DRAFT

Removal Action Workplan

Comprehensive Modernization Project

North Hollywood High School

Prepared for:

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LIST OF ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
bgs	below ground surface
CalEPA	California Environmental Protection Agency
CMP	Comprehensive Modernization Project
COPC	Chemicals of potential concern
CSC	Clark Seif Clark, Inc.
DTSC	Department of Toxic Substances Control
EE/CA	Engineering Evaluation/Cost Analysis
ESA	Environmental Site Assessment
ft	feet
HASP	Health and Safety Plan
HERO	DTSC Human and Ecological Risk Office
in	inch
LAUSD	Los Angeles Unified School District
mg/kg	milligram/kilogram
mg/L	milligram/Liter
msl	mean sea level
NCP	National Contingency Plan
OCP	organochlorine pesticides
OEHS	LAUSD Office of Environmental Health and Safety
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PEA	Preliminary Environmental Assessment
PG	Professional Geologist
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance/quality control
OEHHA	CalEPA Office of Environmental Health Hazard Assessment
RACR	Removal Action Completion Report
RAO	Remedial Action Objective
RAP	Remedial Action Plan
RAW	Removal Action Workplan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RSL	Regional Screening Level
SAP	Sampling and Analysis Plan
SIM	Selective Ion Monitoring
Site	North Hollywood High School, 5231 Colfax Avenue, North Hollywood, CA

SSCG	Site-specific Cleanup Goal
STLC	Soluble Threshold Limit Concentration
SVOC	semi-volatile organic compound
TCLP	Toxicity Characteristic Leaching Procedure
TPH	total petroleum hydrocarbons
µg/kg	microgram/kilogram
USA	Underground Service Alert
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

CERTIFICATION

This Removal Action Workplan has been prepared to guide a soil removal action at the Los Angeles Unified School District's North Hollywood High School Comprehensive Modernization Project. The report was prepared in a manner consistent with the level of care and skill ordinarily exercised by professional engineers, geologists, and environmental scientists, under the technical direction of the undersigned.

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Removal Action Workplan
North Hollywood High School

EXECUTIVE SUMMARY

This Draft Removal Action Workplan (RAW) report has been prepared by Clark-Seif-Clark, Inc. (CSC) on behalf of the Los Angeles Unified School District (LAUSD) for portions of the existing North Hollywood High School as part of a Comprehensive Modernization Project at the school. North Hollywood High School (the Site) is located at 5231 Colfax Avenue on the northwest corner at the intersection of Colfax and Magnolia Avenues in North Hollywood, California 91601 (Figure 1). The school site is approximately 22-acres and developed with more than 10 permanent buildings and approximately 20 modular buildings. The school buildings include classrooms, offices, cafeteria, gym, auto shop, and a wood shop (Figure 2). Other parts of the school include a sports field, petting zoo, agriculture area, courtyards, walkways, and landscaped areas. The Comprehensive Modernization Project includes (1) demolition of 12 buildings and 23 portable structures; (2) construction of new buildings and structures; (3) upgrades to facilities throughout the campus, and (4) improvements to comply with federal, state and local facilities requirements.

A Phase I Environmental Site Assessment (ESA) was completed in 2016 and identified the following items of potential environmental concern to be evaluated by sampling:

- Several septic tanks, drywells and cesspools
- Hydraulic lifts and clarifier at the Auto Shop
- Aerial deposition from two incinerators/chimneys
- Impact to soil from lead-based paint, arsenic and/or organochlorine pesticides (OCP).

Based on the findings of the ESA, a Preliminary Environmental Assessment (PEA) Equivalent Report was completed in accordance with relevant California Department of Toxic Substances Control (DTSC) guidance, including the *PEA Guidance Manual* and the *Interim Guidance, Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers*. Environmental assessment activities included a total of 119 initial soil borings with an additional 31 step-outs borings at locations where concentrations exceeded screening levels. A total of 15 soil vapor probes were also completed in areas of concern on the site. Initial field sampling activities were completed in November and December 2016, and step-out borings were installed in March, April, and June 2017. In addition, nine initial borings were installed around the East Gym in July 2017 which was added to the PEA sampling program. Samples collected from the Site were selectively analyzed for OCPs by EPA Method 8081, lead and arsenic by EPA Method 6010, total petroleum hydrocarbons (TPH) by EPA Method 8015M, volatile organic compounds (VOCs) by EPA Method 8260B, semi-volatile organic compounds (SVOCs) by 8270C, polychlorinated biphenyls (PCBs) by EPA Method 8082, and polycyclic aromatic hydrocarbons (PAHs) by 8270 SIM. Soil vapor samples were analyzed for VOCs by EPA Method 8260B.

During the PEA investigation, a total of 17 areas at the school were identified with lead above 80 mg/kg or arsenic above 12 mg/kg. No other subsurface impacts were identified. The highest detections of arsenic and lead were 111 mg/kg and 357 mg/kg, respectively. An approximate in-place volume of arsenic- and lead-impacted soil was determined during the PEA investigation: 71.7cubic yards from the 17 separate locations. Locations with lead or arsenic impacts are shown on Figure 2.

The areas identified with lead or arsenic concentrations above screening levels will be remediated as part of the Comprehensive Modernization Project planned at the school. This Removal Action Work Plan (RAW) has been be prepared to describe the procedure for remediating soil with elevated lead or arsenic concentrations to acceptable levels.

Three remedial action alternatives were identified and evaluated in accordance with procedures outlined in the National Oil and Hazardous Substances Pollution Contingency Plan and applicable DTSC guidance, including Alternative 1 (No Action), Alternative 2 (Excavation and Off-Site Disposal), and Alternative 3 (Excavation with On-Site Burial, Capping, and Land Use Restrictions). The volume of soil analyzed for each alternative was increased ten percent to 78.9 cubic yards to account for the results of post-excavation confirmation samples.

Alternative 2 was selected as the preferred alternative because it was less expensive than Alternative 3, was easily implemented, and protective of future occupants of the Site and the environment. The estimated cost for Alternative 2 is $151,206 which includes the 10% contingency for soil volume.

The preferred remediation method (Alternative 2) involves the excavation and off-site disposal of the impacted soil from 17 identified areas spread throughout the Site. Approximately 71.7 cubic yards (in-place) of impacted soil would be excavated to depths of 1.5 feet to 3 feet below ground surface. Once the impacted soil has been removed soil samples will be collected from the exposed excavation sidewalls and bottoms to confirm the site-specific cleanup goals have been met and the remedial action objectives (RAOs) have been achieved. Excavations will be backfilled and graded with clean soil from new Site construction operations or with imported backfill material. Sand-cement slurry will be utilized to backfill excavations in paved areas.

This RAW also contains the following elements: a discussion of the applicable or relevant and appropriate requirements to be followed during implementation of the proposed remedial actions; a detailed narrative of the remedial process and logistics, including air monitoring and dust control; a Sampling and Analysis Plan; a Health and Safety Plan (Appendix B); a Quality Assurance Project Plan (Appendix C); a Transportation Plan (Appendix D); and an implementation schedule. All work outlined in this RAW will be performed under LAUSD oversight, who will issue a "no further action" determination and certify the Site as safe for school construction upon successful completion of the response action

1.0 INTRODUCTION

This Removal Action Workplan (RAW) has been prepared by Clark Seif Clark, Inc. (CSC) on behalf of the Los Angeles Unified School District (LAUSD) for portions of the existing North Hollywood High School (the Site) located at 5231 Colfax Avenue, North Hollywood, California (Figure 1). Environmental investigation activities were conducted as part of a Comprehensive Modernization Project (CMP) planned at the school which includes (1) demolition of 12 buildings and 23 portable structures; (2) construction of new buildings and structures; (3) upgrades to facilities throughout the campus, and (4) improvements to comply with federal, state and local facilities requirements. The results of the environmental investigations indicated a RAW should be prepared to address approximately 71.7 cubic yards of soil containing elevated concentrations of arsenic and/or lead at 17 locations on the school campus (Figure 2).

1.1 Purpose

The RAW was developed in accordance with applicable regulatory guidance, including criteria specified in the California Health and Safety Code (H&SC), Section 25356.1 and prepared in general accordance with the DTSC's *Remedial Action Plan (RAP) Policy* (DTSC, 1995). Additionally, the RAW was prepared in a manner consistent with the federal Comprehensive Environmental Response Compensation and Liability Act (CERCLA, 42 U.S.C. 9601 et seq.), as amended; the National Contingency Plan (NCP, 40 Code of Federal Regulations [CFR] Part 300), as amended; the California H&SC (Section 25300 et seq.), as amended; applicable United States Environmental Protection Agency guidance (USEPA, 1988); Resource Conservation and Recovery Act (RCRA); and other applicable State and local laws and regulations.

The RAW identifies and evaluates candidate remedial approaches to clean up the Site so that it is suitable for continued use as a public school. Using prescribed screening criteria, a preferred remedial alternative is selected for detailed discussion. The RAW also summarizes previous field investigation results and establishes site-specific cleanup goals that are protective of human health and the environment. After the proposed removal action has been completed, a *Removal Action Completion Report* (RACR) will be prepared and submitted to the LAUSD for review and approval. The RACR will include a discussion of remedial field activities, any variances to the approved RAW, confirmation sampling results, data validation, laboratory reports, waste manifests, and other applicable information associated with the removal action.

1.2 Removal Action Objectives

Based on the results of previous soil sampling, soil at various locations within the proposed CMP area are impacted with arsenic and/or lead at concentrations greater than the site-specific cleanup goals (SSCGs) of 12 and 80 mg/kg, respectively (see Section 4 for a more detailed discussion of how these SSCGs were developed). The primary objectives of the removal action described in this RAW are to mitigate and minimize exposure of humans to the chemicals of concern (COCs, in this case arsenic and lead) in shallow soil through inhalation, dermal absorption, and /or ingestion identified within the CMP area.

1.3 Report Organization

The organization of the RAW is consistent with the format recommended in the DTSC guidance documents *Remedial Action Plan (RAP) Policy* (DTSC, 1995) and *Further Action/Response Actions at School Sites* (DTSC, 2003). An overview of the contents of the RAW is provided below:

Section 1.0 describes the purpose, objectives, and structure of the RAW.

Section 2.0 presents background information regarding the Site, including its location, current and historical uses, physical setting, and previous site investigations.

Section 3.0 presents an overview of the nature, source, and extent of contamination at the Site, based on the results of the previous site investigations.

Section 4.0 presents an updated health risk evaluation and identifies the site-specific cleanup goals that will be used for remediation.

Section 5.0 identifies and describes three remedial alternatives and provides a detailed evaluation of each alternative in accordance with criteria prescribed by the National Contingency Plan (NCP). The rationale for the selection of a preferred remedial alternative is also included in this section.

Section 6.0 summarizes applicable or relevant and appropriate requirements (ARARs) for the project, including federal, state and local regulations, agency guidelines, and public participation requirements.

Section 7.0 provides a detailed description of the preferred remedial alternative, including tasks associated with field preparation, soil removal and management, air monitoring and dust control, confirmation sampling and analysis, and site restoration.

Section 8.0 provides the proposed project organization, implementation schedule and reporting requirements.

Section 9.0 lists the references used in preparing this RAW.

Copies of a *Health and Safety Plan*, *Quality Assurance Project Plan*, and *Transportation Plan* that will be followed during implementation of the RAW are appended to this report

2.0 SITE BACKGROUND

Site background information was obtained from a Phase I Environmental Site Assessment (ESA) prepared for the Site (E2 ManageTech, Inc., August 2016) and from the Preliminary Environmental Assessment Equivalent (PEA) (CSC, September 29, 2017).

2.1 Site Description

2.1.1 Site Identification

The Site is identified as North Hollywood High School and the property has been assigned Los Angeles Assessor's Parcel Number 2348-013-900.

2.1.2 Site Description

North Hollywood High School is located at 5231 Colfax Avenue on the northwest corner of the intersection of Colfax and Magnolia Avenues in North Hollywood, California 91601 (Figure 1). The School site is approximately 22-acres and developed with more than 10 permanent buildings and approximately 20 modular buildings. The school buildings include classrooms, offices, cafeteria, gym, auto shop, and a wood shop (Figure 2). Other parts of the school include a sports field, petting zoo, agriculture area, courtyards, walkways, and landscaped areas.

Adjacent and surrounding sites consist mostly of multifamily residences. Commercial/retail businesses (barbershop, donut shop, fast food restaurant) are located to the southeast. No environmental concerns from adjacent or nearby sites were identified in the Phase I assessment.

2.1.3 Designated Contact Person

The designated contact person for LAUSD Office of Environmental Health and Safety (OEHS) is Mr. Steven Morrill, P.E., Site Assessment Project Manager. Mr. Morrill's contact information is listed below.

Los Angeles Unified School District
Office of Environmental Health & Safety
333 South Beaudry Avenue, 21st Floor
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2.2 Environmental Setting

This section describes the site environmental setting including topography, geology and hydrogeology.

2.2.1 Topography

According to the US Geological Survey, Van Nuys, topographic map, the site is at an elevation of approximately 640 feet above mean sea level. The topography in the immediate area is generally flat with a slight slope to the southeast. The nearest water body towards the southeast direction from the school is located approximately 1.5 miles away.

2.2.2 Geology

The site is located within the Transverse Ranges Province in the Los Angeles Basin. Subsurface sediments consist of younger and older alluvial deposits of interbedded silts, sands, and gravels derived from the Verdugo and San Gabriel Mountains to the north and the Santa Monica Mountains to the south. A possible unnamed fault crosses the site from northeast to southwest and is depicted on US Geological Society Quaternary Faults Map (E2 ManageTech, Inc., August 25, 2016). Sediments encountered during drilling consisted mostly of fine silty sand and sand.

2.2.3 Hydrogeology

Groundwater information from nearby sites indicated groundwater is first encountered at depths ranging from 130 to 150 feet below ground surface. Groundwater in the area is expected to flow north and east towards the Central Branch Tujunga Wash. Groundwater was not encountered during site investigation.

2.3 Previous Site Investigations

2.3.1 Phase I ESA (2016)

Site background information was obtained from a Phase I Environmental Site Assessment (ESA) (E2 ManageTech, Inc., August 25, 2016). The Phase I ESA was performed in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM Standard E 1527-13). The purposes of the Phase I ESA were described as follows:

- To identify historical and/or current activities that resulted in, or potentially could have resulted in, environmental impairment to the Site through the release of hazardous substances (including petroleum compounds) to soil or groundwater (referred to as "recognized environmental conditions" or RECs).

- To acquire information regarding site screening issues that are of specific interest to LAUSD in remodeling of existing school sites, including geologic hazards and proximity of the Site to potentially hazardous activities (e.g., fuel pipelines, airports, railroads, high voltage power transmission lines, major roadways, etc.).

The Phase I ESA included an inspection of the Site and surrounding area, acquisition and evaluation of a standard environmental database search report from Environmental Data Resources, agency file reviews, historical research (using Sanborn fire insurance maps, aerial photographs, topographic maps, city directories, etc.), and interviews with personnel knowledgeable about the school and its history.

The Phase I ESA indicated the site was undeveloped until at least 1927/1928 when the school was built. Several areas of environmental concern were identified at the school and are described below and shown on Figures provided in Appendix A.

- West Gym – A transformer vault/switchboard room and a boiler room were present from as early as 1955 to 1969. The time these features were no longer used is unknown. Historical boilers may have used bunker fuel or diesel fuel stored in USTs. However, evidence of historical USTs for the boilers was not identified.
- Computer Labs – A Metal Shop, Graphic Art area, and Electric Shop were present in this area of the school in 1964 and operated for an unknown period of time.
- Auto Shop – An auto shop has been present since 1964. Hydraulic hoists and a three-stage clarifier are present at the Auto Shop.
- Wood Shop – The present Wood Shop was previously used as the Auto Shop. An incinerator/chimney was located at the Wood Shop.
- Historic Print Shop – Located in the area north of the Cafeteria from as early as 1955 to 1961.
- Septic tanks / drywells / cesspools – Building plans from 1930, 1933, and 1964 indicated a total of four septic pits and seven cesspools were located on site. In addition, a "chemical cesspool" and "concrete yard and grease pit" were located on site.

The following Recognized Environmental Conditions (RECs) were identified during the Phase I ESA:

- Potential subsurface releases from solvent usage at the Metal Shop, Graphic Arts Area, and an Electric Shop which were located in the present Computer Lab location;
- Potential subsurface releases of automotive chemicals, petroleum–based products or solvents at the present Auto Shop as well as from hydraulic lifts and a clarifier located at the Auto Shop;

- Potential releases of petroleum–based products or solvents at the former Wood Shop, located in the present Auto Shop;
- Potential releases of chemicals of potential concern (COPC) at several septic tanks, drywells, and cesspools located on site;
- Aerial deposition of COPC from an incinerator/chimney located in the basement of East Gym/Auditorium and at an incinerator/chimney located in the present Wood Shop building;
- Potential releases of solvents and printing chemicals at the former Print Shop, located north of the present Cafeteria;
- Lead-based paint, arsenic, and/or organochlorniated pesticides (OCPs) which may have been used on site.

A PEA Equivalent Sampling Locations document (E2 ManageTech, Inc., August 24, 2016) was prepared to evaluate RECs identified in the Phase I ESA.

2.3.2 PEA Equivalent (2016 - 2017)

Sampling completed in accordance with the PEA Equivalent Sampling document are shown on Figures provided in Appendix A. Soil samples collected from the school were selectively analyzed as specified by LAUSD OEHS for the following COPCs:

- OCP by EPA Method 8081
- Lead and arsenic by EPA Method 6010
- Total Petroleum Hydrocarbons (TPH) by EPA Method 8015M
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082
- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by 8270C
- Polycyclic Aromatic Hydrocarbons (PAHs) by 8270 SIM
- Title 22 Metals by 6010B/7000

Sample locations identified as SB001 to SB007 were located in the Auto Shop to assess the hydraulic hoists. Soil samples were collected at 10, 15, and 20 feet below ground surface (bgs) in these borings and analyzed for TPH and VOCs at 10 feet bgs in all borings except boring SB001 where both the 10 and 15 foot samples were analyzed.

Sample locations identified as SB008 to SB009 were located just outside the Auto Shop to assess the clarifier. Soil samples were collected at 4 and 8 feet bgs in these borings and analyzed for TPH, VOCs, and PCBs.

Sample location identified as SB010 was located adjacent to the historical grease pit. Soil samples were collected at 10 and 15 feet bgs and analyzed for TPH and VOCs.

Sample locations identified as SB011 to SB020 and SB110 were located adjacent to historical cesspools, septic pits, or dry wells. Soil samples were collected in borings SB011 to SB014 at 10 and 15 feet bgs and in borings SB015 to SB020 and SB110 at 5, 10, 15, 20, 25, 30, 35, and 40 feet bgs. Soil samples from all depths from the borings adjacent to historical cesspools, septic pits, or dry wells were analyzed for TPH, VOCs, PAHs, and metals.

