Class I California Hazardous Waste landfill).
- If necessary, grade, backfill and compact previously excavated areas using clean locally derived on-site fill material (approximately 192 CY loose).
- Obtaining any import fill material for the remainder of the modernization project will be in accordance with the current OEHS and LAUSD Specification 01 4524 on import fill material and retained in the construction documentation files.

5.4 Cost Estimates of Recommended Remedy

The RA to be taken to prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release of a hazardous waste or substance, costing approximately $95,000 including RA contractor and environmental professional fees. Sampling activities may include air monitoring, waste profile, and confirmation sampling. A rough cost breakdown for the proposed remedy of excavation and offsite disposal is listed below:

- Field Excavation, Mobilization and Demobilization: $25,000
- Transport and Class 1 and Class 3 Disposal of Excavated Soils: $35,000
- Sampling and Analysis, Air Monitoring: $10,000
- Preparation of a Removal Action Completion Report: $20,000
- Other (Project Management and Administration): $5,000

TOTAL $95,000

6.0 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Previous investigations of the Site indicate the presence of the COC (arsenic) in soil exceeding the CGs of 12 mg/kg for arsenic and 80 mg/kg for lead, as approved by the DTSC. The most effective remedial action has been identified to be removal consisting of soil excavation and offsite disposal. This section discusses the applicable or relevant and appropriate requirements (ARARs) for the proposed soil excavation and offsite disposal.

6.1 Public Participation

The LAUSD OEHS 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.

Based on expressed community interest or other factors, LAUSD may hold a public comment period to accept comments on the proposed RA and, if appropriate (e.g., when there is high interest in the Site), a public meeting(s) to brief interested parties locally about the proposed RA during the public comment period, before approving the RAW. When a public comment period is planned, LAUSD will determine its appropriate duration (0 to 30+ days). In general, LAUSD will hold a 30-day public comment period. However, the public comment period may be shortened, as appropriate, if expressed community interest in the proposed RA is moderate and compliance with NCP for cost recovery is not an issue.

6.1.1 Community Assessment

Community Demographics: A brief summary of the community demographics for the zip code 90005 in Los Angeles County according to the 2010 US Census (factfinder.census.gov) is as follows:

- Total population: 37,681
- Male: 19,299 (51.2%)
- Female: 18,382 (48.8%)

- Median Age: 33.9
- Population 18 years and over: 79.7%
- Total Housing units: 16,345
- Average Household Size: 2.5
- Population by race: White: 10,953 (29.1%)
  Black or African American: 2,007 (5.3%)
  American Indian and Alaska Native: 317 (0.8%)
  Asian: 12,740 (33.8%)
  Native Hawaiian and Pacific Islander: 40 (0.1%)
  Other: 9,940 (26.4%)
  Two or More Races: 1,684 (4.5%)

Local Participation and Involvement: In December 2016, a fact sheet, in the form of a flyer, was produced in English, Spanish, and Korean (double-sided flyer) to provide members of the community with details regarding the PEA-E investigation including who would perform the work, project schedule, when and where the results of the investigation would be posted, and who to contact regarding additional information. This work notice flyer was 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 Report

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 Report (CPR) will be updated for the Site under the direction and guidance of LAUSD. The CPR 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 CPR is included as Appendix C.

6.1.3 Public Participation Activities

A public notice in the languages appropriate to the community will be published in local newspapers (e.g., The Los Angeles Times and La Opinión), and posted at the Site. This notice will inform 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 CEQA documents will be placed in the Information Repositories. These Administrative records are listed in Section 9.0 and are also contained under references in Section 10.0. Public comment Period is 30 days. It will be February 14, 2018 through March 15, 2018.

Los Angeles Unified School District
Office of Environmental Health and Safety
333 South Beaudry Avenue, 21th Floor
Los Angeles, California 90017
Attn: Mr. Dane Robinson
(213) 241-4122

Burroughs Middle School
Administrative Office
600 South McCadden Place
Los Angeles, California 90005

A Fact Sheet in English and Spanish will be prepared to provide information about the Site and the proposed removal action, 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 will be circulated to affected community members (residences and businesses) in the immediate area of the Site as follows:

(**Select one that is applicable**)

_____ within a radius of ¼ mile from the Site

__X__within a radius of 1/8 mile from the Site (in dense urban area)

A 30-day comment period with a public meeting is planned at this time and is expected to occur during the DTSC review in February 2018. The length of the comment period and the decision to have a public meeting may be modified as necessary.

6.2 Hazardous Waste Management

Elevated levels of arsenic, up to 89.8 mg/kg and lead up to 2,700 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. Lead exceeded the TTLC hazardous waste criteria in one sample (EB9-1-S5-1.5).

A total of 9 samples exceeded 10 times the STLC (50 mg/kg) and TCLP (50 mg/kg) for arsenic. The STLC and TCLP analyses were run on each of the arsenic samples above 50 mg/k and all were reported below 5 mg/L STLC and TCLP (see Table 1). In addition, the average concentration of arsenic excavated from the site is expected to be much less than 50 mg/kg. As a result, arsenic impacted soils removed from the Site will be handled as a non-hazardous waste and disposed at a Class III landfill.

A total of 99 lead samples exceeded 10 times the STLC (50 mg/kg) and TCLP (50 mg/kg) for lead. The STLC and TCLP analyses were run on each of the lead samples above 50 mg/kg and 38 were above the 5 mg/L STLC (see Table 1). None of the TCLP soluble lead exceeded the 5 mg/L criteria for RCRA hazardous waste. Many of the samples below 5mg/L STLC were also below the CG of 80 mg/kg. As a result, the majority of lead-impacted soils to be removed from the Site will be handled as a California hazardous waste and disposed of at a Class I landfill.

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 the Burroughs MS is CAD982039505 and will be used for proper management of the all 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. Land ban requirements will also be followed as necessary.

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. Excavation, loading, and transport of impacted soils shall be in compliance with South Coast AQMD Rules 403 and 1466 for prevention, reduction, and mitigation measures for fugitive dust emissions. Greater than 50 cubic yards of soil will be disturbed during the RA activities, therefore South Coast AQMD will be notified a minimum of 72 hours, but no more than 30 days prior to the start of the RA at the Site.

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 SWPPP shall specify Best Management Practices to prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving offsite into receiving waters. The discharger shall obtain coverage under the General Permit prior to commencement of construction activities. When construction is complete or ownership has been transferred, the discharger shall

file a Notice of Termination with the appropriate Regional Water Quality Control Board certifying that all State and local requirement have been met in accordance with the General Permit. Since the RA will be performed during the demolition and grading of the Site, the PP's RA contractor will perform the RA under the PRDs and SWPPP prepared by the general contractor and submitted to the SWRCB for the Site modernization project.

6.5 California Environmental Quality Act (CEQA)

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. 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.

Leighton understands that the Initial Study is currently underway and that an Environmental Impact Report will follow.

6.6 Health and Safety Plan (HASP)

All contractors 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 shall operate in compliance with all 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:

- The maximum depth of the excavation will be less than three feet; therefore, excavation permits and shoring of the excavation area is not required.

- Underground service alert will be notified a minimum of 48 hours 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 industrial hygienist (CIH) 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 PP, 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 CIH. 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 and 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

All necessary permits and approvals identified in this RAW will be obtained prior to 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 school construction process, the PP shall cease all construction activities at the Site, notify LAUSD-OEHS, and take necessary response actions as required by the LAUSD-OEHS.

7.0 REMOVAL ACTION IMPLEMENTATION

Data from the investigation of the Site indicates the COC (arsenic and lead) in soil at concentrations exceeding the CGs. The CGs for this RA are presented in Section 4.3. An EE/CA for the removal is included in Section 5.0. The most effective remedial action has been identified to be removal consisting of soil excavation and offsite disposal. Upon receipt of LAUSD-OEHS approval, removal activities will be performed by a California licensed contractor with supervision of a California Professional Geologist or Professional Civil Engineer (to be hired by the PP).

Removal, transportation and disposal will be performed in accordance with applicable Federal, State, and local laws, regulations, ordinances and requirements. Field operations shall 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). Figures 4 through 7 illustrate the excavation areas, as well as, the sampling points from the previous investigations within the Site.

7.1 Field Documentation

The environmental professional will be responsible for maintaining a daily field log (DFL) during the RA activities. The DFL will serve to document observations, personnel onsite, equipment arrival and departure times, and other vital project information.

7.1.1 Daily Field Logs (DFLs)

Daily field logs will document where, when, how, and from whom vital project information was obtained. DFL entries will be complete and accurate enough to permit reconstruction of field activities. DFLs will be bound with consecutively numbered pages. Each page will be dated and the time of entry noted in military time. Entries will be legible, written in ink, and signed by the individual making the entries. Language will be factual, objective, and free of personal opinions or other terminology, which might prove inappropriate. If an error is made, corrections will be made by crossing a line through the error and entering the correct information. Corrections will be dated and initialed. No entries will be obliterated or rendered unreadable. Entries in the DFL will include the following for each fieldwork date:

- 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
- Quantity of impacted soils (in terms of RCRA hazardous wastes, non-RCRA hazardous waste, and non-hazardous wastes) excavated
- Quantity of impacted soils (in terms of RCRA hazardous wastes, non-RCRA hazardous waste, and non-hazardous wastes) temporarily stored onsite
- Quantity of excavated soils in truckloads and load size (in terms of RCRA hazardous wastes, non-RCRA hazardous waste, and non-hazardous wastes) transported offsite
- 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 Site HASP
- Changes in personnel and responsibilities as well as reasons for the changes
- Levels of safety protection
- Calibration readings and equipment model for any equipment used

The following information will be recorded during the collection of each sample:

- Sample identification number
- Sample location and description including 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)

7.1.2 Chain-of-Custody Records

Chain-of-custody records are used to document sample collection and shipment to laboratory for analysis. All sample shipments for analyses will be accompanied by a chain-of-custody record. Form(s) will be completed and sent with the samples for each laboratory and each shipment. 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.

7.1.3 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 DFL. When a photograph is taken, the following information will be written in the DFLs or will be recorded in a separate field photography log:

- Time, date, location, and, if appropriate, weather conditions
- Description of the subject photographed
- Name of person taking the photograph

7.2 Site Preparation and Security Measures

Prior to mobilization for the proposed RA, site preparation activities will be performed and may include site inspections, surveying, boundary staking, sampling, demarcation of hot spots, improvement of access roads, utility connections or disconnections, and fencing installation.

7.2.1 Delineation of Excavation Areas

The areal limits of the excavations will be delineated by the environmental professional, in consultation with LAUSD-OEHS representatives, before commencement of removal activities. The areas to be excavated shall be called the “excavation areas” and they will be marked (as the exclusion zones) in the field by the environmental professional with stakes and/or high visibility paint. GPS coordinates will be collected at the time of excavation and compared to GPS data or other location references of the previous investigations.

The RA contractor will initially excavate the designated confirmation sample points to the specified depths. The environmental professional will collect and analyze samples from each designated sidewall and bottom sample location. The samples will be run on a same day or 24 hour expedited turn-around time. If an impacted sidewall is found, an additional excavation will be made in that direction until arsenic or lead impacts above the CGs are no longer detected. Once sidewall and bottom concentrations below the CGs have been reached, the remedial excavation will commence and the data set of remaining samples evaluated to confirm the CGs of 12.0 mg/kg arsenic and 80 mg/kg lead have been achieved.

7.2.2 Utility Clearance

Clearance of remaining utilities and other hazardous underground obstacles will be conducted by the RA contractor prior to initiating soil intrusion or subsurface activities. Such possible obstacles may include water, electrical, gas, oil, communication cable, phone cable, TV cable, and sewer lines. At a minimum, the utility clearance will include a 48-hour notification of the local Underground Services Alert (USA) and a Site visit. In addition, a geophysical survey or hand-augering down to 1 foot below the intended excavation depth may be conducted as appropriate to clear the excavation locations.

7.2.3 Security Measures

Appropriate barriers and/or privacy fencing will be installed prior to beginning the excavation process to provide that work areas are secure and safe. To prevent trespassers or unauthorized personnel not allowed near work areas, security measures may include, but are not limited to:

- Posting notices directing visitors to the Site manager.
- Maintaining a visitor's log. Visitors shall have prior approval from the Site manager to enter the Site. Visitors shall not be permitted to enter the Site without first receiving site-specific health and safety information from the Site safety coordinator.
- Installing barrier fencing to restrict access to sensitive areas such as exclusion zones.
- Providing adequate Site security to provide that unauthorized personnel have no access to work areas and/or impacted materials.
- Before leaving the Site, personnel must sign out in the visitor's log.
- Maintaining a safe and secure work area, including areas where equipment is stored or placed, at the close of each workday.

Persons requesting Site access will be required to demonstrate a valid purpose for access and if access to work areas and/or impacted materials is planned, provide appropriate documentation to demonstrate they have

received proper training required by the site-specific HASP (see Appendix D).

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 PP 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.

7.2.5 Cultural Resources Consideration

The Site is not in an area of cultural resources significance (see Section 2.5). Prior to excavation, all contractors and subcontractors will 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.

7.2.6 Biological Resources Consideration

The Site is not in an area of biological resources significance (see Section 2.5).

7.2.7 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.

7.2.8 Permits and Plans

As discussed in Section 6.8, necessary permits, approvals, and South Coast AQMD Rule 1466 notification will be obtained by the RA contractor prior to the implementation of the RA.

7.3 Excavation

Fieldwork will be completed by properly trained and equipped hazardous waste workers. Impacted soil will be removed with a backhoe, bulldozer, tracked excavator, shovels or other types of earth moving equipment, as necessary. As

soil is excavated, it will be loaded directly onto transportation trucks or temporarily stored on and covered by plastic sheeting in stockpile staging areas onsite. Use of roll-off bins in areas of limited access, with the capability to be covered for transport is also acceptable. In addition, California OSHA's Construction Safety Orders (especially 8 CCR 1539 and 1541) will be followed as appropriate.

To enable systematic review of the excavation areas identified for soil cleanup, the removal of impacted soil will be to the desired depth and lateral extent at each identified excavation area. Hand digging may be performed when utilities are encountered or exposed. Excavations in areas requiring confirmation sampling will be scheduled first as practical to expedite characterization in these areas. Based on results of confirmation sample results, an excavation of each additional grid of 5 feet by 5 feet and lift of 1-foot depth (approximately 1 CY) will proceed until the CGs are met.

Excavation areas will be controlled to avoid dust generation with physical barriers (such as perimeter fencing with windscreen), soil wetting, and air monitoring (at property perimeter and work area). Each excavation area will be secured and water will be used to control fugitive dust from blowing onto other properties. The Site will be controlled and no excavation will be conducted in times of high wind conditions (e.g., wind speed in excess of 25 miles per hour) or inclement weather conditions.

7.3.1 Confined Space Entry Requirements

In the event an excavation is five (5) feet deep 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 feet or deeper, a permit from the Division of Occupational Safety and Health, California Department of Industrial Relations must be obtained before excavating and entry. For the proposed RA, confined-space entry procedures do not apply. Whenever compliance is necessary, the site-specific HASP (Appendix D) will be updated to reflect this change.

7.3.2 Soil Staging and Storage Operations

If it is necessary to temporarily store the excavated soil onsite until offsite transportation and disposal are available, the following may apply. The staging process will be conducted in a manner to minimize the generation of dust. At the stockpile 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 drums, 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.

7.3.3 Waste Segregation Operations

Prior to stockpiling/staging, the excavated soil will be segregated to the extent possible to avoid mixture of hazardous and non-hazardous soils. This segregation will minimize the amount of hazardous soils generated and its associated disposal cost. The soil segregation will be based upon criteria for hazardous and non-hazardous soils and the available sampling data. Although not anticipated, RCRA hazardous soils will be transported to a licensed Class I landfill and California hazardous soils will be transported to a licensed Class I landfill or a properly permitted out-of-state disposal facility. Non-hazardous soils will be transported to an approved facility or Class III landfill to be used for alternate daily cover or disposal within the landfill. Reuse of the material outside the designated landfill disposal sites will not be permitted.

7.3.4 Decontamination Area

Each transport truck leaving the Site will be decontaminated utilizing the procedures below in the designated decontamination area. The decontamination area is located in the parking area near the northern driveway off of Wet 6th Street on the northern boundary of the Site (Appendix F – Figure). 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 off-site disposal. All areas around the excavations and egress points will be maintained in a broom cleaned condition. Entry to the impacted areas should be limited to avoid unnecessary exposure and related transfer of contaminants.

7.3.5 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
- Final deionized/distilled water rinse

Trucks that come into direct contact with potentially impacted soil or water 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 F – Figure F1); rumble plates 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 pallets or 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.

7.3.6 Excavation Plan

Initial Excavation: The initial excavation includes fourteen (14) identified AOCs as discussed in Section 3.2 and shown on Figures 4 through 7. The initial excavation will produce approximately 160 CY of bank run material, or 248 tons using a conversion factor of 1.55 tons per CY. See Section 3.3 for loose "fluff" soil volume conversion factor to estimate the number of trucks needed for offsite transportation. Approximately thirteen (13) truck loads are anticipated.

The excavations include non-hazardous arsenic-impacted soils above 12 mg/kg and non-hazardous lead-impacted soils above 80 mg/kg in AOCs: A1 and A2 (~5 CY), E (~31 CY), and G (~18 CY). The remaining excavations include California hazardous lead-impacted soils exceeding the STLC in AOCs: B (~1.8 CY), C (~0.2 CY), D (~22 CY), F (~20 CY), H (~18 CY), I (~14 CY), J (~3 CY), K (~10 CY), L (~3 CY), and M (~14 CY). The excavations range from 1.0 feet to 4.5 feet in depth and are further detailed on Figures 4 through 7.

Post Confirmation Excavation: After consultation with LAUSD-OEHS, additional excavation may be necessary depending on the results of confirmation sampling, as discussed in Section 7.6. All sample results will be provided to the LAUSD-OEHS for a decision on final clearance and completion of excavation activities.

7.4 Air and Meteorological Monitoring

This section details the air and meteorological monitoring strategy and methodologies that will be used during the soil RA. The strategy and methodologies are designed to achieve several goals:

- Identify and measure the air contaminants generated during the soil removal and decontamination activities to assign the appropriate personal protective equipment (PPE) and safety systems specified for those activities.

- Provide feedback to Site operations personnel regarding potential hazards from exposure to hazardous air contaminants generated through Site activities.

- Identify and measure 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 chemical constituents, as a result of removal activities.

7.4.1 Air Monitoring

As required by South Coast AQMD 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:

- Monitoring dust levels in the exclusion zone and other 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, e.g., winds in excess of 25 mph or inclement weather. 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 (personal data ram) will be used, when required, to measure dust levels. Real-time information will be posted daily, and discussed with Site workers. As analytical results for industrial hygiene samples [using Occupational

Safety and Health Administration/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.

7.4.1.1 Air Monitoring Strategy and Methodologies

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

- Upwind (offsite property if possible)
- Proximate to the exclusion zone (with the equipment operator)
- Up to three (3) Fence Line / Downwind locations
- As deemed necessary to evaluate employee exposure (to be performed by the RA contractor)

The prevailing wind direction is anticipated to be from the W or WSW (Table 4, WRCC, 2017) 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. Air monitoring samples will be collected over an 8 to 10-hour period each day that RA activities are conducted. The air monitoring professional will check the equipment every 15 minutes 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 dusts 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 (Arsenic Action Level) [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 Listed0	0.05 mg/m^3	0.4 mg/m^3	0.005 mg/m^3	0.001 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 Air Quality Management District 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 aerosol monitors.
ppm — parts per million
mg/m^3 — milligrams per cubic meter
μg/m^3 — micrograms per cubic meter

7.4.1.2 Dust Monitoring

As required by South Coast AQMD, the Site air monitoring professional will monitor airborne dust levels, using real-time, data-logging aerosol monitors (i.e., Personal DataRam or PDM-3 Miniram particulate monitor manufactured by MIE or equivalent), in the locations determined in the field and daily conditions. These instruments will be calibrated daily, set to log dust levels over 5 minute periods and visually read every 15 minutes. In consultation with AQMD, the frequency may be changed based on Site conditions and newly available data. At a minimum, a PDM-3 Miniram, or equivalent, will be placed upwind to monitor background and the second set will be placed in the exclusion zone to monitor worker exposure to dust concentrations at the Site.

7.4.1.3 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 5 days. However, efforts will be made to receive 24-hour turnaround from the laboratory.

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.

7.4.2 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).

7.4.3 Other Environmental Monitoring

None.

7.5 Dust Control Plan

In accordance with South Coast AQMD Rule 1466, the RA contractor will implement appropriate procedures to control the generation of airborne dusts 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 at all entrances and at intervals of 1,000 feet or less around the perimeter of the Site, with a minimum of one sign along each side, in accordance with South Coast AQMD Rule 1466.

- 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 (e.g., Personal DataRam or PDM-3 Miniram particular monitor manufactured by MIE).

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 5 minute periods and will be visually read every 15 minutes. In consultation with LAUSD-OEHS, the frequency may be changed based on Site conditions and newly available data. At a minimum, PDM-3 Miniram or equivalent will be placed

upwind to monitor background and the second set will be placed on the backhoe operator or assistant to provide worst case dust concentrations on the Site. Dust masks will be provided to Site workers in the event particulate concentrations exceed 1.0 mg/m3 (see Appendix D – Health and Safety Plan).

7.6 Sampling and Analysis Plan

7.6.1 Waste Profiling Sampling

Site-Specific COCs: Arsenic and Lead: Waste profiles for arsenic-impacted soils will be submitted to local Class III municipal landfill and for lead-impacted hazardous waste soils will be submitted to a Class I landfill by the RA Contractor for acceptance prior to start of excavation work or based on submittal of representative site characterization laboratory reports. Profile samples will be collected from the excavation areas by potholing or hand augering areas designated for sidewall of bottom confirmation sampling. The samples will be submitted for waste profiling in accordance with Table 5.

An acceptance letter will be issued by the disposal facilities once the waste transporter has been contracted by the District and final profile sample results are submitted. The collection of the identified confirmation samples and the in-situ waste profile samples will be performed in advance of the excavation activities.

Soils excavated from the Site will be managed (handled, transported and disposed of) as: (Select all that are applicable)

___ a hazardous waste requiring compliance with requirements of land ban restrictions

_X_ a hazardous waste requiring no compliance with requirements of land ban restrictions

____ a PCB waste

_X_ a non-hazardous and non-PCB waste

7.6.2 Confirmation Sampling

To the extent possible, the previous sampling data will be used as confirmation sampling points. Prior to implementation of excavation activities, the excavation areas that are not currently delineated with confirmation point samples will be sampled at the designated bottom and sidewall locations through potholing or hand augering to confirm that elevated arsenic and lead concentrations exceeding the CGs do not extend vertically to deeper depths or horizontally beyond the excavation boundaries. Based on the proposed excavations, selected sidewall and bottom confirmation samples will be collected at the locations shown in Figures 4 through 7 and listed in Table 6. The exact sample locations will be evaluated in the field. Sidewall confirmation samples will be collected from the depth with the highest concentration of arsenic and/or lead exceeding the CGs encountered during the PEA-E sampling in each excavation area. Additional confirmation sampling will be implemented if the original samples exceed to CGs. Confirmation samples will be collected using a clean trowel or newly gloved hand and transferred directly into sampling jars thereby reducing the number of sampling equipment which will significantly reduce the possibility of cross contamination. The final confirmation samples will be properly sealed, labeled and stored onsite in a cooled chest prior to delivery to a California Environmental Laboratory Accreditation Program (ELAP) certified laboratory. 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. All confirmation soil samples will be analyzed for TTLC arsenic and TTLC lead, using USEPA SW-846 Method 6010B.

Confirmation soil samples will be compared to the CGs. Analytical results from confirmation samples exceeding the CGs will result in further excavation and confirmation sampling. The excavation of each additional 5x5-foot grid and 1-foot depth lift will proceed until the CGs are met.

After the removal action is complete, the confirmation data will be compiled and reported in the Removal Action Completion Report (RACR) (see Section 8.0). The entire arsenic and lead data set for the Site will be

included in the RACR reflecting the now-current conditions of the Site for arsenic and lead. This data set will not include arsenic or lead values for soil which have been removed. The data will be expressed as both the range of values and the 95 percent UCL when there are sufficient samples to calculate this value. These calculations are required to give an overall representation of arsenic and lead concentrations of the Site following the removal action.

7.7 Transportation Plan for Offsite Disposal

The waste material will be profiled and approval will be received from the disposal facilities before soil is transported offsite for lawful disposal. Based on the analytical results gathered during the PEA-E, the arsenic-impacted soil excavated from the Site will be handled, transported and disposed of as non-hazardous waste and will be transported to a Class III landfill facility. The lead-impacted soil with soluble lead will be soil excavated from the Site will be handled, transported and disposed of as non-RCRA California 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 F).

7.8 Backfill and Site Restoration

Based on Site conditions and school construction plans, the RA excavations are not expected to be backfilled with clean fill material from an offsite source, but rather, through grading operations of the proposed site modernization development.

7.9 Variance or Explanation of Significant Difference (ESD)

After this RAW is approved, new information may be received or generated that could affect the implementation of the remedy selected in this RAW (as specified in Section 5.3), or could prompt the reassessment of that remedy. Appropriate actions should be taken to address the newly developed situations (which are deviated from or are not covered by the approved RAW). New information may include:

1. a change in scope, performance, or cost of the selected remedy; and
2. advances in remediation science and technology which may impact the remedy selection.

7.9.1 Criteria for Fundamental, Significant or Minor Changes

Based on an evaluation, and depending on the extent or scope of modification being considered, one of the following three types of changes may be classified, identified, and followed: minor changes, significant changes, or fundamental changes.

Criteria for Fundamental Changes:
When a fundamental change will be made to the selected remedy, a RAW Amendment, a new RAW, or a new Remedial Action Plan (RAP) may be developed, issued and approved consistent with the normal RAW/RAP process. In such a case, additional field work not covered by the approved RAW should not be conducted until the new RAW/RAP process for the additional work is completed. Possible scenarios for fundamental changes include:

1. selection of a different alternative; e.g., from excavation to soil vapor extraction, from groundwater natural attenuation monitoring to pump and treat, from in-situ soil washing to excavation, from containment cap to treatment,
2. change or addition of media; e.g., from soil to groundwater,
3. substantial cost increase; e.g., less than $1 million to more than $2 million,
4. preparation of a new CEQA or RA decision document; e.g., from Mitigated Negative Declaration (MND) to an Environmental Impact Report (EIR), or
5. from RAW to RAP.

Criteria for Significant Changes:
When a significant change will be made, an Explanation of Significant Differences (ESD) along with a NOE should be developed and documented. As provided in section 300.435(c)(2)(i) of Code of Federal Regulations, Title 40 (40 CFR 300.435(c)(2)(i)), ESD is a federal process

designed for a record of decision (ROD) for a remedial action project, when a difference significantly changes but does not fundamentally alter the remedy selected in the ROD with respect to scope, performance or cost. There is no "official" mechanism for RAWs to document significant changes after a RAW is approved. Using the ESD process (in an equivalent manner) as a means to document significant changes encountered during implementation of RAWs may be used.

Possible scenarios for an ESD include:

1. moderate cost increase; e.g., from less than $1 million to more than $1 million but less than $2 million, or
2. preparation of a new NOE (e.g., from categorical exemption to general exemption) or other CEQA documents (e.g., ND or EIR).

Criteria for Minor Changes (Variances):
As conditions in the field may vary, it may become necessary to implement minor modifications to the selected remedy as presented in this RAW. Modifications to the approved RAW will be documented in the DFL and in the RACR for this RA.

7.9.2 ESD Process

Compliance With CEQA – ESD:
When an ESD is necessary, LAUSD-OEHS will prepare and file a NOE or other proper CEQA documents for the planned ESD with the Office of Planning and Research as part of its approval process for the ESD. All protective measures considered in the RAW and in the CEQA documents will apply to this removal action.

Public Participation for ESD:
In accordance with the NCP, aka CFR, Title 40, Part 300, section 300.435 (40 CFR 300.435), a formal public comment period is not required when issuing an ESD.

RAP:
As provided in 40 CFR 300.435(c)(2)(i), to issue an ESD for a RAP, the lead agency shall:

1. make the ESD and supporting information for a RAP available to the public in the administrative record and the information repository; and
2. publish a notice that briefly summarizes the ESD for a RAP in a major local newspaper of general circulation.

After an ESD has been approved, a notification to the public concerning the ESD should be published in local newspapers (which are published in the languages appropriate to the local community), and posted at the Site. LAUSD-OEHS should also notify each person who has submitted written comments or request notice of the project updates, concerning the ESD. The Administrative Record for the Site should be available for public inspection at the designated Information Repositories.

RAW:
As provided in 40 CFR 300.435(c)(2)(i), to issue an ESD for a RAW, the lead agency shall:

1. make the ESD and supporting information for a RAW available to the public in the administrative record and the information repository; and
2. publish a notice that briefly summarizes the ESD for a RAW in a major local newspaper of general circulation.

After an ESD has been approved, a notification to the public concerning the ESD should be published in local newspapers (which are published in the languages appropriate to the local community), and posted at the Site. LAUSD-OEHS should also notify each person who has submitted written comments or request notice of the project updates, concerning the ESD. The Administrative Record for the Site should be available for public inspection at the designated Information Repositories.

Additional Public Participation Activities:
Additional public participation activities (e.g., public information meeting, public comment period, fact sheet mailing) may be conducted by LAUSD-OEHS if warranted by public interest or upon request.