Sample locations identified as SB21 to SB109 and SB111 to SB119 were adjacent to the buildings planned for renovation (Appendix A, Figure 2). Samples were collected at 0 to 0.5, 1 to 1.5, and 2 to 2.5 feet bgs in these borings. Soil samples from borings SB21 to SB108 (Appendix A, Figure 2) were first analyzed for arsenic, lead, and OCPs from 0.5 feet bgs. Deeper samples from 1.5 and 2.5 feet bgs were analyzed based on results of upper samples. Shallow borings adjacent to east gym, SB111 to SB119 (Appendix A, Figure 2) were analyzed at all shallow sample depths of 0.5, 1.5, and 2.5 feet bgs for arsenic, lead, and OCPs. The soil sample collected at 0.5 feet bgs from boring SB109 (Appendix A, Figure 3) located adjacent to the incinerator was analyzed for SVOCs and metals.

Additional soil sample borings (“step-outs”) were installed where impacts were initially identified in order to define the extent of area affected, shown on Figures 3.1 to 3.17 from this report. Samples from step-out locations were analyzed accordingly.

Soil vapor boring locations (identified as SV1 to SV15) were completed adjacent to the Auto Shop, Computer Lab, and Wood Shop as indicated in the work plan (locations shown on Figures provided in Appendix A). Soil vapor samples were analyzed for VOCs by EPA Method 8260B.

In addition, a bulk sample was collected of residual ash/debris in the school’s incinerator which is no longer in use. The sample was analyzed for SVOCs by EPA Method 8270C and Title 22 Metals by EPA Method 6010B/7000.

Sampling results are summarized as follows:

- No VOCs were detected in any of the soil vapor samples collected from the Site.
- No TPH, VOCs, SVOCs, PAHS, or PCBs were detected in any of the analyzed samples.
- OCPs detected at the site included chlordane (alpha, gamma, total), 4,4’-DDD, 4,4’-DDE, 4,4’-DDT, dieldrin, endrin, endrin aldehyde, and heptachlor epoxide, however, none of these constituents were detected above screening levels.
- Metals concentrations were within typical background ranges for California soils with the exception of lead and arsenic concentrations in a few isolated locations.

  - Lead was initially detected above 80 mg/kg at 13 soil sample locations (SB043, SB051, SB065, SB067, SB068, SB069, SB071, SB072 SB094, SB100, SB109, SB114, and SB115) at concentrations ranging from 81.4 to 357 mg/kg.

  - Arsenic was initially detected above 12 mg/kg in four soil sample locations (SB041, SB061, SB102, SB119) at concentrations ranging from 15.7 to 54.5 mg/kg. Arsenic was detected in higher concentrations in three step-out samples, ranging to a maximum concentration of 117 mg/kg in SB041S1-2.5.

- Additional sampling was completed at sample locations with arsenic or lead concentrations above screening levels which defined the limits of arsenic or lead impacts.

- A total of approximately 71.7 cubic yards of soil impacted with lead or arsenic should be removed as part of the modernization project. A summary of the estimated volumes and waste characterization for each impacted area are provided on Tables 1 and 2. Approximately 64.1 cubic yards of soil from 14 separate locations has been characterized or assumed California non-RCRA hazardous waste, and 7.6 cubic yards from four separate locations has been characterized or assumed non-hazardous.

- The bulk sample collected of residual ash/debris in the school's incinerator contained elevated metal including arsenic (116 mg/kg), lead (655 mg/kg), nickel (1,040 mg/kg) and vanadium (1,670 mg/kg). Of these compounds, only nickel concentrations were above the soluble regulatory level, which classifies this material as California hazardous waste.

3.0 NATURE, SOURCE, AND EXTENT OF CHEMICALS OF CONCERN

Based on the results of the investigations presented in the PEA (CSC 2017), arsenic and lead have been determined to be COCs for the Site. Summaries of the nature, source, and extent of COCs are presented below.

3.1 Source and Location of Chemicals of Concern

The source of arsenic-impacted soil may be historical use of arsenical-based herbicides for weed control in both paved and unpaved areas. Historically, arsenic was widely used as a pesticide and herbicide and was commonly used at industrial sites as a soil sterilizer. Presently, about 90 percent of all arsenic produced is used as a preservative for wood to make it resistant to rotting and decay.

The source of lead-impacted soil may be historical use of lead-based paint in previously demolished and existing buildings. In response to the potential harmful effects from lead, the U.S. Consumer Product Safety Commission banned application of paint containing more than 600 mg/kg of lead on residential structures in 1978. Weathering, scraping, chipping, and abrasion can cause lead to be released to, and accumulated in, soil around old structures constructed before 1978.

The 17 locations where arsenic- and/or lead-impacted soil has been identified are shown on this report's Figures 2 and 3.1 to 3.17.

3.2 Extent and Volume of Contamination

The total estimated in-place volume of soil is approximately 71.7 cubic yards. Adding a 10% contingency for extra volume based on confirmation sample results increases the volume estimate to 78.9 cubic yards. Of this volume, the majority of impacted soils (approximately 64.1 cubic yards) can be classified as non-RCRA California hazardous for offsite disposal purposes and a small portion (approximately 7.6 cubic yards) is classified as non-hazardous for offsite disposal purposes. Anticipated volumes and disposal classifications for the impacted soil are detailed in Tables 1 and 2.

3.3 Health Effects of Chemicals of Concern

Potential exposures to the COCs could result from dermal contact and direct ingestion of the affected soil, as well as inhalation of airborne dust particulates.

Arsenic is a metalloid. Inhalation of high levels of arsenic can cause a sore throat or irritated lungs. Ingesting very high levels can result in death. Exposure to lower levels of arsenic can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet. Low level exposures can also cause a darkening of the skin and the appearance of small corns or warts on the palms, soles, and torso. Several studies have shown that ingestion of inorganic arsenic can increase the risk of skin cancer and cancer in the lungs, bladder, liver, kidney, and prostate; and inhalation can increase the risk of lung cancer. Children and pregnant women are believed to be at an increased risk to arsenic exposures.

Lead is a bio-accumulative substance and a reproductive and developmental toxin. Lead poisoning is one of the most commonly reported occupational diseases among adults due to inhalation of dust or fumes. Lead can impair the nervous system, affecting hearing, vision, and muscle control. It is toxic to lungs, kidneys, blood, and heart. Possible exposure pathways include ingestion and inhalation. Symptoms develop more quickly through inhalation exposure than ingestion since absorption takes place through the respiratory tract rather quickly. Acute lead poisoning is most common in children with history of pica; symptoms include anorexia, vomiting, malaise, and convulsions due to increased intracranial pressure, which may lead to permanent brain damage. Exposure in children can cause irreversible learning deficits, mental retardation, weight loss, weakness, anemia, cognitive dysfunction, and delayed neurological and physical development. Lead is considered a teratogen, but is not a suspected carcinogen.

3.4 Targets Potentially Affected by the Site

A Conceptual Site Model was developed to identify the receptors that may come into contact with affected soil and dust and to indicate potential exposure pathways; they include the following:

- Arsenic and lead are the COCs at the Site.
- Residential exposure conditions were assumed, as directed by LAUSD. This is the most sensitive exposure scenario used to characterize properties without land restrictions.
- Exposure to COCs during and following implementation of this RAW consider ingestion, inhalation, and dermal contact pathways from shallow soils at the Site.
- Exposure to COCs can occur only if a complete pathway exists by which human receptors may be exposed to chemicals in soil, water, or air.
- During implementation of this RAW, the receptors will be construction workers, occupants of neighboring properties, students, faculty, administrative staff, maintenance workers, and custodial workers.
- Following the CMP, receptors will be students, faculty, administrative staff, maintenance workers, and custodial workers

4.0 CLEANUP GOALS

Based on results of investigations presented in the PEA (CSC, 2017), arsenic and lead have been determined to be the COCs for the Site. Analytical results for lead and arsenic concentrations in excavation areas are shown on Figures 3.1 to 3.17 of this report and provided in Appendix A. Summaries of site specific cleanup goals (SSCGs) for these COCs are discussed below.

4.1 Site-specific cleanup goals

4.1.1 Arsenic

SSCG: 12 mg/kg

Arsenic has proven problematic in the evaluation of school sites, since the risk-based soil concentration of approximately 0.03 mg/kg is nearly always below the concentrations detected at a site. Therefore, DTSC conducted a statistical evaluation of nineteen LAUSD school sites and five southern California counties to determine the level of arsenic that is representative of background concentrations (DTSC, 2008). The term "background" collectively referred to both naturally-occurring and anthropogenic sources of arsenic in shallow soil. The study determined that an arsenic concentration of 1.5 mg/kg most likely represents the upper bound concentration of naturally-occurring arsenic, while a concentration of 12 mg/kg represents the upper bound concentration of naturally-occurring plus anthropogenic arsenic. Based on this study, DTSC currently uses an arsenic concentration of 12 mg/kg as a screening level for new school sites.

4.1.2 Lead

SSCG: 80 mg/kg

Adverse health effects associated with exposure to lead have been correlated with concentrations of lead in whole blood, rather than with intake of lead by an individual. The US Centers for Disease Control considers a blood lead level of 10 micrograms/deciliter (µg/dl) to be cause for concern. The DTSC used this criterion for toxicity evaluations until 2007, when the California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment (OEHHA) developed a new criterion based on a source-specific "benchmark change" of 1 µg/dl, which is the estimated incremental increase in children's blood lead that would reduce their Intelligence Quotient (IQ) by up to 1 point. Using this new approach, CalEPA established a preliminary remediation goal (action level) of 80 mg/kg for lead in soil (CalEPA, 2009). This standard represents the concentration of lead in soil that will result in a 90th percentile estimate of a 1 µg/dl increase in blood lead in the most sensitive receptor (i.e., child or fetus).

The DTSC Office of Human and Ecological Risk (HERO) has implemented the risk-based soil concentration as a residential land use scenario exposure point concentration, calculated as the 95 percent upper confidence limit of the arithmetic mean (95% UCL) of 80 mg/kg or less for lead in soil (DTSC, 2013a). With regard to the assessment of lead risk, if sufficient data are available, HERO recommends calculating the 95% UCL lead concentration for each exposure area. If individual samples exceed 80 mg/kg, the exposure would still be acceptable as long as the 95% UCL is below 80 mg/kg and hot spots or data outliers are not present.

5.0 ENGINEERING EVALUATION/COST ANALYSIS

This Engineering Evaluation/Cost Analysis (EE/CA) was conducted for the proposed removal action in accordance with USEPA's *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA* (USEPA, 1993). It was prepared to aid in the evaluation of remedial alternatives for mitigation of impacted soil at the Site. The proposed removal action will be conducted in general accordance with protocols of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). 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 removal action.

5.1 Removal Action Scope

This RAW was prepared to address soil impacted with elevated concentrations of arsenic and lead at the Site. The estimated volume of soil proposed for remediation is calculated to total approximately 71.7 cubic yards, (see Table 1 and Section 3.2). Adding a 10% contingency for extra volume based on confirmation sample results this volume increases to 78.9 cubic yards. The goals and objectives of the removal action are presented in Section 1.2, while SSCGs for each of the COCs are identified in Section 4.1.

5.2 Criteria for Evaluating Removal Action Alternatives

The process of development and screening of remediation alternatives may be viewed conceptually as occurring in several phases:

- <u>Identification of Impacted Areas and Volumes</u> – Definition of areas and volumes to be remediated is necessary for full evaluation of alternatives. Definition will depend on the remediation objectives previously defined. Cost estimates are particularly sensitive to changes in volume estimates.

- <u>Identification and Evaluation of Technologies</u> – Applicable technologies are identified and evaluated. Inappropriate technologies are screened out.

- <u>Assembly of Technologies into Alternatives</u> – Remedial alternatives are developed from applicable technologies.

- <u>Screening of Alternatives</u> – Alternatives are evaluated on a general basis to determine effectiveness, implementability, and cost. Those alternatives not screened out are selected for detailed analysis.

- <u>Evaluation of Alternatives</u> – Alternatives are evaluated in more detail, as described on the following page.

The NCP establishes nine criteria for evaluation and analysis of remedial alternatives and selection of the preferred alternative, as follows:

- Overall Protection of Human Health and the Environment – This criterion evaluates overall protectiveness of the remedy and provides adequate short-term and long-term protection to human health and the environment.

- Compliance with Applicable or Relevant and Appropriate Requirements – This criterion evaluates the alternative's ability to comply with chemical-, action-, and location-specific laws and regulations. That is, laws or regulations that address specific chemicals, apply to various sorts of actions such as air emission regulations for soil excavation, or define restrictions based on location such as land use covenants. Potential ARARs are outlined and discussed in Section 7.

- Long-Term Effectiveness – This criterion addresses issues related to the management of residual risk remaining after the remedial action has been performed. The primary focus is on long term protection of human health and the environment, including controls that may be required to manage risk posed by treatment residuals and/or untreated wastes.

- Reduction in Toxicity, Mobility, or Volume – This criterion focuses on the degree to which a remedial action reduces contaminant toxicity, mobility, and volume or otherwise minimizes residual risk.

- Short-Term Effectiveness – This criterion evaluates the effects of the remedial alternative during the construction and implementation phases, such as the risk of exposure of workers and the community during remedial activities, and environmental impacts that result from implementing the action. It also focuses on how quickly the remedy achieves environmental protection.

- Implementability – This criterion evaluates remedial actions with respect to technical and administrative applicability to Site conditions. Implementability includes such items as regulatory approval, ability to obtain necessary permits, and availability of resources such as labor and equipment. For this project, the likelihood that technical problems associated with implementation could lead to schedule delays is an important balancing criterion.

- Cost – This criterion evaluates the relative cost of alternatives, including capital and operation and maintenance (O&M) expenses. Actual costs will be influenced by a number of factors, including true labor and material cost, competitive market conditions, final project scope, and implementation schedule.

- Community Acceptance – This criterion considers the potential for agreement or opposition by members of the community to the remedial alternative.

- State Acceptance – This criterion considers the likelihood that the alternative will be acceptable to the regulatory agencies involved.

The first two criteria (overall protection of human health and the environment and compliance with ARARs) are considered threshold criteria, and alternatives that do not satisfy these criteria are eliminated from consideration. The next five criteria are referred to as balancing criteria, and are used to evaluate, compare, and rank the remedial alternatives. Guidance under the CERCLA poses a series of appropriate questions to be addressed when evaluating each alternative against the balancing criteria. These questions were addressed during the analysis process to provide consistency in evaluation of the alternatives. The final two criteria (community and State acceptance) can only be fully addressed after lead agencies and other interested parties have reviewed and commented on the proposed alternatives.

5.3 Identification and Evaluation of Remedial Action Alternatives

The DTSC (2008b) guidance, *Proven Technologies and Remedies Guidance, Remediation of Metals in Soil* (PT&R Guidance) was used to identify and screen remedial alternatives that might be appropriate for the Site. DTSC conducted a study that reviewed and screened data for 188 sites where the primary contaminants were metals. This study found that “excavation and off-site disposal” and “containment by capping” were the most frequently selected cleanup alternatives. Therefore, this guidance was prepared to streamline the cleanup process for sites that are suitable for these PT&R alternatives. It has been determined that North Hollywood High is one such site. Therefore, based on the PT&R Guidance and RAOs presented in Section 1.2, the following three alternatives were identified and developed for the proposed remedial action at the Site.

- Alternative 1 – No Further Action
- Alternative 2 – Excavation and Offsite Disposal
- Alternative 3 – Excavation with On-Site Burial, Capping, and Land Use Restrictions

A description and evaluation of each of the three removal action alternatives is discussed in the following sections.

5.3.1 Alternative 1 – No Further Action

Consideration of the “No Action” alternative is required by CERCLA and the NCP as a baseline by which all other remedial alternatives can be compared. This alternative involves taking no action toward a remedy, implying no active management or expectation that Site RAOs would be achieved over time.

An evaluation of this alternative with respect to the feasibility criteria is presented below.

Overall Protection of Human Health and the Environment -- Alternative 1 would not result in any reduction in the potential risk associated with the COCs detected in soil at the Site and RAOs would not be met.

Compliance with ARARs -- Alternative 1 fails to meet ARARs, because contamination would be left in place that could potentially endanger public health and the environment. The remedial action is being conducted in general accordance with DTSC regulations and guidelines applicable to school sites, including the remediation or mitigation of any detected contamination to levels that are protective of human health. Therefore, Alternative 1 does not meet this NCP threshold criterion.

Long-Term Effectiveness -- Alternative 1 would not address the impact due to elevated concentrations of COCs in soil. Consequently, there would be no reduction in the potential health risks and hazards at the Site and RAOs would not be satisfied. Without a reduction in the potential health risks and hazards, the COCs would continue to pose a threat to future occupants of the Site.

Reduction in Toxicity, Mobility, or Volume -- Alternative 1 would not result in a reduction in the toxicity, mobility, or volume of arsenic or lead in Site soil and RAOs would not be satisfied.

Short-Term Effectiveness – Alternative 1 would not result in activities that would disturb the impacted soil, nor would it address the risk posed to persons that may access the project area. If the Site were not developed and access were restricted, there would be no short-term risks associated with implementation of this alternative. However, under the present use of the Site as a school, there are potential short-term exposures for the areas that are not currently paved. During the planned redevelopment of the Site, there is a potential for on-site workers to experience exposure to residual COCs, particularly those in near surface soil, during construction grading and excavation activities. These same activities would also increase the short-term risks to the surrounding community as impacted soil was released to the atmosphere during construction without proper controls and monitoring.

Implementability – Alternative 1 does nothing and therefore can be implemented. However, this would not likely be an acceptable option if the Site were to be subject to agency oversight.

Cost – Alternative 1 has no associated cost.

Community Acceptance -- Alternative 1 is unlikely to garner community acceptance due to the use of the Site as a school.

State Acceptance – The Site is not under state oversight. However, if it were it is unlikely to be an acceptable option.

In summary, Alternative 1 (No Action) does not meet RAOs or ARARs, nor does it result in a reduction of the toxicity, mobility, or volume of impacted soil present at the Site. Because the impacted soil would remain in place without monitoring, it would pose a short-term risk to Site workers and the surrounding community if it were disturbed during new school construction. Thereafter, the COC-impacted soil would continue to pose a long-term health risk and hazard to future occupants of the Site. As a result, acceptance by the State and the community for this alternative would not be obtainable

5.3.2 Alternative 2 – Soil Excavation and Off-Site Disposal

Alternative 2 involves excavation and off-site disposal of soil impacted by COCs above the SSCGs. An estimated 71.7 in-place cubic yards of impacted soil would be excavated to depths of 1.5 to 3 feet bgs. Excavation and off-site disposal would be an effective means of removing impacted soil and would allow the project RAOs to be met. An evaluation of this alternative with respect to the feasibility criteria is presented below:

Overall Protection of Human Health and the Environment – Alternative 2 would meet RAOs and is overall protective of human health and the environment.

Compliance with ARARs – Alternative 2 could be conducted in accordance with all federal and state ARARs.