8.0 PROJECT SCHEDULE AND REPORT OF COMPLETION

The PP is prepared to proceed with removal activities upon receiving approval of this RAW. The RA will focus on excavation, air monitoring, confirmation sampling, and offsite disposal.

Although the schedule for implementation of the RAW is unknown at this time, the following chart indicates the anticipated schedule of implementation and subsequent reporting for this project from a number of days standpoint. A project schedule for the RAW and RA will be included in Appendix H once a construction schedule has been determined by the District. A Removal Action Completion Report (RACR), documenting all activities conducted pursuant to the approved RAW and certifying that activities have been conducted consistent with this RAW, will be prepared as expeditiously as possible upon completion of the RA. A generic RACR table of content format is included as Appendix G.

Schedule of Tasks

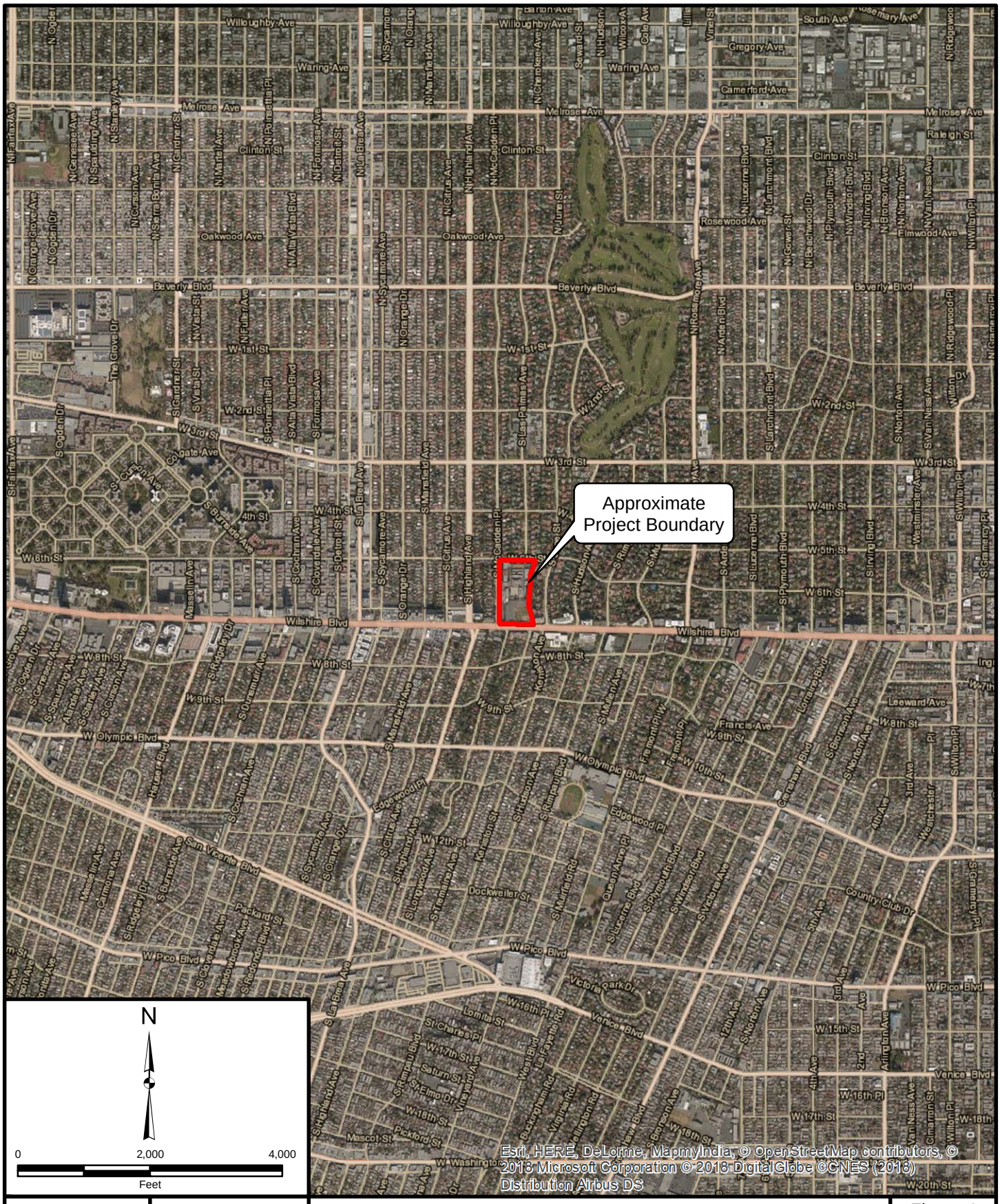
	Task	Days to Complete	Cumulative Days	Notes
1	Field Preparation	10	10	Coordinate contractors and waste stream approval.
2	Field Implementation	5	15	Assumes minimal weather delays.
3	Data Compilation	10	25	Data review and presentation.
4	Reporting	15	40	RACR is submitted

9.0 ADMINISTRATIVE RECORDS

Administrative records in association with this RAW which will be maintained in the information repositories are listed chronologically and include the following:

None

FIGURES



Project: 11640.004	Eng/Geol: JCH/RAL
Scale:1 " = 2,000 '	Date: January 2018

Base Map: ESRI ArcGIS Online 2018
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

SITE LOCATION MAP

600 South McCadden Place,
Los Angeles, California

Figure 1

Leighton

Map Saved as V:\Drafting\11640\004\Maps\11640-004_F01_SLM_2018-01-15.mxd on 1/15/2018 12:53:46 PM

W 6th St
S McCadden Pl
S June St
Wilshire Blvd
S Trenaire Ave
Kenisco Ave
Driveway
Parking Area
Former Location of Fuel Oil AST
Former Location of Incinerator
Driveway
Tennis Court
Handball Court
Driveway
Teacher Parking
Playground Area

Number	Building Name
1	Main Building/Auditorium
2	Boy's Gym
3	General Classroom
4	General Classroom
5	General Classroom
6	General Classroom
7	Classroom Bldg
8	Science/Workroom
9	Shop Bldg
10	Storage/Portable Bldg
11	Tool Room
12	Storage/Portable Bldg
13	Flammable Storage
14	All Purpose Bldg
15	Storage/Portable Bldg
16	Special Education
17	Girl's Locker
18	General Classroom
19	Storage-Portable Bldg
20	Cafeteria -Classroom Bldg
21	General Classroom
22	General Classroom
23	General Classroom
24	General Classroom
25	General Classroom

Legend

- Burroughs Middle School
- Development Areas
- Existing Buildings
- Former Building Constructed Post-1992
- Approximate Former Building Footprints

N W E S

0 150

Feet

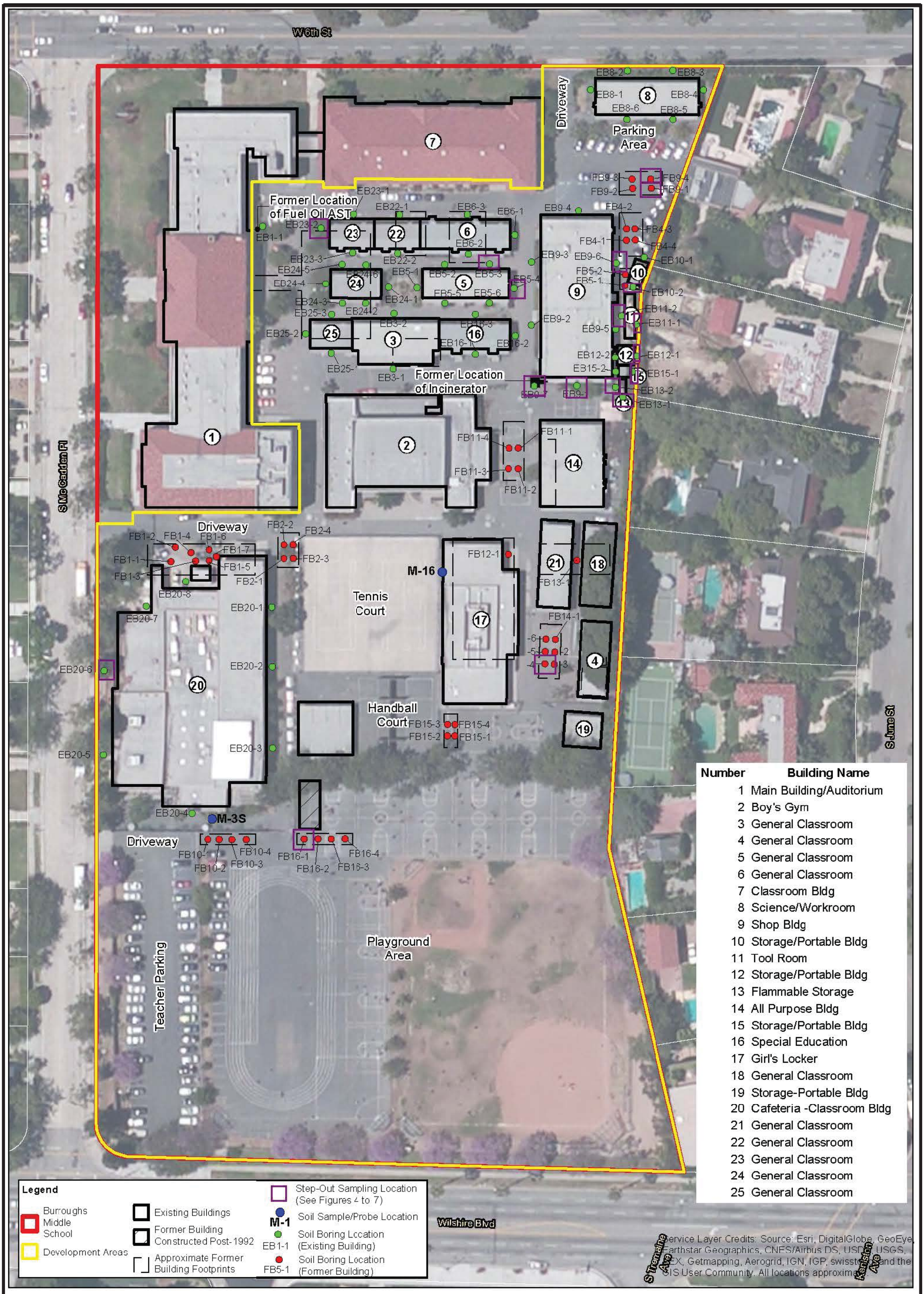
CURRENT AND HISTORICAL BUILDING AND STRUCTURE LOCATIONS

600 South McCadden Place,
Los Angeles, CA

FIGURE 2

Project: 11640.004	Eng/Geol: JCH/RL
Approx. Scale 1"=75'	Date: January 2018
Drafted By: BES	Checked By: JCH

Leighton



Site Plan provided by Advisian,Worley Parsons Group. dated 10/16/2016.

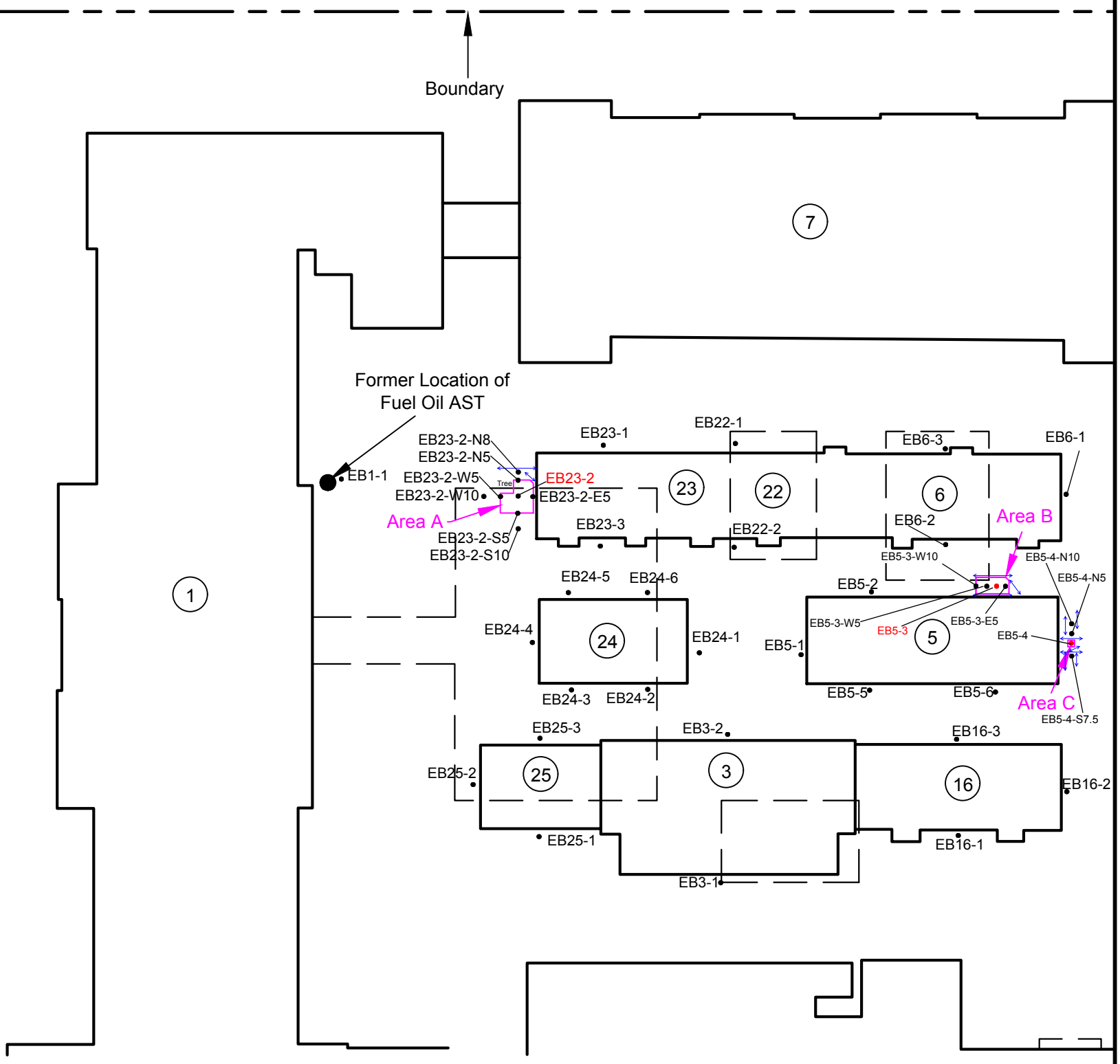
SOIL BORING LOCATION MAP

600 South McCadden Place,
Los Angeles, CA

FIGURE 3

Project: 11640.004	Eng/Geol: JCH/RL
Approx. Scale 1"=75'	Date: January 2018
Drafted By: BES	Checked By: JCH

Leighton



Notes/Definitions:

bgs = below ground surface
mg/kg = Milligrams per kilogram
mg/L = Milligrams per liter
NA = not analyzed for arsenic and/or lead TTLC
STLC = Soluble threshold limit concentration
TCLP = Toxicity characteristic leaching procedure
TTLC = Total threshold limit concentration
RCRA = Resource Conservation and Recovery Act
* Replicate/duplicate soil sample

Approximate Volume of Soil Impacted with Arsenic or Lead for Removal**:
Area A (to 1.5 ft bgs) = ~5.0 CY (Non-Hazardous)
Area B (to 1 feet bgs) = ~1.8 CY (CA-Haz Non-RCRA)
Area C (to 1.5 feet bgs) = ~0.2 CY (CA-Haz Non-RCRA)
**Removal to within 1 foot of surface structures and to within 2 feet of identified utilities was assumed.

LEGEND

EB1-1 — Sample: Where Lead-TTLC (mg/kg) or Arsenic-TTLC (mg/kg) results are greater than >80 mg/kg lead or >12 mg/kg arsenic the ID is red

Non-Hazardous Waste - Soil Sample Location where no results exceeded hazardous waste criteria

California-Restricted (Non-RCRA) Hazardous Waste - Soil Sample Location where Lead STLC exceeded 5.0 mg/L, arsenic STLC exceeded 5 mg/L and/or Lead TTLC exceeded 1,000 mg/kg [No sample results exceeded Federal RCRA Hazardous Waste criteria]

Approximate location of detected utilities near impacted soil areas

Existing Buildings

Approximate Former Building Footprints

Approximate extent of lead or arsenic impacted soil based on TTLC Lead >80 mg/kg, TTLC Arsenic >12 mg/kg, or CA Hazardous Levels

N

0 40 80
Feet

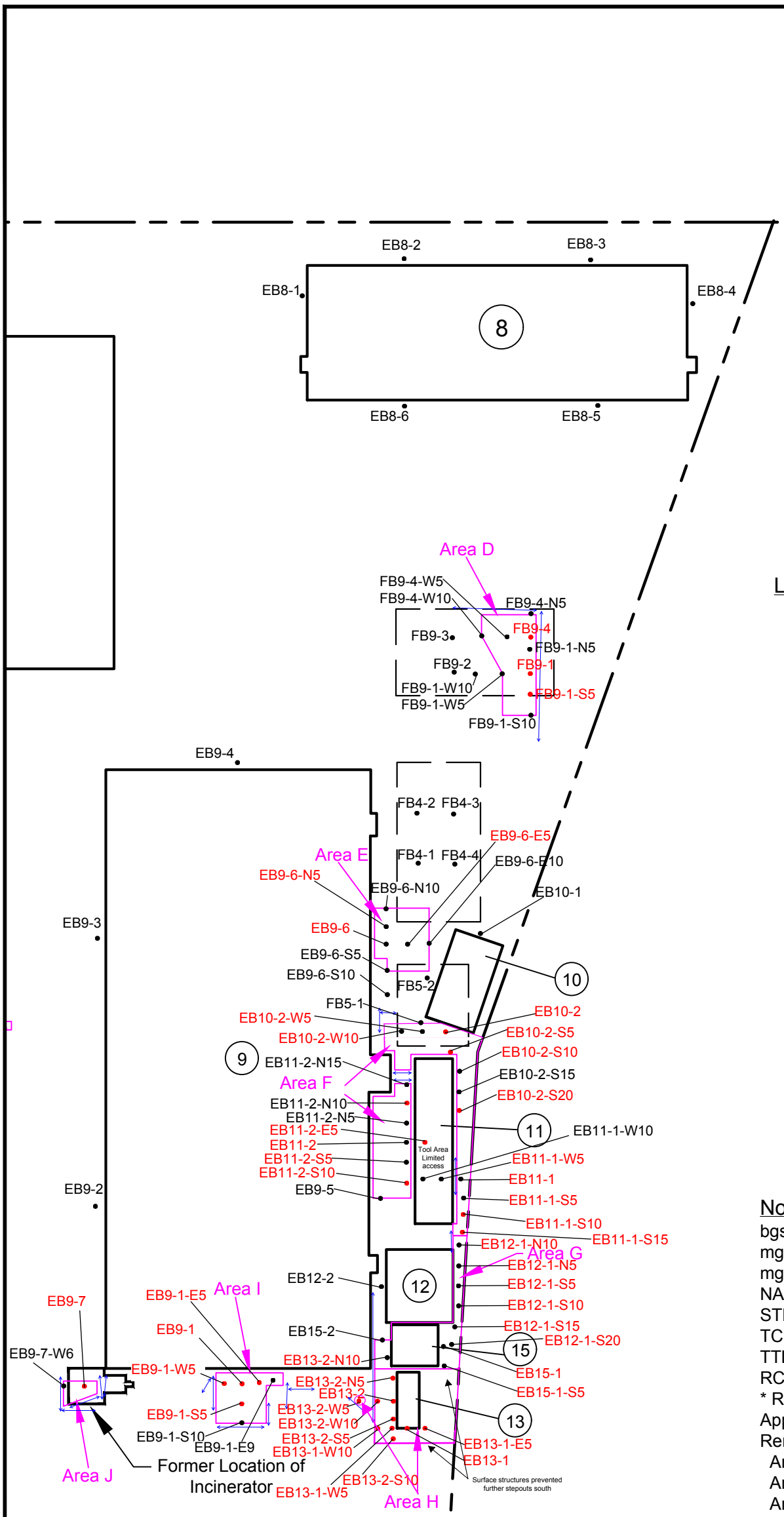
Project: **11640.004**	Eng/Geol: JH
Scale: 1"=40'	Date: January 2018
Reference:	
Author: MAM	

STEP-OUT SOIL BORING LOCATION MAP
EXISTING BUILDING 5 AND EXISTING BUILDING 23

600 South McCadden Place
Los Angeles, CaliforniJn

Figure 4

Leighton



LEGEND

EB1-1 — Sample: Where Lead-TTLC (mg/kg) or Arsenic-TTLC (mg/kg) results are greater than >80 mg/kg lead and >12 mg/kg arsenic the ID is red

Non-Hazardous Waste - Soil Sample Location where no results exceeded hazardous waste criteria

California-Restricted (Non-RCRA) Hazardous Waste - Soil Sample Location where Lead STLC exceeded 5.0 mg/L, arsenic STLC exceeded 5 mg/L and/or Lead TTLC exceeded 1,000 mg/kg
[No sample results exceeded Federal RCRA Hazardous Waste criteria]

Approximate location of detected utilities near impacted soil areas

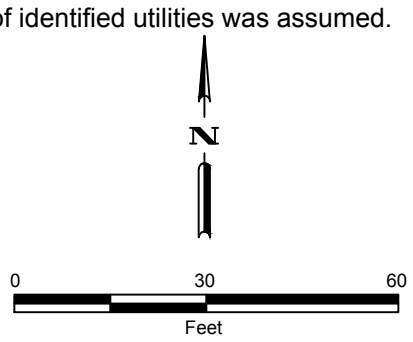
Approximate extent of lead or arsenic impacted soil based on TTLC Lead >80 mg/kg, TTLC Arsenic >12 mg/kg, or CA Hazardous Levels

Existing Buildings

Approximate Former Building Footprints

Notes/Definitions:

bgs = below ground surface
mg/kg = Milligrams per kilogram
mg/L = Milligrams per liter
NA = not analyzed for arsenic and/or lead TTLC
STLC = Soluble threshold limit concentration
TCLP = Toxicity characteristic leaching procedure
TTLC = Total threshold limit concentration
RCRA = Resource Conservation and Recovery Act
* Replicate/duplicate soil sample
Approximate Volume of Soil Impacted with Arsenic or Lead for Removal**:
Area D (to 2.5 feet bgs) = ~22 CY (CA-Haz Non-RCRA)
Area E (to 4.5 feet bgs) = ~31 CY (Non-Hazardous)
Area F (to 2.5 feet bgs) = ~20 CY (CA-Haz Non-RCRA)
Area G(to 3.5 feet bgs) = ~18 CY (Non-Hazardous)
Area H** (to 2.5 feet bgs) = ~18 CY (CA-Haz Non-RCRA)
Area I (to 2.5 feet bgs) = ~14 CY (CA-Haz Non-RCRA)
Area J (to 2.5 feet bgs) = ~3 CY (CA-Haz Non-RCRA)
**Survey monument to protect in Area H west of Building 13. Removal to within 1 foot of surface structures and to within 2 feet of identified utilities was assumed.



Project: 11640.004	Eng/Geol: JH
Scale: 1"=30'	Date: January 2018
Reference:	
Author: MAM	

STEP-OUT SOIL BORING LOCATION MAP
EXISTING BUILDING 9 AND VICINITY

600 South McCadden Place
Los Angeles, CaliforniaJanJanuary

Figure 5

Leighton

Boundary

2

14

FB11-4
FB11-1
FB11-3
FB11-2

FB12-1

M-16

21

FB13-1

18

17

Tennis
Court

FB14-6
FB14-1
FB14-5
FB14-2
FB14-4-N10
FB14-4-N5
FB14-4-W10
FB14-4-W5
FB14-4
FB14-3
FB14-4-E8.5
FB14-4-E5

4

Area K

FB15-4
FB15-3
FB15-1
FB15-2

19

Notes/Definitions:

bgs = below ground surface
mg/kg = Milligrams per kilogram
mg/L = Milligrams per liter
NA = not analyzed for arsenic and/or lead TTLC
STLC = Soluble threshold limit concentration
TCLP = Toxicity characteristic leaching procedure
TTLC = Total threshold limit concentration
RCRA = Resource Conservation and Recovery Act
* Replicate/duplicate soil sample
Approximate Volume of Soil Impacted with Arsenic or Lead for Removal**:
Area K (to 2.5 feet bgs) = ~10 CY (CA-Haz Non-RCRA)
**Removal to within 1 foot of surface structures and to within 2 feet of identified utilities was assumed.

N

0 30 60
Feet

LEGEND

EB1-1 Sample: Where Lead-TTLC (mg/kg) or Arsenic-TTLC (mg/kg) results are greater than >80 mg/kg lead and >12 mg/kg arsenic the ID is red

Non-Hazardous Waste - Soil Sample Location where no results exceeded hazardous waste criteria

California-Restricted (Non-RCRA) Hazardous Waste - Soil Sample Location where Lead STLC >5.0 mg/L, arsenic STLC >5 mg/L and/or Lead TTLC >1,000 mg/kg [No sample results exceeded Federal RCRA Hazardous Waste criteria]

Existing Buildings

Former Building Constructed Post-1992

Approximate Former Building Footprints

Approximate extent of lead or arsenic impacted soil based on TTLC Lead >80 mg/kg, TTLC Arsenic >12 mg/kg, or CA Hazardous Levels

Approximate location of detected utilities near impacted soil areas

Project: 11640.004	Eng/Geol: JH
Scale: 1"=30'	Date: January 2018
Reference:	
Author: MAM	

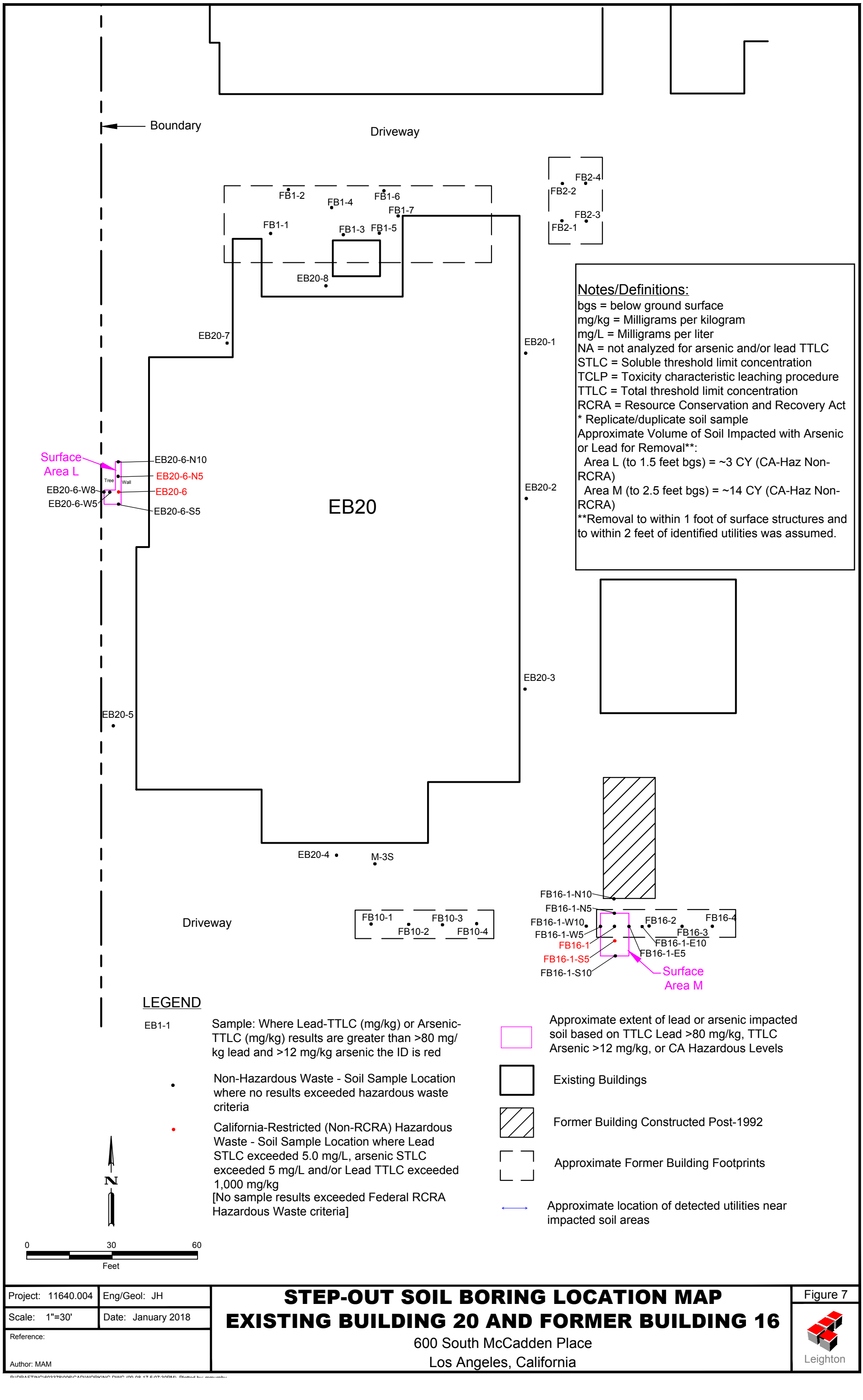
STEP-OUT SOIL BORING LOCATION MAP
FORMER BUILDING 14

600 South McCadden Place
Los Angeles, California

JJ

Figure 6

Leighton



Project: 11640.004	Eng/Geol: JH
Scale: 1"=30'	Date: January 2018
Reference:	
Author: MAM	

STEP-OUT SOIL BORING LOCATION MAP
EXISTING BUILDING 20 AND FORMER BUILDING 16

600 South McCadden Place
Los Angeles, California

Figure 7

Leighton

TABLES

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Main Building/ Auditorium (EB1)	EB1-1**	EB1-1-1	1.0	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		EB1-1-5	5.0	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		EB1-1-10	10.0	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Classroom Building No. 3 (EB3)	EB3-1*	EB3-1-0.5	0.5	1/3/17	0.38 J	**150**	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**4.5**	**43**	--	--	--	--	12 J	ND
		EB3-1-1.5	1.5	1/3/17	<0.22	**10**	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.1**	**6.1**	--	--	--	--	--	--
		EB3-1-1.5-D	1.5	1/3/17	<0.22	**8.1**	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**5.0**	**12**	--	--	--	--	--	--
		EB3-1-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB3-2	EB3-2-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.5**	**24**	--	--	--	--	--	--
		EB3-2-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**4.4**	--	--	--	--	--	--
		EB3-2-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Classroom Building No. 5 (EB5)	EB5-1	EB5-1-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**25**	--	--	--	--	--	--
		EB5-1-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**3.7**	--	--	--	--	--	--
		EB5-1-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB5-2	EB5-2-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.1**	**7.9**	--	--	--	--	--	--
		EB5-2-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.0**	**3.7**	--	--	--	--	--	--
		EB5-2-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB5-3	EB5-3-0.5	0.5	12/29/16	**13**	**600**	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**7.9**	**170**	--	**7.3 D1**	--	0.038 D1, J	--	--
		EB5-3-1.0	1.0	12/29/16	0.30 J	**33**	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	**180**	ND	**3.2**	**25**	--	--	--	--	--	--
		Refusal at 1.0' bgs in boring.																		--			
	Step out boreholes near boring EB5-3:																						
	EB5-3-W5	EB5-3-W5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**22**	--	--	--	--	--	--
		EB5-3-W5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.7**	--	--	--	--	--	--
		EB5-3-W5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.7**	--	--	--	--	--	--
	EB5-3-W10	EB5-3-W10-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**14**	--	--	--	--	--	--
		EB5-3-W10-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.9**	--	--	--	--	--	--
		EB5-3-W10-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--
	EB5-3-E5	EB5-3-E5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**34**	--	--	--	--	--	--
		EB5-3-E5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.3**	--	--	--	--	--	--
		EB5-3-E5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.2**	--	--	--	--	--	--
	EB5-4	EB5-4-0.5	0.5	12/29/16	<1.1 D1	<0.98 D1	<0.67 D1	<1.1 D1	<4.5 D1	<1.2 D1	<1.1 D1	<1.1 D1	<1.0 D1	**48 D1**	ND	**2.2**	**56**	--	**7.7 D1**	--	--	--	--
		EB5-4-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**18**	--	--	--	--	--	--
		EB5-4-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Step out boreholes near boring EB5-4:																						
	EB5-4-N5	EB5-4-N5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**15**	--	--	--	--	--	--
		EB5-4-N5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.6**	--	--	--	--	--	--
		EB5-4-N5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.1**	--	--	--	--	--	--
	EB5-4-N10	EB5-4-N10-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**17**	--	--	--	--	--	--
		EB5-4-N10-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**5.8**	--	--	--	--	--	--
		EB5-4-N10-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--
	EB5-4-S7.5	EB5-4-S7.5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**21**	--	--	--	--	--	--
		EB5-4-S7.5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.6**	--	--	--	--	--	--
		EB5-4-S7.5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.3**	--	--	--	--	--	--
	EB5-5	EB5-5-0.5	0.5	12/29/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**3.6**	**22**	--	--	--	--	--	--
		EB5-5-1.5	1.5	12/29/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**2.5**	**8.5**	--	--	--	--	--	--
		EB5-5-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB5-6	EB5-6-0.5	0.5	12/29/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**3.8**	**24**	--	--	--	--	2.6 J	ND
		EB5-6-1.5	1.5	12/29/16	<2.2 D1	<2.0 D1	<1.3 D1	5.5 D1, J	67 D1, J	<2.5 D1	<2.3 D1	6.0 D1, J	<2.0 D1	<1.8 D1	ND	**1.5**	**67**	--	**1.9 D1**	--	--	--	--
		EB5-6-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Classroom Building No. 6 (EB6)	EB6-1	EB6-1-0.5	0.5	12/29/16	<1.1 D1	1.6 D1, J	<0.67 D1	<1.1 D1	<4.5 D1	<1.2 D1	<1.1 D1	<1.1 D1	<1.0 D1	<0.89 D1	ND	**3.4**	**15**	--	--	--	--	--	--
		EB6-1-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.1**	**8.7**	--	--	--	--	--	--
		EB6-1-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB6-2	EB6-2-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.4**	**3.5**	--	--	--	--	--	--
		EB6-2-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.5**	**3.1**	--	--	--	--	<1.5	ND
		EB6-2-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB6-3*	EB6-3-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**4.3**	--	--	--	--	--	--
		EB6-3-1.5	1.5	1/3/17	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**1.0**	**3.1**	--	--	--	--	--	--
		EB6-3-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Classroom Building No. 8 (EB8)	EB8-1	EB8-1-0.5	0.5	12/29/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**3.2**	**39**	--	--	--	--	--	--
		EB8-1-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**3.5**	--	--	--	--	<1.5	ND
		EB8-1-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB8-2	EB8-2-0.5	0.5	12/29/16	<0.22	<0.20	0.22 J	<0.21	<0.90	<0.25	<0.23	0.23 J	<0.20	<0.18	ND	**10**	**9.4**	--	--	--	--	--	--
		EB8-2-1.5	1.5	12/29/16	<0.22	0.21 J	0.61 J	0.31 J	2.5 J	<0.25	<0.23	0.33 J	<0.20	<0.18	ND	**7.7**	**3.5**	--	--	--	--	--	--
		EB8-2-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB8-3	EB8-3-0.5	0.5	12/29/16	0.29 J	0.20 J	0.52 J	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**16**	--	--	--	--	2.7 J	ND
		EB8-3-1.5	1.5	12/29/16	0.23 J	<0.20	0.45 J	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.3**	**6.1**	--	--	--	--	--	--
		EB8-3-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB8-4	EB8-4-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.4**	**3.9**	--	--	--	--	--	--
		EB8-4-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.5**	**4.2**	--	--	--	--	--	--
		EB8-4-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB8-5	EB8-5-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.3**	**3.6**	--	--	--	--	--	--
		EB8-5-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.1**	**2.8**	--	--	--	--	--	--
		EB8-5-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB8-6	EB8-6-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.9**	**50**	--	0.72 D1, J	--	--	--	--
		EB8-6-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**3.7**	--	--	--	--	--	--
		EB8-6-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Classroom Building No. 9 (EB9)	EB9-1	EB9-1-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.8**	**150**	--	**16**	--	**0.38 D1**	--	--
		EB9-1-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.0**	**18**	--	--	--	--	<1.5	ND
		EB9-1-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Step out boreholes near boring EB9-1:																						
	EB9-1-W5	EB9-1-W5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**260**	--	**6.6 D1**	--	0.35 D1	--	--
		EB9-1-W5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**21**	--	--	--	--	--	--
		EB9-1-W5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**5.5**	--	--	--	--	--	--
	EB9-1-S5	EB9-1-S5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**99**	--	**9.3 D1**	--	0.10 D1,J	--	--
		EB9-1-S5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**2700 D6**	--	**2.3 D1**	--	<0.014 D1	--	--
		EB9-1-S5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.9**	--	--	--	--	--	--
	EB9-1-S10	EB9-1-S10-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**34**	--	--	--	--	--	--
		EB9-1-S10-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**36**	--	--	--	--	--	--
		EB9-1-S10-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**7.6**	--	--	--	--	--	--
	EB9-1-E5	EB9-1-E5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**230**	--	**51 D1**	--	**0.74 D1**	--	--
		EB9-1-E5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**20**	--	--	--	--	--	--
		EB9-1-E5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.6**	--	--	--	--	--	--
	EB9-1-E9	EB9-1-E9-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**26**	--	--	--	--	--	--
		EB9-1-E9-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**110**	--	**2.5 D1**	--	0.019 D1,J	--	--
		EB9-1-E9-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**40**	--	--	--	--	--	--
	EB9-2	EB9-2-0.5	0.5	12/29/16	<0.22	0.39 J	<0.13	**1.5**	**13**	0.29 J	<0.23	**1.5**	<0.20	<0.18	ND	**5.2**	**13**	--	--	--	--	--	--
		EB9-2-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**4.5**	--	--	--	--	--	--
		EB9-2-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB9-3	EB9-3-0.5	0.5	12/29/16	<0.22	0.49 J	0.38 J	0.56 J	6.1 J	<0.25	<0.23	0.60 J	<0.20	<0.18	ND	**2.4**	**17**	--	--	--	--	--	--
		EB9-3-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	0.92 J	**3.4**	--	--	--	--	<1.5	ND
		EB9-3-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB9-4	EB9-4-0.5	0.5	12/29/16	<1.1 D1	<0.98 D1	<0.67 D1	4.9 D1, J	38 D1, J	<1.2 D1	<1.1 D1	**5.5 D1**	1.5 D1, J	<0.89 D1	ND	**1.9**	**28**	--	--	--	--	--	--
		EB9-4-1.5	1.5	12/29/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**1.5**	**12**	--	--	--	--	--	--
		EB9-4-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB9-5	EB9-5-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**4.2**	**69**	--	**2.3**	--	--	--	--
		EB9-5-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	0.37 J	3.6 J	<0.25	<0.23	0.31 J	<0.20	<0.18	ND	**3.8**	**53**	--	**2.1**	--	--	--	--
		EB9-5-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB9-6	EB9-6-0.5	0.5	12/29/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**40**	**34**	--	--	--	--	3.7 J	ND
		EB9-6-1.5	1.5	12/29/16	<11 D1	<9.8 D1	<6.7 D1	<11 D1	<45 D1	<12 D1	<11 D1	<11 D1	<10 D1	<8.9 D1	ND	**18**	**54**	--	**2.9 D1**	--	--	--	--
		EB9-6-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	**22**	--	--	--	--	--	--	--
	Step out boreholes near boring EB9-6:																						
	EB9-6-N5	EB9-6-N5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**78**	--	**2.1 D1**	--	0.12 D1, J	--	--	--
		EB9-6-N5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**29**	--	--	--	--	--	--	--
		EB9-6-N5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**39**	--	--	--	--	--	--	--
		EB9-6-N5-3	3.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**48**	--	--	--	--	--	--	--
		EB9-6-N5-4	4.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**24**	--	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Classroom Building No. 9 (EB9)	EB9-6-N10	EB9-6-N10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**2.3**	--	--	--	--	--	--	--
		EB9-6-N10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**1.7**	--	--	--	--	--	--	--
		EB9-6-N10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**3.7**	--	--	--	--	--	--	--
		EB9-6-N10-3	3.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**4.8**	--	--	--	--	--	--	--
		Refusal below 3 ft depth.																					
	EB9-6-S5	EB9-6-S5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--
		EB9-6-S5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--	--
		EB9-6-S5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--
		EB9-6-S5-3	3.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**4.1**	--	--	--	--	--	--	--
		EB9-6-S5-4	4.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**3.1**	--	--	--	--	--	--	--
	EB9-6-S10	EB9-6-S10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**2.0**	--	--	--	--	--	--	--
		EB9-6-S10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--	--
		EB9-6-S10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**1.8**	--	--	--	--	--	--	--
		EB9-6-S10-3	3.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**5.0**	--	--	--	--	--	--	--
		Refusal below 3 ft depth.																					
	EB9-6-E5	EB9-6-E5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**8.6**	--	--	--	--	--	--	--
		EB9-6-E5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**13**	--	--	--	--	--	--	--
		EB9-6-E5-1.5-D	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**8.5**	--	--	--	--	--	--	--
		EB9-6-E5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--
		EB9-6-E5-3	3.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**3.3**	--	--	--	--	--	--	--
		EB9-6-E5-3-D	3.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**3.1**	--	--	--	--	--	--	--
		EB9-6-E5-4	4.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**3.1**	--	--	--	--	--	--	--
	EB9-6-E10	EB9-6-E10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**3.0**	--	--	--	--	--	--	--
		EB9-6-E10-0.5-D	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**1.8**	--	--	--	--	--	--	--
		EB9-6-E10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	0.98 J	--	--	--	--	--	--	--
		EB9-6-E10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**1.0**	--	--	--	--	--	--	--
		EB9-6-E10-3	3.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--	--
		EB9-6-E10-4	4.0	4/11/17	--	--	--	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--	--
	EB9-7**	EB9-7-0.5	0.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	**2.3**	**250**	--	**12 D1**	--	**0.34 D1**	<1.5	ND
		EB9-7-1.5	1.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	**2.1**	**130**	--	**9.3 D1**	--	0.036 D1, J	<1.5	ND
		EB9-7-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	**1.5**	**11**	--	--	--	--	<1.5	ND
	Step out boreholes near boring EB9-7:																						
	EB9-7-W6	EB9-7-W6-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**6.4**	--	--	--	--	--	--
		EB9-7-W6-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**9.6**	--	--	--	--	--	--
		EB9-7-W6-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.1**	--	--	--	--	--	--
Storage Building No. 10 (EB10)	EB10-1	EB10-1-0.5	0.5	12/29/16	<11 D1	<9.8 D1	<6.7 D1	<11 D1	<45 D1	<12 D1	<11 D1	<11 D1	<10 D1	<8.9 D1	ND	**3.0**	**25**	--	--	--	--	--	--
		EB10-1-1.5	1.5	12/29/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**3.8**	**58**	--	**4.9 D1**	--	--	--	--
		EB10-1-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB10-2*	EB10-2-0.5	0.5	12/28/16	0.28 J	**3.1**	1.1 J	0.95 J	**10**	0.33 J	<0.23	**1.4**	<0.20	<0.18	ND	**12**	**220**	--	**7.6 D1**	--	<0.014 D1	--	--
		Refusal ~0.5' bgs in boring.																		--			
	Step out boreholes near boring EB10-2:																						
	EB10-2-W5	EB10-2-W5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**85**	--	**4.2 D1**	--	0.044 D1,J	--	--
		EB10-2-W5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**110**	--	**1.6 D1**	--	<0.014 D1	--	--
		EB10-2-W5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**6.5**	--	--	--	--	--	--
	EB10-2-W10	EB10-2-W10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**24**	--	--	--	--	--	--
		EB10-2-W10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**92**	--	**4.5 D1**	--	<0.014 D1	--	--
		EB10-2-W10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.3**	--	--	--	--	--	--
		EB10-2-W10-2.5-	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**5.2**	--	--	--	--	--	--
	EB10-2-S5	EB10-2-S5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**38**	--	--	--	--	--	--
		EB10-2-S5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**100**	--	**9.7 D1**	--	0.070 D1,J	--	--
		EB10-2-S5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.0**	--	--	--	--	--	--
	EB10-2-S10	EB10-2-S10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**55**	--	**2.6 D1**	--	0.042 D1,J	--	--
		EB10-2-S10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**110**	--	**2.8 D1**	--	0.042 D1,J	--	--
		EB10-2-S10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**61**	--	**2.0 D1**	--	<0.014 D1	--	--
	EB10-2-S15	EB10-2-S15-0.5	0.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**48.9**	--	--	--	--	--	--
		EB10-2-S15-1.5	1.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**72.9**	--	**3.37**	--	<0.05	--	--
		EB10-2-S15-2.5	2.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.60**	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Storage Building No. 10 (EB10)	EB10-2-S20	EB10-2-S20-0.5	0.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**74.3**	--	**3.67**	**--**	<0.05	--	--
		EB10-2-S20-1.5	1.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**87.7**	--	**6.40**	**--**	<0.05	--	--
		EB10-2-S20-2.5	2.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**42.8**	--	**--**	**--**	**--**	--	--
Tool Room Building No. 11 (EB11)	EB11-1	EB11-1-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**4.6**	**84**	--	**4.9 D1**	--	--	6.1 J	ND
		EB11-1-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**5.7**	**65**	--	**3.0 D1**	--	--	--	--
		EB11-1-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Step out boreholes near boring EB11-1:																						
	EB11-1-W5	EB11-1-W5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**50**	--	--	--	--	--	--
		EB11-1-W5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**110**	--	**2.5 D1**	--	<0.014 D1	--	--
		EB11-1-W5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.3**	--	--	--	--	--	--
	EB11-1-W10	EB11-1-W10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**54**	--	**3.6 D1**	--	<0.014 D1	--	--
		EB11-1-W10-0.5-	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**26**	--	--	--	--	--	--
		EB11-1-W10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**18**	--	--	--	--	--	--
		EB11-1-W10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**5.4**	--	--	--	--	--	--
	EB11-1-S5	EB11-1-S5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**70**	--	**3.5 D1**	--	<0.014 D1	--	--
		EB11-1-S5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**100**	--	**4.0 D1**	--	<0.014 D1	--	--
		EB11-1-S5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**66**	--	**3.6 D1**	--	<0.014 D1	--	--
	EB11-1-S10	EB11-1-S10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**110**	--	**10 D1**	--	0.043 D1,J	--	--
		EB11-1-S10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**37**	--	--	--	--	--	--
		EB11-1-S10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.5**	--	--	--	--	--	--
	EB11-1-S15	EB11-1-S15-0.5	0.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**231**	--	**10.4**	--	**0.278**	--	--
		EB11-1-S15-1.5	1.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**94.8**	--	**2.02**	--	<0.05	--	--
	EB11-2	EB11-2-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**6.8**	**90**	--	**3.9 D1**	--	--	--	--
		EB11-2-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.2**	**46**	--	--	--	--	--	--
		EB11-2-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Step out boreholes near boring EB11-2:																						
	EB11-2-N5	EB11-2-N5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**44**	--	--	--	--	--	--
		EB11-2-N5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**47**	--	--	--	--	--	--
		EB11-2-N5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**5.7**	--	--	--	--	--	--
	EB11-2-N10	EB11-2-N10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**36**	--	--	--	--	--	--
		EB11-2-N10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**75**	--	**7.8 D1**	--	<0.014 D1	--	--
		EB11-2-N10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**27**	--	--	--	--	--	--
	EB11-2-N15	EB11-2-N15-0.5	0.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**68.8**	--	**3.16**	--	<0.05	--	--
		EB11-2-N15-0.5-D	0.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**79.3**	--	**3.10**	--	<0.05	--	--
		EB11-2-N15-1.5	1.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**72.0**	--	**4.15**	--	<0.05	--	--
		EB11-2-N15-2.5	2.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	--	**63.9**	--	**2.01**	--	<0.05	--	--
	EB11-2-S5	EB11-2-S5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**56**	--	**2.7 D1**	--	0.017 D1,J	--	--
		EB11-2-S5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**82**	--	**4.0 D1**	--	0.019 D1,J	--	--
		EB11-2-S5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**83**	--	**3.6 D1**	--	<0.014 D1	--	--
	EB11-2-S10	EB11-2-S10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**110**	--	**3.7 D1**	--	**0.019 D1,J**	--	--
		EB11-2-S10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**72**	--	**5.5 D1**	--	<0.014 D1	--	--
		EB11-2-S10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.7**	--	--	--	--	--	--
		EB11-2-S10-2.5-D	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.4**	--	--	--	--	--	--
	EB11-2-E5	EB11-2-E5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**110**	--	**5.2 D1**	--	<0.014 D1	--	--
		EB11-2-E5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**44**	--	--	--	--	--	--
		EB11-2-E5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**42**	--	--	--	--	--	--
		EB11-2-E5-2.5-D	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**25**	--	--	--	--	--	--
Storage Building No. 12 (EB12)	EB12-1	EB12-1-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	0.44 J	3.7 J	<0.25	<0.23	0.38 J	<0.20	<0.18	ND	**55**	**74**	**2.3 D1**	**3.2 D1**	--	--	--	--
		EB12-1-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**40**	**28**	--	--	--	--	--	--
		EB12-1-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	**11**	--	--	--	--	--	--	--
	Step out boreholes near boring EB12-1:																						
	EB12-1-N5	EB12-1-N5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**48**	--	--	--	--	--	--	--
		EB12-1-N5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**25**	--	--	--	--	--	--	--
		EB12-1-N5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**4.2**	--	--	--	--	--	--	--
	EB12-1-N10	EB12-1-N10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**51**	--	**2.0 D1**	--	0.12 D1,J	--	--	--
		Refusal below 0.5 ft depth.																					