Long-Term Effectiveness – Alternative 2 would reduce concentrations of COCs in Site soil to levels that no longer present a threat to human health or the environment, thereby eliminating the long-term risk of exposure.

Reduction in Toxicity, Mobility, or Volume – Although COC-impacted soil would be removed from the Site, the toxicity and volume of the impacted soil would not change from an off-site perspective, because soil would merely be moved from one location to another. However, by placing the impacted soil in an engineered landfill licensed to accept such waste, mobility of the COCs will be reduced.

Short-Term Effectiveness – Potential short-term risks to onsite workers, public health, and the environment could result from dust or particulates that may be generated during soil excavation and handling. These risks could be mitigated using personal protective equipment (PPE) for on-site workers and engineering controls, such as dust suppression and additional traffic and equipment operating safety procedures, for protection of the surrounding community. The short-term risks are viewed as low to moderate.

Implementability – Alternative 2 is technologically feasible and easily implemented. This alternative relies on proven technology, uses readily available equipment, and requires minimal or no permitting.

Cost – Alternative 2 costs are driven primarily by costs associated with soil excavation, transport, and off-site disposal. These costs depend on the method of excavation, the excavated volume, and waste classification of the excavated soil, which in turn determines the costs of transportation and disposal. It has been assumed that the redevelopment project will result in a net export of soil due to the size of the footings necessary to support the proposed buildings. Therefore, the cost to import soil to make up for any void has been excluded from the cost and the small incremental cost savings has been ignored. The estimated cost to implement Alternative 2 is discussed in Section 5.4.

Community Acceptance -- Alternative 2 is likely to be perceived by the community as acceptable because it would mitigate the identified hazards and risks associated with COCs in soil and render the Site safer for renovation and future school use.

State Acceptance -- Alternative 2 would be viewed favorably by regulatory agencies because it is protective of human health and the environment. It is anticipated that regulatory approval would be readily granted because this alternative makes use of common and proven technologies. Because all of the impacted soil would be removed for off-site disposal, Alternative 2 would not limit future development of the Site.

In summary, Alternative 2 (Soil Excavation and Off-Site Disposal) is a proven, readily implementable remedial approach commonly used to address shallow soil contamination. The process is straightforward and the equipment and labor required to implement this alternative are uncomplicated and readily available. Based on the past success related to excavation and off-site disposal of shallow soil contamination at other school sites, it is anticipated that this approach would be acceptable to the community and would receive regulatory approval, if requested.

5.3.3 Alternative 3 – Soil Excavation with On-Site Burial, Capping, and Land Use Restrictions

As with Alternative 2, Alternative 3 involves the excavation of approximately 71.7 in-place cubic yards of COC-impacted soil. However, rather than off-site disposal, some of the excavated soil would be placed in an engineered on-site burial cell and covered by a protective cap. The cap could either be clean soil or pavement. Only the California non-RCRA hazardous soil (approximately 64.1 cubic yards) would be disposed of off-site, with 7.6 cubic yards of non-hazardous soil buried on-site. In this manner, the impacted soil would be inaccessible for direct contact via ingestion, dermal adsorption, or inhalation, thereby rendering these exposure pathways incomplete.

A detailed engineering design package for the burial cell, including its precise location, dimensions, and means of construction, would be developed and submitted to the LAUSD for approval prior to initiating field work. In general, the construction of the burial cell would involve the following steps:

The location of the burial cell would be excavated and the clean soil stockpiled. A geotextile fabric would be placed to line the bottom and sides of the excavation.

Impacted soil would be placed and compacted in lifts until it reached a depth of at least 2 feet below the finish grade. A layer of geotextile fabric would be placed over the impacted soil. Iron rods would be installed at the corners for future identification of the limits of the area with a metal detector.

Finally, a cover/cap would then be constructed over the entire burial cell. The cell would be either covered with asphalt in a parking lot or other hardscaped area or entirely within a landscaped area.

Alternative 3 would require some level of post-construction institutional controls, including a LAUSD-approved land use restriction, so that future projects at the Site would be aware of the presence of buried COC-impacted soil and the conditions applicable to its disturbance.

In addition, a long-term operation and maintenance (O&M) program involving periodic inspections and as-needed maintenance would be required to ensure that the cap remains undisturbed and continues to function as intended.

An evaluation of this alternative with respect to the feasibility criteria is presented below:

<u>Overall Protection of Human Health and the Environment</u> – If properly conducted, burial of COC-impacted soil would isolate the soil from direct human exposure and would be protective of the environment. The PEA soil sampling has demonstrated that COCs are restricted to shallow soil, where they are relatively immobile and unlikely to migrate to groundwater. Leaving impacted soil on-site with the additional protection afforded by a protective soil cover would ensure that COCs can no longer be entrained in air or surface water and dispersed via these secondary transport pathways.

<u>Compliance with ARARs</u> – Alternative 3 could be conducted in accordance with most federal and state ARARs. LAUSD would need to concur that impacted soil could be left on-site and land use restrictions would need to be applied to the property to prevent inadvertent disturbance of the buried soil.

<u>Long-Term Effectiveness</u> – Alternative 3 would be effective as long as the buried impacted soil was not disturbed. The property land use restriction would ensure that the soil is not disturbed during the lifetime of the school and would provide notice of its presence, and conditions for its disturbance, should the property be redeveloped in the distant future.

<u>Reduction in Toxicity, Mobility, or Volume</u> – The removal of the California non-RCRA lead-and arsenic-impacted soil would improve the traits of the remaining on-site soil, but after that burying the remaining arsenic-and lead-impacted soil on-site would not reduce its toxicity or volume. The soil would be inaccessible for direct contact and therefore, would no longer pose a threat to human health. In addition, burying the impacted soil on-site would prevent arsenic- and lead-

laden dust or sediments from becoming entrained in air or surface water and further distributed throughout the environment, thereby greatly reducing their mobility.

Short-Term Effectiveness – Potential short-term risks to onsite workers, public health, and the environment could result from dust or particulates that may be generated during soil excavation and handling. These risks could be mitigated using PPE for on-site workers and engineering controls, such as dust suppression and additional traffic and equipment operating safety procedures, for protection of the surrounding community. Air monitoring conducted during periods when impacted soil was being disturbed would further mitigate the potential risks. With appropriate protective measures in place, the short-term risks are viewed as low to moderate.

Implementability – Alternative 3 is technologically feasible and easily implemented. This alternative relies on proven technology, uses readily available equipment, but will require some level of permitting.

Cost – The cost of Alternative 3 is driven primarily by the costs associated with construction of the burial cell and the excavation and on-site transfer of impacted soil. As such, this alternative can be generally viewed as an earthmoving project, with costs directly dependent on the volumes of soil to be excavated, transferred, and backfilled. However, since only non-hazardous waste is considered for on-site burial and that comprises only approximately 7.6 cubic yards, the added cost for constructing an on-site burial cell is not cost effective. As such, costing for this alternative has not been completed.

Community Acceptance – It is uncertain how Alternative 3 will be perceived by the community. Although it would mitigate the identified hazards and risks associated with the metals in soil and render the Site safe for redevelopment, the community may view unfavorably on a school-site maintaining a waste burial pit on site.

State Acceptance – Alternative 3 would be viewed favorably by regulatory agencies, because it is protective of human health and the environment as compared to current conditions. The PT&R Guidance (DTSC, 2008) considers this commonly used remedial alternative to be acceptable, and state agencies are generally receptive to alternative approaches that are similar in cost, yet still meet the health and environmental RAOs. However, given the amount of impacted soil, there are no cost advantages over Alternative 2. Because the impacted soil would be left on-site in a secure burial cell, Alternative 3 would require a land use restriction and might limit future development options for the Site.

In summary, Alternative 3 would reduce the mobility of the COCs by removing and placing non–hazardous impacted soil in an on-site burial cell. By isolating the soil, there would no longer be opportunities for direct human contact, nor could the impacted soil be dispersed in the environment via windblown or surface water conveyance. Thus secured, the COC concentrations are stable. Accordingly, a land use restriction would need to be applied to the Site and future development options might be limited. Alternative 3 meets project RAOs, would be easy to implement and acceptable to involved regulatory agencies, but costs more than Alternative 2 and may be viewed unfavorably by the community.

5.4 Remedial Alternative Cost Analysis

Cost is not applicable to Alternative 1 (No Action), because it is not feasible (i.e., it does not meet RAOs for the Site and would not result in any reduction in potential risk associated with the COCs).

Alternatives 2 (Soil Excavation and Off-Site Disposal) and 3 (Soil Excavation with On-Site Burial, Capping, and Land Use Restrictions) allow RAOs to be met and are both viewed favorably with respect to the nine evaluation criteria.

Table 3 provides a breakdown of estimated costs for Alternative 2. The majority of the costs for Alternatives 2 and 3 are identical: excavation and staging, off-site disposal of California non-RCRA soil, confirmation sampling and reporting. However, since the scope of work and cost difference between Alternative 2 and Alternative 3 accounts for only an additional approximately 7.6 cubic yards of soil (less than one truck-load), it is not economically cost-effective to construct a burial cell and implement a long-term inspection and maintenance program for this small volume of material. For this reason, a cost estimate was not prepared for Alternative 3. As shown on Table 3, the estimated cost for Alternative 2 is $151,206 which includes a 10% additional soil volume contingency.

5.5 Recommended Removal Action Alternative

Alternative 1 (No Action) was eliminated from further consideration, primarily because it did not meet RAOs and would allow current conditions that pose potential risks to human health and the environment to remain unaddressed. Alternatives 2 (Soil Excavation and Off-Site Disposal) and 3 (Soil Excavation with On-Site Burial, Capping, and Land Use Restrictions) allow RAOs to be met and are both viewed favorably with respect to the nine evaluation criteria. However, based on the quantity of soil involved with this project (<100 cubic yards) and the incrementally small volume of non-hazardous soil that would be buried on-site under Alternative 3 (approximately 7.6 cubic yards), Alternative 2 is considerably less costly than Alternative 3. In addition, unlike Alternative 3, upon completion Alternative 2 does not require any additional inspection or reporting. **Alternative 2 (Soil Excavation and Off-Site Disposal) is selected as the preferred alternative**.

6.0 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMNETS

Based on the EE/CA presented in Section 5.0, Alternative 2 (Soil Excavation and Off-Site Disposal) has been selected as the preferred remedial response to address arsenic- and lead-impacted soil at the Site. This section discusses the ARARs for the proposed removal action.

6.1 Public Participation

Public participation is an integral component of the environmental investigation and remediation process.

Prior to conducting the PEA at the Site, the public was notified of the planned investigation activities via a PEA Fieldwork Notification Letter. The letter was prepared in English and Spanish to DTSC standards and was produced on LAUSD letterhead. In September 2016, the letter was mailed to the parents of the students of North Hollywood High School and copies delivered to nearby residents and businesses. The letter was also posted at the Site prior to commencement of fieldwork. It provided advance notice that the fieldwork would be occurring, along with the telephone number of the LAUSD Project Manager for further information. A copy of this letter is included in Appendix E.

This RAW is not considered final until the public has had an opportunity to review and comment on it. A Public Notice will be published in the Los Angeles Daily News (English language) and La Opinión (Spanish language) newspapers. Additionally, the Public Notice information will be included in a RAW Notification Letter prepared in English and Spanish to DTSC standards and produced on LAUSD letterhead. The letter will be mailed to the parents of the students of North Hollywood High School and copies will be delivered to neighboring residents and businesses. The notice/notification letter will identify the quantity of soil containing elevated COC concentrations; dates of the public comment period (i.e., May 1 to May 30, 2018); locations where hard copies of the draft RAW can be found; location and time for a public meeting to be held on May 16, 2018 to discuss the CMP and this RAW; how to submit comments; and the deadline to submit comments (i.e. June 1, 2018). A copy of the notice for each newspaper notice will be included in Appendix E of the Final RAW. Upon completion of the public comment period, this RAW will be amended as necessary to incorporate public comments received at the meeting or received by LAUSD. At a minimum, the date of this RAW will be updated, and the following will be added to Appendix E: a statement from LAUSD that no comments were received (alternatively public comments will be inserted), and proof of publication from each newspaper.

6.2 California Environmental Quality Act (CEQA)

California Environmental Quality Act (CEQA), modeled after the federal National Environmental Policy Act (NEPA) of 1969, was enacted in 1970 as a system of checks and balances for land-use development and management decisions in California. It is an administrative procedure to ensure comprehensive environmental review of cumulative impacts prior to project approval. It has no agency enforcement tool, but allows challenge in courts. CEQA applies to all discretionary activities proposed to be carried out or approved by California public agencies, unless an exemption applies.

This RAW was included under CEQA as part of the larger Comprehensive Modernization Project and an Initial Study and Mitigated Negative Declaration (IS/MND) was adopted by the Board of Education on April 10, 2018. A copy of the Notice of Determination (NOD) is included in Appendix E.

6.3 Hazardous Waste Management

The impacted soils to be removed have been characterized as either non-hazardous or non-RCRA hazardous waste, based on results of soil sampling conducted during the PEA. Additional sampling and analysis will be conducted, as necessary, to ensure that any soils generated by the removal action have been properly characterized and profiled before they are transported off-site for disposal. Based on the available data, a very small volume of soil generated during the removal action (<10 cubic yards) will require management as non-RCRA hazardous waste. Compliance with federal and state requirements for hazardous waste generation, temporary on-site storage, transportation, and disposal will be required of the Remediation Contractor performing the excavation activities and will be monitored by the Environmental Consultant overseeing the field work. The waste characterization process is further described in Section 7.6.1.

As a hazardous waste generator, the District has secured a USEPA Identification Number of CAD982037855 for proper management of hazardous waste. Any container used for the temporary on-site storage of hazardous waste will be properly labeled and placed at a secure Site location in accordance with applicable regulations. Within ninety (90) days after its generation, the hazardous waste will be transported off-site for disposal. All shipments of hazardous waste will be transported by a registered hazardous waste hauler under a uniform hazardous waste manifest. Waste profiles will be developed and approved by the receiving facility before the soil is transported off-site. Only disposal facilities licensed to accept hazardous waste will be used.

6.4 South Coast Air Quality Management District

The Site is located in jurisdiction of the South Coast Air Quality Control District (SCAQMD). The SCAQMD has two rules that address excavation (Rules 1150 and 1166), and two that addresses fugitive dust (Rule 403 and 1466). Rule 1150 applies to the excavation of sanitary landfills, and does not apply to this project. Rule 1166 is not expected to apply to this project, because it governs the excavation of soils containing significant concentrations of VOCs, which were not detected during previous Site investigations.

Several elements of Rule 403, such as protocols for mitigation of potential fugitive dust emissions, have been incorporated into this RAW. Specifically, air monitoring will be conducted during the excavation, loading, and transport of impacted soils and mitigation measures will be implemented to minimize the generation of fugitive dust. Access to the Site will be controlled and excavation will not be conducted during times of high wind conditions (e.g., wind speed in excess of 15 miles per hour). Notification of the SCAQMD is required for medium or large excavation/grading operations that disturb more than 100 acres or move more than 5,000 or 10,000 cubic yards per day, respectively. This project does not qualify as a medium or large operation; therefore, agency notification or the filing of a Fugitive Dust Emission Control Plan is not required.

Recently adopted Rule 1466 applies to particulate emissions from soils with toxic air contaminants which include arsenic and lead. Requirements under this rule are similar to those for Rule 403 except implementation is triggered at earth-moving activities above 50 cubic yards. Depending upon the approach for excavation, the excavation is exempted from much of the requirements if "earth-moving activities consisting only of excavation activities of soil with applicable toxic air contaminants of less than 500 cubic yards, directly loaded into a truck or bin for transportation". Applicability of Rule 1466 to this RAW will be determined by LAUSD OEHS in conjunction with the excavation contractor.

6.5 State Water Resources Control Board

SWRCB Order No. 99-08-DWQ, National Pollutants Discharge Elimination System (NPDES) General Permit No. CAS000002, "Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity" (General Permit) describes the implementation of a Stormwater Pollution Prevention Plan (SWPPP) for construction projects. As a standard operating procedure, the LAUSD will prepare a site-specific SWPPP for implementation by the remediation and construction contractors. A copy of the SWPPP will be maintained on-site and implemented by the construction contractor throughout the duration of the project.

If excavation is conducted during the rainy season, provisions will be made to prevent off-site migration of impacted soil in runoff. Best management practices will be implemented for runoff control in accordance with regulatory requirements and the site-specific SWPPP. Measures may include placement of sandbags, straw rolls, hay bales, and the like to control runoff and to act as filters. If precipitation accumulates within any excavation, it will be pumped out and held in storage tanks or other containment until it can be properly disposed of in accordance with Federal, State, and local regulations.

6.6 Health and Safety Plan

All personnel conducting fieldwork at the Site will be responsible for operating in accordance with applicable Occupational Safety and Health Administration (OSHA) regulations, as outlined in Title 8 of the California Code of Regulations (i.e., "General Industry and Construction Safety

Orders" [Section 5192]), Title 29 of the Code of Federal Regulations (i.e., "Standards for Hazardous Waste Operations and Emergency Response" [Section 1910.120] and "Construction Industry Standards" [Section 1926]), and other applicable Federal, State and local laws and regulations.

A site-specific Health and Safety Plan (HASP) has been prepared for this project in accordance with current health and safety standards (see Appendix B). The Remediation Contractor, Environmental Consultant, and any subcontractors doing fieldwork in association with this RAW will either adopt and abide by the HASP or will develop their own safety plans that, at a minimum, meet the requirements of the HASP. The designated project Health and Safety Officer (HSO) will be responsible for maintaining compliance with the HASP. Daily tailgate health and safety meetings will be held and meeting participation will be documented in field forms that will be maintained with project records.

6.7 Quality Assurance Project Plan

Quality assurance/quality control (QA/QC) measures that will be used during project execution are documented in the site-specific Quality Assurance Project Plan (QAPP), a copy of which is included as Appendix C. The QAPP will assure that the sampling procedures and analytical data gathered during the project meet specified Data Quality Objectives (DQOs) and are of sufficient quality to support decisions for redevelopment of the Site for school use.

7.0 REMOVAL ACTION IMPLEMENTATION

Based on the results of the EE/CA presented in Section 5, the preferred remedial alternative for the Site is Alternative 2 (Soil Excavation with Off-Site Disposal). The following sections present the general procedures and methods that will be used to implement the remedial action embodied in this alternative. Remedial activities will be performed by a California-licensed remedial engineering contractor under the oversight of a California registered professional engineer and/or registered professional geologist. Successful completion of the remedial action will be demonstrated by the collection and analysis of confirmation soil samples after all of the impacted soils have been excavated.

7.1 Field Documentation

The LAUSD's Remediation Contractor and Environmental Consultant will be responsible for maintaining field forms and logbooks that document all phases of fieldwork. Field forms and logbooks will serve to document observations, personnel on-site, equipment arrival and departure times, and other vital project information. Information and data entries will be complete and accurate enough to permit reconstruction of field activities. Logbooks will be bound with consecutively numbered pages. Each day's entries will be dated and the time of entry noted. All entries will be legible, written in blue or black ink, and signed by the individual making the entries. Language will be factual and objective. Corrections will be made by a single line-out through the incorrect information, and will be dated and initialed.

At the minimum, the following information will be documented on field forms and/or logbooks:

- Site name and address
- Recorder's name
- Time of Site arrival and departure
- Team members and affiliations
- Other personnel on-site
- Summary of any on-site meetings
- Summary of remediation activities
- Truckloads and description of off-site waste shipments and/or imported fill material (including receipts or manifest copies)
- Health and safety monitoring results

- Deviations from this RAW.

Photographs will be taken during the removal action to document representative or key field activities.

7.2 Field Preparation

Prior to equipment mobilization, Site preparation activities may include visual inspections of the Site, surveying, boundary staking, establishment of staging areas and construction traffic patterns, subsurface utility clearance, utility connection or disconnection, and fencing installation.

7.2.1 Delineation of Excavation Areas

Figures 3.1 to 3.17 are provided to show the areal limits of each removal area. The limits of all excavations will be delineated by the Remediation Contractor, in consultation with the LAUSD and the Environmental Consultant, before commencement of removal activities. The Environmental Consultant will lay out approximate limits of proposed excavations prior to site walk for prospective Remediation Contractors.

Within paved areas, the soil removal limits will be demarcated with high visibility paint. Landscaping flags ("pin flags") will be placed at the corners of excavations within landscaped areas. Excavation areas will be determined using visible reference points, including soil boring patches, drain grates, fence posts, and building footprints. Figures 3.1 to 3.17 have been prepared to assist with locating borings and identifiable features within landscaped areas.

It is expected that the existing aboveground portions of several buildings will be demolished and removed prior to starting soil removal activities, leaving an open and level hardscape area consisting of concrete foundation pads, asphalt pavement, and landscape. During the demolition of buildings and hardscape areas, precautions will be taken (e.g., placement of plastic sheeting, plywood, etc.) to prevent contaminated soil from spreading and impacting "clean areas" of the Site.

7.2.2 Utility Clearance

Underground Service Alert (USA) will be notified at least two full working days (minimum 48 hours) prior to beginning any excavation or invasive field activities to identify the locations of utilities that enter the property. A geophysical survey will also be conducted within the planned excavation areas to help identify utilities or possible subsurface obstructions.

If active utilities are present that cannot be removed or relocated during soil excavation (e.g., electric, water, storm drain lines, etc.), impacted soil will be excavated above and alongside the utilities to the extent feasible, leaving a one-foot safety separation between the excavation and utility, while being careful not to damage the utilities or expose workers to hazardous conditions.

If inactive or to be removed utilities are present impacted soil will be excavated to the utility or its encasement (no separation). The contractor, and not the Environmental Consultant, shall be responsible for making sure construction workers are safe when working around such lines.

In addition to protecting active utilities, all existing trees are to be protected in place. Hand digging methods will be employed so that roots remain unexposed and are not cut or otherwise damaged. Shrubs and other plants that must be removed in order to perform excavations will be replaced in kind following backfill.

7.2.3 Security Measures

Appropriate barriers and/or privacy fencing will be installed prior to beginning remediation activities and will be maintained throughout the project duration to ensure that the work area is secure and safe. Existing and/or new fencing will be fitted with wind screen to provide privacy and to reduce air speeds and the potential for dust generation across the excavation areas. Typical fencing layouts at excavation locations are shown in Figures 4.2 to 4.6. In order to prevent trespassers or unauthorized personnel from entering the work area, security measures may include, but are not limited to, the following:

- Posting notices directing visitors to the Site construction manager's office
- Recording visitors in the field logbook or maintaining a log for visitors to sign in and out; visitors must have prior approval from the Site construction manager to enter the Site
- Maintaining a safe and secure work area, including areas where equipment is stored or stationed, at the close of each workday
- Retaining a security company for on-site security during non-work hours.

7.2.4 Permits and Plans

Federal, State, or local permits or agency approvals are not expected to be required to implement the RAW.

7.3 Excavation Locations

Excavation locations across the Site are shown in Figure 2. Individual excavations are shown in Figures 3.1 to 3.17. Excavation locations and routes to the waste staging area are shown in Figure 4.1. The excavations have been grouped into five work areas across the Site:

- Area 1 – SB100 and SB102
- Area 2 – SB094, SB114, SB115, and SB119
- Area 3 – SB071, SB072, and SB109
- Area 4 – SB061, SB065, SB067, SB068, and SB069
- Area 5 – SB051, SB043, and SB041

Figures 4.2 to 4.6 show excavations within each of the five work areas, as well as recommended layout for exclusion zone fencing. Characteristics of the various excavation areas are summarized in Table 4, the RAW Planning Matrix.

Excavation Location SB041 (Figure 3.1)

Sample location SB041 was located in an asphalt paved area adjacent to the north side of a modular classroom building. Arsenic was initially detected at 32.2 mg/kg at 0.5 feet bgs, 25.9 mg/kg at 1.5 feet bgs, and not detected at 2.5 feet bgs. Arsenic was not detected or below 12 mg/kg in samples from step-out borings SB041S2 and SB041S3 located to the north and east of SB041. A modular classroom building is located immediately south of SB041. Underground utility lines were identified to the north, east, and west beyond the step-out borings. Arsenic impacted soil above 12 mg/kg is limited to an approximate five by 13 foot area to a depth of 3 feet bgs. Calculated volume in this area is approximately 7.2 cubic yards.

Excavation Location SB043 (Figure 3.2)

Sample location SB043 was located in an unpaved area adjacent to the south side of a modular classroom building inside the petting zoo. Lead was initially detected in samples from boring SB043 at 168 mg/kg at 0.5 feet bgs and at 12.6 mg/kg at 1.5 feet bgs. No additional sampling was conducted at SB043 due to underground utility lines to the east and south, a fence to the west, and a fence and modular classroom building to the north of SB043. Lead impacted soil above 80 mg/kg is limited to an approximate five by five foot area to a depth of 1.5 feet bgs. Calculated volume in this area is approximately 1.4 cubic yards.

Excavation Location SB051 (Figure 3.3)

Sample location SB051 was located in a landscaped area adjacent to the north side of the Chicken Shack building in the petting zoo. Lead was initially detected in samples from boring SB051 at 96.7 mg/kg at 0.5 feet bgs, and at 25.9 mg/kg at 1.5 feet bgs. No additional sampling was conducted at SB051 due to underground utility lines to the north and west, a fence to the east, and Chicken Shack building to the south of SB051. Lead impacted soil above 80 mg/kg is estimated to be limited to an approximate seven by eight foot area to a depth of 1.5 feet bgs. Calculated volume in this area is approximately 3.1 cubic yards.

Excavation Location SB061 (Figure 3.4)

Sample location SB061 was located in an asphalt paved walkway area adjacent to the south side of the Auto Shop building. Arsenic was initially detected at 15.7 mg/kg at 0.5 feet bgs and not detected at 1.5 feet bgs. Arsenic was not detected in samples from step-out borings SB061S1, SB061S2 and SB061S3 located to the east and west of SB061. The Auto Shop building is located immediately north of SB061. Underground utility lines were identified to the immediate south, east and west beyond SB061S1 and SB061S3. Arsenic impacted soil above 12 mg/kg is limited to an approximate 2.5 by 10 foot area to a depth of 1.5 feet bgs. Calculated volume in this area is approximately 1.4 cubic yards.

Excavation Location SB065 (Figure 3.5)

Sample location SB065 was located in a landscaped planter area adjacent to the southwest side of the Classroom 1 building. Lead was initially detected at 149 mg/kg at 0.5 feet bgs and at 8.9 mg/kg at 1.5 feet bgs. Lead was not detected or below 80 mg/kg in samples from step-out borings SB065S1 and SB065S2 located to the north and south of SB065. A classroom building is located immediately east of SB065. An underground utility line was identified to the immediate east. Lead impacted soil above 80 mg/kg is limited to an approximate 2.5 by 17 foot area in the planter to a depth of 1.5 feet bgs. Calculated volume in this area is approximately 2.4 cubic yards.

Excavation Location SB067 (Figure 3.6)

Sample location SB067 was located in a landscaped planter area adjacent to the southeast side of the Classroom 1 building. Lead was initially detected at 207 mg/kg at 0.5 feet bgs and at 14.6 mg/kg at 1.5 feet bgs. Lead was below 80 mg/kg in samples from step-out borings SB067S1 and SB067S2 located to the north and south of SB067. However, lead was detected above 80 mg/kg in SB067S4 at 176 mg/kg, a utility line is south beyond SB067S4. No samples were collected to the east of SB067, as specified by LAUSD; additional samples were limited to the planter area which has a curb and pavement beyond planter area. Lead impacted soil above 80 mg/kg is limited to an approximate five by 15 foot area in the planter to a depth of 1.5 feet bgs. Calculated volume in this area is approximately 4.2 cubic yards.

Excavation Location SB068 (Figure 3.7)

Sample location SB068 was located in a landscaped planter area adjacent to the northeast side of the Classroom 1 building. Lead was initially detected at 211 mg/kg at 0.5 feet bgs and at 50.7 mg/kg at 1.5 feet bgs. Lead was not detected or below 80 mg/kg in samples from step-out borings SB068S1, SB068S2, SB068S3, and SB068S4 located to the north, east, and south of SB069. A classroom building is located immediately west of SB068. Lead impacted soil above 80 mg/kg is limited to an approximate 7.5 by 12 foot area in the planter to a depth of 1.5 feet bgs. Calculated volume in this area is approximately 5.0 cubic yards.

Excavation Location SB069 (Figure 3.8)

Sample location SB069 was located in a landscaped planter area adjacent to the north side of the Classroom 1 building. Lead was initially detected at 131 mg/kg at 0.5 feet bgs and at 11.8 mg/kg at 1.5 feet bgs. Lead was not detected in samples from step-out boring SB069S1 located to the west of SB069. A classroom building is located immediately south of SB069. Underground utility lines were identified to the immediate north, west and east beyond SB069S1. Lead impacted soil above 80 mg/kg is limited to an approximate five by 10 foot area in the planter to a depth of 1.5 feet bgs. Calculated volume in this area is approximately 2.8 cubic yards.

Excavation Location SB071 (Figure 3.9)

Sample location SB071 was located in a planter area adjacent to the east side of the Wood Shop building. Lead was initially detected in samples from boring SB071 at 130 mg/kg at 0.5 feet bgs and at 11.8 mg/kg at 1.5 feet bgs. No additional sampling was conducted at SB071 as specified by LAUSD, impacted area is assumed to be limited to planter area. Lead impacted soil above 80 mg/kg is limited to an approximate three by four foot area in the planter to a depth of 2.5 feet bgs. Calculated volume in this area is approximately 1.1 cubic yards.

Excavation Location SB072 (Figure 3.10)

Sample location SB072 was located in a central planter / tree well that is surrounded by a cement paved area adjacent to the south side of the Wood Shop building. Lead was initially detected in samples from boring SB072 at 94.2 mg/kg at 0.5 feet bgs and at 2.05 mg/kg at 1.5 feet bgs. Tree wells / planters are located directly east and west. Lead was detected at low concentrations below 80 mg/kg in samples from step-out borings placed in the adjacent tree wells (SB071S1 and SB072). Lead impacted soil above 80 mg/kg is limited to an approximate 7.5 by 7.5 foot area in the planter / tree well to a depth of 1.5 feet bgs. Calculated volume in this area is approximately 3.1 cubic yards.

Excavation Location SB094 (Figure 3.11)

Sample location SB094 was located in an asphalt paved walkway area adjacent to the east side of the Parent & Family Center building. Lead was initially detected at 81.4 mg/kg at 0.5 feet bgs, 155 mg/kg at 1.5 feet bgs, and 71 mg/kg feet bgs. Lead was not detected in samples from step-out boring SB094S1 located to the north of SB094. The Parent and Family Center building is located immediately west of SB094. Underground utility lines were identified to the immediate east and south; another utility line was located beyond SB094S1. Lead impacted soil above 80 mg/kg is limited to an approximate five by 7.5 foot area to a depth of 2.5 feet bgs. Calculated volume in this area is approximately 3.5 cubic yards.

Excavation Location SB100 (Figure 3.12)

Sample location SB100 was located in a grass field area adjacent to the north side of the band room building. Lead was initially detected at 125 mg/kg at 0.5 feet bgs and at 3.13 mg/kg at 1.5 feet bgs. Lead was either not detected or below the action limit of 80 mg/kg in samples from step-out borings SB100S1 and SB100S2 located to the immediate east and west of SB100. The Band Room building is located immediately south of SB100 and an underground line is between the Band Room building and SB100. Underground utility lines were also identified to the north of location SB100 (beyond SB100S1 and SB100S2). Lead impacted soil above 80 mg/kg is limited to an approximate five by 11 foot area to a depth of 1.5 feet bgs. Calculated volume in this area is approximately 3.1 cubic yards.

Excavation Location SB102 (Figure 3.13)

Sample location SB102 was located in an asphalt paved storage area adjacent to the south side of the Band room building. Arsenic was initially detected at 54 mg/kg at 0.5 feet bgs and not detected at 1.5 feet bgs. Arsenic was either not detected in samples from step-out borings SB102S3, SB102S5, and SB102S6 located to the east, west, and south of SB102. A storage container partially blocked the area to the west of SB102. The Band Room building is located immediately north of SB102. Arsenic impacted soil above 12 mg/kg is limited to an approximate six by 17 foot area to a depth of 2.5 feet bgs and a 10 by 17 foot area to a depth of 1.5 feet bgs. Calculated volume in this area is approximately 18.8 cubic yards.

Excavation Location SB109 (Figure 3.14)

Sample location SB109 was located in a landscaped area adjacent to the north side of the Wood Shop building. Lead was initially detected in samples from boring SB109 at 101 mg/kg at 0.5 feet bgs, at 132 mg/kg at 1.5 feet bgs, and at 88.8 mg/kg at 2.5 feet bgs. Lead was not detected or below 80 mg/kg in the samples from the step-out boring, SB109S1, located to the west SB109. A classroom building is located immediately south of SB109. An underground utility line was identified to the immediate east and a bench and concrete walkway is to the north of SB109. Lead impacted soil above 80 mg/kg is limited to an approximate five by 16 foot area to a depth of three feet bgs. Calculated volume in this area is approximately 8.9 cubic yards.

Locations SB114, SB115, and SB119 (Figure 3.15, 3.16, and 3.17)

The exact extent of lead (SB114 and SB115) and arsenic (SB119) impacts has yet to be determined at these respective locations. Although step-out sampling was not conducted in these locations, extent of excavations have been estimated for planning purposes and will be determined ultimately by results of confirmation sampling. Although STLC analysis for lead was not conducted in samples SB114-0.5 and SB115-0.5, soils at these locations have been assumed to be non-RCRA hazardous based on total lead concentrations. Lead impacted soil above 80 mg/kg was assumed to be limited to an approximate six by seven foot area to a depth of 1.5 feet bgs at location SB114, and an approximate three by 10 foot area to a depth of 1.5 feet bgs at location SB115.

Arsenic impacted soil above 12 mg/kg was assumed to be limited to approximate 2.5 by 7.5 foot area to a depth of 2.5 feet bgs at location SB119. The calculated total volume for these three areas is approximately 5.7 cubic yards.

7.4 Excavation Procedures

Soil impacted by arsenic and lead will be excavated from designated soil removal locations at the Site. The lateral extents of impacted soil have been bounded by obstructions (e.g. buildings or utilities) and/or "clean" soil sample analytical results. The vertical extents have been bounded by "clean" soil sample analytical results. Excavation locations and depths are shown on Figures 3.1 to 3.17. Table 2 provides a summary of the dimensions and estimated soil volumes for individual excavation areas.

As can be seen from these figures and table, the maximum excavation depth is three feet bgs, and most excavation areas are 1.5 feet deep. The total initial in-place volume of impacted soil is estimated to be approximately 71.7 cubic yards. This RAW increases this volume by ten percent (10%) to account for step-out sampling for a total estimated in-place volume of 78.9 cubic yards. After excavation, soil volume increases, with an assumed bulking factor of 120% for the silty sand present at the site. The "loose" volume of soil equates to approximately 94.7 (78.9 times 120%) cubic yards of excavated soil to be loaded into 10-cubic yard steel roll-off containers.

All fieldwork will be completed by properly trained and equipped hazardous waste workers using conventional construction equipment, such as mini excavator or backhoe, and small front-end loaders. Buckets used for excavation shall have a smooth blade edge (no teeth). Due to small excavation size, need to protect underground utilities or vegetation in-place, and restricted access, hand digging methods will be necessary at the majority of locations. Mechanized equipment can likely be utilized for excavation at SB102, SB061, and SB041, and possibly in combination with hand digging at SB109 and SB051.

At locations where concrete or asphalt exists above the proposed removal area, the pavement will be removed with minimum disturbance to the soil below. Pavement materials will be temporarily stockpiled on-site for disposal as inert construction debris.

As the soil is excavated, it will be placed into one-cubic-yard hoppers and transferred to the waste staging area in the northwest part of the school (Figure 4.1). Soil will be prevented from spillage out of the hoppers during transfer to the staging area by maintaining sufficient freeboard and/or securing a cover over the top of the hopper as necessary. Soil will be transferred to the staging area using a forklift vehicle. A flagman on foot will accompany each load transported to the staging area to safeguard pedestrians, vehicles, and structures. Location of the waste staging area relative to the excavation locations and transfer routes are shown on Figure 4.1. Transfer routes in the vicinity of individual excavation areas are depicted at larger scale in Figures 4.2 to 4.6. Waste soil will be placed into 10-cubic yard, closed-top steel roll-off containers. Use of storage bins will reduce potential for any possible exposure and save additional stockpiling and loading effort. Soil stockpiles are not to be used since school activities may be on going.

Excavation will proceed in lateral and vertical directions until the SSCGs are demonstrated to have been met, as determined from confirmation soil sampling results (see Section 7.6.2). Excavation in lateral directions will also be stopped if the removal of additional soil threatens to undermine any permanent structures or utilities that are not being replaced as part of the project.

Excavation areas will be controlled to avoid dust generation with physical barriers (such as perimeter fencing with windscreen), soil wetting, and air monitoring. Following removal of the impacted soil, excavated areas will be secured with high-visibility fencing or caution tape, as necessary, to prevent unauthorized entry and render them safe until they can be backfilled or otherwise returned to level grade.

7.4.1 Shoring

Due to the relatively shallow excavation depths, the need for engineered shoring is not anticipated. All final decisions regarding the need for shoring or sidewall sloping will be made prior to excavation in consultation with the Geotechnical Engineer of record. In no instance will personnel be allowed to enter excavations 5 feet deep or greater unless the sidewalls have been properly shored or sloped.

7.4.2 Soil Staging and Storage Operations

As noted above in Section 7.4, soil will be transferred in hoppers from each work area to the staging area. Soil will be containerized in 10-cubic yard close-top steel roll-off containers until transport off-site for disposal can be arranged. No direct loading of trucks will be performed. In no case will the contained soil be stored longer than 90 days after its generation. No soil stockpiles are to be used for temporary storage.