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Storage Building No. 12 (EB12)	EB12-1-S5	EB12-1-S5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**30**	--	--	--	--	--	--	--
		EB12-1-S5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**77**	--	**2.4 D1**	--	**0.39 D1**	--	--	--
		EB12-1-S5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**11**	--	--	--	--	--	--	--
	EB12-1-S10	EB12-1-S10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**45**	--	--	--	--	--	--	--
		EB12-1-S10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**53**	--	**2.2 D1**	--	**0.32 D1**	--	--	--
		EB12-1-S10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**3.0**	--	--	--	--	--	--	--
	EB12-1-S15	EB12-1-S15-0.5	0.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	**59.7**	--	**2.46**	--	**0.095**	--	--	--
		EB12-1-S15-1.5	1.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	**44.1**	--	--	--	--	--	--	--
		EB12-1-S15-2.5	2.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	**42.7**	--	--	--	--	--	--	--
	EB12-1-S20	EB12-1-S20-0.5	0.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	**38.2**	--	--	--	--	--	--	--
		EB12-1-S20-0.5-D	0.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	**78.6**	--	**2.31**	--	**0.169**	--	--	--
		EB12-1-S20-1.5	1.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	**48.4**	--	--	--	--	--	--	--
		EB12-1-S20-2.5	2.5	7/17/17	--	--	--	--	--	--	--	--	--	--	--	**17.4**	--	--	--	--	--	--	--
	EB12-2	EB12-2-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.2**	**33**	--	--	--	--	--	--
		EB12-2-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.4**	**5.9**	--	--	--	--	--	--
		EB12-2-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB13-1	EB13-1-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.6**	**600**	--	**6.6 D1**	--	0.016 D1,J	--	--
		EB13-1-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**6.5**	--	--	--	--	<1.5	ND
		EB13-1-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Step out boreholes near boring EB13-1:																						
	EB13-1-W5	EB13-1-W5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**220**	--	**7.5 D1**	--	0.022 D1,J	--	--
		EB13-1-W5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**7.1**	--	--	--	--	--	--
		EB13-1-W5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.5**	--	--	--	--	--	--
	EB13-1-W10	EB13-1-W10-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**61**	--	**7.8 D1**	--	0.026 D1,J	--	--
		EB13-1-W10-0.5-	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**120**	--	**11 D1**	--	0.017 D1,J	--	--
		EB13-1-W10-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.5**	--	--	--	--	--	--
		EB13-1-W10-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.1**	--	--	--	--	--	--
	EB13-1-E5	EB13-1-E5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**150**	--	**7.5 D1**	--	0.021 D1, J	--	--
		EB13-1-E5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**11**	--	--	--	--	--	--
		EB13-1-E5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**14**	--	--	--	--	--	--
	EB13-2	EB13-2-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**12**	**520**	--	**11 D1**	--	0.053 D1, J	<1.5	ND
		EB13-2-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.2**	**6.9**	--	--	--	--	--	--
		EB13-2-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Storage Building No. 13 (EB13)	*Step out boreholes near boring EB13-2:*																						
	EB13-2-N5	EB13-2-N5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**210**	--	**15 D1**	--	0.028 D1, J	--	--
		EB13-2-N5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**12**	--	--	--	--	--	--
		EB13-2-N5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**9.8**	--	--	--	--	--	--
	EB13-2-N10	EB13-2-N10-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**82**	--	3.1 D1	--	<0.014 D1	--	--
		EB13-2-N10-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**22**	--	--	--	--	--	--
		EB13-2-N10-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**6.1**	--	--	--	--	--	--
	EB13-2-W5	EB13-2-W5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**350**	--	**30 D1**	--	0.69 D1	--	--
		EB13-2-W5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**190**	--	**15 D1**	--	0.19 D1, J	--	--
		EB13-2-W5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.2**	--	--	--	--	--	--
	EB13-2-W10	EB13-2-W10-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**140**	--	**6.8 D1**	--	0.060 D1,J	--	--
		EB13-2-W10-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**140**	--	**5.8 D1**	--	<0.014 D1	--	--
		EB13-2-W10-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.8**	--	--	--	--	--	--
		EB13-2-W10-2.5-	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.8**	--	--	--	--	--	--
	EB13-2-S5	EB13-2-S5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**110**	--	**9.0 D1**	--	0.047 D1,J	--	--
		EB13-2-S5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.4**	--	--	--	--	--	--
		EB13-2-S5-1.5-D	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**12**	--	--	--	--	--	--
		EB13-2-S5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.4**	--	--	--	--	--	--
	EB13-2-S10	EB13-2-S10-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**84**	--	**6.6 D1**	--	0.036 D1,J	--	--
		EB13-2-S10-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**9.9**	--	--	--	--	--	--
		EB13-2-S10-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.6**	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Storage Building No. 15 (EB15)	EB15-1	EB15-1-0.5	0.5	12/28/16	<0.22	<0.20	0.20 J	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**51**	**46**	**2.2 D1**	--	--	--	--	--
		EB15-1-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**21**	**9.0**	--	--	--	--	--	--
		EB15-1-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	**14**	**--**	--	--	--	--	--	--
	Step out boreholes near boring EB15-1:																						
	EB15-1-S5	EB15-1-S5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**82**	--	**4.8 D1**	--	**0.97 D1**	--	--	--
		EB15-1-S5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**32**	--	--	--	--	--	--	--
		EB15-1-S5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	**32**	--	--	--	--	--	--	--
		EB15-1-S5-3	3.0	4/12/17	--	--	--	--	--	--	--	--	--	--	--	**25**	--	--	--	--	--	--	--
		EB15-1-S5-3-D	3.0	4/12/17	--	--	--	--	--	--	--	--	--	--	--	**16**	--	--	--	--	--	--	--
		EB15-1-S5-4	4.0	4/12/17	--	--	--	--	--	--	--	--	--	--	--	**3.0**	--	--	--	--	--	--	--
	EB15-2	EB15-2-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**4.0**	**24**	--	--	--	--	--	--
		EB15-2-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.5**	**12**	--	--	--	--	--	--
		EB15-2-2.5	2.5	12/28/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Classroom Building No. 16 (EB16)	EB16-1	EB16-1-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**20**	--	--	--	--	--	--
		EB16-1-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.2**	**78**	--	0.64 D1, J	--	--	--	--
		EB16-1-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB16-2	EB16-2-0.5	0.5	12/29/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**2.4**	**19**	--	--	--	--	--	--
		EB16-2-1.5	1.5	12/29/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**2.0**	**8.8**	--	--	--	--	--	--
		EB16-2-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB16-3	EB16-3-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**5.3**	--	--	--	--	--	--
		EB16-3-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	<0.70	**1.7**	--	--	--	--	--	--
		EB16-3-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cafeteria/ Classroom Building No. 20 (EB20)	EB20-1	EB20-1-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	0.29 J	4.0 J	<0.25	<0.23	0.43 J	<0.20	<0.18	ND	**1.3**	**4.5**	--	--	--	--	2.6 J	ND
		EB20-1-0.5-D	0.5	1/3/17	<0.22	<0.20	0.30 J	0.94 J	**9.2**	<0.25	<0.23	**1.3**	<0.20	<0.18	ND	**1.8**	**5.0**	--	--	--	--	--	--
		EB20-1-1.5	1.5	1/3/17	<0.22	0.66 J	1.9 J	**7.7**	**58**	0.79 J	<0.23	**7.2**	0.41 J	<0.18	ND	**5.1**	**16**	--	--	--	--	--	--
		EB20-1-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB20-2	EB20-2-0.5'	0.5	1/3/17	<1.1 D1	<0.98 D1	1.2 D1, J	<1.1 D1	9.4 D1, J	<1.2 D1	<1.1 D1	<1.1 D1	<1.0 D1	<0.89 D1	ND	**1.8**	**9.0**	--	--	--	--	--	--
		EB20-2-0.5-D	0.5	1/3/17	<0.22	<0.20	0.22 J	0.26 J	2.6 J	<0.25	<0.23	0.37 J	<0.20	<0.18	ND	**1.4**	**6.1**	--	--	--	--	--	--
		EB20-2-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	0.59 J	<0.90	<0.25	<0.23	**1.0**	<0.20	<0.18	ND	**2.9**	**56**	--	0.56 D1, J	--	--	--	--
		EB20-2-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB20-3	EB20-3-0.5	0.5	1/3/17	<0.22	<0.20	0.33 J	**1.1**	<0.90	<0.25	<0.23	**1.4**	<0.20	<0.18	ND	**2.4**	**13**	--	--	--	--	--	--
		EB20-3-0.5-D	0.5	1/3/17	<0.22	<0.20	0.29 J	0.92 J	<0.90	<0.25	<0.23	**1.8**	<0.20	<0.18	ND	**2.8**	**20**	--	--	--	--	--	--
		EB20-3-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	0.56 J	<0.20	<0.18	ND	**2.3**	**9.4**	--	--	--	--	<1.5	ND
		EB20-3-1.5-D	1.5	1/3/17	<0.22	0.29 J	<0.13	0.26 J	<0.90	<0.25	<0.23	**1.4**	<0.20	<0.18	ND	**2.5**	**17**	--	--	--	--	--	--
		EB20-3-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB20-4	EB20-4-0.5	0.5	1/3/17	<0.22	<0.20	0.89 J	0.54 J	<0.90	<0.25	<0.23	**2.5**	<0.20	<0.18	ND	**3.0**	**21**	--	--	--	--	--	--
		EB20-4-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	0.41 J	<0.90	<0.25	<0.23	**1.7**	<0.20	<0.18	ND	**7.4**	**18**	--	--	--	--	--	--
		EB20-4-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	**1.7**	<0.20	<0.18	ND	**5.4**	**16**	--	--	--	--	--	--
		EB20-4-1.5-D	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	**1.2**	<0.20	<0.18	ND	**4.7**	**14**	--	--	--	--	--	--
		EB20-4-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB20-5	EB20-5-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.1**	**3.6**	--	--	--	--	--	--
		EB20-5-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	0.25 J	<0.20	<0.18	ND	**3.2**	**22**	--	--	--	--	--	--
		EB20-5-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**4.5**	--	--	--	--	--	--
		EB20-5-1.5-D	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.2**	**5.7**	--	--	--	--	--	--
		EB20-5-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB20-6	EB20-6-0.5	0.5	1/3/17	<0.22	0.38 J	0.86 J	<0.21	<0.90	<0.25	<0.23	**2.1**	<0.20	<0.18	ND	**3.3**	**74**	--	**7.3 D1**	--	--	--	--
		EB20-6-0.5-D	0.5	1/3/17	<0.22	0.42 J	1.2 J	<0.21	<0.90	<0.25	<0.23	**1.4**	<0.20	<0.18	ND	**3.0**	**120**	--	**10 D1**	--	0.041 D1, J	--	--
		EB20-6-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	0.68 J	<0.20	<0.18	ND	**2.3**	**16**	--	--	--	--	--	--
		EB20-6-1.5-D	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**7.7**	--	--	--	--	--	--
		EB20-6-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Step out boreholes near boring EB20-6:																						
	EB20-6-N5	EB20-6-N5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**99**	--	**4.1 D1**	--	0.091 D1,J	--	--
		EB20-6-N5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**13**	--	--	--	--	--	--
		EB20-6-N5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.4**	--	--	--	--	--	--
	EB20-6-N10	EB20-6-N10-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**23**	--	--	--	--	--	--
		EB20-6-N10-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**13**	--	--	--	--	--	--
		EB20-6-N10-1.5-D	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**19**	--	--	--	--	--	--
		EB20-6-N10-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.1**	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Cafeteria/ Classroom Building No. 20 (EB20)	EB20-6-W5	EB20-6-W5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**33**	--	--	--	--	--	--
		EB20-6-W5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**15**	--	--	--	--	--	--
		EB20-6-W5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.4**	--	--	--	--	--	--
	EB20-6-W8	EB20-6-W8-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**27**	--	--	--	--	--	--
		EB20-6-W8-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**16**	--	--	--	--	--	--
		EB20-6-W8-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.6**	--	--	--	--	--	--
		EB20-6-W8-2.5-D	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**6.9**	--	--	--	--	--	--
	EB20-6-S5	EB20-6-S5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**54**	--	**2.3 D1**	--	<0.014 D1	--	--
		EB20-6-S5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**12**	--	--	--	--	--	--
		EB20-6-S5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.1**	--	--	--	--	--	--
	EB20-7	EB20-7-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	0.76 J	**2.2**	--	--	--	--	--	--
		EB20-7-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	**20**	<0.90	<0.25	<0.23	**16**	<0.20	<0.18	ND	**3.8**	**10**	--	--	--	--	--	--
		EB20-7-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB20-8	EB20-8-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	<0.70	**1.9**	--	--	--	--	--	--
		EB20-8-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.2**	**6.1**	--	--	--	--	--	--
		EB20-8-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	0.26 J	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.8**	**7.7**	--	--	--	--	--	--
		EB20-8-1.5-D	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.3**	**4.5**	--	--	--	--	--	--
		EB20-8-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Classroom Building No. 22 (EB22)	EB22-1	EB22-1-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.3**	**3.0**	--	--	--	--	--	--
		EB22-1-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.3**	**3.0**	--	--	--	--	<1.5	ND
		EB22-1-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.5**	**3.0**	--	--	--	--	--	--
		EB22-1-1.5-D	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**3.1**	--	--	--	--	--	--
		EB22-1-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB22-2*	EB22-2-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.4**	**3.9**	--	--	--	--	--	--
		EB22-2-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.2**	**3.2**	--	--	--	--	<1.5	ND
		EB22-2-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Classroom Building No. 23 (EB23)	EB23-1	EB23-1-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	0.25 J	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**13**	**52**	--	0.24 D1, J	--	--	--	--
		EB23-1-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**4.6**	--	--	--	--	--	--
		EB23-1-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB23-2	EB23-2-0.5	0.5	1/3/17	<0.22	1.9 J	**7.7**	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**5.8**	**8.0**	--	--	--	--	--	--
		EB23-2-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**5.1**	**150**	--	**2.0 D1**	--	<0.014 D1	--	--
		EB23-2-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**2.8**	--	--	--	--	--	--
		EB23-2-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Step out boreholes near boring EB23-2:																						
	EB23-2-N5	EB23-2-N5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**9.7**	--	--	--	--	--	--
		EB23-2-N5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**6.0**	--	--	--	--	--	--
		EB23-2-N5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.5**	--	--	--	--	--	--
	EB23-2-N8	EB23-2-N8-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.4**	--	--	--	--	--	--
		EB23-2-N8-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.5**	--	--	--	--	--	--
		EB23-2-N8-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--
	EB23-2-W5	EB23-2-W5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**27**	--	--	--	--	--	--
		EB23-2-W5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.1**	--	--	--	--	--	--
		EB23-2-W5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.8**	--	--	--	--	--	--
	EB23-2-W10	EB23-2-W10-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**7.5**	--	--	--	--	--	--
		EB23-2-W10-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**12**	--	--	--	--	--	--
		EB23-2-W10-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.3**	--	--	--	--	--	--
	EB23-2-S5	EB23-2-S5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**6.5**	--	--	--	--	--	--
		EB23-2-S5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.2**	--	--	--	--	--	--
		EB23-2-S5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.1**	--	--	--	--	--	--
	EB23-2-S10	EB23-2-S10-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**12**	--	--	--	--	--	--
		EB23-2-S10-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**5.8**	--	--	--	--	--	--
		EB23-2-S10-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.7**	--	--	--	--	--	--
	EB23-2-E5	EB23-2-E5-0.5	0.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--
		EB23-2-E5-1.5	1.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.5**	--	--	--	--	--	--
		EB23-2-E5-2.5	2.5	4/11/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.2**	--	--	--	--	--	--
	EB23-3*	EB23-3-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	1.6 J	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**5.0**	--	--	--	--	<1.5	ND
		EB23-3-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	0.73 J	**5.2**	--	--	--	--	<1.5	ND
		EB23-3-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Classroom Building No. 24 (EB24)	EB24-1	EB24-1-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.6**	**2.5**	--	--	--	--	<1.5	ND
		EB24-1-1.5	1.5	12/29/16	<0.22	0.73 J	0.62 J	0.65 J	7.6 J	<0.25	<0.23	0.76 J	<0.20	<0.18	ND	**3.7**	**7.5**	--	--	--	--	--	--
		EB24-1-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB24-2	EB24-2-0.5	0.5	12/29/16	<0.22	0.71 J	<0.13	0.30 J	2.7 J	<0.25	<0.23	0.23 J	<0.20	<0.18	ND	**2.8**	**8.5**	--	--	--	--	--	--
		EB24-2-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.5**	**17**	--	--	--	--	--	--
		EB24-2-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB24-3	EB24-3-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	0.25 J	3.0 J	<0.25	<0.23	0.34 J	<0.20	<0.18	ND	**2.1**	**10**	--	--	--	--	--	--
		EB24-3-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	<0.70	**2.5**	--	--	--	--	--	--
		EB24-3-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB24-4	EB24-4-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.4**	**3.4**	--	--	--	--	<1.5	ND
		EB24-4-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	0.76 J	**2.7**	--	--	--	--	--	--
		EB24-4-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.5**	**4.3**	--	--	--	--	--	--
		EB24-4-1.5-D	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**5.7**	--	--	--	--	--	--
		EB24-4-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB24-5	EB24-5-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**4.5**	--	--	--	--	--	--
		EB24-5-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**6.0**	**9.0**	--	--	--	--	--	--
		EB24-5-1.0	1.0	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**5.7**	**7.3**	--	--	--	--	--	--
		EB24-5-1.0-D	1.0	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**6.8**	**7.9**	--	--	--	--	--	--
		Refusal at 1.25' bgs in boring (possible cobble).																					
	EB24-6*	EB24-6-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**10**	--	--	--	--	--	--
		EB24-6-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.3**	**4.5**	--	--	--	--	--	--
		EB24-6-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Classroom Building No. 25 (EB25)	EB25-1	EB25-1-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**3.4**	--	--	--	--	--	--
		EB25-1-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**4.4**	--	--	--	--	--	--
		EB25-1-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.0**	**3.6**	--	--	--	--	--	--
		EB25-1-2.5	2.5	1/3/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB25-2	EB25-2-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**5.7**	**16**	--	--	--	--	--	--
		Refusal at 1' bgs in boring (unknown obstruction).																					
	EB25-3*	EB25-3-0.5	0.5	12/29/16	<0.22	0.21 J	<0.13	0.46 J	4.0 J	<0.25	<0.23	0.41 J	<0.20	<0.18	ND	**3.4**	**10**	--	--	--	--	--	--
		EB25-3-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.1**	**4.9**	--	--	--	--	<1.5	ND
		EB25-3-2.5	2.5	12/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Former Building No. 1 (FB1)	FB1-1	FB1-1-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	0.28 J	2.3 J	<0.25	<0.23	0.33 J	<0.20	<0.18	ND	<0.70	**2.2**	--	--	--	--	1.6 J	ND
		FB1-1-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	<0.70	**2.2**	--	--	--	--	--	--
		FB1-1-1.5	1.5	1/3/17	0.79 J	1.1 J	0.32 J	**1.5**	**11**	<0.25	<0.23	**1.3**	<0.20	<0.18	ND	**3.0**	**19**	--	--	--	--	--	--
		FB1-1-1.5-D	1.5	1/3/17	0.23 J	0.25 J	<0.13	**2.4**	**16**	<0.25	<0.23	**1.7**	<0.20	<0.18	ND	**2.8**	**21**	--	--	--	--	--	--
		FB1-1-2.5	2.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**3.5**	--	--	--	--	--	--
	FB1-2	FB1-2-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**4.2**	--	--	--	--	--	--
		FB1-2-0.5-D	0.5	1/3/17	0.32 J	0.23 J	<0.13	<0.21	1.5 J	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.2**	**12**	--	--	--	--	--	--
		FB1-2-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**3.6**	--	--	--	--	--	--
		FB1-2-1.5-D	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**3.6**	--	--	--	--	--	--
		FB1-2-2.5	2.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**3.8**	--	--	--	--	--	--
	FB1-3	FB1-3-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	0.29 J	2.5 J	<0.25	<0.23	<0.23	<0.20	<0.18	ND	<0.70	**1.6**	--	--	--	--	<1.5	ND
		FB1-3-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	0.23 J	2.7 J	<0.25	<0.23	0.54 J	<0.20	<0.18	ND	**1.3**	**2.3**	--	--	--	--	--	--
		FB1-3-1.5	1.5	1/3/17	<0.22	0.29 J	<0.13	0.34 J	3.2 J	<0.25	<0.23	0.33 J	<0.20	<0.18	ND	**2.6**	**9.3**	--	--	--	--	--	--
		FB1-3-1.5-D	1.5	1/3/17	<0.22	<0.20	<0.13	**1.1**	**8.9**	<0.25	<0.23	**1.3**	<0.20	<0.18	ND	**2.6**	**10**	--	--	--	--	--	--
		FB1-3-2.5	2.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	0.27 J	<0.20	<0.18	ND	**1.3**	**3.2**	--	--	--	--	--	--
	FB1-4	FB1-4-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.2**	**4.0**	--	--	--	--	--	--
		FB1-4-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**7.7**	--	--	--	--	--	--
		FB1-4-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.5**	**3.7**	--	--	--	--	--	--
		FB1-4-1.5-D	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.4**	**3.5**	--	--	--	--	--	--
		FB1-4-2.5	2.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.0**	**3.8**	--	--	--	--	--	--
	FB1-5	FB1-5-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	<0.70	**2.3**	--	--	--	--	--	--
		FB1-5-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.2**	**3.3**	--	--	--	--	--	--
		FB1-5-1.5	1.5	1/3/17	<0.22	<0.20	0.21 J	0.47 J	3.6 J	<0.25	<0.23	0.44 J	<0.20	<0.18	ND	**1.9**	**12**	--	--	--	--	--	--
		FB1-5-1.5-D	1.5	1/3/17	<0.22	0.35 J	0.22 J	**2.4**	**16**	<0.25	<0.23	**1.4**	0.29 J	<0.18	ND	**3.6**	**14**	--	--	--	--	--	--
		FB1-5-2.5	2.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**2.8**	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Former Building No. 1 (FB1)	FB1-6	FB1-6-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**3.3**	--	--	--	--	--	--
		FB1-6-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**3.3**	--	--	--	--	--	--
		FB1-6-1.5-D	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**4.0**	--	--	--	--	--	--
		FB1-6-2.5	2.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**3.1**	--	--	--	--	--	--
	FB1-7	FB1-7-0.5	0.5	1/3/17	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**1.8**	**4.3**	--	--	--	--	--	--
		FB1-7-0.5-D	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**4.4**	--	--	--	--	<1.5	ND
	Refusal at 1.0' bgs in boring.																						
Former Building No. 2 (FB2)	FB2-1	FB2-1-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	0.77 J	**3.4**	--	--	--	--	--	--
		FB2-1-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.3**	**4.0**	--	--	--	--	--	--
		FB2-1-2.5	2.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.5**	**4.4**	--	--	--	--	--	--
	FB2-2	FB2-2-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	0.27 J	3.5 J	<0.25	<0.23	0.28 J	<0.20	<0.18	ND	**2.0**	**13**	--	--	--	--	--	--
		FB2-2-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**3.4**	--	--	--	--	--	--
		FB2-2-2.5	2.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**3.0**	--	--	--	--	--	--
	FB2-3	FB2-3-0.5	0.5	1/3/17	<0.22	<0.20	0.23 J	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.2**	**6.8**	--	--	--	--	--	--
		FB2-3-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.2**	**5.0**	--	--	--	--	--	--
		FB2-3-2.5	2.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**3.3**	--	--	--	--	--	--
	FB2-4	FB2-4-0.5	0.5	1/3/17	<0.22	<0.20	<0.13	0.22 J	2.0 J	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.6**	**11**	--	--	--	--	--	--
		FB2-4-1.5	1.5	1/3/17	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**3.3**	--	--	--	--	--	--
		FB2-4-2.5	2.5	1/3/17	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**1.8**	**3.5**	--	--	--	--	--	--
Former Building No. 3 (FB3)	See Existing Building EB3.																						
Former Building No. 4 (FB4)	FB4-1	FB4-1-0.5	0.5	12/29/16	<1.1 D1	3.1 D1, J	1.5 D1, J	1.9 D1, J	18 D1, J	<1.2 D1	<1.1 D1	2.3 D1, J	<1.0 D1	<0.89 D1	ND	**4.2**	**20**	--	--	--	--	--	--
		FB4-1-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**7.2**	**54**	--	**2.8 D1**	--	--	--	--
		FB4-1-2.5	2.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.4**	**7.7**	--	--	--	--	--	--
	FB4-2	FB4-2-0.5	0.5	12/29/16	<0.22	<0.20	0.36 J	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.2**	**34**	--	--	--	--	--	--
		FB4-2-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**4.5**	**52**	--	**3.3 D1**	--	--	--	--
		FB4-2-2.5	2.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.6**	**21**	--	--	--	--	--	--
	FB4-3	FB4-3-0.5	0.5	12/29/16	1.8 J	**22**	**2.1**	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.0**	**66**	--	**4.0 D1**	--	--	--	--
		FB4-3-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**3.1**	**46**	--	--	--	--	--	--
		FB4-3-2.5	2.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**6.9**	--	--	--	--	--	--
	FB4-4	FB4-4-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**26**	--	--	--	--	3.3 J	ND
		FB4-4-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.9**	**44**	--	--	--	--	--	--
		FB4-4-2.5	2.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.2**	**4.6**	--	--	--	--	--	--
Former Building No. 5 (FB5)	FB5-1	FB5-1-0.5	0.5	12/28/16	0.28 J	<0.20	<0.13	0.37 J	4.1 J	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**4.0**	**53**	--	**2.9 D1**	--	--	--	--
		FB5-1-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.8**	**65**	--	**3.5 D1**	--	--	--	--
		FB5-1-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.2**	**8.4**	--	--	--	--	--	--
	FB5-2	FB5-2-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.6**	**47**	--	--	--	--	--	--
		FB5-2-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.5**	**63**	--	**3.0 D1**	--	--	--	--
		FB5-2-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.3**	**9.7**	--	--	--	--	--	--
Former Building No. 6 (FB6)	See Existing Building EB6.																						
Former Building No. 7 (FB7)	See Existing Building EB22.																						
Former Building No. 8 (FB8)	See Existing Buildings EB23, EB24 and EB25.																						
Former Building No. 9 (FB9)	FB9-1	FB9-1-0.5	0.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	0.28 J	<0.20	<0.18	ND	**3.2**	**82**	--	**6.2 D1**	--	--	--	--
		FB9-1-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**5.5**	--	--	--	--	<1.5	ND
		FB9-1-2.5	2.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**2.8**	--	--	--	--	--	--
	Step out boreholes near boring FB9-1:																						
	FB9-1-N5	FB9-1-N5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**52**	--	**2.5 D1**	--	0.069 D1, J	--	--
		FB9-1-N5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**63**	--	**0.24 D1**	--	<0.014 D1	--	--
		FB9-1-N5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.2**	--	--	--	--	--	--
	FB9-1-W5	FB9-1-W5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**9.0**	--	--	--	--	--	--
		FB9-1-W5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.9**	--	--	--	--	--	--
		FB9-1-W5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.2**	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Former Building No. 9 (FB9)	FB9-1-W10	FB9-1-W10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**27**	--	--	--	--	--	--
		FB9-1-W10-0.5-D	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**20**	--	--	--	--	--	--
		FB9-1-W10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**26**	--	--	--	--	--	--
		FB9-1-W10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.7**	--	--	--	--	--	--
	FB9-1-S5	FB9-1-S5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**67**	--	**12 D1**	--	0.18 D1, J	--	--
		FB9-1-S5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**340**	--	**30 D1**	--	0.71 D1, J	--	--
		FB9-1-S5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**140**	--	**9.1 D1**	--	<0.014 D1	--	--
	FB9-1-S10	FB9-1-S10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**47**	--	--	--	--	--	--
		FB9-1-S10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**55**	--	**2.7 D1**	--	<0.014 D1	--	--
		FB9-1-S10-1.5-D	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**58**	--	**3.6 D1**	--	<0.014 D1	--	--
		FB9-1-S10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**43**	--	--	--	--	--	--
	FB9-2	FB9-2-0.5	0.5	12/29/16	<0.22	<0.20	0.19 J	0.23 J	2.9 J	<0.25	<0.23	0.26 J	<0.20	<0.18	ND	**1.6**	**7.9**	--	--	--	--	--	--
		FB9-2-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**3.2**	--	--	--	--	--	--
		FB9-2-2.5	2.5	12/29/16	<0.22	<0.20	0.14 J	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**3.3**	--	--	--	--	--	--
	FB9-3	FB9-3-0.5	0.5	12/29/16	**2.1**	1.3 J	<0.13	**15**	**110**	<0.25	0.55 J	**13**	<0.20	<0.18	ND	**2.0**	**53**	--	**4.9 D1**	--	--	<1.5	ND
		FB9-3-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**3.8**	--	--	--	--	--	--
		FB9-3-2.5	2.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	3.9 D5, J	**10 D5**	--	--	--	--	--	--
	FB9-4	FB9-4-0.5	0.5	12/29/16	<0.22	1.1 J	0.97 J	**1.4**	**12**	<0.25	<0.23	**1.4**	<0.20	<0.18	ND	**9.3**	**65**	--	**4.2 D1**	--	--	--	--
		FB9-4-1.5	1.5	12/29/16	<0.22	<0.20	<0.13	0.42 J	3.5 J	<0.25	<0.23	0.40 J	<0.20	<0.18	ND	**1.8**	**160**	--	**6.7 D1**	--	0.14 D1, J	--	--
		FB9-4-2.5	2.5	12/29/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.1**	**33**	--	--	--	--	--	--
	Step out boreholes near boring FB9-4:																			--			
	FB9-4-N5	FB9-4-N5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.9**	--	--	--	--	--	--
		FB9-4-N5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**11**	--	--	--	--	--	--
		FB9-4-N5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**33**	--	--	--	--	--	--
	FB9-4-W5	FB9-4-W5-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**34**	--	--	--	--	--	--
		FB9-4-W5-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**9.6**	--	--	--	--	--	--
		FB9-4-W5-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**200**	--	**4.0 D1**	--	**2.7 D1**	--	--
	FB9-4-W10	FB9-4-W10-0.5	0.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**12**	--	--	--	--	--	--
		FB9-4-W10-1.5	1.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.6**	--	--	--	--	--	--
		FB9-4-W10-2.5	2.5	4/10/17	--	--	--	--	--	--	--	--	--	--	--	--	**17**	--	--	--	--	--	--
Former Building No. 10 (FB10)	FB10-1	FB10-1-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**17**	--	--	--	--	<1.5	ND
		FB10-1-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**8.8**	--	--	--	--	--	--
		FB10-1-2.5	2.5	12/28/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**1.7**	**8.0**	--	--	--	--	--	--
	FB10-2	FB10-2-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**6.8**	--	--	--	--	--	--
		FB10-2-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.7**	**3.8**	--	--	--	--	--	--
		FB10-2-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**4.3**	--	--	--	--	--	--
	FB10-3	FB10-3-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	2.3 J	<0.25	<0.23	0.24 J	<0.20	<0.18	ND	**1.6**	**9.1**	--	--	--	--	--	--
		FB10-3-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.3**	**4.3**	--	--	--	--	--	--
		FB10-3-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**15**	--	--	--	--	--	--
	FB10-4	FB10-4-0.5	0.5	12/28/16	<0.22	<0.20	0.23 J	0.24 J	2.7 J	<0.25	<0.23	0.27 J	<0.20	<0.18	ND	**1.7**	**28**	--	--	--	--	--	--
		FB10-4-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.1**	**3.8**	--	--	--	--	--	--
		FB10-4-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.4**	**3.0**	--	--	--	--	--	--
Former Building No. 11 (FB11)	FB11-1	FB11-1-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**23**	--	--	--	--	--	--
		FB11-1-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**11**	--	--	--	--	--	--
		FB11-1-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.6**	**4.8**	--	--	--	--	--	--
	FB11-2	FB11-2-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.0**	**28**	--	--	--	--	<1.5	ND
		FB11-2-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.4**	**6.2**	--	--	--	--	--	--
		FB11-2-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.4**	**3.5**	--	--	--	--	--	--
	FB11-3	FB11-3-0.5	0.5	12/28/16	<0.22	0.20 J	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.7**	**23**	--	--	--	--	--	--
		FB11-3-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.4**	**17**	--	--	--	--	--	--
		FB11-3-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.4**	**4.5**	--	--	--	--	--	--
	FB11-4	FB11-4-0.5	0.5	12/28/16	<0.22	0.97 J	0.98 J	0.46 J	5.3 J	0.67 J	<0.23	0.47 J	<0.20	<0.18	ND	**2.6**	**18**	--	--	--	--	--	--
		FB11-4-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**9.6**	--	--	--	--	--	--
		FB11-4-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**12**	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Former Building No. 12 (FB12)	FB12-1	FB12-1-0.5	0.5	12/28/16	<0.22	0.40 J	<0.13	**9.8**	**77**	<0.25	<0.23	**6.7**	<0.20	<0.18	ND	**2.3**	**7.3**	--	--	--	--	<1.5	ND
		FB12-1-1.5	1.5	12/28/16	<0.22	1.5 J	0.24 J	**14**	**120**	<0.25	<0.23	**12**	<0.20	<0.18	ND	**3.5**	**14**	--	--	--	--	--	--
		FB12-1-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	**18**	**150**	<0.25	<0.23	**17**	<0.20	<0.18	ND	**6.7**	**25**	--	--	--	--	--	--
Former Building No. 13 (FB13)	FB13-1	FB13-1-0.5	0.5	12/28/16	<0.22	<0.20	0.24 J	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**27**	--	--	--	--	--	--
		FB13-1-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**4.5**	--	--	--	--	<1.5	ND
		FB13-1-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**3.6**	--	--	--	--	--	--
Former Building No. 14 (FB14)	FB14-1	FB14-1-0.5	0.5	12/28/16	<0.22	0.67 J	1.7 J	0.40 J	4.2 J	<0.25	<0.23	0.47 J	<0.20	<0.18	ND	**4.4**	**29**	--	--	--	--	--	--
		FB14-1-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**9.6**	--	--	--	--	--	--
		FB14-1-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.0**	**9.0**	--	--	--	--	--	--
	FB14-2	FB14-2-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	0.25 J	2.8 J	<0.25	<0.23	0.29 J	<0.20	<0.18	ND	**3.2**	**25**	--	--	--	--	--	--
		FB14-2-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**19**	--	--	--	--	--	--
		FB14-2-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.1**	**11**	--	--	--	--	--	--
	FB14-3	FB14-3-0.5	0.5	12/28/16	**4.6**	**10**	**9.3**	0.67 J	6.3 J	<0.25	<0.23	0.42 J	<0.20	<0.18	ND	**3.9**	**16**	--	--	--	--	--	--
		FB14-3-1.5	1.5	12/28/16	<1.1 D1	<0.98 D1	<0.67 D1	<1.1 D1	<4.5 D1	<1.2 D1	<1.1 D1	<1.1 D1	<1.0 D1	<0.89 D1	ND	**2.9**	**28**	--	--	--	--	--	--
		FB14-3-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.5**	**3.3**	--	--	--	--	--	--
	FB14-4	FB14-4-0.5	0.5	12/28/16	**21**	**50**	**25**	**3.6**	**38**	<0.25	<0.23	**4.8**	<0.20	<0.18	ND	**3.0**	**46**	--	--	--	--	--	--
		FB14-4-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.6**	**140**	--	**9.9 D1**	--	**3.8 D1**	--	--
		FB14-4-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**2.0**	**47**	--	--	--	--	--	--
	Step out boreholes near boring FB14-4:																						
	FB14-4-N5	FB14-4-N5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**21**	--	--	--	--	--	--
		FB14-4-N5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**18**	--	--	--	--	--	--
		FB14-4-N5-1.5-D	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**29**	--	--	--	--	--	--
		FB14-4-N5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.4**	--	--	--	--	--	--
	FB14-4-N10	FB14-4-N10-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**17**	--	--	--	--	--	--
		FB14-4-N10-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.9**	--	--	--	--	--	--
		FB14-4-N10-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**7.6**	--	--	--	--	--	--
	FB14-4-W5	FB14-4-W5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**35**	--	--	--	--	--	--
		FB14-4-W5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**18**	--	--	--	--	--	--
		FB14-4-W5-1.5-D	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**13**	--	--	--	--	--	--
		FB14-4-W5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**56**	--	**2.2 D1**	--	<0.014 D1	--	--
	FB14-4-W10	FB14-4-W10-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**17**	--	--	--	--	--	--
		FB14-4-W10-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**20**	--	--	--	--	--	--
		FB14-4-W10-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**24**	--	--	--	--	--	--
	FB14-4-E5	FB14-4-E5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.2**	--	--	--	--	--	--
		FB14-4-E5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**110**	--	**4.9 D1**	--	0.17 D1,J	--	--
		FB14-4-E5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**53**	--	**1.9 D1**	--	<0.014 D1	--	--
		FB14-4-E5-2.5-D	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**40**	--	--	--	--	--	--
	FB14-4-E8.5	FB14-4-E8.5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**20**	--	--	--	--	--	--
		FB14-4-E8.5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**89**	--	**1.0 D1**	--	<0.014 D1	--	--
		FB14-4-E8.5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.4**	--	--	--	--	--	--
		FB14-4-E8.5-2.5-	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**36**	--	--	--	--	--	--
	FB14-5	FB14-5-0.5	0.5	12/28/16	<0.22	0.88 J	<0.13	0.41 J	2.9 J	<0.25	<0.23	0.39 J	<0.20	<0.18	ND	**2.8**	**20**	--	--	--	--	--	--
		FB14-5-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.5**	**15**	--	--	--	--	--	--
		FB14-5-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**12**	--	--	--	--	--	--
	FB14-6	FB14-6-0.5	0.5	12/28/16	<0.22	0.63 J	<0.13	0.24 J	2.7 J	<0.25	<0.23	0.29 J	<0.20	<0.18	ND	**4.2**	**37**	--	--	--	--	6.8 J	ND
		FB14-6-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**6.8**	--	--	--	--	--	--
		FB14-6-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.7**	**6.3**	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Former Building No. 15 (FB15)	FB15-1	FB15-1-0.5	0.5	1/3/17	<0.22	**4.7**	**5.6**	**12**	**87**	0.79 J	<0.23	**9.8**	<0.20	<0.18	ND	**5.3**	**18**	--	--	--	--	<1.5	ND
		FB15-1-1.5	1.5	1/3/17	<0.22	0.62 J	0.57 J	**2.4**	**19**	<0.25	<0.23	**1.9**	<0.20	<0.18	ND	**5.0**	**19**	--	--	--	--	--	--
		FB15-1-2.5	2.5	1/3/17	<0.22	0.61 J	0.55 J	**7.4**	**61**	<0.25	<0.23	**6.9**	<0.20	<0.18	ND	**4.4**	**24**	--	--	--	--	--	--
	FB15-2	FB15-2-0.5	0.5	1/3/17	<0.22	**2.2**	**2.5**	**5.7**	**46**	<0.25	<0.23	**4.4**	<0.20	<0.18	ND	**3.9**	**9.8**	--	--	--	--	--	--
		FB15-2-1.5	1.5	1/3/17	<0.22	**2.3**	**2.5**	**13**	**100**	<0.25	<0.23	**8.6**	<0.20	<0.18	ND	**6.7**	**15**	--	--	--	--	--	--
		FB15-2-2.5	2.5	1/3/17	<0.22	0.48 J	0.36 J	**6.6**	**70**	<0.25	<0.23	**5.4**	<0.20	<0.18	ND	**6.4**	**13**	--	--	--	--	--	--
	FB15-3	FB15-3-0.5	0.5	1/3/17	<0.22	1.2 J	1.3 J	**8.7**	**63**	0.73 J	<0.23	**6.1**	<0.20	<0.18	ND	**5.8**	**12**	--	--	--	--	<1.5	ND
		FB15-3-1.5	1.5	1/3/17	<0.22	0.92 J	0.35 J	**23**	**170**	<0.25	<0.23	**15**	<0.20	<0.18	ND	**7.1**	**20**	--	--	--	--	--	--
		FB15-3-2.5	2.5	1/3/17	<0.22	<0.20	<0.13	**38**	**280**	<0.25	<0.23	**29**	<0.20	<0.18	ND	**9.6**	**27**	--	--	--	--	--	--
	FB15-4	FB15-4-0.5	0.5	1/3/17	<0.22	**2.2**	1.2 J	0.75 J	8.2 J	0.85 J	<0.23	0.92 J	<0.20	<0.18	ND	**3.6**	**17**	--	--	--	--	--	--
		FB15-4-1.5	1.5	1/3/17	<0.22	**3.2**	0.93 J	**9.2**	**71**	<0.25	<0.23	**6.2**	<0.20	<0.18	ND	**3.0**	**23**	--	--	--	--	--	--
		FB15-4-2.5	2.5	1/3/17	0.37 J	<0.20	<0.13	**1.6**	**12**	<0.25	<0.23	0.99 J	<0.20	<0.18	ND	**3.9**	**6.0**	--	--	--	--	--	--
Former Building No. 16 (FB16)	FB16-1	FB16-1-0.5	0.5	12/28/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**2.0**	**10**	--	--	--	--	--	--
		FB16-1-1.5	1.5	12/28/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**2.6**	**170**	--	**1.3 D1**	--	<0.014 D1	--	--
		FB16-1-2.5	2.5	12/28/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**1.8**	**7.5**	--	--	--	--	--	--
	Step out boreholes near boring FB16-1:																						
	FB16-1-N5	FB16-1-N5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**15**	--	--	--	--	--	--
		FB16-1-N5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.9**	--	--	--	--	--	--
		FB16-1-N5-1.5-D	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**5.2**	--	--	--	--	--	--
		FB16-1-N5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**6.4**	--	--	--	--	--	--
	FB16-1-N10	FB16-1-N10-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**22**	--	--	--	--	--	--
		FB16-1-N10-0.5-D	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**25**	--	--	--	--	--	--
		FB16-1-N10-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**5.1**	--	--	--	--	--	--
		FB16-1-N10-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.2**	--	--	--	--	--	--
	FB16-1-W5	FB16-1-W5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.3**	--	--	--	--	--	--
		FB16-1-W5-0.5-D	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**56**	--	0.40 D1,J	--	<0.014 D1	--	--
		FB16-1-W5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**8.0**	--	--	--	--	--	--
		FB16-1-W5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**6.7**	--	--	--	--	--	--
	FB16-1-W10	FB16-1-W10-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**42**	--	--	--	--	--	--
		FB16-1-W10-0.5-	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**9.7**	--	--	--	--	--	--
		FB16-1-W10-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**9.3**	--	--	--	--	--	--
		FB16-1-W10-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.4**	--	--	--	--	--	--
	FB16-1-S5	FB16-1-S5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**20**	--	--	--	--	--	--
		FB16-1-S5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**82**	--	**5.1 D1**	--	**1.6 D1**	--	--
		FB16-1-S5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**62**	--	**3.3 D1**	--	**0.65 D1**	--	--
		FB16-1-S5-2.5-D	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.3**	--	--	--	--	--	--
	FB16-1-S10	FB16-1-S10-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**21**	--	--	--	--	--	--
		FB16-1-S10-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**12**	--	--	--	--	--	--
		FB16-1-S10-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**9.5**	--	--	--	--	--	--
	FB16-1-E5	FB16-1-E5-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--
		FB16-1-E5-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**7.9**	--	--	--	--	--	--
		FB16-1-E5-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.9**	--	--	--	--	--	--
		FB16-1-E5-2.5-D	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.3**	--	--	--	--	--	--
	FB16-1-E10	FB16-1-E10-0.5	0.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**16**	--	--	--	--	--	--
		FB16-1-E10-1.5	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**4.0**	--	--	--	--	--	--
		FB16-1-E10-1.5-D	1.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**3.6**	--	--	--	--	--	--
		FB16-1-E10-2.5	2.5	4/12/17	--	--	--	--	--	--	--	--	--	--	--	--	**2.9**	--	--	--	--	--	--
	FB16-2	FB16-2-0.5	0.5	12/28/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**2.4**	**5.3**	--	--	--	--	--	--
		FB16-2-1.5	1.5	12/28/16	<2.2	<2.0	<1.3	<2.1	<9.0	<2.5	<2.3	<2.3	<2.0	<1.8	ND	**2.9**	**6.8**	--	--	--	--	<1.5	ND
		FB16-2-2.5	2.5	12/28/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**1.7**	**3.2**	--	--	--	--	--	--