7.4.3 Waste Segregation Operations

The soil excavated from individual excavation areas will be managed as non-hazardous or non-RCRA hazardous waste, based on waste characterization sampling and analysis conducted during the PEA and TA. The approach used to characterize the soil as hazardous or non-hazardous waste is discussed in Section 7.6.1 and the waste characterizations assigned to individual excavation areas are summarized in Table 2. It is anticipated that non-hazardous waste soil will require one to two roll-off container and non-RCRA hazardous waste will require eight to nine roll-off containers. The Remediation Contractor and Environmental Consultant will oversee waste pickup and bin loading operations to ensure that a properly completed waste manifest accompanies each load and that it is directed to the appropriate disposal facility, based on its waste classification.

Storage bins will be labeled to indicate the source of the soil and its waste classification as non-hazardous or non-RCRA hazardous. Labels that indicate the waste generator, waste type, accumulation start date, and contact information will be applied to the outside of all roll-off bins used to temporarily store impacted soil. Strict segregation of soil based on waste type will be maintained to avoid any mixture of hazardous and non-hazardous soils. This segregation will minimize the amount of hazardous soils generated and their associated disposal cost.

7.4.4 Decontamination Procedures

Entry of personnel and equipment into the soil removal excavation areas (exclusion zones) will be limited to avoid unnecessary exposure and related transfer of contaminated soil. The surfaces of excavation equipment will be brushed off to remove loose soil prior to their removal from the exclusion zone. If necessary, equipment that comes into direct contact with impacted soil will be decontaminated in a pre-designated area on pallets or plastic sheeting. Clean bulky equipment will be stored on plastic sheeting in uncontaminated areas.

All soil containers will be closed and tops secured at the end of each work day to prevent potential exposure. Containers will be closed and secured prior to loading onto transport trucks to prevent potential loss of material during transport to the disposal facility. The Remediation Contractor will inspect each container before it leaves the Site. Roll-off transport trucks are not anticipated to traverse any impacted areas or bare ground, therefore should not require any decontamination prior to leaving the Site. If trucks become potentially contaminated or are tracking dirt, they must stop at a decontamination station lined with plastic sheeting and/or rumble plates. Any soil adhering to the tires or exterior surfaces will be brushed off and collected on plastic sheeting. Vehicle exit routes may be prepared with washed gravel beds or temporary asphalt pavement to minimize dirt track-out. Street sweeping of adjacent public streets will be conducted, as necessary, to reduce the potential for fugitive dust and migration of contamination.

Any sampling equipment that is reused will be decontaminated to assure the quality of samples collected and/or to avoid cross contamination. Disposable 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 reusable sampling equipment, using the following procedures:

- Non-phosphate detergent and tap water wash, using a brush if necessary
- Initial deionized/distilled water rinse
- Final deionized/distilled water rinse
- Allowed to air dry.

7.5 Dust Control

Dust control measures will be performed during remedial activities to reduce the potential for fugitive dust and migration of contamination in compliance with requirements contained in SCAQMD Rule 403. Factors considered in providing dust control include wind speed and direction. The on-site Health and Safety Officer will have the authority to stop work in the event that on-site activities generate dust levels in excess of established action levels or if wind conditions change creating an uncontrollable condition.

During remediation activities, the isolation fencing will be placed around each excavation area. The fencing will be fitted with windscreen to minimize the off-site migration of windborne dust. The generation of dust will be controlled with the use of water as a dust suppressant. The water will be available from an on-site water service, via a water truck, or through a metered discharge from a fire hydrant located on or proximate to the Site. Dust suppression will be performed by applying a light water spray to soil stockpiles, exposed excavation surfaces, excavator buckets, and internal roadways, as necessary, to maintain dust concentrations below action levels (see Section 7.5.3).

While on-site, all vehicles will maintain slow speeds (i.e., less than 5 miles per hour) for safety purposes and to control dust generation. Efforts will be made to minimize the soil drop height from excavator or loader buckets into the transport trucks. If wind speeds exceed an amount at which engineering controls are determined to be ineffective (e.g., sustained 25 mph windspeed for 15 minutes), excavation and loading will cease.

7.6 Air Monitoring

Air monitoring will be conducted during Site remediation activities to assess the effectiveness of the various dust control measures (see Section 7.4). Air monitoring strategies and methodologies are designed to achieve several goals:

- Identify and measure the air contaminants generated during soil removal and decontamination activities in order to assign the appropriate PPE to Site workers 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.

To assist in the air monitoring activities, weather conditions, including wind direction and speed, will be continuously monitored using a portable meteorological monitoring station.

7.6.1 Air Monitoring Responsibilities

In consultation with the LAUSD-OEHS, air monitoring will be performed during all Site activities in which soil is being disturbed or handled. The LAUSD's Environmental Consultant will staff the Site with a Health and Safety Officer (HSO), whose responsibilities will include:

- Monitoring dust levels in the exclusion zone and other locations. The HSO will have the authority to stop work in the event that on-site activities generate dust levels that exceed Site or community action levels (see Section 7.5.3).

- Monitoring on-site meteorological instrumentation to identify conditions that require cessation of work, such as excessive wind speeds.

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

- Oversight of personal decontamination practices.

- General Site safety leadership, support and recordkeeping activities.

7.6.2 Meteorological Monitoring

On-site meteorological monitoring will be performed concurrently with the soil removal activities to ensure that all necessary precautions have been taken. Ambient weather conditions (e.g., wind speed, wind direction, etc.) will be collected using an onsite weather site device or near the site.

No specific regulatory wind velocity restrictions for soil excavation in the subject area were found to exist. However, a self-imposed action level for work stoppage will be set at a sustained wind velocity of 25 miles per hour (mph) for a duration of 15 minutes.

7.6.3 Dust Monitoring

The Site's COCs – arsenic and lead – are not volatile, but can adhere to soil particles and become airborne contaminants associated with dust generated during soil handling. During periods of active remediation, air monitoring for dust will be performed at the perimeter of the active work area (i.e. exclusion zone") to ensure that unsafe concentrations of dust are not migrating outside the active work area. Air monitoring will also be conducted within the active work zone to ensure the health and safety of remediation workers. An upwind/downwind sampling approach will be used, with monitoring positions established based on an ongoing assessment of wind speed and direction, as follows:

- One upwind location

- One location proximate to the exclusion zone (within the breathing zone of the equipment operator)

Dust monitoring will be conducted using continuous, real-time particulate dust monitors equipped with data loggers. The dust monitors will be positioned at selected Site locations that may vary depending on the location(s) of daily activities and shifting wind directions. The real-time and time weighted average (TWA) readings will be checked and recorded by on-site personnel approximately every 30 minutes, and the logged data will be downloaded at the end of the day. In addition, a portable hand-held dust monitor will be used to spot-check particulate levels at various Site locations if visible dust is observed.

The National Ambient Air Quality Standard (NAAQS) for dust is 50 micrograms per cubic meter (µg/m^3), based on dust particles measuring 10 micrometers or less (PM_{10}). The NAAQS dust standard (50 µg/m^3), steady for 5 minutes, has been selected as the action level for dust monitoring activities at the perimeter of the active work area (difference between upwind and downwind readings). This is also the action level as specified in SCAQMD Rule 403. LAUSD will fully comply with applicable Rule 403 requirements including concurrent upwind and downwind measurements.

The action level for dust for equipment operators and workers will be set at 1 milligram per cubic meter (mg/m^3) steady for 5 minutes. This action level will trigger increased dust suppression activities to mitigate dust levels below 1 mg/m^3. Respiratory protection will be worn by the equipment operators if dust levels exceed 1 mg/m^3 for greater than 5 minutes. Additional dust suppression activities will be applied to reduce dust levels below 1 mg/m^3. If dust emissions cannot be controlled reliably within 15 minutes, all work will cease and a certified Industrial Hygienist will be consulted.

7.7 Sampling and Analysis Plan

7.7.1 Waste Profile Confirmation Sampling

Federal and State regulations that govern waste classification are found in Title 40, CFR, Part 261 and Title 22, CCR, Chapter 11, "Identification and Listing of Hazardous Waste," respectively. These regulations were used to characterize the impacted soils at the Site as either non-hazardous or non-RCRA hazardous (i.e., California State regulated hazardous) for purposes of disposal. Based on the analytical results, none of the soil would be characterized as RCRA hazardous waste under federal regulations.

The Total Threshold Limit Concentration (TTLC) and STLC for lead that define a waste as non-RCRA hazardous are 1,000 mg/kg and 5 mg/L, respectively. The TTLC and STLC concentrations for arsenic that define a waste as non-RCRA hazardous are 500 mg/kg and 5 mg/L, respectively.

It is anticipated that the results of the soil samples collected during the PEA can be used to characterize soils for disposal. Soil at excavation SB114 and SB115 will be assumed to be non-RCRA hazardous given initial lead concentrations of 286 and 357 mg/kg. Although the impacted soil has been characterized based on PEA sampling, this data may be considered outdated and unacceptable to the disposal facilities when the RAW is implemented.

7.7.2 Post-Removal Confirmation Sampling

For locations with elevated COC concentrations found during PEA activities, the excavation will extend to the depth of the first non-elevated sample and laterally to the next non-elevated initial sample. This will be done in consultation with LAUSD at the time of RAW implementation. Once these planned excavation limits have been reached, confirmation soil samples will be collected from the exposed excavation sidewalls and bottoms to determine if the SSCGs have been met and RAOs have been achieved. Confirmation soil sampling and analysis will be conducted in accordance with the site-specific QAPP that is included in Appendix C.

The number of confirmation soil samples collected from each excavation will vary, depending on the dimensions of the excavation and proximity to clean sample locations. Soil removal area estimated confirmation sample totals are presented in Table 4. In general, soil sampling is anticipated to be conducted at a frequency of one sample collected at the midpoint per 10 linear feet of excavation sidewall and one sample at the center per 100 square feet of excavation bottom. Excavations bordering utilities to be protected in place will cease one foot from all utility lines.

Confirmation soil samples will be collected directly into laboratory-supplied, pre-cleaned 4-ounce glass jars or new metal sleeves, using a decontaminated hand trowel or disposable utensil to facilitate collection. The soil samples will be labeled as to identification and date/time of collection, and stored on ice in a chilled cooler at 4 degrees Celsius (^{o}C). A chain-of-custody form will be used to log the samples and ensure their secure delivery to the off-site laboratory. Samples from each excavation will be analyzed only for the COC(s) associated with the excavation.

Depending on the excavation, confirmation soil samples will be analyzed variably using the following test methods:

- Arsenic and Lead – USEPA Method 6010B

The excavations will be considered completed if the confirmation sample results do not exceed the SSCGs. If concentrations of COCs in confirmation soil samples exceed the cleanup goal for that specific contaminant, an additional increment of soil (typically 6 inches) will be removed horizontally or vertically from the location represented by the confirmation soil sample. Additional confirmation soil samples will then be collected and analyzed and the process repeated, if necessary, until the cleanup goals have been met. This methodology will ensure that the least amount of soil possible is excavated in order to minimize disposal costs. Horizontally, the excavation will be considered completed if the SSCGs are achieved or the excavation reaches the removal area boundary.

As explained in Section 4.1.2, the 95% upper confidence limit (UCL) concentration of lead in the post-remediation data set (confirmation samples and PEA samples that remain in place) will be calculated to evaluate the concentration of lead remaining in place at the Site and presented in the Removal Action Completion Report (RACR).

7.7.3 Import Soil Sampling

If it is determined that imported soil is required for construction purposes, any such soil imported to the Site will be tested and certified in accordance with LAUSD Specification Section 01 4524 *Environmental Import/Export Materials Testing* (LAUSD, 2011), which includes provisions for LAUSD-OEHS review and approval prior to soil import.

Sand-cement slurry backfill will be utilized for backfilling all locations that are to be repaved. The Geotechnical Engineer must approve the proposed slurry mixture (i.e., one-sack/two-sack prior to delivery to the Site.

7.8 Transportation Plan for Offsite Disposal

The preferred remedial alternative involves the excavation, load-out, transport, and off-site disposal of an estimated 94.7 cubic yards of “loose” (excavated volume) impacted soil. Details regarding soil management and off-site disposal are provided below.

Based on the estimated soil volumes presented in Table 1, it is anticipated that approximately nine, 10-cubic yard rolloff containers will be transported off-site for lawful disposal. If additional soil needs to be excavated based on confirmation sampling results, the number of containers will increase. The excavated soil will be segregated and managed as non-hazardous and non-RCRA hazardous waste, as explained in Section 7.6.1. Waste classifications for the various soil removal areas are summarized in Table 2. Non-hazardous soils will be transported to an approved Class 3 landfill for disposal or use as daily cover. Non-RCRA hazardous soil will be transported to a licensed and properly permitted Class 1 disposal facility or an out-of-state facility permitted to accept non-RCRA hazardous waste.

Examples of facilities and the transportation routes that may be used for off-site disposal of the impacted soil are provided in the Transportation Plan (Appendix D). The final determination as to which facilities are used will be made by the Remediation Contractor that is awarded the contract and will be subject to approval by LAUSD-OEHS prior to beginning soil removal activities.

Prior to soil load-out, the Remediation Contractor will prepare waste profiles using analytical data from the PEA investigations and/or additional characterization sampling and receive approvals from the LAUSD’s Environmental Compliance Manager and the receiving facilities. Prior to transport of roll-off containers, hazardous and non-hazardous waste manifests will be prepared appropriate for the waste designation, which will contain a unique identifier, the address of the receiving facility, the Site address, LAUSD contact information, and waste classification. Manifests will be signed and dated by LAUSD or the Environmental Consultant on behalf of the

LAUSD and the original copy will be provided to the truck driver before departing the Site to accompany the shipment.

After pickup of roll-off containers, trucks will be routed off-site via the nearest exit gate (at Chandler Boulevard), to avoid passing through any areas of impacted or un-impacted soil. All soil hauled from the Site will comply with the following:

- Materials will be transported only to approved treatment/disposal facilities under properly completed, signed, and approved manifests. Trucks will follow designated commercial transportation routes and will proceed immediately to the designated facility without side stops or delay.

- No excavated material will extend above the sides of the roll-off containers.

- Roll-off container tops will be completely closed and secured to prevent particulate emissions to the atmosphere. Remediation Contractor will inspect prior to loading and removal of the containers from the Site.

- The exterior of the trucks/trailers will be cleaned off prior to leaving the Site to eliminate tracking of material off-site, if needed.

Additional information pertaining to management of the excavated soils, including hauling considerations, candidate disposal facilities, and transportation routes, is included in the Transportation Plan provided in Appendix D.

7.9 Excavation Backfill

Prior to any removal excavation being backfilled, the Environmental Consultant shall request from the LAUSD Project Manager written (email is acceptable) approval to do so. Such clearance shall be based on achieving the RAOs for that excavation.

For health and safety purposes, and without undue delay upon completion of the soil removal, it is anticipated that the excavated areas will be backfilled and compacted to return them to a grade consistent with school construction plans. As explained in Section 7.6.3, soil from other portions of the Site will be considered clean and can be used as backfill without additional testing.

Backfilling of remedial excavations will be completed to the standards requested by the Geotechnical Engineer of record, as recommended in the project geotechnical investigation reports. Typically, backfilling proceeds in approximately 8- to 12-inch lifts (loose thickness), with compaction of each successive lift. In-situ moisture and density tests will be conducted under the direction of the Geotechnical Engineer to achieve the project standards (typically, a minimum relative compaction of 90%). Dust control measures and air monitoring will be conducted during all excavation backfill activities, as discussed in Sections 7.4 and 7.5, respectively.

As noted in Section 7.7.3, the Geotechnical Engineer will approve mixture for slurry backfill before delivery of material to Site.

7.10 Incinerator Ash Removal

Results for the sample of debris ash from the incinerator are included in Appendix A. Benzoic acid was the only SVOC detected at 4,300 ug/kg. Elevated metal detections included arsenic (116 mg/kg), lead (655 mg/kg), nickel (1,040 mg/kg) and vanadium (1,670 mg/kg). Additional waste analysis for future disposal determination was performed for arsenic, lead, and nickel. Of these compounds, only nickel concentrations were above the soluble regulatory level, which would classify this material as a California hazardous waste.

The ash can be placed into 55-gallon DOT-approved drum(s) for temporary storage prior to offsite disposal. The exact volume of ash is unknown but estimated to be less than 0.5 cubic yard. The ash will be removed according to the same general standards as the soil removal described above.

7.11 Program Variances

As conditions in the field can vary, it might become necessary to implement minor modifications to the recommended procedures presented in this RAW. Field personnel will notify the LAUSD-OEHS Project Manager when deviations from the RAW are necessary and a verbal or written concurrence will be obtained before implementing the modification, as appropriate. Modifications to the approved RAW will be documented in the field logbook and in the RACR prepared at the conclusion of remedial activities (see Section 8.3).

8.0 PROJECT ORGANIZATION, SCHEDULE, AND REPORTING

Parties responsible for the implementation of this RAW are identified in the following sections. A tentative implementation schedule and reporting requirements are also discussed.

8.1 Project Organization

In selecting the remediation contractor and environmental consultant for this project, the LAUSD will ensure that they have the proper OSHA training and qualifications, experience, licenses, bonding and insurance necessary to conduct the field work. LAUSD will oversee the implementation of the RAW. Contact information for the current Project Managers for these organizations is as follows:

LAUSD-OEHS Project Manager

Steven Morrill, PG
Site Assessment Project Manager
333 South Beaudry Avenue, 21st Floor
Los Angeles, California 90017
Telephone: (213) 241-4672

LAUSD-Facilities Services Division Project Manager (Owner's Authorized Representative [OAR])

Abraham Thomassian, OAR
LAUSD-Project Execution-North Region/Valley
6651 Balboa Boulevard
Lake Balboa, California 91406
Telephone: (818) 654-3779
Mobile: (213) 248-0280
Email: abraham.thomassian@lausd.net

LAUSD-Facilities Development Manager

Mitra Nehorai
333 South Beaudry Avenue, 23rd Floor
Los Angeles, California 90017
Telephone: (213) 241-4138

Environmental Consultant Project Manager

TBD

Remediation Contractor Project Manager

TBD

8.2 Project Schedule

Remediation field activities will begin in accordance with a construction schedule established for the redevelopment project by the LAUSD. At the present time, the LAUSD expects to initiate field activities for the RAW between June 12, 2018 and July 30, 2018. The five general work areas are grouped so RAW field work activities proceed from east to west across the site. Simultaneous work in different areas or in different order may be permissible with LAUSD approval if work does not affect other construction activities. The following table provides the anticipated schedule of implementation and subsequent reporting once field activities are initiated:

Task	Working Days to Complete	Cumulative Days	Notes
1. Field Preparation	5	5	Contractor coordination, waste profile/disposal site approvals, mobilization, and set-up
2. Confirm Soil Profile	5	10	Collect and analyze soil profile confirmation samples if necessary.
3. Soil Removal and Confirmation Soil Sampling	15	30	Assumes minimal weather delays and minimal requirements for over-excavation
Area 1	2.5	17.5	Locations SB100, SB101
Area 2	2.5	20	Locations SB094, SB114, SB115, SB119
Area 3	3	23	Locations SB071, SB072, SB109
Area 4	4	27	Locations SB061, SB065, SB067, SB068, SB069
Area 5	3	30	Locations SB051, SB043, SB041
3. LAUSD Approval of Final Soil Removal Area for Backfill	0 (milestone)	30	It is expected that the LAUSD will review the confirmation sample results for individual removal areas and approve them for backfill as they are completed. This milestone reflects LAUSD approval to backfill the final removal area.
4. Data Compilation and Preparation of Draft RACR	10	35	Preparation of draft RACR to begin during field activities
5.LAUSD Review/Comment on Draft RACR	10	45	
6. RACR Revision and Finalization	5	50	
7. LAUSD prepares Site certification	5	65	

As summarized in the table above, it is anticipated that field work for the soil removal action can be completed within approximately three weeks of the initiation of remedial activities (not including restoration). Roll-off containers of waste soil will be transported from the site within six weeks of onset of removal activities. Assuming the removal action certification does not need to be expedited to meet the construction schedule, seven additional weeks will be required to prepare the RACR and obtain final LAUSD approval. The entire removal action then, including final LAUSD site certification, is expected to require approximately two and a half months to complete.