TABLE 1
Summary of Laboratory Results in Soil for Organochlorine Pesticides (OCPs), Arsenic, Lead and Polychlorinated Biphenyls (PCBs)
Burroughs Middle School

Location	Borehole ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	OCPs by EPA Method 8081 (ug/kg)											Arsenic & Lead by EPA Method 6010B (mg/kg)		STLC by WET/EPA Method 6010B (mg/L)		TCLP by EPA Method 6010B (mg/L)		PCBs by EPA Method 8082 (ug/kg)	
					4,4-DDD	4,4-DDE	4,4-DDT	alpha-Chlordane	Chlordane (Total)	Dieldrin	Endrin	gamma-Chlordane	Heptachlor epoxide	Methoxy-chlor	All Other OCPs	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Aroclor 1260	All Other PCBs
Former Building No. 16 (FB16)	FB16-3	FB16-3-0.5	0.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**12**	--	--	--	--	--	--
		FB16-3-1.5	1.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.8**	**6.7**	--	--	--	--	--	--
		FB16-3-2.5	2.5	12/28/16	<1.1 D1	<0.98 D1	<0.67 D1	<1.1 D1	<4.5 D1	<1.2 D1	<1.1 D1	<1.1 D1	<1.0 D1	<0.89 D1	ND	**2.1**	**4.3**	--	--	--	--	--	--
	FB16-4	FB16-4-0.5	0.5	12/28/16	<0.22	0.23 J	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.5**	**33**	--	--	--	--	--	--
		FB16-4-1.5	1.5	12/28/16	<2.2 D1	<2.0 D1	<1.3 D1	<2.1 D1	<9.0 D1	<2.5 D1	<2.3 D1	<2.3 D1	<2.0 D1	<1.8 D1	ND	**1.6**	**11**	--	--	--	--	--	--
		FB16-4-2.5	2.5	12/28/16	<0.22	<0.20	<0.13	<0.21	<0.90	<0.25	<0.23	<0.23	<0.20	<0.18	ND	**1.9**	**11**	--	--	--	--	--	--
Regulatory Screening Levels:																							
DTSC HERO HHRA Note 3 (August 2017)[1]					NA	NA	NA	NA	440	NA	NA	NA	NA	NA	Varies	0.11	80 [2]	NA	NA	NA	NA	NA	Varies
RSLs (June 2017)[3]					2,300	2,000	1,900	NA	1,700	34	19,000	NA	70	320,000	Varies	0.68	400	NA	NA	NA	NA	240	Varies
Southern California Regional Background Level (DTSC, 2008)[4]					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA
Federal and State Hazardous Waste Criteria					1,000	1,000	1,000	NA	2,500	8,000	200	NA	4,700	100,000	Varies	500	1,000	5 mg/L	5 mg/L	5 mg/L	5 mg/L	50,000	50,000

Notes:

Yellow high-lighted values exceeded one or more screening level.

Purple high-lighted values exceeded non-RCRA (CA-restricted) hazardous waste criteria.

1. DTSC, HERO HHRA Note Number 3 (August 2017). Criteria selected: Residential soil, cancer endpoint (carcinogens), non-cancer endpoint (all others)

2. 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.

3. RSLs, Regional Screening Levels for Region 9, Updated June 2017, Criteria selected: Residential soil, Total Hazard Quotient = 1.0, Target risk of 1.0E-6

4. DTSC, Determination of a Southern California Regional Background Arsenic Concentration in Soil, March 2008. Background arsenic was selected as the screening level for arsenic.

5. Where TTLC lead and/or arsenic was greater than 50 mg/kg, the sample was analyzed using the Waste Extraction Test for STLC by EPA Method 6010B. Where the result is below the STLC regulatory limit of 5 mg/L arsenic or 5 mg/L lead, the material is non-hazardous under California waste disposal regulations, as per the California Code of Regulations, Title 22, Chapter 11, Article 3.

Acronyms/Abbreviations:

bgs	Below ground surface
D1	Laboratory data qualifier indicating that the sample required dilution due to possible matrix interference.
D5	Sample diluted due to failing internal standard in the original run.
D6	Sample required dilution due to high concentration of target analyte.
DTSC	California Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
HERO	Office of Human and Ecological Risk
HHRA	Human Health Risk Assessment
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NA	Not applicable or not available.
ND	Not detected above the laboratory reporting limit.
OCPs	Organochlorine Pesticides
PCBs	Polychlorinated biphenyls
RSLs	Regional Screening Levels (see Note 3, above)
STLC	Soluble Threshold Limit Concentration
TCLP	Total Threshold Limit Concentration
TTLC	Toxicity characteristic leaching procedure
ug/kg	micrograms per kilogram
4,4-DDD	Dichlorodiphenyldichloroethane
4,4-DDE	Dichlorodiphenyldichloroethylene
4,4-DDT	Dichlorodiphenyltrichloroethane
< 1.0	Analyte not detected above the referenced detection limit.
-	Not analyzed.
*	Includes testing for overlapping former buildings.
**	See additional soil analyses for these samples in Table 2 and/or Table 3.

TABLE 2
Summary of Laboratory Results in Soil for Polycyclic Aromatic Hydrocarbons (PAHs), and Title 22 Metals at Boring EB9-7
Burroughs Middle School

Location	Boring ID	Sample ID	Sample Depth (feet bgs)	Sample Date	Title 22 Metals by EPA Method 6010B/7471A (mg/kg)													Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method 8270C SIM (ug/kg)							
					Antimony	Arsenic	Barium	Beryllium	Chromium	Cobalt	Copper	Lead[5]	Mercury	Nickel	Silver	Vanadium	Zinc	Other Metals Analyzed	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Chrysene	Fluoranthene	Indeno (1,2,3-cd) pyrene	Pyrene	Other PAHs Analyzed
Classroom Building No. 9 (EB9)	EB9-7	EB9-7-0.5	0.5	12/28/16	1.5 J	**2.3**	**130**	0.30 J	**14**	**8.0**	2,800 [6]	**250**	0.04 J	**13**	0.08 J	**26**	**150**	ND	2.0 D1, J	2.2 D1, J	3.3 D1, J	2.0 D1, J	1.9 D1, J	1.6 D1, J	2.3 D1, J	ND
		EB9-7-1.5	1.5	12/28/16	<0.32	**2.1**	**180**	0.31 J	**19**	**8.3**	**260**	**130**	**0.12**	**17**	<0.04	**31**	**170**	ND	<13 D1	<13 D1	22 D1, J	15 D1, J	<11 D1	<9.4 D1	12 D1, J	ND
		EB9-7-2.5	2.5	12/28/16	<0.32	**1.5**	**88**	0.31 J	**20**	**9.0**	**25**	**11**	0.04 J	**18**	<0.04	**31**	**38**	ND	15 D1, J	14 D1, J	26 D1, J	25 D1, J	16 D1, J	9.8 D1, J	23 D1, J	ND
	Step out boreholes near boring EB9-7 (the below step-out lead results are also reported in Table 1):																									
	EB9-7-W6	EB9-7-W6-	0.5	4/11/17	--	--	--	--	--	--	**12**	**6.4**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		EB9-7-W6-1.5	1.5	4/11/17	--	--	--	--	--	--	**18**	**9.6**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		EB9-7-W6-2.5	2.5	4/11/17	--	--	--	--	--	--	**13**	**3.1**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Regulatory Screening Levels:																										
DTSC HERO HHRA Note 3 (August 2017)[1]					NA	0.11	NA	1,600	NA	NA	NA	80 [2]	1.0	15,000	390	390	NA	Varies	NA	NA	NA	NA	NA	NA	NA	Varies
RSLs (June 2017)[3]					31	0.68	15,000	160	NA	23	3,100	400	11	1,500	390	390	23,000	Varies	110	1,100	NA	110,000	2,400,000	1,100	1,800,000	Varies
Southern California Regional Background Level (DTSC, 2008)[4]					NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Federal and State Hazardous Waste Criteria					500	500	10,000	75	2,500	8,000	2,500	1,000	20	2,000	500	2,400	5,000	Varies	NA	NA	NA	NA	NA	NA	NA	NA	Varies

Notes:
Yellow high-lighted values exceeded one or more screening level.
Purple high-lighted values exceeded non-RCRA (CA-restricted) hazardous waste criteria.
1. DTSC, HERO HHRA Note Number 3 (August 2017). Criteria selected: Residential soil, cancer endpoint (carcinogens), non-cancer endpoint (all others)
2. 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
3. RSLs, Regional Screening Levels for Region 9, Updated June 2017, Criteria selected: Residential soil, Total Hazard Quotient = 1.0, Target risk of 1.0E-6
4. DTSC, Determination of a Southern California Regional Background Arsenic Concentration in Soil, March 2008. Background arsenic was selected as the screening level for arsenic.
5. See Table 1 for results using the Waste Extraction Test for STLC by EPA Method 6010B and TCLP results for lead.
6. Laboratory results for lead in sample EB9-7-0.5 exceed non-RCRA hazardous (CA-restricted) waste disposal regulations based on the lead results (See Table 1), as per the California Code of Regulations, Title 22, Chapter 11, Article 3. Further analysis of the sample for copper by the extraction test for STLC would not alter the classification and was not performed.

Acronyms/Abbreviations:

bgs	Below ground surface
D1	Laboratory data qualifier indicating that the sample required dilution due to possible matrix interference.
DTSC	California Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
HERO	Office of Human and Ecological Risk
HHRA	Human Health Risk Assessment
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NA	Not applicable or not available.
ND	Not detected above the laboratory reporting limit.
PAHs	Polycyclic Aromatic Hydrocarbons
RSLs	Regional Screening Levels (see Note 3, above)
STLC	Soluble Threshold Limit Concentration
TTLC	Total Threshold Limit Concentration
ug/kg	micrograms per kilogram
< 1.0	Analyte not detected above the referenced detection limit.
-	Not analyzed.

TABLE 3
Summary of Laboratory Results in Soil for Total Petroleum Hydrocarbons (TPH), and Volatile Organic Compounds (VOCs)
Burroughs Middle School

Location	Boring ID	Sample ID	Sample Depth (feet bgs)	Date Sampled	Total Petroleum Hydrocarbons (TPH) by EPA Method 8015M (mg/kg)						Volatile Organic Compounds (VOCs) by EPA Method 8260B (ug/kg)
					C8-C10	C10-C18	C18-C28	C28-C36	C36-C40	C8-C40 (Total)	
Main Building/ Auditorium (EB1)	EB1-1	EB1-1-1	1.0	12/28/16	<10	<10	**39**	**130**	**120**	**290**	--
		EB1-1-5	5.0	12/28/16	<1.0	**1.3**	**4.5**	**11**	**8.7**	**26**	--
		EB1-1-10	10.0	12/28/16	<1.0	**1.4**	**2.3**	**1.8**	**1.2**	**6.8**	--
Methane Probe M-3	M-3	M-3-10.0	10.0	12/23/16	<10	**32**	**230**	**410**	**250**	**930**	ND
		M-3-12.5	12.5	12/23/16	<1.0	**1.4**	**3.0**	**3.1**	**2.3**	**9.8**	ND
Regulatory Screening Levels:											
October 2011 LAUSD 01 4524 Environmental Import/Export Materials Testing Spec.					100 (gasoline)	1,000 mg/kg (oil/diesel and long-chain hydrocarbons)					>ND
DTSC HERO HHRA Note 3 (August 2017)[1]					NA	16,000 (Mineral Oil ~C15-C50)				NA	Varies
RSLs (June 2017)[2]					520 (aliphatic low-C6); 96 (aliphatic medium-C9)	230,000 (aliphatic high-Mineral Oil ~C15-C50)				NA	Varies
					82 (aromatic low-C6)	110 (aromatic medium-C10/C11); 2,500 (aromatic high-C16)	NA				

NOTES:

1. DTSC, HERO HHRA Note Number 3 (August 2017). Criteria selected: Residential soil, cancer endpoint (carcinogens), non-cancer endpoint (all others)
2. RSLs, Regional Screening Levels for Region 9, Updated June 2017, Criteria selected: Residential soil, Total Hazard Quotient = 1.0, Target risk of 1.0E-6

Acronyms/Abbreviations:

bgs	Below ground surface
DTSC	California Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
HERO	Office of Human and Ecological Risk
HHRA	Human Health Risk Assessment
mg/kg	milligrams per kilogram
NA	Not applicable or not available.
ND	Not detected above the laboratory reporting limit.
RSLs	Regional Screening Levels (see Note 2, above)
TPH	Total Petroleum Hydrocarbons
VOCs	Volatile Organic Compounds
ug/kg	micrograms per kilogram
< 1.0	Analyte not detected above the referenced detection limit.
-	Not analyzed.

TABLE 4
Prevailing Wind Direction
Burroughs Middle School

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, Downtown	1.0	1.3	1.7	2.1	1.8	1.6	1.4	1.3	1.0	0.8	0.8	0.8	1.2
Los Angeles, Downtown	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	WSW

NOTES:

1. Prevailing wind from the direction indicated is based on hourly data from 1992-2002 and is defined as the direction with the highest percent of frequency, http://www.wrcc.dri.edu/htmlfiles/westwinddir.html.

2 Station is approximately 4.5 miles southeast of the Burroughs Middle School site

Acronyms/Abbreviations:
W = from the west
WSW = from the west-southwest
mph = miles per hour

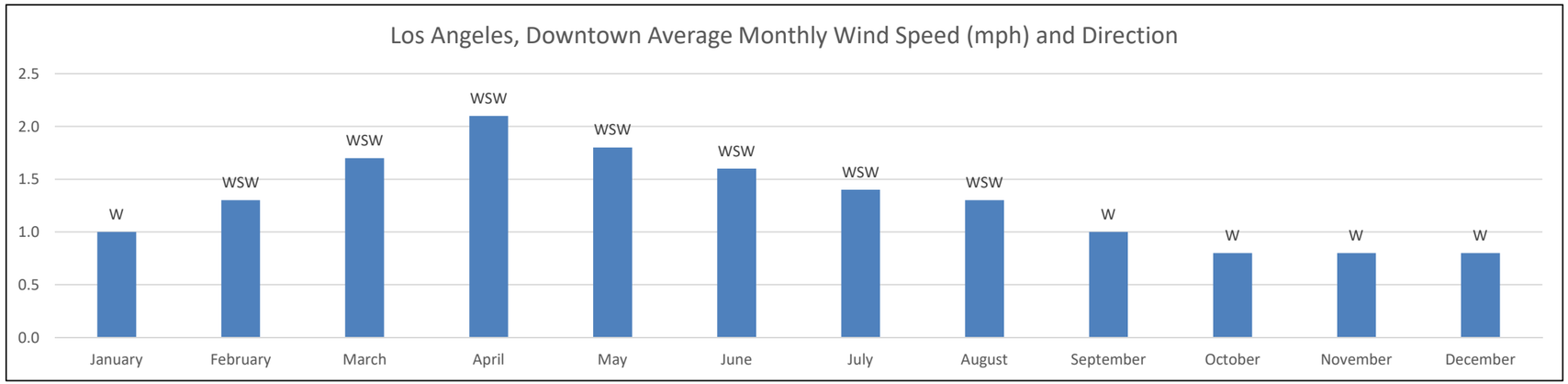


TABLE 5
SUMMARY OF SAMPLING AND ANALYSIS PROGRAM
Burroughs Middle School

Sample Location/ Number	General Parameters	Test Method of Analyses	Container	Preservative	Hold Time
Arsenic: Confirmation samples for arsenic will be collected as shown in Table 5. 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 6010B	8 oz glass jar	4°C	180 days
Lead: Confirmation samples for lead will be collected as shown in Table 5. 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	8 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 (estimated one 4-point composite sample per bin for 10 bins).	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 10 samples will be collected for waste disposal profiling (estimated one 4-point composite sample per bin for 10 bins).	Full carbon chain	EPA 8015B	8 oz glass jar	4°C	14 days
Volatile Organic Compounds - Up to 10 samples will be collected for waste disposal profiling (estimated one 4-point composite sample per bin for 10 bins).	VOCs Full Suite	EPA 8260B		4°C	14 days
Organochlorine Pesticides - Up to 10 samples will be collected for waste disposal profiling (estimated one 4-point composite sample per bin for 10 bins).	OCPs	EPA 8081A		4°C	14 days to extraction, 40 days to analyze

TABLE 6
Proposed Confirmation Sample List
Burroughs Middle School

Area of Concern	Excavation	Sample ID	Sample Depth (feet bgs)	Analyses		Rationale for Confirmation Sampling
				Arsenic	Lead	
Existing Building 5 and Existing Building 23 (Figure 4)	A1	N/A	N/A			No confirmation samples required. Existing data set adequately provides confirmation (Table 1, Figure 4)
	A2	A2-CS1	0.5	X		Sidewall confirmation sampling near EB23-1
		A2-CS2	0.5	X		Sidewall confirmation sampling near EB23-1
		A2-CS3	0.5	X		Sidewall confirmation sampling near EB23-1
	B	N/A	N/A			No confirmation samples required. Existing data set adequately provides confirmation (Table 1, Figure 4)
	C	N/A	N/A			No confirmation samples required. Existing data set adequately provides confirmation (Table 1, Figure 4)
Existing Building 9 and Vicinity (Figure 5)	D	D-CS1	2.5		X	Bottom confirmation at FB9-4-W5
	E	E-CS1	4.5	X		Bottom confirmation at EB9-6-N5
		E-CS2	4.5	X		Bottom confirmation at EB9-6
	F	F-CS1	2.5		X	Bottom confirmation at EB11-2-S5
		F-CS2	2.5		X	Bottom confirmation at EB11-1-S15
	G	G-CS1	3.5	X		Bottom confirmation at EB12-1-S15 and EB12-1-S20
		G-CS2	3.5	X		Bottom confirmation at EB12-1-S20 and EB15-1
	H	N/A	N/A			No confirmation samples required. Existing data set adequately provides confirmation (Table 1, Figure 5)
	I	N/A	N/A			No confirmation samples required. Existing data set adequately provides confirmation (Table 1, Figure 5)
	J	N/A	N/A			No confirmation samples required. Existing data set adequately provides confirmation (Table 1, Figure 5)
Former Building 14 (Figure 6)	K	N/A	N/A			No confirmation samples required. Existing data set adequately provides confirmation (Table 1, Figure 6)
Existing Building 20 and Former Building 16 (Figure 7)	L	N/A	N/A			No confirmation samples required. Existing data set adequately provides confirmation (Table 1, Figure 7)
	M	N/A	N/A			No confirmation samples required. Existing data set adequately provides confirmation (Table 1, Figure 7)
Field Quality Control Samples	Equipment Blanks-Lead and Arsenic			X	X	Daily equipment blank on days when confirmation samples are collected.
	Duplicate Soil Samples-Arsenic			X		Maintain 1:10 ratio for original to duplicate confirmation samples.
	Duplicate Soil Samples-Lead				X	Maintain 1:10 ratio for original to duplicate confirmation samples.

APPENDIX A

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APPENDIX A

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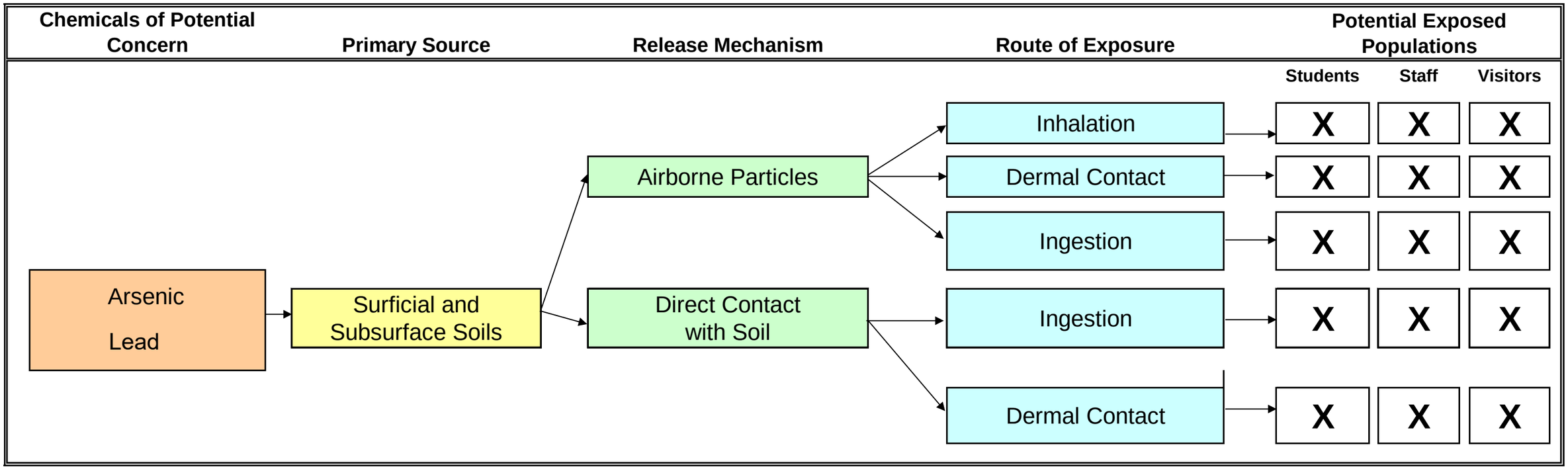
APPENDIX B

CONCEPTUAL SITE EXPOSURE MODEL

APPENDIX B
CONCEPTUAL SITE EXPOSURE MODEL
Burroughs Middle School



APPENDIX C

COMMUNITY PROFILE

COMMUNITY PROFILE

Community Demographics

A brief summary of the community demographics for the zip code 90005 in Los Angeles County according to the 2010 US Census (factfinder.census.gov) is as follows:

- Total population: 37,681
- Male: 13,635 (51.2%)
- Female: 14,292 (48.8%)
- Median Age: 33.9
- Population 18 years and over: 79.7%
- Total Housing units: 16,345
- Average Household Size: 2.5
- Population by race: White: 10,953 (29.1%)
  Black or African American: 2,007 (5.3%)
  American Indian and Alaska Native: 317 (0.8%)
  Asian: 12,740 (33.8%)
  Native Hawaiian and Pacific Islander: 40 (0.1%)
  Other: 9,940 (26.4%)
  Two or More Races: 1,684 (4.5%)

Local Participation and Involvement

At the time of this report, Leighton is not aware of any current or past media coverage with relation to the School property or the Site. A fact sheet, in the form of a flyer, was produced in English, Spanish, and Korean (double-sided flyer) to provide members of the community with details regarding the PEA-E investigation including who would perform the work, project schedule, when and where the results of the investigation would be posted, and who to contact regarding additional information. This work notice flyer was 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.

No specific environmental concerns or issues have been brought to the District's attention regarding the onsite activities at this time. In terms of project visibility, the onsite work took place during School shut downs (i.e., winter break and summer break) to minimize any interference with school activities. Line-of-site neighbors, School staff, and parents were given copies of the work notice flyer. With the exception of offsite former gas station sites identified by WorleyParsons in the Phase 1 ESA (WorleyParsons, 2016), Leighton is unaware of environmental concerns or issues with relation to neighboring sites at this time.

It is Leighton's understanding that the Draft Final PEA-E will go through a 30-day public comment period.

APPENDIX D

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN
REMOVAL ACTION

BURROUGHS MIDDLE SCHOOL COMPREHENSIVE MODERNIZATION PROJECT
600 SOUTH MCCADDEN PLACE
LOS ANGELES, CALIFORNIA 90005

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. 11640.004
January 15, 2018

HEALTH AND SAFETY PLAN

Project Number	11640.004
Project Location	Burroughs Middle School 600 South McCadden Place Los Angeles, California
Client	Los Angeles Unified School District
Owner	Los Angeles Unified School District
Project Manager	Kris Lutton
Site Safety Officer	Kevin Hall
Plan Preparer	Zach Freeman / Ines Cadavid-Parr
Date Finalized	January 15, 2018
Expiration Date	January 15, 2019

Site Specific Approvals:

Kris Lutton, P.G.
Director of Environmental Services and Senior Vice President

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1.0 INTRODUCTION

This Health and Safety Plan **(HASP)** outlines the health and safety procedures to be used during the excavation and sampling of soils at the Burroughs Middle School Comprehensive Modernization Project (Site), to remove and dispose of soils impacted with lead and arsenic. This HASP has been prepared as an appendix to the Remedial Action Workplan **(RAW)**, prepared by Leighton Consulting, Inc. dated January 15, 2018. This HASP applies only to the work described in Section 3.0 and the anticipated hazards identified in Section 4.0 of the RAW. If additional work is to be completed, this plan will be modified by the Plan Reviewer to incorporate the changes, or a new HASP will be developed. The safety procedures within this HASP cannot be modified or altered by field personnel without clearance from the Plan Reviewer.

This plan was developed with the best knowledge available at the time. If additional information becomes available or Site conditions change, the HASP will be modified if necessary by the Plan Reviewer prior to the continuation of field work. In the event that a subcontractor's HASP differs from this plan, the most restrictive HASP will be used after approval of the Plan Reviewer.

2.0 BACKGROUND

2.1 Sampling Strategy and Approach

Phase I Environmental Site Assessment

The Phase I ESA found no evidence of the storage or release of hazardous materials during the on-site inspection at the School property with the exception of the storage of small quantities of janitorial supplies and a 55-gallon steel drum containing gasoline, stored in a flammable materials storage building located southeast of Building No. 9 (Shop Building). Staining on the concrete floor adjacent to this drum was observed during the reconnaissance inspection. During review of regulatory databases, the John Burroughs Middle School is identified as a large quantity hazardous waste generator; as a result of past school renovation activities, which included the abatement of asbestos and polychlorinated biphenyls (PCB)-containing equipment. According to Mr. Martin Nevarez, the Site Plant Manager, these wastes are not and have not been disposed at the Site. Based on the site reconnaissance and records reviewed as part of the Phase I ESA, WorleyParsons identified the following RECs associated with the Site:

- Potential presence of LBP residue in shallow soils around the drip lines of the existing and former buildings at the Site.
- Potential presence of OCP in shallow soils around the foundations of the existing and former buildings at the Site.
- Potential presence of arsenic in shallow soils under pavement at the Site.
- Potential presence of ACM in Site building materials.
- Potential presence of hydrocarbons in groundwater due to the historical presence of two gasoline service stations approximately 60 and 250 feet west of the Site.
- Potential presence of petroleum products in soil and groundwater due to the historical presence of an heating oil AST located adjacent to Building No. 1 (Main/Auditorium Building).

- Potential presence of burn ash in soils due to the historical presence of an incinerator located adjacent to Building No. 9 (Shop Building).

Based on the age of the existing Site buildings, it is possible that LBP has been applied to the exterior finishes of the buildings. As such, it is possible that LBP residue is present in soils around the perimeters of the existing and former buildings (WorleyParsons, 2016). DTSC guidance indicates that LBP residue from paint or surface coatings may be present in soil around school structures that are adjacent or near unpaved areas where runoff could occur and were constructed prior to January 1993 (DTSC, 2006).

It is possible that OCPs in the form of termiticides have been applied around the foundations of these Site buildings or in the areas (WorleyParsons, 2016). OCPs were commonly used as insecticides for termite control, around structures between 1948 and 1989 (DTSC, 2006).

There is the potential presence of arsenic underneath pavement that may have been applied as an herbicide (WorleyParsons, 2016).

Based on the age of the existing Site buildings, it is possible that ACM are present in building materials (WorleyParsons, 2016).

Two “oil and gas” service stations were located west of the Site (approximately 60 feet west of the Site and cross/upgradient with respect the reported groundwater flow direction), at the northwest intersection of South McCadden Place and Wilshire Boulevard and at the northeast corner of South Highland Avenue and Wilshire Boulevard, from at least 1938 to at least 1964. Based on their location relative to the Site, it is possible that groundwater beneath the Site has been impacted by releases of petroleum hydrocarbons at these facilities (WorleyParsons, 2016).

A heating oil AST was located on the Site adjacent to the east of Building No. 1 (Main/Auditorium Building). Based on this, it is possible that leaks or spills from this tank have impacted soil and groundwater at the Site (WorleyParsons, 2016).

An incinerator, presumably for solid waste, was located on the Site near the southwest corner of Building No. 9 (Shop Building). Based on this, it is possible that adjacent soils have been impacted by burn ash containing combustion by-

products such as polycyclic aromatic hydrocarbons (PAHs), furans, and heavy metals (WorleyParsons, 2016).

PEA Equivalent (PEA-E) Investigation

Leighton was contracted by the District to complete a PEA-E study to address soil concerns identified in the Phase I ESA, specifically to collect soil samples near former and existing buildings at the Site and analyze select samples for lead, OCPs, arsenic, PCBs, petroleum hydrocarbons, PAH's, and CA Title 22 metals (CAM-17). Where elevated levels of chemicals of potential concern (COPCs) are identified, a human health risk screening assessment is included to determine if the levels may pose a risk to future Site occupants. PCBs were used widely in caulking and elastic sealant materials, particularly from 1950 through the 1970s until PCBs were banned in 1979. DTSC guidance indicates that PCBs may exist in soil near exterior caulking present in buildings meeting the age criteria and adjacent to unpaved areas (DTSC, 2006). Although not identified as a COPC in soil by WorleyParsons, screening for PCBs was included in the PEA-E for select samples.

Based upon the findings presented in the PEA-E study, elevated levels of COPCs were identified at the Site in soil, including arsenic and lead in soil in select areas (Table 1). With the exception of arsenic and lead in select borings, the soil matrix analytical results (Tables 1 through 3) indicate that remaining COPCs at the Site were either below detection or below regulatory screening levels. On behalf of the District, Leighton recommended preparation of a Removal Action Workplan (RAW) to address areas of elevated arsenic and lead in soil at the Site per DTSC guidelines (DTSC, 2017 and 2008).

3.0 SCOPE OF WORK

The following is a list of the tasks associated with the field activities at the Site as part of the proposed Remedial Action Workplan.

1. Site preparation activities such as site inspections, surveying, boundary staking, sampling, demarcation of hot spots, improvement of access roads, utility connections or disconnections, utility notification and fencing installation.

2. Delineation of Excavation Areas - The areal limits of the excavations will be delineated by the RA environmental professional, in consultation with DTSC representatives, before commencement of removal activities.

3. Clearance of remaining utilities and other hazardous underground obstacles. Notification of the local Underground Services Alert **(USA).** In addition, a geophysical survey or hand-auguring down to 5 feet bgs may be conducted as appropriate to clear the excavation locations.

4. Excavation Activities - The initial excavation includes 14 identified areas as discussed in Section 3.2 of the RAW and shown on Figures 4 through 7 of the RAW. The initial excavation will produce approximately 160.0 cubic yards **(CY)** of material, or 248.0 tons using a conversion factor of 1.55 tons per in-situ CY. Approximately fourteen (14) truck loads are anticipated.

5. Soil Sampling - The environmental professional will collect and analyze samples collected from each designated sidewall and bottom sample location. The excavation confirmation samples collected from the Site will be analyzed for arsenic or lead as necessary. Waste profile samples, if necessary, will be analyzed for Title 22 metals, OCPs, PCBs, semi-volatile organic compounds **(SVOCs)**, volatile organic compounds **(VOCs)**, and total petroleum hydrocarbons **(TPH)**.

6. Air Monitoring - Dust levels will be monitored at the following general locations: (Final locations and number will be evaluated in the field.)
    - Upwind (off-site property if possible)
    - Proximate to the exclusion zone (with the equipment operator)
    - Up to three (3) Fence Line / Downwind locations; and
    - As deemed necessary to evaluate employee exposure.

7. Waste Segregation Operations - Prior to stockpiling/staging, the excavated soil will be segregated to the extent possible to avoid mixture of hazardous and non-hazardous soils. This segregation will minimize the amount of hazardous soils generated and its associated disposal cost. The soil segregation will be based upon criteria for hazardous and non-hazardous soils and the available sampling data.

8. Soil Staging and Storage Operations - If it is necessary to temporarily store the excavated soil on-site until off-site transportation and disposal are available; the staging process will be conducted in a manner to minimize the generation of dust. At the stockpile 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 drums, or may be loaded directly onto transportation trucks.

9. Backfill Operations - Based on Site conditions and school construction plans, the RA excavations are not expected to be backfilled with clean fill material from an off-site source, but rather, through grading operations of the proposed site development. Should import fill be needed, these soils will be appropriately tested before backfilling activities commence. The estimated volume of import clean fill material is 240 CY (loose).

4.0 ORGANIZATION AND MANAGEMENT

4.1 Key Personnel

Technical Consultant/Project Manager:	Kris Lutton, PG
Project Geologist/Site Safety Officer:	Kevin Hall
Site Safety Officer:	Kevin Hall
Industrial Hygienist:	Ines Cadavid-Parr

RA Contractor: To Be Determined
Subcontractor(s): To Be Determined

Site Safety Officer **(SSO)**

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 during the orientation. Documentation of the orientation shall be maintained 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 Federal and Cal-OSHA regulations.
5. Conduct daily tailgate briefings and record all health and safety activities.
6. Compile documentation of training, medical surveillance, and fit-testing for all personnel on-site.
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.

On-site Project Manager/Geologist

The Project Manager **(PM)**, Professional Geologist **(PG)**, and the SSO are responsible for verifying compliance with safety procedures established for the performance of the work. The PM may modify work practices to meet the safety requirements. The SSO has the primary responsibility in determining the modifications of any safety procedures.

The PM 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 PM 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 are completed accurately and on time.

Only Leighton Consulting, Inc. (Leighton) environmental personnel trained in working with hazardous materials will work in contaminated areas of the Site. They must have completed the 40 hour hazardous waste operations and emergency response (HAZWOPER) training course as required by Leighton Consulting policy and Federal Occupational Safety and Health Administration **(OSHA)** (Title 29 CFR 1910.120) and California OSHA (Cal-OSHA) (Title 8 CCR 5192), and have possess a current 8-hour refresher certification. In addition, personnel shall be approved under a medical monitoring program.

All subcontractors who work in the Exclusion Zone **(EZ)** or the Contamination Reduction Zone (CRZ) must also have the appropriate training and medical monitoring as required by OSHA. Written documentation of the OSHA required training and medical surveillance must be presented to the SSO prior to the subcontractors' performance of field activities.

The SSO will hold a site-specific safety meeting prior to start of work. During the site-specific safety meeting, the SSO will discuss: potential chemical and safety hazards; potential routes of exposure for each chemical hazard; types, limitations, proper use of personal protective equipment **(PPE)**, emergency procedures, job hazard analysis, and proper decontamination procedures. The SSO is also responsible for enforcing this HASP.

Leighton personnel and its subcontractors who will work in the potentially contaminated areas of the Site will read and agree to follow this HASP before performing any fieldwork.

This will be documented by having personnel sign the Plan Acceptance Form in Appendix B.

This HASP, a first aid kit, eye wash station, telephone, and fire extinguisher must be on site during all field activities described in Section 3.0. The emergency contacts, the action levels, and the Hospital Map must be maintained on site. Additional equipment required for this job is listed in Appendix C.

5.0 JOB HAZARD ANALYSIS

5.1 Summary of Job-Specific Hazards

Hazards include trauma from physical hazards (including slips, trips, and falls), open trenches/excavations, exposure to chemicals through ingestion, inhalation, or contact with contaminated waste, and biological hazards. The main physical hazards are:

- Moving excavating equipment
- Being hit by equipment
- Falling objects
- Brush, equipment, or gas main fires
- Excavations/trenches
- Exposure to excessive noise
- Exposure to excessive outside temperatures (heat stress).

Physical hazards will be controlled by a combination of personal protective equipment (PPE) use and training of employees in safe and proper operation of equipment they will be using at the Site. Subcontractors are responsible for the training of their employees in the proper use of their equipment. Daily safety meetings will emphasize the hazards that may exist that day and the precautions that should be taken to avoid injuries.

Chemical hazards associated with the Site were based on the results of the PEA-E. Arsenic and lead are the main chemical concern with respect to worker safety and are the reason for the field activities. Hazards due to chemical exposures will be minimized through the use of engineering controls, air monitoring and PPE as outlined in this HASP.

During site activities, exposure to potentially contaminated dust and soil is possible. To mitigate any dust issue that may occur, soil on-site will be wetted with water for dust control. Level D PPE, work gloves, and safety glasses will be worn at all times to minimize contact with personnel. Decontamination procedures will also aid in exposure prevention. There will be no eating, drinking, or smoking in the Exclusion Zone or Contamination Reduction Zone. No contact lenses will be worn on the site and nitrile or latex gloves will be worn when contaminated soils are being handled.

A first-aid kit, a 15 minute ANSI-approved eye-wash station, and a fire extinguisher will be present as part of the Contractors field equipment. Biological hazards will be minimized utilizing PPE and safe work practices. A list of tasks, hazards and mitigation

measures is provided in Table 1. The exposure limits for arsenic, target organs and symptoms of exposure are provided in Table 2.

Table 1. Job Task Analysis and Mitigation Measures

Task	Description of Task	Chemical Hazards	Physical Hazard	Biological Hazards
Site Preparation	Site inspections, surveying, boundary staking, sampling, demarcation hot spots, improvement of access roads, utility connections or disconnections, utility notification, fencing installation	None anticipated for this phase of the work	Manual labor, cuts, bruises from use of hand tools, slips, trips and falls from uneven terrain, and heat stress.	Common biological hazards (i.e. spiders, snakes, poisonous plants, bees, etc.).
Mitigation Measures				
Chemical Hazards - No chemical hazards are anticipated. **Physical Hazards** - Personnel will inspect tools prior to their use. PPE required consists of hard hat, safety vests, safety glasses, gloves, and steel-toed boots. The effects of extreme outside temperatures will be controlled by a combination of workplace observations and work/rest cycles. (Section 16.0, Table 5). **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/barrier creams as appropriate when working in areas known to have poisonous plants. *Bees, spiders, other insects* - Always where gloves; Be aware of surroundings (i.e. bee hives, snakes holes); Have appropriate first-aid kit on hand at all times.			

Task	Description of Task	Chemical Hazards	Physical Hazard	Biological Hazards
Utility Clearance and/or Hand Auguring	Clearance of utilities and other hazardous underground obstacles, geophysical survey or hand-auguring	Arsenic and Lead	Manual labor, cuts, bruises from use of hand tools, slips, trips and falls from uneven terrain, and heat stress.	Common biological hazards (i.e. spiders, snakes, poisonous plants, bees, etc.).

Mitigation Measures

Chemical Hazards - Personal protective equipment (gloves, safety glasses) will be used to prevent exposure to potentially contaminated soil. Air monitoring using a dust monitor (Miniram) will be conducted in and around the work area and in the workers breathing zone during activities. If concentrations exceed the action levels, then engineering controls (wetting down of the area), and or respiratory protection will be used to protect personnel from exposure.

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. Prior to intrusive activities, utilities will be well marked, and/or shut down, and visually surveyed overhead. Personnel will inspect tools prior to their use. Personnel will wear high visibility vests at all times while on-site and shall be aware of the movement of heavy equipment and general traffic at the Site if applicable. PPE required consists of hardhat, safety glasses, safety vest, gloves, hearing protection devices, and steel toed boots. The effects of extreme outside temperatures will be controlled by a combination of workplace observations and work/rest cycles. (Section 16.0, Table 5).

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/barrier creams as appropriate when working in areas known to have poisonous plants.

Bees, spiders, other insects - Always where gloves; Be aware of surroundings (i.e. bee hives, snakes holes); Have appropriate first-aid kit on hand at all times.

Task	Description of Task	Chemical Hazards	Physical Hazard	Biological Hazards
Trench and Excavation Activities	Initial excavation includes 14 identified areas that will produce approximately 160 cubic yards of material. Maximum anticipated depth is 3' bgs.	Dusts, Arsenic, and Lead	Heavy equipment manual labor, noise, injuries to eyes, cuts, bruises from use of hand tools, slips, trips and falls, noise, underground utilities; cave-in and heat stress.	Common biological hazards (i.e. spiders, snakes, poisonous plants, bees, etc.).

Mitigation Measures

Chemical Hazards - Personal protective equipment (gloves, safety glasses) will be used to prevent exposure to potentially contaminated soil. Air monitoring using a dust monitor will be conducted in and around the work area and in the workers breathing zone during activities. If concentrations exceed the action levels, then engineering controls (wetting down the area), and or respiratory protection will be used to protect personnel from exposure.

Physical Hazards - Prior to trenching, utilities will be well marked, shut down confirmed if applicable, and visually surveyed overhead. Only personnel associated with the trenching activities will be allowed in the vicinity of the work area. Caution tape, cones, barricades, etc. will be provided to delineated the work area and prevent unauthorized personnel from entering work area. Excavations are not anticipated to be deeper than 3' bgs. However, in the event excavations are greater than 5' and personnel are entering excavation, then the excavation shall be sloped 1.5 to1 or shored, a Cal-OSHA notification shall be submitted to Cal OSHA, and a competent person shall conduct inspections daily prior to personnel entry. Personnel will inspect tools prior to their use. Personnel will wear high visibility vests at all times while on-site and shall be aware of the movement of heavy equipment. PPE required consists of hardhat, safety glasses, safety vest, gloves, hearing protection devices, and steel toed boots. The effects of extreme outside temperatures will be controlled by a combination of workplace observations and work/rest cycles. (Section 16.0, Table 5).

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/barrier creams as appropriate when working in areas known to have poisonous plants.
Bees, spiders, other insects - Always where gloves; Be aware of surroundings (i.e. bee hives, snakes holes); Have appropriate first-aid kit on hand at all times.

Task	Description of Task	Chemical Hazards	Physical Hazard	Biological Hazards
Soil Sampling	Soil samples will be collected from stockpiles, from sidewalls and/or bottom of the trenches.	Dusts, Arsenic, and Lead	Heavy equipment manual labor, noise, injuries to eyes, cuts, bruises from use of hand tools, slips, trips and falls, noise, underground utilities; cave-in and heat stress.	Common biological hazards (i.e. spiders, snakes, poisonous plants, bees, etc.).

Mitigation Measures

Chemical Hazards - Personal protective equipment (gloves, safety glasses) will be used to prevent exposure to potentially contaminated soil. Air monitoring using a dust monitor will be conducted in and around the work area and in the workers breathing zone during activities. If concentrations exceed the action levels, then engineering controls (wetting down the area), and or respiratory protection will be used to protect personnel from exposure. Note: A water truck will be on-site to assist with dust control.

Physical Hazards - Prior to sampling, utilities will be well marked, and shut down confirmed if applicable. Only personnel associated with the sampling will be allowed in the vicinity of the work area. Caution tape, cones, barricades, etc. will be provided to delineated the work area and prevent unauthorized personnel from entering work area. Personnel will inspect tools prior to their use. Personnel will wear high visibility vests at all times while on-site and shall be aware of the movement of heavy equipment. PPE required consists of hardhat, safety glasses, safety vest, gloves, hearing protection devices, and steel toed boots. The effects of extreme outside temperatures will be controlled by a combination of workplace observations and work/rest cycles. (Section 16.0, Table 5).

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/barrier creams as appropriate when working in areas known to have poisonous plants.
Bees, spiders, other insects - Always where gloves; Be aware of surroundings (i.e. bee hives, snakes holes); Have appropriate first-aid kit on hand at all times.

Task	Description of Task	Chemical Hazards	Physical Hazard	Biological Hazards
Air Monitoring	Dust levels will be monitored at the following general locations: Upwind (off-site property if possible); Proximate to the exclusion zone (with the equipment operator); Up to three Fence Line and Downwind locations; as deemed necessary to evaluate employee exposure.	Dusts, Arsenic, and Lead	Use of heavy equipment (excavator, backhoe, etc.), manual labor, noise, injuries to eyes, cuts, bruises from use of hand tools, slips, trips and falls from uneven terrain and open trenches, noise, underground utilities, and heat stress.	Common biological hazards (i.e. spiders, snakes, poisonous plants, bees, etc.).

Mitigation Measures

Chemical Hazards - Personal protective equipment (gloves, safety glasses) will be used to prevent exposure to potentially contaminated soil. Air monitoring using a dust monitor will be conducted in and around the work area and in the workers breathing zone during activities. If concentrations exceed the action levels, then engineering controls (wetting down the area), and or respiratory protection will be used to protect personnel from exposure.

Physical Hazards - Prior to sampling, utilities will be well marked, and shut down confirmed if applicable. Only personnel associated with the sampling will be allowed in the vicinity of the work area. Caution tape, cones, barricades, etc. will be provided to delineated the work area and prevent unauthorized personnel from entering work area. Personnel will inspect tools prior to their use. Personnel will wear high visibility vests at all times while on-site and shall be aware of the movement of heavy equipment. PPE required consists of hardhat, safety glasses, safety vest, gloves, hearing protection devices, and steel toed boots. The effects of extreme outside temperatures will be controlled by a combination of workplace observations and work/rest cycles. (Section 16.0, Table 5). Note: A water truck will be on-site to assist with dust control.

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/barrier creams as appropriate when working in areas known to have poisonous plants.
Bees, spiders, other insects - Always where gloves; Be aware of surroundings (i.e. bee hives, snakes holes); Have appropriate first-aid kit on hand at all times.

Task	Description of Task	Chemical Hazards	Physical Hazard	Biological Hazards
Waste Segregation Operations and Storage of Stockpiles	Excavated soil will be segregated for hazardous and non-hazardous soils.	Dusts, Arsenic, and Lead	Use of heavy equipment (excavator, backhoe, etc.), noise; heat stress.	Common biological hazards (i.e. spiders, snakes, poisonous plants, bees, etc.).

Mitigation Measures

Chemical Hazards - Personal protective equipment (gloves, safety glasses) will be used to prevent exposure to potentially contaminated soil. Air monitoring using a dust monitor will be conducted in and around the work area and in the workers breathing zone during activities. If concentrations exceed the action levels, then engineering controls (wetting down the area), and or respiratory protection will be used to protect personnel from exposure. Note: A water truck will be on-site to assist with dust control.

Physical Hazards – Traffic routes shall be established prior to the commencement of field activities. All personnel will be required to wear appropriate PPE including high visibility vests and hearing protection; and shall be aware of the movement of traffic at all times.

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/barrier creams as appropriate when working in areas known to have poisonous plants.
Bees, spiders, other insects - Always where gloves; Be aware of surroundings (i.e. bee hives, snakes holes); Have appropriate first-aid kit on hand at all times.

Task	Description of Task	Chemical Hazards	Physical Hazard	Biological Hazards
Backfill Operations	The excavations are expected to be backfilled through grading operations of the proposed site development.	Dusts	Use of heavy equipment (excavator, backhoe, etc.), noise; heat stress.	Common biological hazards (i.e. spiders, snakes, poisonous plants, bees, etc.).

Mitigation Measures

Chemical Hazards - Personal protective equipment (gloves, safety glasses) will be used to prevent exposure to potentially contaminated soil. Air monitoring using a dust monitor will be conducted in and around the work area and in the workers breathing zone during activities. If concentrations exceed the action levels, then engineering controls (wetting down the area), and or respiratory protection will be used to protect personnel from exposure. Note: A water truck will be on-site to assist with dust control.

Physical Hazards – Traffic routes shall be established prior to the commencement of field activities. All personnel will be required to wear appropriate PPE including high visibility vests and hearing protection; and shall be aware of the movement of traffic at all times.

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/barrier creams as appropriate when working in areas known to have poisonous plants.
Bees, spiders, other insects - Always where gloves; Be aware of surroundings (i.e. bee hives, snakes holes); Have appropriate first-aid kit on hand at all times.

Note: Personnel shall adhere to LCI Standard Operating Procedures for: Excavations, Air and Soil Monitoring and Sampling

A summary of the chemicals of concern and their health effects is provided in Table 2 below.

Table 2 - Suspected Chemicals of Concern [1]

Compound	Health Effects	Exposure Limits
Arsenic	Exposure Routes - inhalation, skin absorption, skin and/or eye contact, ingestion Symptoms - Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, respiratory irritation, hyperpigmentation of skin, (potential occupational carcinogen) Target Organs - Liver, kidneys, skin, lungs, lymphatic system Cancer Site – (lung & lymphatic cancer) **Note: Arsenic standard applies 8 CCR 5214**	CA-PEL[2] = 0.01 mg/m^3 Skin Notation - indicates that the cutaneous route of exposure (including mucous membranes and eyes) contributes to overall exposure [29 CFR 1910.1000, Table Z]. Site Action Level = 0.001 mg/m^3 TLV[3] = 0.01 mg/m^3 REL[4] = 0.002 mg/m^3

[1] Chemicals listed are based upon historical activities at the Site.
[2] CA-PEL – California OSHA Permissible Exposure Limit, 8 CCR 5155, Table AC-1
[3] TLV – Threshold Limit Value, American Conference of Governmental Industrial Hygienist (ACGIH)
[4] REL – Recommended Exposure Limit - National Institute for Occupational Safety and Health (NIOSH)

Compound	Health Effects	Exposure Limits
Lead	Exposure Routes - inhalation, skin absorption, skin and/or eye contact, ingestion Symptoms – Lassitude, insomnia, facial pallor, anorexia, weight loss, malnutrition, constipation, abdominal pain, anemia, gingival lead line, tremor, paralysis of the wrist and ankles, encephalopathy, kidney disease, irritation of the eyes, hypertension Target Organs – Eyes, GI tract, CNS, kidneys, blood, gingival tissue	CA-PEL[2] = 0.05 mg/m^3 Site Action Level = 0.005 mg/m^3 TLV[3] = 0.05 mg/m^3 REL[4] = 0.05 mg/m^3

[1] Chemicals listed are based upon historical activities at the Site.
[2] CA-PEL – California OSHA Permissible Exposure Limit, 8 CCR 5155, Table AC-1
[3] TLV – Threshold Limit Value, American Conference of Governmental Industrial Hygienist (ACGIH)
[4] REL – Recommended Exposure Limit - National Institute for Occupational Safety and Health (NIOSH)

Exposure Limit Terms

Permissible Exposure Limits **(PELs)**, Threshold Limit Values **(TLVs)**, and Recommended Exposure Limits **(RELs)** represent the permissible limit of time-weighted averages of chemical concentrations that may be present in a workplace over a period of time. Under these limits and standards, workers can come in contact with a chemical for a period of eight hours a day and a 40 hour work week without expecting to suffer adverse health effects.

Short Term Exposure Limits **(STELs)** represent levels of chemical concentrations that workers can be exposed to for a limited amount of time without adverse effects such as irritation, tissue damage, or narcosis that may result in impairment of self-rescue or result in accidental injury. The STEL is a short term time-weighted average that should not be surpassed during the duration of a day's work.

Time Weighted Averages **(TWAs)** are the average value of the chemical concentrations that should not be exceeded over the duration of a work shift, typically 8 hours.

Arsenic

Arsenic is a bio-accumulative substance and can cause dermatitis, gastrointestinal distress, lung, liver, and kidney damage. Chronic exposure to arsenic has been found to cause lung and lymphatic cancers. .

Airborne dust levels will be controlled by wetting soils to limit worker exposure to less than the 8-hour time weighted average (TWA) Permissible Exposure Limit (PEL) of 10 mg/m^3 for particulates not otherwise regulated (nuisance particulates). Fugitive dust monitoring will be performed during excavation and loading activities. The maximum expected

arsenic concentration for a dust level equal to the nuisance particulate PEL is 8.95E-05 mg/m^3 compared to the CA-PEL of 0.01 mg/m^3 for arsenic. Therefore, no arsenic monitoring will be employed at this site. Additionally, work gloves and/or a new pair of nitrile or latex gloves will be utilized to eliminate and/or minimize potential COC contact with unprotected skin when contaminated soils are being encountered.

Lead

Lead is a bio-accumulative substance and can cause gastrointestinal distress, central nervous system damage, encephalopathy, hypertension, and kidney damage. Chronic exposure to lead has been found to cause brain damage.

Airborne dust levels will be controlled by wetting soils to limit worker exposure to less than the 8-hour time weighted average (TWA) Permissible Exposure Limit (PEL) of 10 mg/m^3 for particulates not otherwise regulated (nuisance particulates). Fugitive dust monitoring will be performed during excavation and loading activities. The maximum expected lead concentration for a dust level equal to the nuisance particulate PEL is 3.4E-05 mg/m^3. The maximum expected lead concentration for a dust level equal to the nuisance particulate PEL is compared to the CA-PEL of 0.01 mg/m^3 for arsenic. Therefore, no lead monitoring will be employed at this site. Additionally, work gloves and/or a new pair of nitrile or latex gloves will be utilized to eliminate and/or minimize potential COC contact with unprotected skin when contaminated soils are being encountered.

6.0 AIR MONITORING PLAN

Implementation of the air monitoring program at the Site will be determined by conditions encountered during excavation and sampling activities. The action levels selected for use in this HASP are based on compounds and elements that are expected to be detected at the Site.