8.3 Removal Action Completion Report

After the remedial actions described in this RAW are completed, a draft RACR will be prepared and submitted to the LAUSD for review and approval. The RACR will be prepared as expeditiously as possible upon completion of field activities and receipt of final analytical data. At the minimum, it will include the following information:

- Site description and background
- Description of soil removal and confirmation sampling activities
- Tabulated analytical results for confirmation soil samples, supported by copies of laboratory reports
- Quality assurance review and a data validation memorandum
- Figures of soil removal excavations showing selected analytical results
- Volumes of soil removed and treatment/disposal methods, including copies of manifests
- Discussion of variances to the RAW, if any
- 95% UCL calculations for arsenic and lead using datasets that include confirmation soil sampling results
- Findings, conclusions, and recommendations
- Appendices and other supporting documentation.

Once the LAUSD approves the RACR, OEHS will certify the completion of environmental investigation and response activities at the Site.

9.0 REFERENCES

CSC Engineers, *PEA*, North Hollywood High School, 5231 Colfax Avenue, North Hollywood, CA 91601, August 24, 2016.

DTSC, Arsenic Strategies, Determination of Arsenic Remediation, Development of Arsenic Cleanup Goals for Proposed and Existing School Sites: Department of Toxic Substances Control, Sacramento, CA, March 21, 2007.

DTSC/HERO, Human Health Risk Assessment (HHRA) Note Number 3, DTSC-Modified Screening Levels (DTSC-SLs), January 2016,

DTSC/RWQCB, Advisory for Active Soil Gas Investigations, July 2015.

DTSC Preliminary Endangerment Assessment Guidance Manual, January 1994 (Revised 2015)

E2 Managetech, *Phase I Environmental Site Assessment Report*, North Hollywood High School, 5231 Colfax Avenue, North Hollywood, CA 91601, August 25, 2016

E2 Managetech, *PEA Equivalent Sampling Locations*, North Hollywood High School, 5231 Colfax Avenue, North Hollywood, CA 91601, August 24, 2016

FIGURES

Legend

Site Location

N

0 250 500'±

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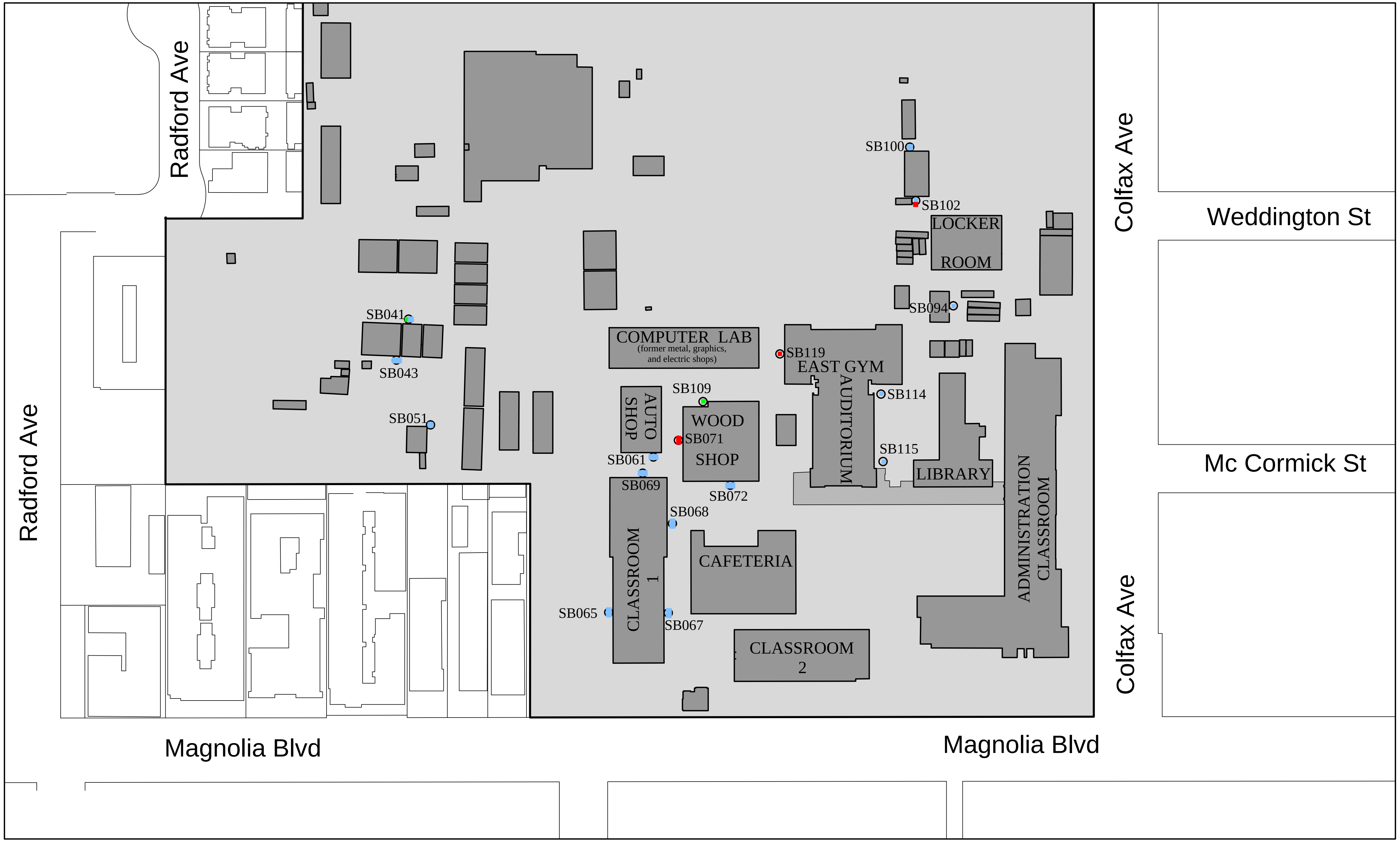
Figure 1
Site Location Map

Project No. 4007736	August 2017



Legend

Building Exterior Samples

Soil Borings

1.5' Depth Excavation

2.5' Depth Excavation

3' Depth Excavation

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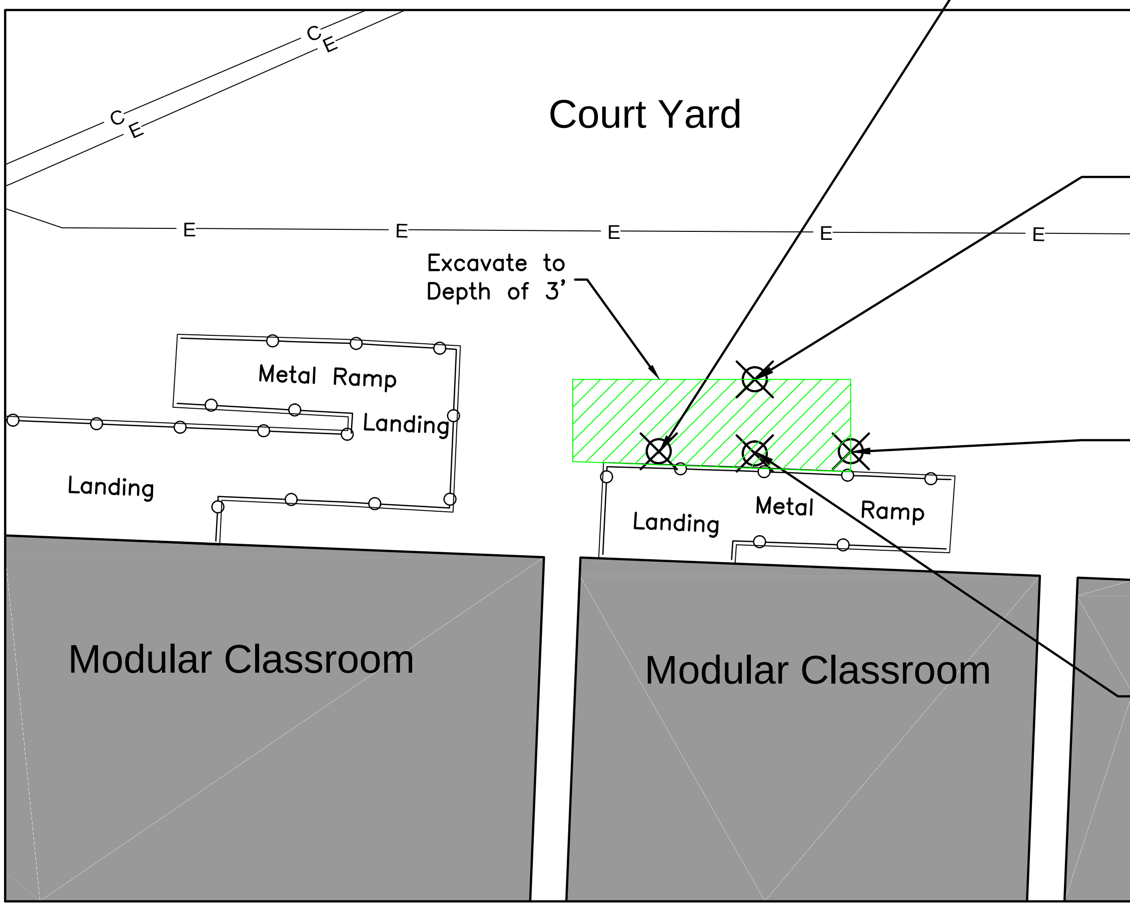
Figure 2
Remedial Excavation Locations

Project No. 4007736

August 2017



SB041S1

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	**117**
3.0	ND<2.0
4.0	--
5.0	--

SB041S2

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	ND<2.0

SB041S3

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	7.67

SB041

Depth	Arsenic
0.5	**32.2**
1.5	**25.9**
2.5	ND<2.0

Legend

Building Exterior Samples

- Soil Boring ID
- Railing
- Electrical Line
- Comm Line
- Excavation Removal Area

- All arsenic concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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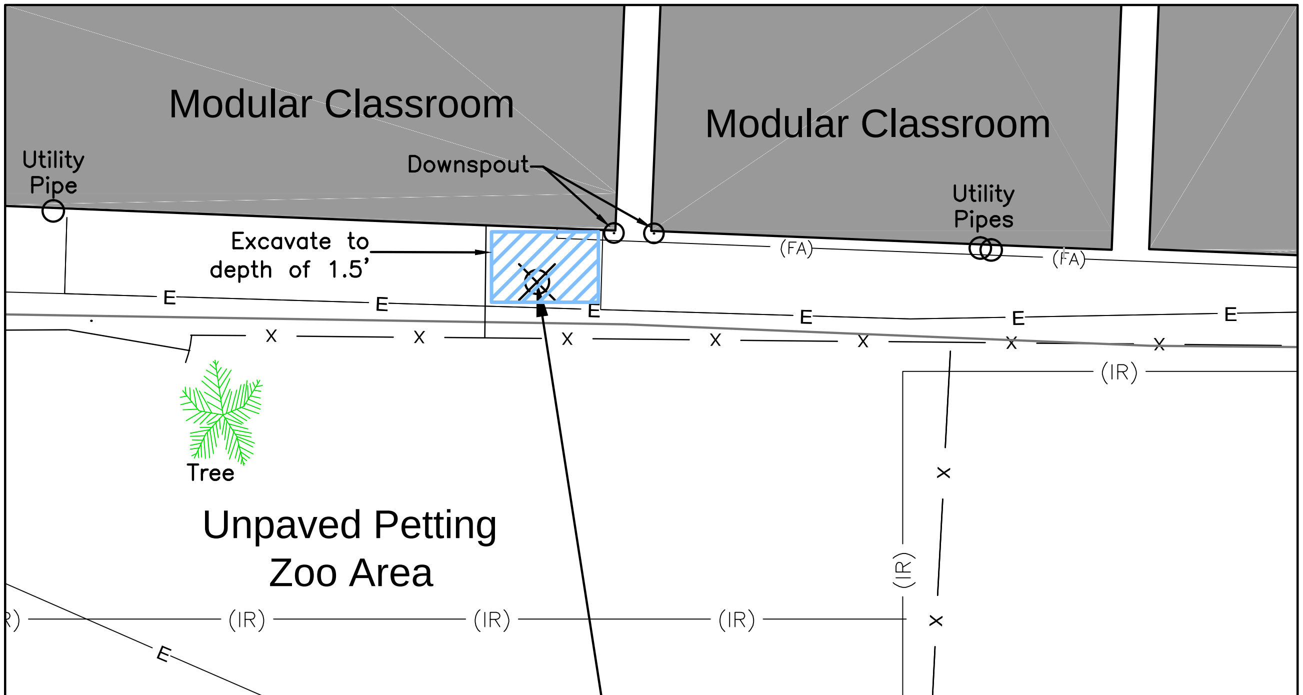
Figure 3.1
SB041 Remedial Excavation Area

Project No. 4007736

August 2017



Depth	Pb
0.5	**168**
1.5	12.6
2.5	--

Legend

Building Exterior Samples

- Soil Boring ID
- Electrical Line
- Fire Alarm Line
- Irrigation Line
- Fence Line
- Excavation Removal Area

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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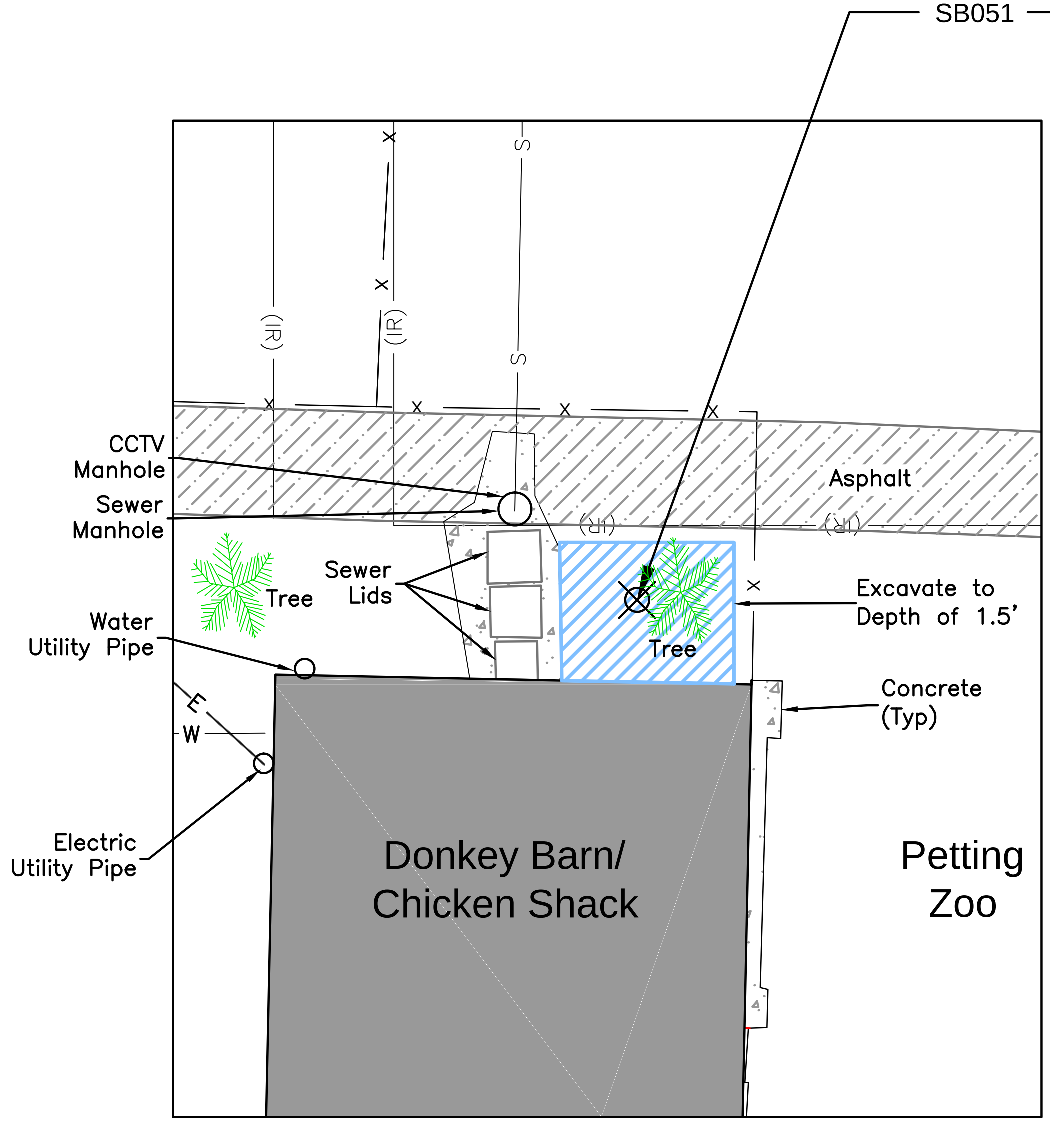
Figure 3.2
SB043 Remedial Excavation Area

Project No. 4007736

August 2017



Depth	Pb
0.5	**96.7**
1.5	25.9
2.5	--

Legend

Building Exterior Samples

- Soil Boring ID
- Electrical Line
- Sewer Line
- Irrigation Line
- Fence Line
- Water Line
- Excavation Removal Area