As required by South Coast AQMD (Rule 1466), airborne dust levels will be monitored using real-time, data-logging aerosol monitors (e.g., Personal DataRam or PDM-3 Miniram particulate monitor manufactured by MIE), at locations determined in the field. These instruments will be calibrated daily, set to log dust levels over 5 minute periods and visually read every 15 minutes. In consultation with DTSC, the frequency may be changed based on Site conditions and newly available data. At a minimum, one dust monitoring station will be placed upwind to monitor background levels and two downwind stations will be place at the Site boundary. A personal dust monitor will be in the exclusion zone to monitor worker safety at the Site.

Dust control measures in the exclusion zone will be based on the 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 (Arsenic Action Level) [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 Listed0	0.05 mg/m^3	0.4 mg/m^3	0.005 mg/m^3	0.001 mg/m^3

Notes:

a. Permissible Exposure Limits (Cal/OSHA Article 107, Table AC1)

b. 2008 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists

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 certified Industrial Hygienist will be consulted. If Site action level for calculated arsenic is exceeded on the integrated air monitors, a certified Industrial Hygienist will be immediately consulted.

d. Community action level for total dust/particulate is based on South Coast Air Quality Management District regulations. Arsenic action level is based on Cal/OSHA arsenic action level.

Airborne dust levels will be controlled by wetting soils to limit worker exposure to less than the 8-hour TWA PEL of 10 mg/m^3. Fugitive dust monitoring will be performed during excavation and loading activities. The maximum expected arsenic concentration for a dust level equal to the nuisance particulate PEL is 8.59E-05 mg/m^3 compared to the PEL of 0.5 mg/m^3 for arsenic. Therefore, no arsenic monitoring will be employed at this Site.

Airborne dust levels will be controlled by wetting soils to limit potential community exposure to less than the Community Action Level of 0.001 mg/m^3. Fugitive dust monitoring will be performed during excavation and loading activities. The maximum dust concentration from the dust monitoring station placed upwind of the excavation and near the excavation will be compared to the community action level of 0.001 mg/m^3 for arsenic.

The purpose of air monitoring is to identify and measure airborne contaminants in order to verify and determine the level of worker protection needed. Initial screening for identification is often qualitative (e.g., the contaminant, or the class to which it belongs, is demonstrated to be present), but determination of its concentration (quantification) must await subsequent testing. Two principle approaches are available for identifying and/or quantifying airborne contaminants:

- The on-site use of direct-reading instruments.
- Laboratory samples obtained by collection media (e.g., filter, absorbent, containers, etc.).

Direct-Reading Monitoring Instruments

Unlike air sampling devices, which are used to collect samples for subsequent analysis in a laboratory, direct-reading instruments provide information at the time of sampling, enabling rapid-decision making. Data obtained from the real-time monitors are used to assure proper selection of personnel protection equipment, engineering controls, and work practices. Overall, the instruments allow the user to determine if Site personnel are being exposed to concentrations that exceed exposure limits or action levels for specific hazardous materials.

INSTRUMENT: AEROSOL MONITOR

HAZARDS MONITORED: Airborne particulates

APPLICATION: Detects total concentration of airborne particulates at various particle sizes
DETECTION METHOD: Light Scattering
GENERAL CARE: Recharge or replace battery. Regularly clean lamp window
MAINTENANCE: Regularly clean and maintain the instrument and accessories.
TYPICAL OPERATING
TIME: Up to 24 hours

Site Air Monitoring and Sampling Program
See Table 4- Action Levels Below.

TABLE 4 - ACTION LEVELS

Work Zone	Device	Action* Level	Action
Breathing Zone	Aerosol Monitor	**1-10** mg/m^3	Monitor and record results initially and at least every 30 minutes.
		10-100 mg/m^3	All personnel will immediately leave the work area and contact the Project Manager. Apply engineering controls (e.g., wetting of soils) to reduce dust levels. With approval, personnel may re-enter the work zone using Level C protection. Monitor and record results at least every 15 minutes.
		>100 mg/m^3	Suppress dust levels by wetting with water. Erect wind breaks and cover exposed soils with plastic or tarps. All Level D personnel will immediately leave the work area. All Level C personnel will immediately leave the work area after covering the contaminated stockpiles. Contact the Project Manager.

All applicable monitoring or analytical instruments shall be calibrated daily. Calibration data, site reading, date, time, weather conditions, wind direction, and monitoring locations shall be recorded in Appendix B.

7.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

7.1 Rationale for Selection of PPE

All Site workers shall wear, at a minimum, sturdy leather 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 and nitrile gloves will be worn when hazardous materials are being handled. Levels D PPE is anticipated for this project when conducting site preparation work, excavation activities, air and soil monitoring and sampling.

7.2 Equipment

The anticipated level of protection for the activities is Level D and possibly Level C. 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		

Personnel will abide by a change out schedule should it be necessary to use Level C protection. Cartridges may be used for up to 8 hours or if breathing becomes difficult. Protective Clothing:

Suit Type:	Tyvek	**Boot Type:**	Sturdy Leather
Glove Type(s):	Nitrile	**Head Protection Type**:	Hard 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		

Suit Type:	Tyvek	**Boot Type:**	Sturdy Leather
Glove Type(s):	Nitrile	**Head Protection Type**:	Hard Hat
Eye Protection Type:	Glasses/Goggles	**Other Protection Clothing:**	N/A
Hearing Protection:	Muff Type or Foam Inserts		

+ Persons handling samples will be required to wear nitrile inner gloves.

7.3 Action Levels

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

8. 0 SITE CONTROL – Work Zones and Security

Appropriate barriers and/or privacy fencing will be installed prior to beginning the excavation process to provide that work areas are secure and safe. To prevent trespassers or unauthorized personnel are not allowed near work areas, security measures may include, but are not limited to:

- Posting notices directing visitors to the Site manager.
- Maintaining a visitor's log. Visitors shall have prior approval from the Site manager to enter the Site. Visitors shall not be permitted to enter the Site without first receiving site-specific health and safety information from the Site safety coordinator.
- Installing barrier fencing to restrict access to sensitive areas such as exclusion zones.
- Providing adequate Site security to provide that unauthorized personnel have no access to work areas and/or impacted materials.
- Before leaving the Site, personnel must sign out in the visitor's log.
- Maintaining a safe and secure work area, including areas where equipment is stored or placed, at the close of each workday.

Persons requesting Site access will be required to demonstrate a valid purpose for access and if access to work areas and/or impacted materials is planned, provide appropriate documentation to demonstrate they have received proper training required by the site-specific HASP.

- 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 Contractor-sponsored visitors are the responsibility of Contractor.

The work zone for this Site shall consist of the individual sampling locations and a setback providing sufficient room to provide safe working distances for all equipment and 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.

9.0 DECONTAMINATION PROCEDURES

9.1 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. All personnel 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. Segregated 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.

9.2 Hand Tools and Personal Equipment

All hand and personal equipment contaminated by activities at the Site will be decontaminated using a solution of trisodium phosphate **(TSP)** and water, then rinsed in tap water. 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.

Equipment which will be used in the decontamination procedure

- TSP;
- Distilled water;
- Scrub Brushes;
- Towels; and
- Plastic Buckets.

9.3 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.

10.0 CONFINED SPACE ENTRY PROCEDURES

Confined spaces at the Site are not anticipated for this project. However, in the event conditions change, then personnel are required to monitor and follow confined space entry procedures prior to entry. When confined space entry becomes necessary, Leighton personnel and subcontractors will do so in accordance with OSHA regulation 29 CFR 1910.146/8 CCR 5156-5158. An authorized Confined Space Entry Supervisor **(CSES)** prior to entry will perform a thorough inspection and evaluation of each confined space.

Entry into confined spaces will be restricted to personnel trained in accordance with provisions outlined in CFR 1910.146/8CCR 5156, wearing appropriate PPE.

Prior to entry into any confined space, a Confined Space Entry Permit will be obtained. The SSO will ensure the following:

- Atmosphere(s) surrounding and within the confined space are not potentially hazardous, explosive and/or oxygen deficient.
- Appropriate safety equipment is available and in use as designed.
- All assigned tasks are defined and approved by Client.
- Permits required for specific tasks have been obtained prior to initiating work.
- Appropriate monitoring equipment has been selected.
- Monitoring is performed correctly and with appropriate frequency.
- All foreseeable hazards have been mitigated.
- Adequate means of egress has been provided at sufficient intervals, and is properly secured.
- Emergency procedures have been established and rehearsed.
- Properly trained emergency personnel have been notified of intent to enter.
- Emergency equipment is readily available and in good condition.
- A designated, properly trained attendant is present.

11.0 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 on-site and will be placed beneath the equipment to contain leaking fluids, when conditions permit. Absorbent material will be stored on-site 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 Department of Transportation **(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 on-site 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.

12.0 SPILL CONTROL AND RESPONSES

A reportable spill (discharge), as described in 40 CFR 110.3, is a quantity that is found to be harmful to the public health and/or welfare of the United States.

12.1 Notification Procedures

Minor spills and leaks involving oil or hazardous substances must be reported to the Leighton PM. The person reporting the leak, spill, etc. is required to provide the following information:

- His/her name
- Location of spill and facility number if known
- Number of injured personnel and nature of injuries (if known)
- Substance spilled
- Amount spilled (estimate)
- Extent of spill
- Rate that substance is currently being released (estimated)
- Time spill occurred (estimated)
- Any other pertinent information

Once the spill, leak, or fire is reported to the Local Fire Department, the PM or his/her designated representative is responsible for initially investigating the reported spill.

Notifications to regulatory agencies will be conducted under the direction of the PM or his/her designated representative.

12.2 Summary of Appropriate Response Actions

A minor spill would involve no immediate threat to human health or the environment, minimal property damage, and no exceedance of the reportable quantity for that material. In the event of a minor spill, the appropriate response action is to call the Local Fire Department and supply the responders with as much information as possible. Stop leakage or contain the spilled material with absorbent material in an attempt containment to prevent the further leakage/migration of waste material only if adequate PPE and resources are available.

A major spill would involve immediate threat to human health or the environment, substantial property damage, or exceedance of the reportable quantity for that material. In the event of a major spill, the appropriate response action is to call the Local Fire Department by dialing 911 and supply the responders with as much information as possible. **Do not attempt to respond to major spills.**

13.0 GENERAL SAFE WORK PRACTICES

Each contractor shall provide all the equipment necessary to meet safe operating practices and procedures for their personnel on-site (this includes respirators, cartridges, sturdy leather boots, eye protection, Tyvek suits, hearing protectors, and neoprene and 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 Hazard Communication Standard;
- Title 8 Construction Safety Orders,
- Contractor Standard Operating Procedures (Refer to list below). Contractor will update versions of these safety guidelines and procedures if changes in the Operations Plan occur.

Leighton 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; and
- Any other action which is determined to be unsafe by the Site Safety Officer.
- Lighting will be at a minimum of 5 foot-candles. If needed, additional lighting will be provided.

14.0 EMERGENCY CONTACTS AND PROCEDURES

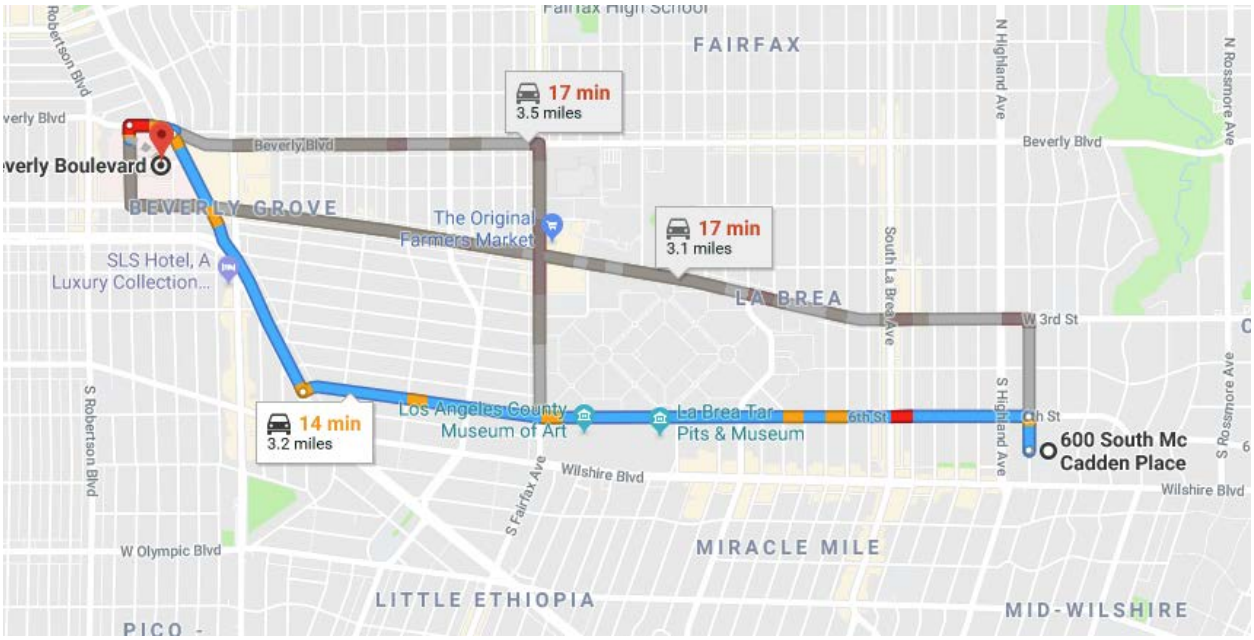
In case of any situation or unexpected occurrence, which requires outside assistance or support, the proper contact from the following list should be made:

Agency	Name of Contact	Telephone No.
Ambulance	n/a	911
Fire	n/a	911
Police	n/a	911
Cedars-Sinai Medical Center	Emergency Room	(310) 423-8780
Project Manager	Kris Lutton	(949) 681-4203
Safety and Health Officer	Kevin Hall	(949) 302-8491
Poison Control Center	n/a	(800) 876-4766
U.S. Dig Alert	n/a	(800) 227-2600
Centers for Disease Control	n/a	(800) 311-3435
National Response Center	n/a	(800) 424-8802
U.S. Healthworks	Corporate Physician	(909) 945-5011

Cedars-Sinai
8700 Beverly Boulevard
Los Angeles, CA 90048
Emergency Room: (310) 423-8780

1. Head north on South McCadden Place Toward West 6th Street (0.1 mile)
2. Turn left at the first cross street onto West 6th Street (2.1 miles)
3. Turn right onto South San Vicente Boulevard (0.8 mile)
4. Turn left onto Beverly Boulevard (0.1 mile)
5. Turn Left onto North George Burns Road (210 feet)

Hospital Route Map



14.1 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. Two sustained blasts followed by one or two blasts will notify all personnel to exit the Site and gather and the proposed meeting areas.

The one or two blasts following the two sustained blasts will indicate gathering at the primary or secondary meeting areas. For example, two sustained blasts, followed by one blast, will indicate evacuation to the primary meeting area. The primary and secondary meeting area will be established on a site-specific basis during the morning safety briefing. The Site Supervisor will complete a head count 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 on-site.

Gesture	Meaning
Hand clutching throat	Out of air/can't breath
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 sever 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. The Site Safety Officer and the Field Team Leader must supervise all emergency decontamination procedures.

In the event of a spill, leak explosion or condition that may potentially cause harms loss of life or severe injury appropriate notifications must be made. It is the responsibility of the Site manager in charge to contact their immediate supervisor and or Leighton health and safety officer so that the appropriate agencies can be notified in a timely manner.

15.0 TRAINING REQUIREMENTS

Prior to mobilization at the job Site or at any time during Site activities, if the Project Manager or Site Safety Officer requests, all applicable personnel and 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 29 CFR Part 1910.120, 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 staff working on-site has completed the OSHA mandatory 40-hour hazardous waste operations training and are trained annually in accordance with 29 CFR 1910.120 and 8 CCR 5192. Leighton staff is also trained and receive annual training in CPR and first aid (every 3 years), Hazard Communication, Blood borne Pathogens, and the Company's Injury & Illness Prevention Plan (IIPP). 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 personal protection equipment, 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;
- 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.

Confined Space Entry

Leighton personnel are trained in confined space entry procedures in accordance with OSHA regulation 29 CFR 1910.146 and 8 CCR 5156 - 5158. The training is conducted to educate employees on the recognition of hazards associated with confined spaces and on the proper procedures to be implemented prior to entrance.

Blood Borne Pathogens

Leighton personnel trained in CPR and first aid have the potential for exposure to blood borne pathogens; therefore, they are trained annually in accordance with 29 CFR 1910.1030 and 8 CCR 5193. Exposure to blood borne pathogens is prevented through the use of universal precautions, engineering and work practice controls, and personal protective equipment. Each work area shall be equipped with an industrial first-aid kit supplemented by a blood borne pathogen exposure control kit. Personnel will follow appropriate decontamination and disposal procedures in the event of a potential exposure to bodily fluids potentially infected with blood borne pathogens. All incidents must be immediately reported to the SSO and corporate health and safety director.

Injury and Illness Prevention Program

Leighton has an Injury IIPP as part of the Health and Safety Program. Leighton personnel are trained annually as required by 8 CCR 3203 (Senate Bill 198). The training is conducted in an effort to reduce the frequency and severity of work-related accidents/incidents, injuries and illnesses; provide uniform health and safety guidance for personnel and comply with all federal, state and local health regulations that affect Leighton activities.

Hazard Communication

Leighton trains employees in accordance with the Hazard Communication Standard (29 CFR 1910. 120 and 8 CCR 5194) in the law, material safety data sheets (MSDSs) and

labeling requirements. As part of the hazard communication standard, Leighton is required to provide MSDSs of chemicals brought to the facility and has them readily accessible to personnel as well as to facility representatives. Some MSDSs that would be brought on-site include the following:

- Calibration gases (methane, hydrogen, and isobutylene)
- Fit-test chemicals (isoamyl acetate (banana oil) stannous chloride (smoke tubes)
- Alconox or other decontamination soap
- Laboratory reagents or preservatives (HCI)
- Resins and epoxies

16.0 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 project manager, 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 creatinine.
- Vision test;
- Electrocardiogram; and
- Physician's certification that the employee is physically capable of wearing respiratory protection.

HEAT STRESS MONITORING

Heat Hazards

The effects of extreme outside temperatures will be controlled by a combination of workplace observations and work/rest cycles (see Table 5).

Rest break will be in a sheltered area. The Site Safety Officer will encourage workers to drink 16 oz. of water at each rest break even if they are not thirsty. (The normal thirst mechanism is not sensitive enough to ensure enough water will be drunk to replace fluids lost in sweat.) The Site Safety Officer will check each person for signs of heat exhaustion and heat stroke.

Heat exhaustion symptoms include pale, cool, moist skin, heavy sweating, dizziness, nausea, and fainting. If these symptoms occur move the person to the shade and give them a salt solution (2 pinches of salt per glass of water) every 15 minutes for 1 hour.

Table 5

Anywhere in Work Area, Monitoring with a Thermometer

Observe a 15-Minute Rest Break

59.5° - 64.5° F:	Cotton Clothes:	After each 150 minutes of work
	Coated Tyvek:	After each 120 minutes of work
64.5° - 69.5° F:	Cotton Clothes:	After each 120 minutes of work
	Coated Tyvek:	After each 90 minutes of work
69.5° - 74.5° F:	Cotton Clothes:	After each 90 minutes of work
	Coated Tyvek:	After each 60 minutes of work
74.5° - 77° F:	Cotton Clothes:	After each 60 minutes of work
	Coated Tyvek:	After each 30 minutes of work
77° F and above:	Cotton Clothes:	After each 45 minutes of work
	Coated Tyvek:	After each 15 minutes of work

*The Site Safety Officer has the authority to lengthen the work periods if conditions (e.g. wind, cloud cover) exist, which may reduce heat stress.

Heat stroke symptoms are red, hot, dry skin, lack of or reduced perspiration, nausea, dizziness and confusion, and strong and rapid pulse. If any of these symptoms are present, medical help will be obtained immediately. **Heat stress is a life-threatening condition CALL 911.**

If an employee experiences heat exhaustion or heat stroke, the Project Manager will be contacted as soon as possible.

Site personnel should use sunscreen, shade hats, long-sleeve shirts and long pants to avoid sun exposure

APPENDIX A

CHEMICAL INFORMATION SHEETS

Arsenic (inorganic compounds, as As)			**CAS** 7440-38-2 (metal)
As (metal)			**RTECS** CG0525000 (metal)
Synonyms & Trade Names Arsenic metal: Arsenic Other synonyms vary depending upon the specific As compound. [Note: OSHA considers "Inorganic Arsenic" to mean copper acetoarsenite & all inorganic compounds containing arsenic except ARSINE.]			**DOT ID & Guide** 1558 152 (metal) 1562 152 (dust)
Exposure Limits	NIOSH REL: Ca C 0.002 mg/m^3 [15-minute] See Appendix A		
	OSHA PEL: [1910.1018] TWA 0.010 mg/m^3		
	CAL OSHA PEL: 0.01 mg/m^3		
IDLH Ca [5 mg/m^3 (as As)] See: 7440382	**Conversion**		
Physical Description - Metal: Silver-gray or tin-white, brittle, odorless solid.			
MW: 74.9	BP: Sublimes	MLT: 1135°F (Sublimes)	Sol: Insoluble
VP: 0 mmHg (approx)	IP: NA		Sp.Gr: 5.73 (metal)
Fl.P: NA	UEL: NA	LEL: NA	
Metal: Noncombustible Solid in bulk form, but a slight explosion hazard in the form of dust when exposed to flame.			
Incompatibilities & Reactivities - Strong oxidizers, bromine azide [Note: Hydrogen gas can react with inorganic arsenic to form the highly toxic gas arsine.]			
Measurement Methods - NIOSH 7300, 7900; OSHA ID105			
Personal Protection & Sanitation 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 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 acid gas canister having a high-efficiency particulate filter/Any appropriate escape-type, self-contained breathing apparatus			
Exposure Routes inhalation, skin absorption, skin and/or eye contact ingestion			
Symptoms Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, respiratory irritation, hyperpigmentation of skin, [potential occupational carcinogen]			
Target Organs Liver, kidneys, skin, lungs, lymphatic system **Cancer Site** [lung & lymphatic cancer]			

Lead		
Pb		
Synonyms & Trade Names - Lead metal, Plumbum		
Exposure Limits	NIOSH REL*: TWA 0.050 mg/m^3 See Appendix C [*Note: The REL also applies to other lead compounds (as Pb)	
	OSHA PEL*: [1910.1025] TWA 0.050 mg/m^3 See Appendix C [*Note: The PEL also applies to other lead compounds (as Pb)	
	CAL OSHA: PEL 0.05 mg/m^3	
IDLH 100 mg/m^3 (as Pb) See: 7439921		**Conversion**
Physical Description - A heavy, ductile, soft, gray solid.		
MW: 207.2	BP: 3164°F	MLT: 621°F
VP: 0 mmHg (approx)	IP: NA	
Fl.P: NA	UEL: NA	LEL: NA
Noncombustible Solid in bulk form.		
Incompatibilities & Reactivities - Strong oxidizers, hydrogen peroxide, acids		
Measurement Methods - NIOSH 7082, 7105, 7300, 7700, 7701, 7702; OSHA ID121, ID125G, ID206 (See: NMAM or OSHA Methods)		
Personal Protection & Sanitation 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 NIOSH/OSHA Up to 0.5 mg/m^3: (APF = 10) Any air-purifying respirator with a high-efficiency particulate filter/(APF = 10) Any supplied-air respirator Up to 1.25 mg/m^3: (APF = 25) Any supplied-air respirator operated in a continuous-flow mode/(APF = 25) Any powered, air-purifying respirator with a high-efficiency particulate filter Up to 2.5 mg/m^3: (APF = 50) Any air-purifying, full-facepiece respirator with a high-efficiency particulate filter/(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/m^3: (APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode Up to 100 mg/m^3: (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 a high-efficiency particulate filter/Any appropriate escape-type, self-contained breathing apparatus		
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; hypotension		
Target Organs Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue		

APPENDIX B

FORMS

PLAN ACCEPTANCE FORM

Instructions: This form is to be completed by all Leighton Consulting personnel and subcontractors that work on the subject project work site. This form also incorporates the acknowledgement of an on-site safety meeting prior to the beginning of work.

Project No.: 11640.004

Client: Los Angeles Unified High School District (LAUSD)

Leighton Consulting Personnel

I represent that I have read and understood the contents of the above plan and agree to perform my work in accordance with it.

Signed	Date	Signed	Date
Signed	Date	Signed	Date

Subcontractor Personnel

The following subcontractors have been hired to perform work during this operation. All employees of subcontractors hired to perform work with the potential for exposure to hazardous waste shall meet the requirements of 29 CFR 1910.120.

Name: **Tel. No:**_____
Address:
Authorized Representative:
Services Provided:
Contract No.

Signature/Print Name **Date**

Name: **Tel. No:**_____
Address:
Authorized Representative:
Services Provided:
Contract No.

Signature/Print Name **Date**

For Subcontractor: Leighton Consulting is informing the subcontractor on this project of the known potential for encountering hazardous materials during this field investigation. The subcontractor will indemnify and hold Leighton Consulting harmless from and against all loss, damage and expense arising out of the work to be performed by the subcontractor at the site where hazardous materials may be expected.

Note: Return completed forms to Project File

UNDERGROUND SERVICE ALERT INFORMATION CHECKLIST
(1-800-227-2600)

Underground Service Alert will be contacted
prior to the start of field work.

1. LOCATION: Burroughs Middle School, 600 South McCadden Place, Los Angeles, CA
2. JOB FOREMAN: Kevin Hall CELL: (949) 302-8491
3. PROJECT MANAGER: Kris Lutton OFFICE: (949) 681-4203
4. FIELD REPRESENTATIVE: Kevin Hall
5. COMPANY ADDRESS: 17781 Cowan, Irvine, CA 92614
   OFFICE HOURS: 8am–5pm
6. PURPOSE OF FIELD WORK: Soil remediation and sampling

   STARTING DATE:

U.S.A.'S INFORMATION

1. CALLER: DATE: Time:
2. TICKET NO:
3. UTILITIES THEY WILL CONTACT:

_____ _____

_____ _____

4. REMARK: "Mark all on-site utilities"

Note: Return completed forms to Project File

FIELD EXPOSURE FORM

NAME: Kevin Hall
OTHER LEIGTHON CONSULTING PERSONNEL ON-SITE (Initials):
PROJECT NAME: Burroughs Middle School Comprehensive Modernization
PROJECT NUMBER: 11640.004
DATE(S) ON-SITE:
DURATION ON SITE: 7am to 4pm

FIELD ACTIVITIES:

___ DRILLING (Drilling Method: HAS__ AIR ROTARY__ MUD ROTARY___ DIRECT PUSH _ OTHER__)
_X_ EXCAVATION (Equipment Type: Backhoe_X_ Gradall___ Bulldozer___ Other___)
___ WATER SAMPLING (Quarterly Sampling: Yes___ No___)
_X_ SOIL SAMPLING
___ AIR MONITORING (Equipment Type: PID___ OVA___ Explosimeter___ Other_X_)
___ AIR SAMPLING
___ OTHER _____

REMARKS:

POTENTIAL CONTAMINANTS:

___ GASOLINE
___ DIESEL
___ SOLVENTS
_X_ METALS (Type: Arsenic and lead)
___ PESTICIDES (Type: _____)
___ VINYL CHLORIDE
___ OTHER (e.g, PCBs)

REMARKS:

PERSONAL PROTECTIVE EQUIPMENT (PPE)

___	LEVEL A	_X_	HARD HAT	_X_	GLOVES (Nitrile)
___	LEVEL B	_X_	SAFETY VEST	___	GLOVES (Leather)
___	LEVEL C	_X_	SAFETY GLASSES/GOGGLES	___	RESPIRATOR (Cartridge)
_X_	LEVEL D	_X_	GLOVES (Disposable)		TYPE: (_____)
		_X_	HEARING PROTECTION		

OTHER:

INDICATE ANY PROBLEMS ENCOUNTERED WHILE ON-SITE:

_____ _____
SIGNATURE DATE

APPENDIX C

EQUIPMENT CHECKLIST

EQUIPMENT CHECKLIST

Personal Protective Equipment (PPE)

___ APR available
- ___ Full Face
- ___ Half Face
- ___ Cartridge Type: Organic Vapor

___ Escape pack
X Latex Gloves
X Outer work gloves
___ Type: Solvex
___ Protective Clothing
___ Type: TYVEK Coated __ Uncoated _
___ Rain suit
___ Butyl apron
X Safety glasses
X Hard hat
___ Neoprene safety boots
X Steel-toed boots
___ Boot covers
X Hearing protection

Instrumentation

___ OVA
___ OVM
___ TIP
___ Explosimeter (GasTech)
___ Draeger kit:
Tubes:_____
___ Low flow air pumps
___ High flow air pumps
___ Radiation monitor
___ Radiation dosimeters
___ Noise meter
___ WBGT
___ pH meter
___ Magnetometer
___ GPR
___ EM
___ Hydrogen sulfide meter
X GPS

First Aid Equipment/Supplies

X First Aid kit
___ Oxygen
X Eye wash
___ Stretcher
X Fire Extinguishers
___ Thermometer(s)
___ Blood pressure monitor
X Drinking water

Site Security

___ Traffic cones
___ Flagging Tape
___ Warning signs
___ Waste Drum labels
___ Security guard
___ _____

Decontamination Equipment

___ Plastic Sheeting
___ Large Washtubs
__ Small Washtubs
X Scrub brushes
___ Pressurized Sprayers
___ Solvent Sprayer(s)
___ Plastic Trash Cans
X Trash Bags
X Water bottles
X Paper towels
___ Duct tape
___ Masking tape
X Zip lock bags
X Detergent
___ TSP
X Distilled Water
___ Sodium Hypochlorite
___ Sodium Bicarbonate
___ Bleach
___ Hand Soap
___ Solvent Rinse
___ Acetone
___ Hexane
X Plastic Buckets
___ Methanol
___ Isopropyl Alcohol
___ Other:
___ Tables
___ Chairs
X Tool Kit

Sampling Equipment

- [X] Submersible Pump
- [ ] Bladder Pump
- [ ] Foot Pump
- [ ] Teflon Hose (__ ft)
- [ ] Hose Connector
- [ ] Bailer
- [ ] Rope
- [ ] Brass Sleeves (6 inch)
- [X] Plastic End Caps
- [X] Teflon Sheets
- [X] 40 ml Vials
- [X] Sampling Jars
- [X] Ice Chest and Ice
- [ ] Sampler Rack
- [ ] Soil Gas Survey Kit
- [ ] Hand Auger

Other Equipment

- [X] Camera
- [ ] Film
- [ ] Drum Dolly
- [X] Trowels (stainless steel)
- [ ] Pick
- [X] Shovels
- [ ] Binoculars
- [ ] Megaphone
- [X] Radio/Mobile Telephone
- [ ] Fencing
- [ ] Thieving Rods
- [ ] Bung wrench (brass)
- [ ] Step ladder
- [X] 55-gallon drums

APPENDIX E

QUALITY ASSURANCE PROJECT PLAN

QUALITY ASSURANCE PROJECT PLAN
BURROUGHS MIDDLE SCHOOL COMPREHENSIVE MODERNIZATION PROJECT
600 SOUTH MCCADEN PLACE
LOS ANGELES, CALIFORNIA 90005

Prepared For:

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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 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 GC, GC/MS analysis with control limits, detection limits and reporting limits, LCS / MS / MSD with control limits and method blanks in order to comply with the 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 and lead were identified at the site. Soil remediation through excavation and off-site disposal is the preferred option. Confirmation soil samples will be collected and analyzed for arsenic and lead. Waste profile samples will be collected for waste characterization suitable for acceptance at a designated landfill. Air monitoring of dust levels will be performed for health and safety requirements and ambient air levels monitoring.