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

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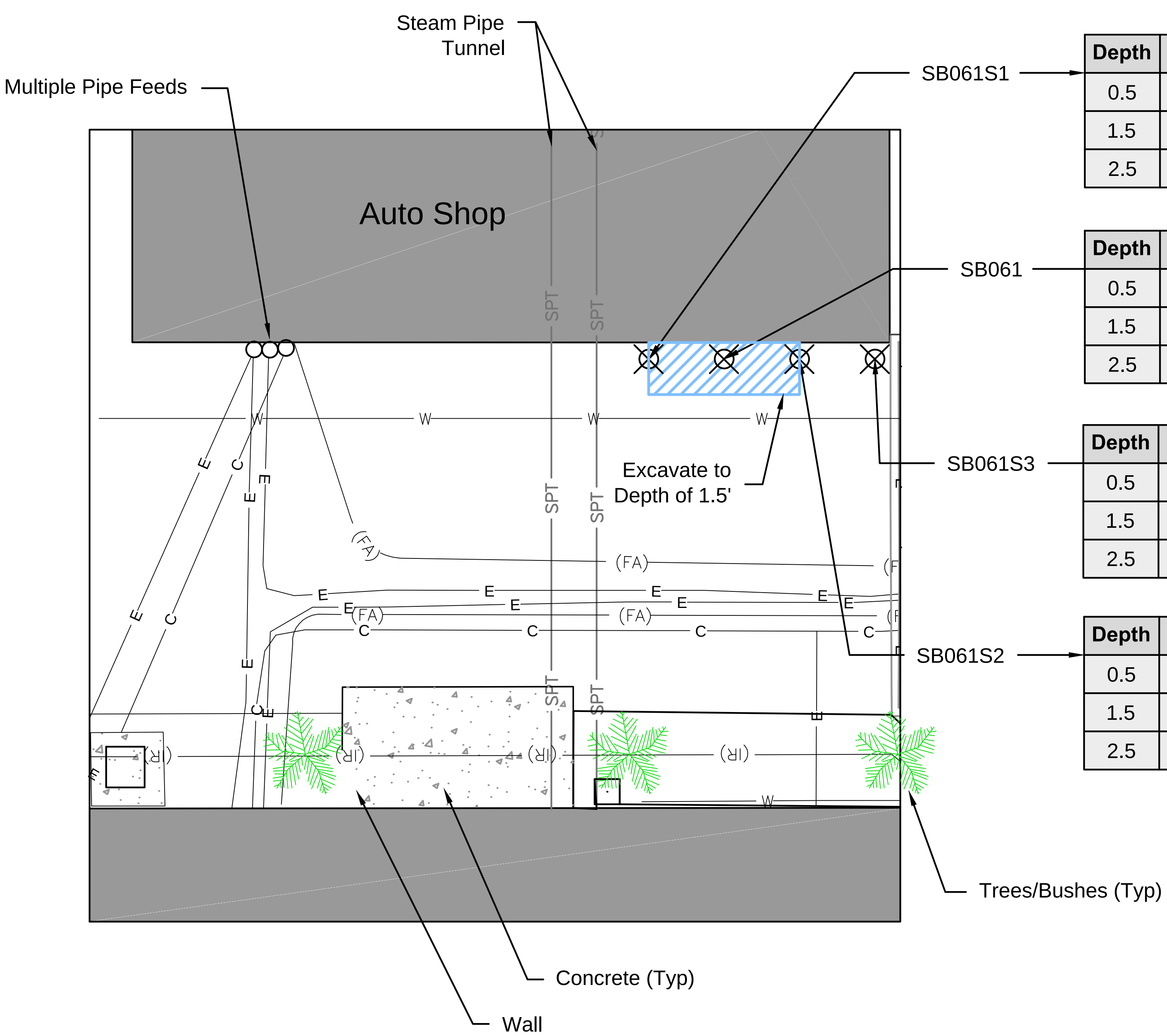
Figure 3.3
SB051 Remedial Excavation Area

Project No. 4007736

August 2017



SB061S1

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB061

Depth	Arsenic
0.5	**15.7**
1.5	ND<2.0
2.5	--

SB061S3

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB061S2

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

Legend

Building Exterior Samples

- Soil Boring ID
- Electrical Line
- Water Line
- Comm Line
- Irrigation Line
- Fire Alarm Line
- Excavation Removal Area

- All arsenic concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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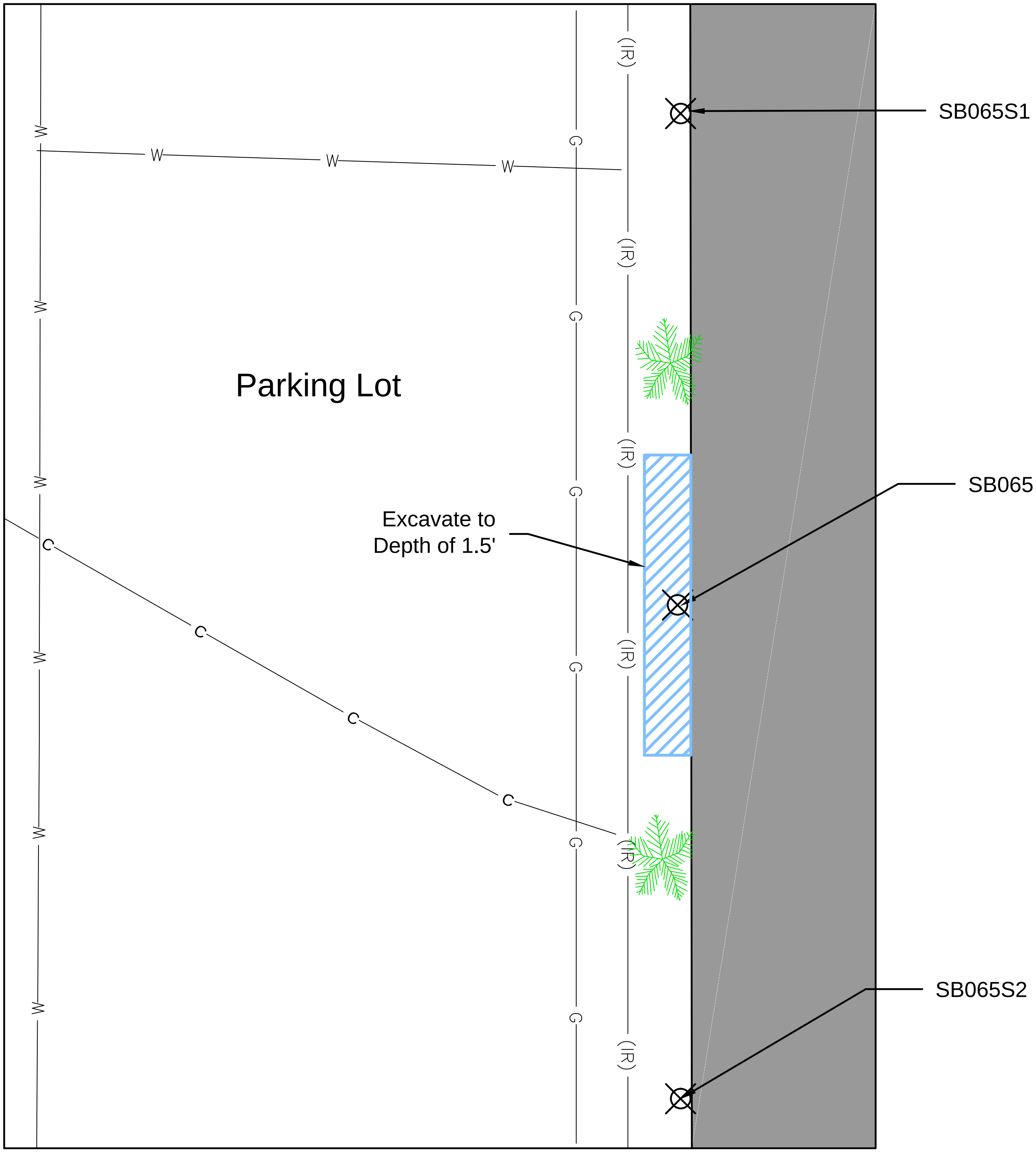
Figure 3.4
SB061 Remedial Excavation Area

Project No. 4007736

August 2017



SB065S1

Depth	Pb
0.5	ND<2.0
1.5	3.64
2.5	--

SB065

Depth	Pb
0.5	**149**
1.5	8.9
2.5	--

SB065S2

Depth	Pb
0.5	11.1
1.5	8.38
2.5	--

Legend

Building Exterior Samples

- Soil Boring ID
- (IR) Irrigation Line
- W Water Line
- C Comm Line
- G Gas Line
- Bushes/Trees
- Excavation Removal Area

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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Figure 3.5
SB065 Remedial Excavation Area

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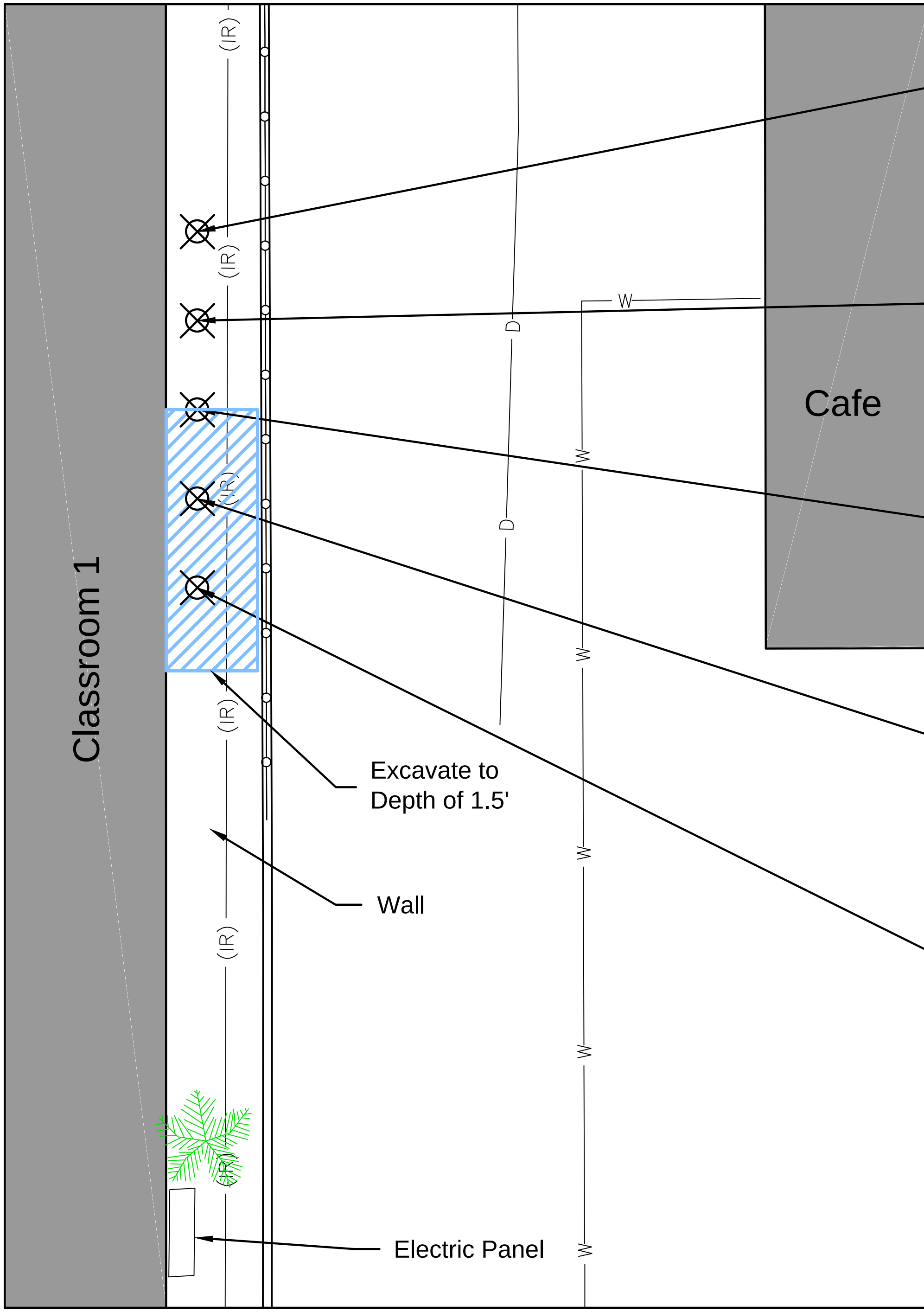

SB067S3

Depth	Pb
0.5	17.5
1.5	37.9
2.5	--

SB067S1

Depth	Pb
0.5	12.3
1.5	2.95
2.5	--

SB067

Depth	Pb
0.5	**207**
1.5	14.6
2.5	--

SB067S2

Depth	Pb
0.5	14.6
1.5	51.4
2.5	--

SB067S4

Depth	Pb
0.5	**176**
1.5	59.5
2.5	--

Legend

Building Exterior Samples

Soil Boring ID

Curb w/Railing

(IR) Irrigation Line

W Water Line

Bushes/Trees

Excavation Removal Area

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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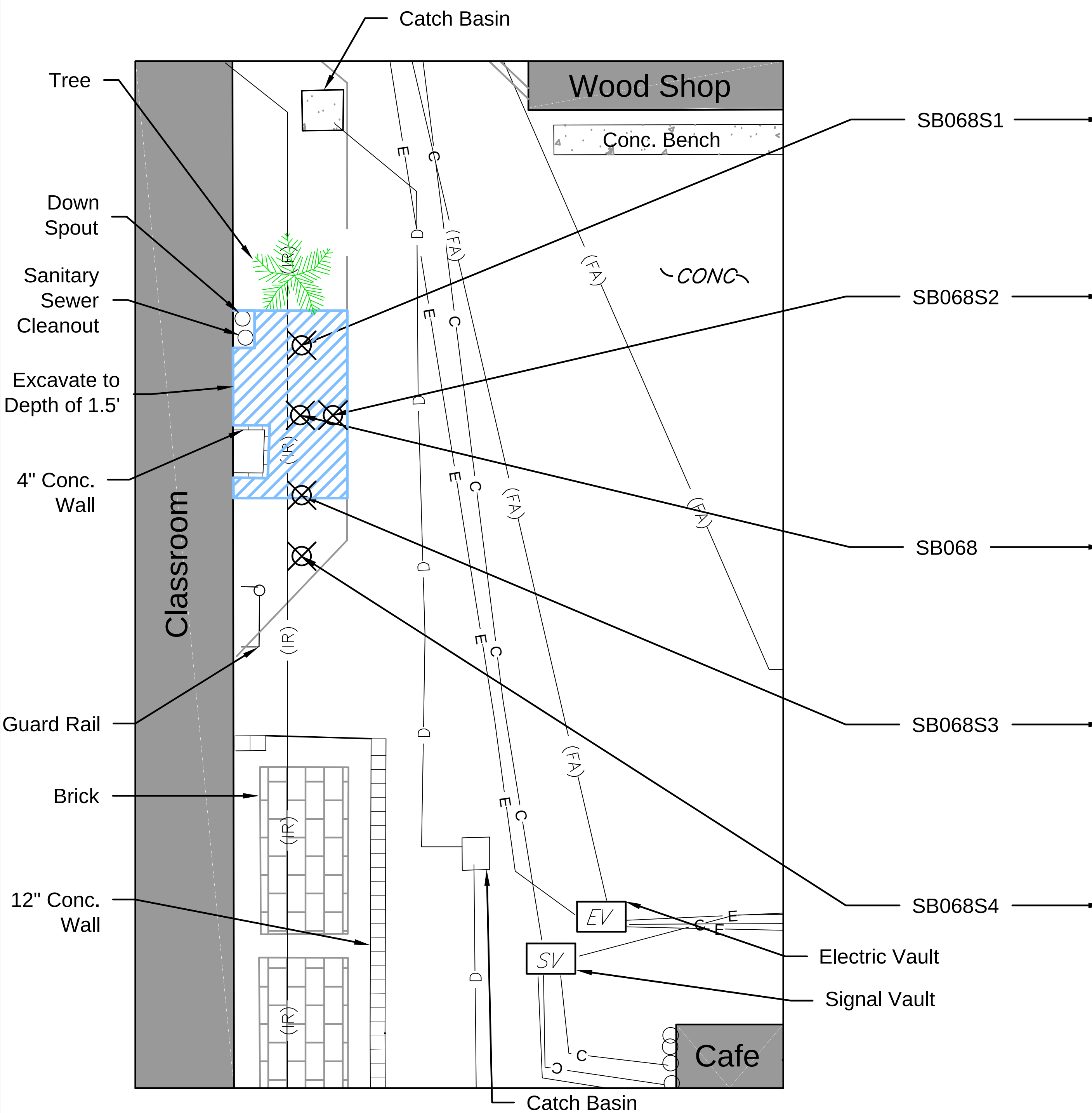
Figure 3.6
SB067 Remedial Excavation Area

Project No. 4007736

August 2017



SB068S1

Depth	Pb
0.5	60.3
1.5	ND<2.0
2.5	--

SB068S2

Depth	Pb
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB068

Depth	Pb
0.5	**211**
1.5	50.7
2.5	--

SB068S3

Depth	Pb
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB068S4

Depth	Pb
0.5	ND<2.0
1.5	ND<2.0
2.5	--

Legend

Building Exterior Samples

- Soil Boring ID
- Electrical Line (E)
- Drain Line (D)
- Comm Line (C)
- Irrigation Line (IR)
- Fire Alarm Line (FA)
- Excavation Removal Area