1.3 Project Task Description

This project includes attending a scoping meeting with the DTSC, preparing a Removal Action Workplan (RAW), remedial excavation and off-site 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 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 is to identify areas of the site with contamination that might 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.

Thirteen locations ranging in size from approximately 25 square feet to approximately 450 square feet will be excavated to between 1.5 and 4.5 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 chemicals of concern (COC) concentrations exceeding the cleanup goals (CGs) horizontally beyond the excavation boundaries. Based on the proposed excavations, a total of three sidewall samples (A2-CS1-0.5, A2-CS2-0.5, and A2-CS3-0.5) and seven bottom samples (D-CS1-2.5, E-CS1-4.5, E-CS2-4.5, F-CS1-2.5, F-CS2-2.5, G-CS1-3.5, and G-CS2-3.5) will be collected. Additional confirmation sampling will be collected if confirmation soil sample results are above the CGs.

2.2 Sampling Methods

Confirmation samples will be collected using a clean stainless steel trowel and transferred directly into clean laboratory provided 4-oz. glass jars with Teflon-lined plastic lids. The confirmation samples will be properly labeled and placed in individual Ziploc 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 for arsenic and lead, using USEPA Method 6010B. 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)).

List of General Parameters	EPA Method of Analysis	MDL (mg/kg)	PQL (mg/kg)
Arsenic	6010B	0.248	0.30
Lead	6010B	0.192	0.50

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 arsenic and lead.

- 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 parameter request sheet. Two field duplicates, E-CS102-4.5 and D-CS101-2.5, will be collected.

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.
- Matrix spike/matrix spike duplicate (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. 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:

$$RPD = A - B / [(A + B)/2] \times 100\%$$

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 x 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 and lead, 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

TRANSPORTATION PLAN

TRANSPORTATION PLAN

Leighton has prepared a Removal Action Work plan (RAW) to address arsenic- and lead-impacted soils in the comprehensive modernization area on the Burroughs Middle School campus, located at 600 South McCadden Place in Los Angeles, California. The response action (RA) proposed in the RAW includes impacted soil removal and off-site 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 DTSC Screening Levels for arsenic (>12.0 mg/kg) and/or lead (>80 mg/kg). Waste characterization was performed during the subsurface investigation. Soils excavated from the modernization area will be handled as non-hazardous waste or non-RCRA hazardous waste, as appropriate. 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 wind speed exceeds 25 miles per hour. Dust control measures will follow the South Coast Air Quality Management District 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 material will be profiled based on existing in-situ analytical data to the extent it is acceptable to the receiving facility. Profile data will be submitted to the disposal facility, and once approval from the disposal facility is obtained, the excavated soil will be transported to the disposal facility. If the disposal facility requires additional analytical data, waste characterization samples will be collected from stockpiled soil, as summarized in Tables 5 and 6 of the RAW. Additional documentation will be provided to the Department of Toxic Substances Control (DTSC) pertaining to waste disposal profiles and waste disposal acceptance prior to off-site shipments of waste.

Hazardous Waste Management

During the subsurface investigation, soils from the modernization area were analyzed and found to contain elevated concentrations of arsenic and lead. The soils from within the modernization area were evaluated to contain nonhazardous levels of arsenic. Soluble 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 4 through 7 of the RAW), soils from the modernization area will be handled and disposed as non-RCRA (California) hazardous waste. Wastes will be properly managed, manifested, and transported by a registered waste hauler to a permitted waste disposal facility. Nonhazardous waste soil is anticipated to be transported to the Chiquita Canyon Landfill in Castaic, California. Non-RCRA hazardous waste soil is anticipated to be transported to South Yuma County Landfill in South Yuma, Arizona.

SOIL STAGING

Soils may be stockpiled on visqueen during the excavations from the area or excavated and transferred directly to waiting trucks or covered bins.

REQUIREMENTS OF TRANSPORTERS

The RA contractor will retain qualified transporters for hauling the excavated soils off-site. 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 off-site disposal will be loaded, covered, and transported to the designated disposal facility. Prior to loading, trucks will be staged on-site to avoid impacts to the local streets. It is anticipated that approximately 9 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.

TRUCK LOADING OPERATIONS

Excavation and loading operations will commence no earlier than 7:00 am and continue until no later than 9:00 pm during weekdays and between 8:00 am and 6:00 pm on Saturdays in conformance with local noise ordnances. It is anticipated that

approximately 9 truckloads will be removed from the Site. The excavation activities are expected to last no longer than five days. Trucks will enter the Site along West 6th Street and either be direct loaded from the excavation area or be loaded in the first parking lot where stockpiled soil will be staged (Figure F-1). After loading, trucks will proceed to the decontamination area. The decontamination area will consist of an area in the eastern parking lot 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 exit the Site via 6th Street. Excavating equipment used during the remedial action will be swept and decontaminated in similar fashion. The trucks will then exit the decontamination area and leave the Site traveling west on W 6th Street. Trucks will turn right (north) onto Highland Ave, then merge onto I-101, at which point they will travel to Castaic, California, or South Yuma, Arizona for nonhazardous waste soil and non-RCRA (California) hazardous waste soil respectively.

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 (California) hazardous waste soils at the modernization area from the point of generation to the point of final deposition. Prior to transporting the excavated soil off-site, an authorized LAUSD representative will sign each waste manifest. The waste hauler will then sign the manifest and distribute one signed copy to the removal action contractor's site manager. The environmental professional will maintain a copy of the waste manifest for each truckload on-site until completion of the removal action. 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 left onto 6th Street, turn right onto Highland Ave, merge onto I-101 and then merge onto I-5. 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.

OFF-SITE LAND DISPOSAL FACILITIES

Based on the results of the subsurface investigation, the excavated soil will be transported to a proper off-site 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 on-site, 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. Once the waste hauler is selected, a copy of its contingency plan will be attached to the Transportation Plan.

Trucks will enter and leave via West 6th Street Gate

Truck staging area within secured gated school property

W 6th St

S McCadden Pl

S June St

Wilshire Blvd

S Tremaine Ave

Kenesaw Ave

Driveway

Parking Area

Decon

Former Location of Fuel Oil AST

Former Location of Incinerator

Tennis Court

Handball Court

Playground Area

Teacher Parking

Driveway

M-16

M-3S

Number	Building Name
1	Main Building/Auditorium
2	Boy's Gym
3	General Classroom
4	General Classroom
5	General Classroom
6	General Classroom
7	Classroom Bldg
8	Science/Workroom
9	Shop Bldg
10	Storage/Portable Bldg
11	Tool Room
12	Storage/Portable Bldg
13	Flammable Storage
14	All Purpose Bldg
15	Storage/Portable Bldg
16	Special Education
17	Girl's Locker
18	General Classroom
19	Storage-Portable Bldg
20	Cafeteria -Classroom Bldg
21	General Classroom
22	General Classroom
23	General Classroom
24	General Classroom
25	General Classroom

Legend

- Burroughs Middle School
- Development Areas
- Existing Buildings
- Former Building Constructed Post-1992
- Approximate Former Building Footprints
- Step-Out Sampling Location (See Figures 4 to 7)
- M-1 Soil Sample/Probe Location
- EB1-1 Soil Boring Location (Existing Building)
- FB5-1 Soil Boring Location (Former Building)

N W E S

0 150 Feet

Site Plan provided by Advisian,Worley Parsons Group. dated 10/16/2016.

TRUCK ROUTE MAP
Burroughs Middle School

FIGURE F-1

Project: 11640.004	Eng/Geol: JCH/RL
Approx. Scale 1"=75'	Date: January 2018

Drafted By: BES | Checked By: JCH

Leighton

APPENDIX G

GENERIC
REMOVAL ACTION COMPLETION REPORT
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REMOVAL ACTION COMPLETION REPORT
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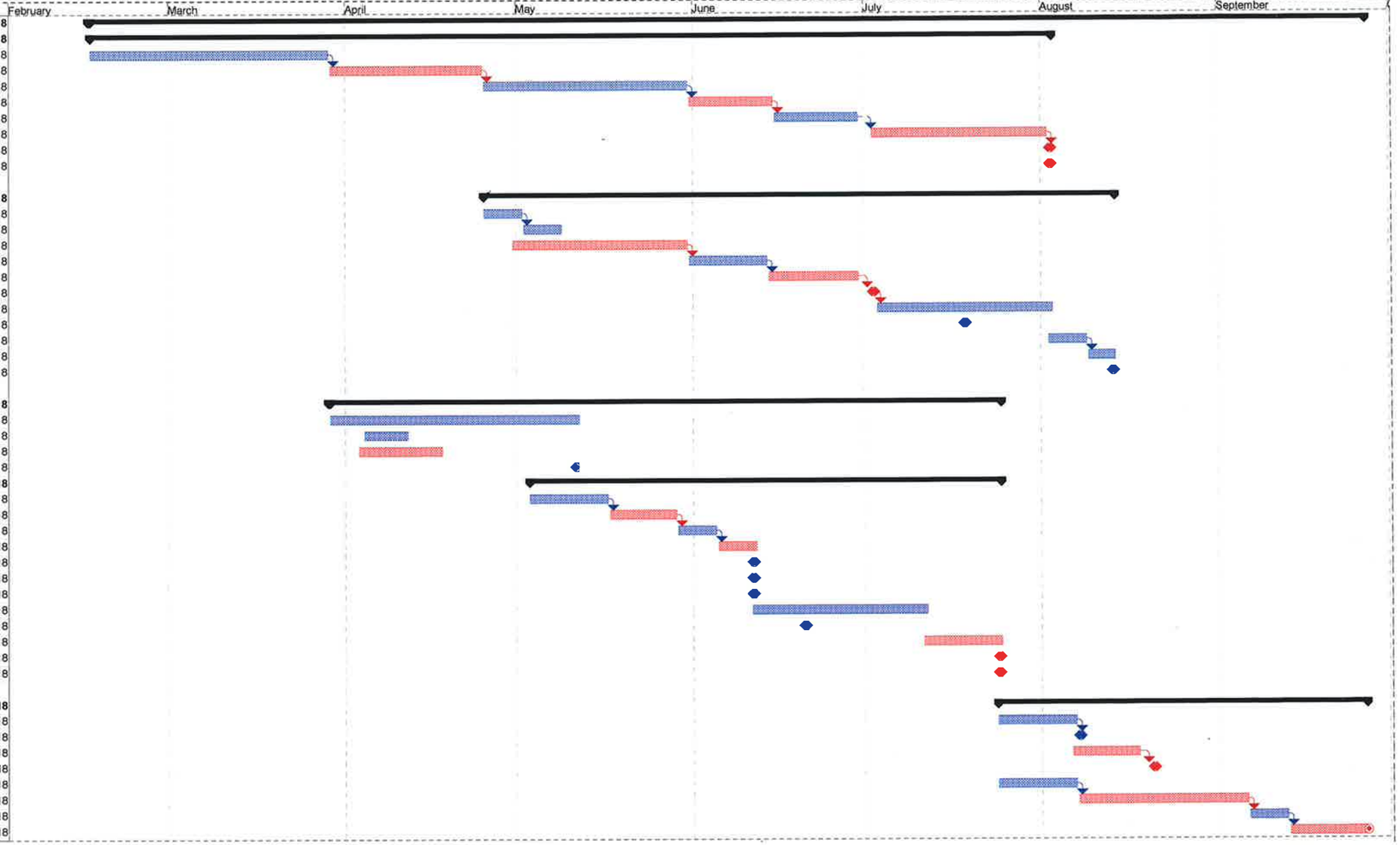
APPENDIX H

RAW PROCESS SCHEDULE

11640.004

Appendix H
RAW Process Schedule
LAUSD Burroughs Middle School Comprehensive Modernizaton Project
600 McCadden Place
Los Angeles, CA

ID	Task Name	Duration	Start	Finish
1	**RAW Process**	**160 days**	**Thu 2/15/18**	**Wed 9/26/18**
2	**REMEDIAL ACTION WORKPLAN**	**121 days**	**Thu 2/15/18**	**Thu 8/2/18**
3	District Prepares and Submits Draft RAW	30 days	Thu 2/15/18	Wed 3/28/18
4	DTSC Reviews and Comments on Draft RAW	19 days	Thu 3/29/18	Tue 4/24/18
5	District Revises Draft Final RAW	26 days	Wed 4/25/18	Wed 5/30/18
6	DTSC Reviews and Comments on Final Draft RAW	11 days	Thu 5/31/18	Thu 6/14/18
7	District Prepares Draft Final RAW	11 days	Fri 6/15/18	Fri 6/29/18
8	DTSC Reviews Draft Final Raw	23 days	Mon 7/2/18	Wed 8/1/18
9	DTSC Issues Adequacy Letter for Draft Final RAW	1 day	Thu 8/2/18	Thu 8/2/18
10	DTSC Prepares Completion form for RAW	1 day	Thu 8/2/18	Thu 8/2/18
11				
12	**CEQA Document Addendum**	**79 days**	**Wed 4/25/18**	**Mon 8/13/18**
13	District Prepares and Submits Draft CEQA Document Addendum	5 days	Wed 4/25/18	Tue 5/1/18
14	Preparation of Responsible Agency Checklist	5 days	Wed 5/2/18	Tue 5/8/18
15	DTSC Review of Draft CEQA Addendum	23 days	Mon 4/30/18	Wed 5/30/18
16	District Revises Draft CEQA Document Addendum	10 days	Thu 5/31/18	Wed 6/13/18
17	DTSC Reviews Draft Revised CEQA Addendum	12 days	Thu 6/14/18	Fri 6/29/18
18	DTSC Approval for 30-Day Public Review	1 day	Mon 7/2/18	Mon 7/2/18
19	30-Day Public Review Period	23 days	Tue 7/3/18	Thu 8/2/18
20	Public Meeting (optional)	1 day	Wed 7/18/18	Wed 7/18/18
21	District Responds to Comments and Finalizes MND	5 days	Thu 8/2/18	Wed 8/8/18
22	District Prepares Notice of Determination (NOD)	3 days	Thu 8/9/18	Mon 8/13/18
23	District files NOD with County Clerk and State Clearing House	1 day	Mon 8/13/18	Mon 8/13/18
24				
25	**PUBLIC PARTICIPATION ACTIVITIES**	**84 days**	**Thu 3/29/18**	**Tue 7/24/18**
26	District Prepares Draft Community Letter & Survey	32 days	Thu 3/29/18	Fri 5/11/18
27	District Updates Mailing List and CRP/PPP	6 days	Wed 4/4/18	Wed 4/11/18
28	DTSC Reviews and Approves Community Letter and Survey	11 days	Tue 4/3/18	Tue 4/17/18
29	District Mails Community Letter and Survey	1 day	Fri 5/11/18	Fri 5/11/18
30	**Community Profile, Public Notice (PN) & Fact Sheet (FS)**	**59 days**	**Thu 5/3/18**	**Tue 7/24/18**
31	District Prepares Draft Community Profile with PN & FS	10 days	Thu 5/3/18	Wed 5/16/18
32	DTSC Reviews Draft Community Profile with PN & FS	8 days	Thu 5/17/18	Mon 5/28/18
33	District Revises Community Profile with PN & FS	5 days	Tue 5/29/18	Mon 6/4/18
34	DTSC Reviews & Approves Community Profile with PN & FS	5 days	Tue 6/5/18	Mon 6/11/18
35	District Mails Fact Sheet	1 day	Mon 6/11/18	Mon 6/11/18
36	District Publishes Public Notice in Local Newspapers	1 day	Mon 6/11/18	Mon 6/11/18
37	District Updates Information Repositories	1 day	Mon 6/11/18	Mon 6/11/18
38	RAW Public Comment Period	23 days	Mon 6/11/18	Wed 7/11/18
39	Public Meeting (optional)	1 day	Wed 6/20/18	Wed 6/20/18
40	DTSC Prepares Responsiveness Summary	10 days	Wed 7/11/18	Tue 7/24/18
41	DTSC Transmits Responsiveness Summary to Commentors	1 day	Tue 7/24/18	Tue 7/24/18
42	DTSC Approves RAW	1 day	Tue 7/24/18	Tue 7/24/18
43				
44	**PERFORM REMEDIAL ACTION--UNDER CONSTRUCTION SITE OCCUPANCY**	**47 days**	**Tue 7/24/18**	**Wed 9/26/18**
45	District Implements RAW	10 days	Tue 7/24/18	Mon 8/6/18
46	District Submits Confirmation Data and Maps to DTSC	1 day	Tue 8/7/18	Tue 8/7/18
47	DTSC Reviews Confirmation Data and Maps for Expansion Area	10 days	Mon 8/6/18	Fri 8/17/18
48	DTSC Provides District with Approval for Site Grading	1 day	Mon 8/20/18	Mon 8/20/18
49	District Prepares Removal Action Completion Report (RACR)	10 days	Tue 7/24/18	Mon 8/6/18
50	DTSC Reviews RACR	22 days	Tue 8/7/18	Wed 9/5/18
51	District Revises RACR	5 days	Thu 9/6/18	Wed 9/12/18
52	DTSC Approves RACR	10 days	Thu 9/13/18	Wed 9/26/18



Task	Rolled Up Milestone	Project Summary	Inactive Milestone	Manual Summary Rollup	External Tasks
Milestone	Rolled Up Progress	Group By Summary	Inactive Summary	Manual Summary	External Milestone
Summary	Split	Inactive Task	Manual Task	Start-only	Progress
Rolled Up Task	External Tasks	Inactive Milestone	Duration-only	Finish-only	Deadline

APPENDIX I

INFORMATION ABOUT YOUR GEOENVIRONMENTAL REPORT

Important Information about This

Geoenvironmental Report

Geoenvironmental studies are commissioned to gain information about environmental conditions on and beneath the surface of a site. The more comprehensive the study, the more reliable the assessment is likely to be. But remember: Any such assessment is to a greater or lesser extent based on professional opinions about conditions that cannot be seen or tested. Accordingly, no matter how many data are developed, risks created by unanticipated conditions will always remain. *Have realistic expectations.* Work with your geoenvironmental consultant to manage known and unknown risks. Part of that process should already have been accomplished, through the risk allocation provisions you and your geoenvironmental professional discussed and included in your contract's general terms and conditions. This document is intended to explain some of the concepts that may be included in your agreement, and to pass along information and suggestions to help you manage your risk.

Beware of Change; Keep Your Geoenvironmental Professional Advised

The design of a geoenvironmental study considers a variety of factors that are subject to change. Changes can undermine the applicability of a report's findings, conclusions, and recommendations. *Advise your geoenvironmental professional about any changes you become aware of.* Geoenvironmental professionals cannot accept responsibility or liability for problems that occur because a report fails to consider conditions that did not exist when the study was designed. Ask your geoenvironmental professional about the types of changes you should be particularly alert to. Some of the most common include:

- modification of the proposed development or ownership group,
- sale or other property transfer,
- replacement of or additions to the financing entity,
- amendment of existing regulations or introduction of new ones, or
- changes in the use or condition of adjacent property.

Should you become aware of any change, *do not rely on a geoenvironmental report.* Advise your geoenvironmental professional immediately; follow the professional's advice.

Recognize the Impact of Time

A geoenvironmental professional's findings, recommendations, and conclusions cannot remain valid indefinitely. The more time that passes, the more likely it is that important latent changes will occur. *Do not rely on a geoenvironmental report if too much time has elapsed since it was completed.* Ask your environmental professional to define "too much time." In the case of Phase I Environmental Site Assessments (ESAs), for example, more than 180 days after submission is generally considered "too much."

Prepare To Deal with Unanticipated Conditions

The findings, recommendations, and conclusions of a Phase I ESA report typically are based on a review of historical information, interviews, a site "walkover," and other forms of noninvasive research. When site subsurface conditions are not sampled in any way, the risk of unanticipated conditions is higher than it would otherwise be.

While borings, installation of monitoring wells, and similar invasive test methods can help reduce the risk of unanticipated conditions, *do not overvalue the effectiveness of testing.* Testing provides information about actual conditions only at the precise locations where samples are taken, and only when they are taken. Your geoenvironmental

professional has applied that specific information to develop a general opinion about environmental conditions. *Actual conditions in areas not sampled may differ (sometimes sharply) from those predicted in a report.* For example, a site may contain an unregistered underground storage tank that shows no surface trace of its existence. *Even conditions in areas that were tested can change*, sometimes suddenly, due to any number of events, not the least of which include occurrences at adjacent sites. Recognize, too, that *even some conditions in tested areas may go undiscovered,* because the tests or analytical methods used were designed to detect only those conditions assumed to exist.

Manage your risks by retaining your geoenvironmental professional to work with you as the project proceeds. Establish a contingency fund or other means to enable your geoenvironmental professional to respond rapidly, in order to limit the impact of unforeseen conditions. And to help prevent any misunderstanding, identify those empowered to authorize changes and the administrative procedures that should be followed.

Do Not Permit Any Other Party To Rely on the Report

Geoenvironmental professionals design their studies and prepare their reports to meet the specific needs of the clients who retain them, in light of the risk management methods that the client and geoenvironmental professional agree to, and the statutory, regulatory, or other requirements that apply. The study designed for a developer may differ sharply from one designed for a lender, insurer, public agency...or even another developer. *Unless the report specifically states otherwise, it was developed for you and only you.* Do not unilaterally permit any other party to rely on it. The report and the study underlying it may not be adequate for another party's needs, and you could be held liable for shortcomings your geoenvironmental professional was powerless to prevent or anticipate. Inform your geoenvironmental professional when you know or expect that someone else—a third-party—will want to use or rely on the report. *Do not permit third-party use or reliance until you first confer with the geoenvironmental professional who prepared the report.* Additional testing, analysis, or study may be required and, in any event, appropriate terms and conditions should be agreed to so both you and your geoenvironmental professional are protected from third-party risks. *Any party who relies on a geoenvironmental report without the express written permission of the professional who prepared it and the client for whom it was prepared may be solely liable for any problems that arise.*

Avoid Misinterpretation of the Report

Design professionals and other parties may want to rely on the report in developing plans and specifications. They need to be advised, in writing, that their needs may not have been considered when the study's scope was developed, and, even if their needs were considered, they might misinterpret geoenvironmental findings, conclusions, and recommendations. *Commission your geoenvironmental professional to explain pertinent elements of the report to others who are permitted to rely on it, and to review any plans, specifications or other instruments of professional service that incorporate any of the report's findings, conclusions, or recommendations.* Your geoenvironmental professional has the best understanding of the issues involved, including the fundamental assumptions that underpinned the study's scope.

Give Contractors Access to the Report

Reduce the risk of delays, claims, and disputes by giving contractors access to the full report, *providing that it is accompanied by a letter of transmittal that can protect you* by making it unquestionably clear that: 1) the study was not conducted and the report was not prepared for purposes of bid development, and 2) the findings, conclusions, and recommendations included in the report are based on a variety of opinions, inferences, and assumptions and are subject to interpretation. Use the letter to also advise contractors to consult with your geoenvironmental professional to obtain clarifications, interpretations, and guidance (a fee may be required for this service), and that—in any event—they should conduct additional studies to obtain the specific type and extent of information each prefers for preparing a bid or cost estimate. Providing access to the full report, with the appropriate caveats, helps prevent formation of adversarial attitudes and claims of concealed or differing conditions. If a contractor elects to ignore the warnings and advice in the letter of transmittal, it would do so at its own risk. Your geoenvironmental professional should be able to help you prepare an effective letter.

Do Not Separate Documentation from the Report

Geoenvironmental reports often include supplemental documentation, such as maps and copies of regulatory files, permits, registrations, citations, and correspondence with regulatory agencies. If subsurface explorations were performed, the report may contain final boring logs and copies of laboratory data. If remediation activities occurred on site, the report may include: copies of daily field reports; waste manifests; and information about the disturbance of subsurface materials, the type and thickness of any fill placed on site, and fill placement practices, among other types of documentation. *Do not separate supplemental documentation from the report. Do not, and do not permit any other party to redraw or modify any of the supplemental documentation for incorporation into other professionals' instruments of service.*

Understand the Role of Standards

Unless they are incorporated into statutes or regulations, standard practices and standard guides developed by the American Society for Testing and Materials (ASTM) and other recognized standards-developing organizations (SDOs) are little more than aspirational methods agreed to by a consensus of a committee. The committees that develop standards may not comprise those best-qualified to establish methods and, no matter what, no standard method can possibly consider the infinite client- and project-specific variables that fly in the face of the theoretical "standard conditions" to which standard practices and standard guides apply. In fact, these variables can be so pronounced that geoenvironmental professionals who comply with every directive of an ASTM or other standard procedure could run afoul of local custom and practice, thus violating the standard of care. Accordingly, when geoenvironmental professionals indicate in their reports that they have performed a service "in general compliance" with one standard or another, it means they have applied professional judgement in creating and implementing a scope of service designed for the specific client and project involved, and which follows some of the general precepts laid out in the referenced standard. To the extent that a report indicates "general compliance" with a standard, you may wish to speak with your geoenvironmental professional to learn more about what was and was not done. *Do not assume a given standard was followed to the letter.* Research indicates that that seldom is the case.

Realize That Recommendations May Not Be Final

The technical recommendations included in a geoenvironmental report are based on assumptions about actual conditions, and so are preliminary or tentative. Final recommendations can be prepared only by observing actual conditions as they are exposed. For that reason, you should retain the geoenvironmental professional of record to observe construction and/or remediation activities on site, to permit rapid response to unanticipated conditions. *The geoenvironmental professional who prepared the report cannot assume responsibility or liability for the report's recommendations if that professional is not retained to observe relevant site operations.*

Understand That Geotechnical Issues Have Not Been Addressed

Unless geotechnical engineering was specifically included in the scope of professional service, a report is not likely to relate any findings, conclusions, or recommendations about the suitability of subsurface materials for construction purposes, especially when site remediation has been accomplished through the removal, replacement, encapsulation, or chemical treatment of on-site soils. The equipment, techniques, and testing used by geotechnical engineers differ markedly from those used by geoenvironmental professionals; their education, training, and experience are also significantly different. If you plan to build on the subject site, but have not yet had a geotechnical engineering study conducted, your geoenvironmental professional should be able to provide guidance about the next steps you should take. The same firm may provide the services you need.

Read Responsibility Provisions Closely

Geoenvironmental studies cannot be exact; they are based on professional judgement and opinion. Nonetheless, some clients, contractors, and others assume geoenvironmental reports are or certainly should be unerringly precise. Such assumptions have created unrealistic expectations that have led to wholly unwarranted claims and disputes. To help prevent such problems, geoenvironmental professionals have developed a number of report provisions and contract terms that explain who is responsible for what, and how risks are to be allocated. Some people mistake these for "exculpatory clauses," that is, provisions whose purpose is to transfer one party's rightful responsibilities and liabilities to someone else. Read the responsibility provisions included in a report and in the contract you and your geoenvironmental professional agreed to. *Responsibility provisions are not "boilerplate."* They are important.

Rely on Your Geoenvironmental Professional for Additional Assistance

Membership in the Geoprofessional Business Association exposes geoenvironmental professionals to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a geoenvironmental project. Confer with your GBA-member geoenvironmental professional for more information.

GEOPROFESSIONAL BUSINESS ASSOCIATION

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