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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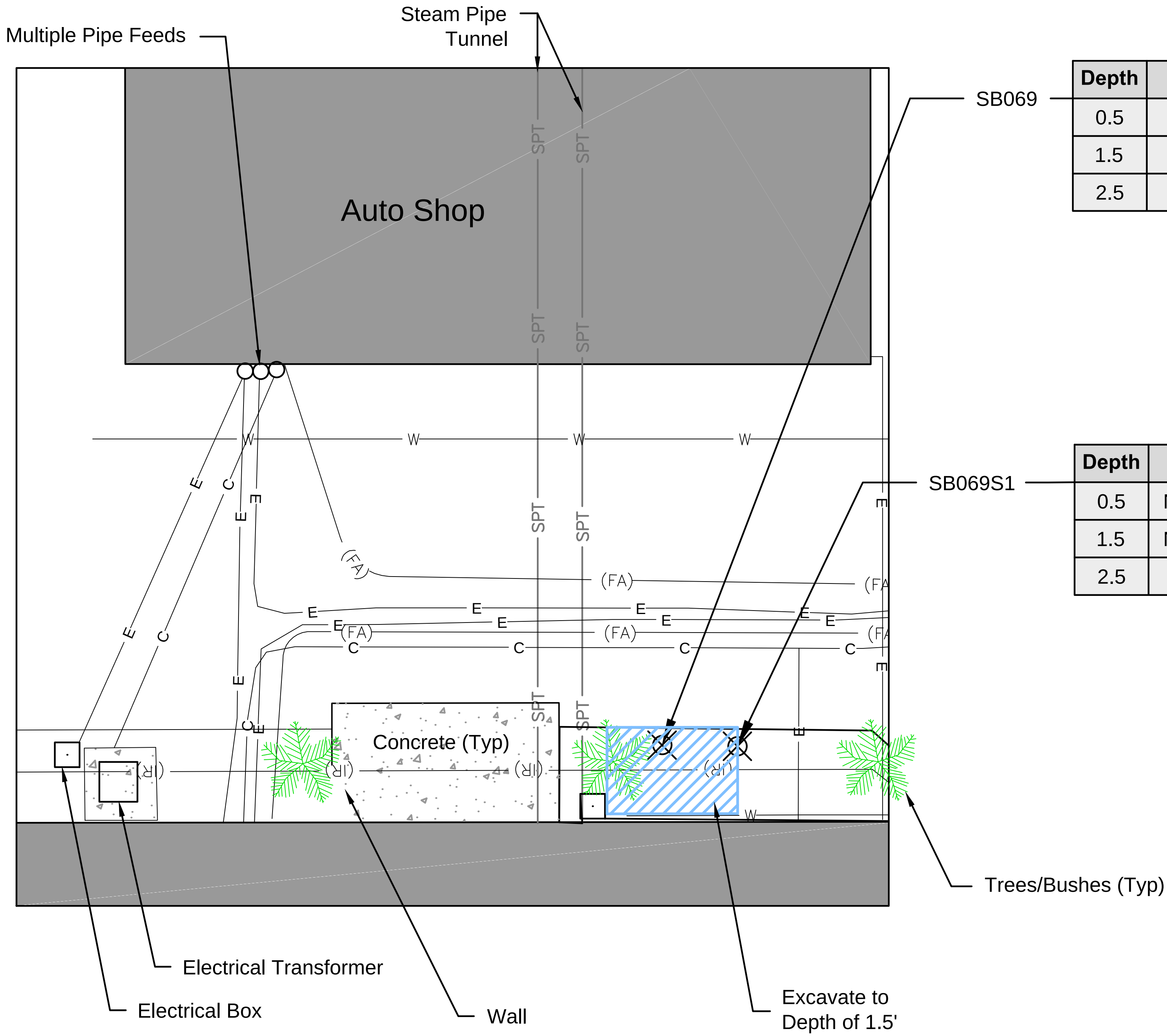
Figure 3.7
SB068 Remedial Excavation Area

Project No. 4007736 | August 2017



SB069

Depth	Pb
0.5	**131**
1.5	11.8
2.5	--

SB069S1

Depth	Pb
0.5	ND<2.0
1.5	ND<2.0
2.5	--

Legend

Building Exterior Samples

- Soil Boring ID
- Electrical Line
- Water Line
- Comm Line
- Irrigation Line
- Fire Alarm Line
- Excavation Removal Area

- All Lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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Figure 3.8
SB069 Remedial Excavation Area

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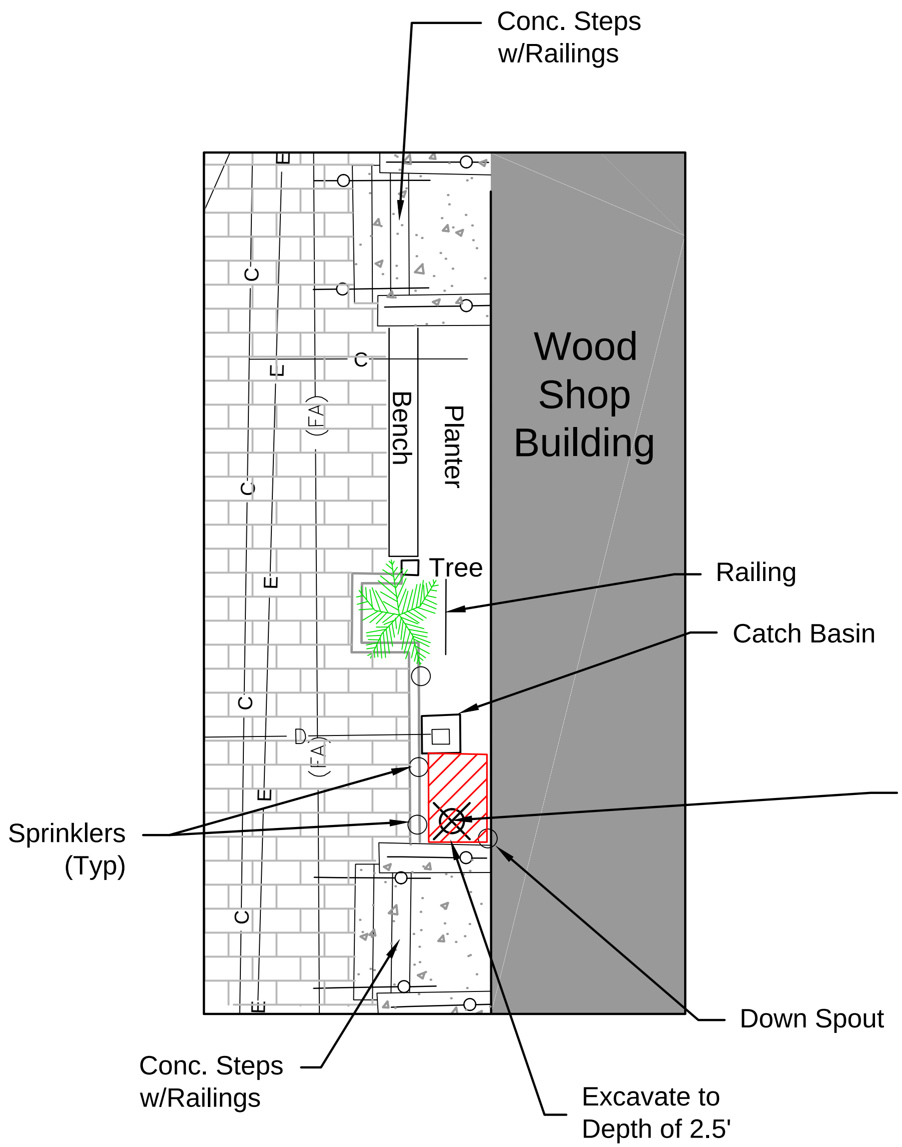
August 2017



Depth	Pb
0.5	**130**
1.5	**91.8**
2.5	3.44

Legend

Building Exterior Samples

- Soil Boring ID
- Electrical Line
- Fire Alarm Line
- Drain Line
- Comm Line
- Excavation Removal Area
- Brick/Pavers

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg)
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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Figure 3.9
SB071 Remedial Excavation Area

Project No. 4007736	August 2017

SB072S1

Depth	Pb
0.5	16.3
1.5	--
2.5	--

SB072

Depth	Pb
0.5	**94.2**
1.5	2.05
2.5	--

SB072S2

Depth	Pb
0.5	14.5
1.5	--
2.5	--

Legend

Building Exterior Samples

- Soil Boring ID
- Electrical Line
- Drain Line
- Bushes/Trees
- Concrete Paved Courtyard
- Excavation Removal Area

- All Lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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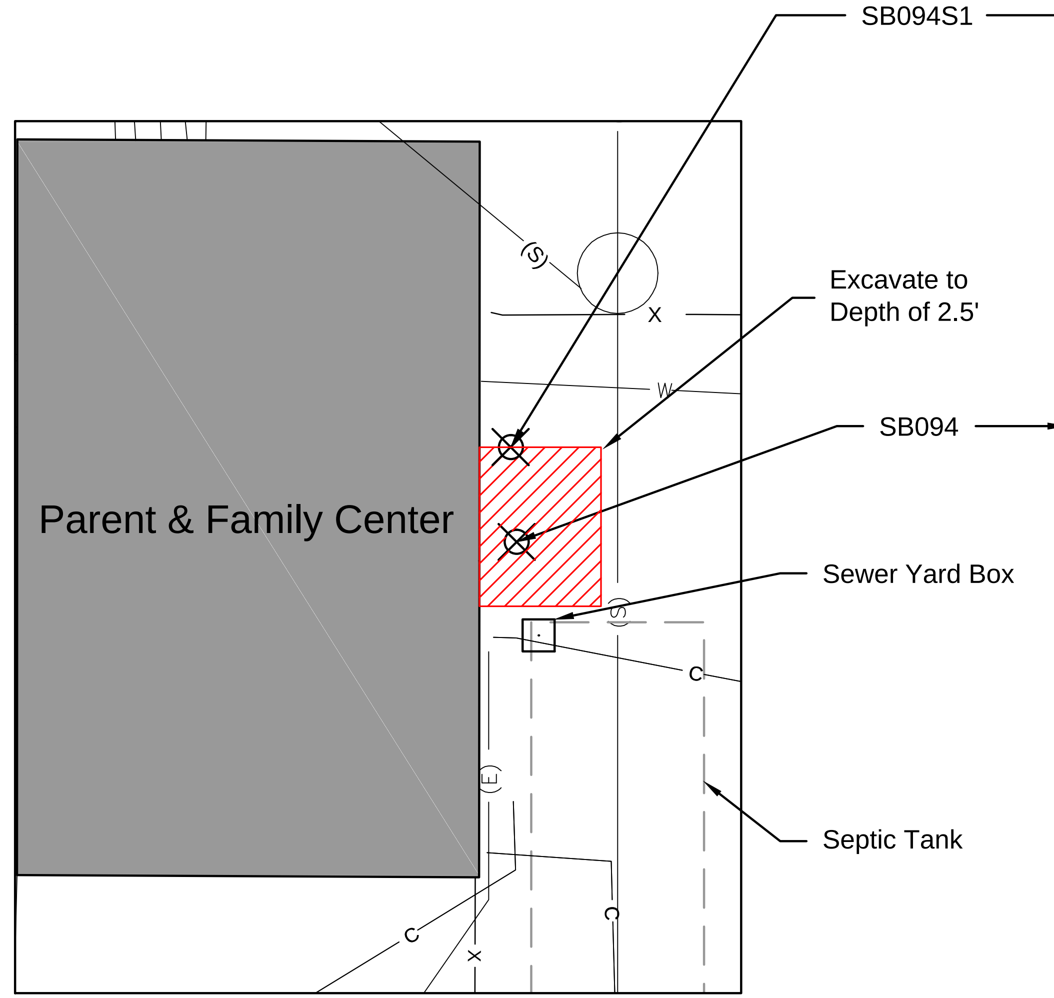
Figure 3.10
SB072 Remedial Excavation Area

Project No. 4007736

August 2017



SB094S1

Depth	Pb
0.5	ND<2.0
1.5	ND<2.0
2.5	ND<2.0

SB094

Depth	Pb
0.5	**81.4**
1.5	**155**
2.5	71.1

Legend

Building Exterior Samples

- Soil Boring ID
- (E) Electrical Line
- W Water Line
- (S) Sewer Line
- X Fence Line
- C Comm Line
- Excavation Removal Area

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg)
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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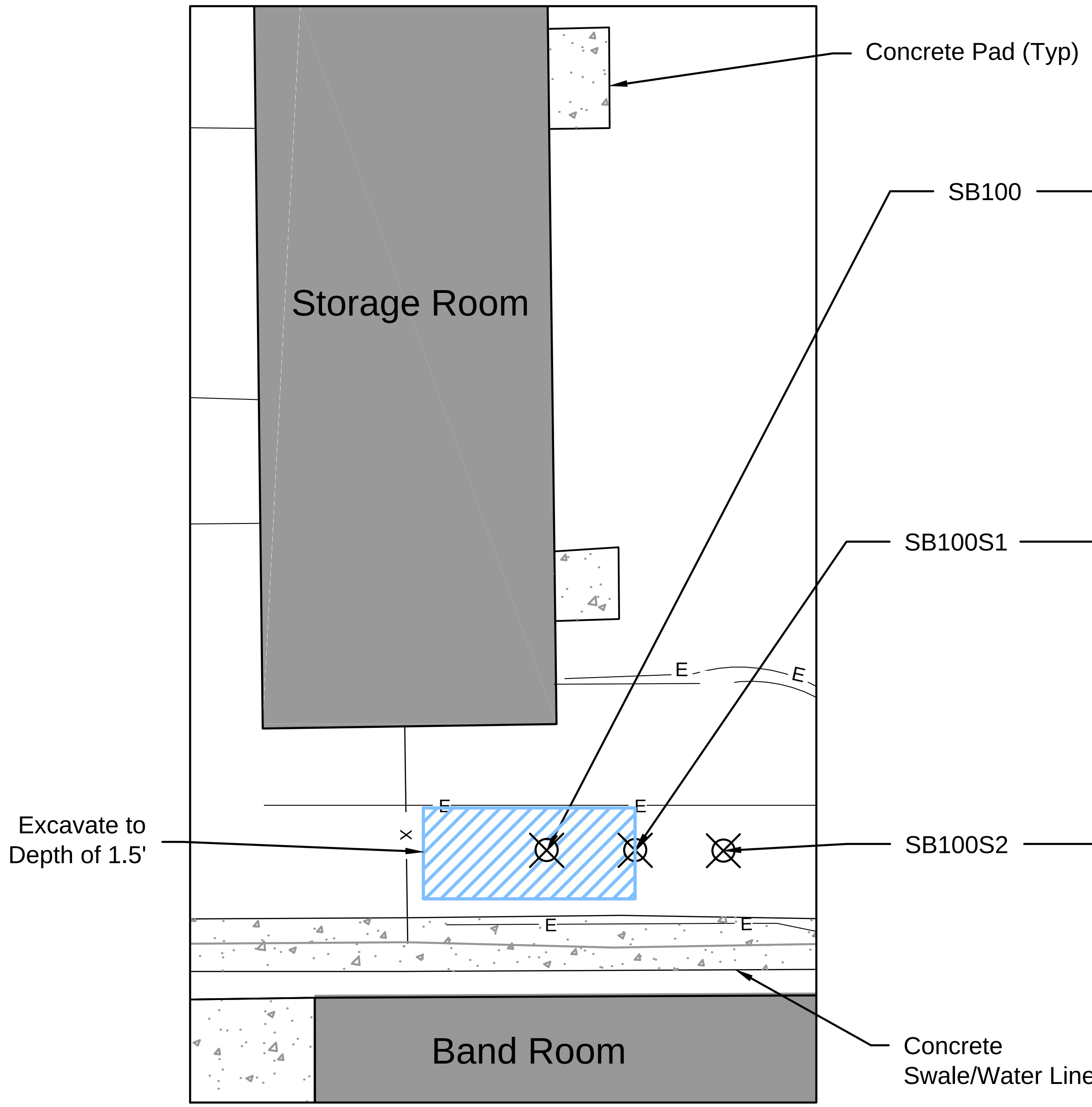
Figure 3.11
SB094 Remedial Excavation Area

Project No. 4007736	August 2017



SB100

Depth	Pb
0.5	**125**
1.5	3.13
2.5	--

SB100S1

Depth	Pb
0.5	7.77
1.5	ND<2.0
2.5	--

SB100S2

Depth	Pb
0.5	ND<2.0
1.5	54.7
2.5	--

Legend

Building Exterior Samples

- Soil Boring ID
- x Fence Line
- FA Fire Alarm Line
- E Electrical Line
- Concrete
- Excavation Removal Area

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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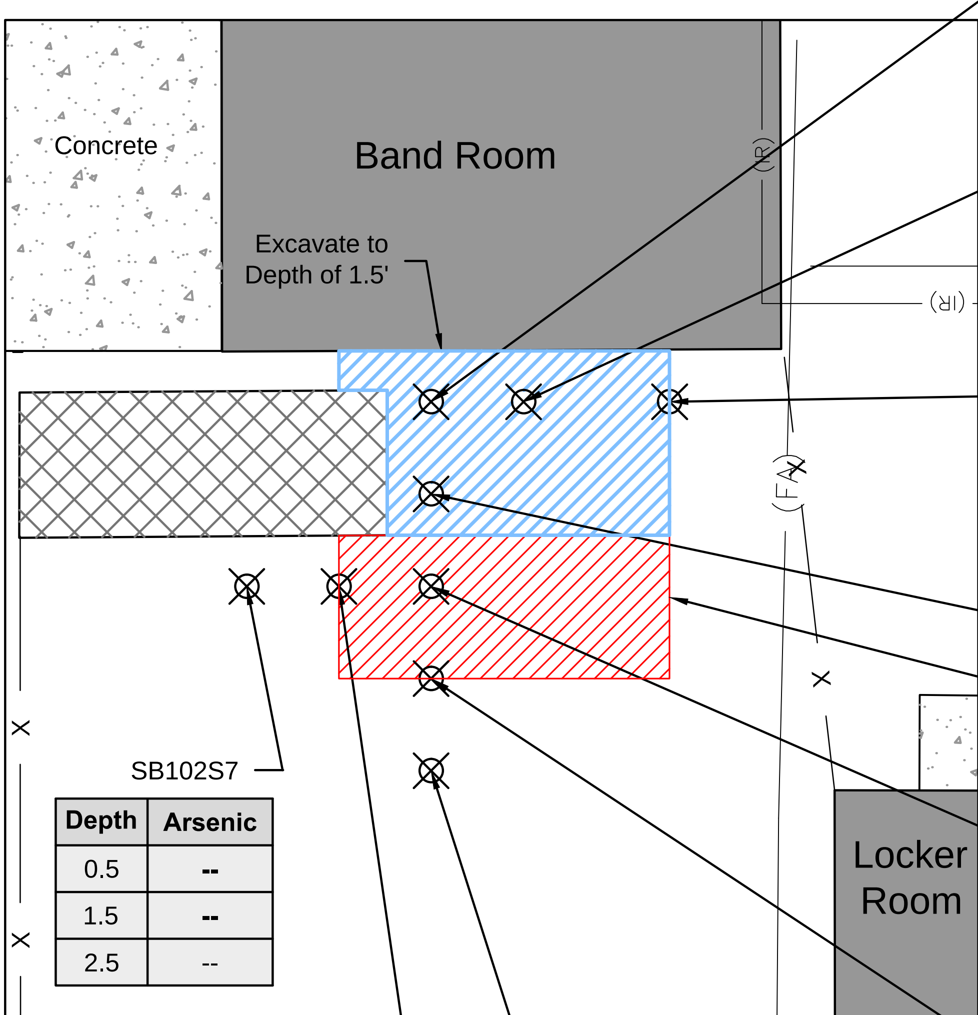
Figure 3.12
SB100 Remedial Excavation Area

Project No. 4007736

August 2017



SB102

Depth	Arsenic
0.5	**54.5**
1.5	ND<2.0
2.5	--

SB102S2

Depth	Arsenic
0.5	**109.0**
1.5	ND<2.0
2.5	--

SB102S3

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB102S1

Depth	Arsenic
0.5	**57.1**
1.5	ND<2.0
2.5	--

SB102S4

Depth	Arsenic
0.5	**26.2**
1.5	**111**
2.5	ND<2.0

SB102S6

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB102S7

Depth	Arsenic
0.5	--
1.5	--
2.5	--

SB102S5

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB102S8

Depth	Arsenic
0.5	--
1.5	--
2.5	--

Legend

Building Exterior Samples

- Soil Boring ID
- —X— Fence Line
- —(IR)— Irrigation Line
- —(FA)— Fire Alarm Line
- Storage Container
- Excavation Removal Areas

- All arsenic concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs)

N

0 5 10 Feet

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Figure 3.13
SB102 Remedial Excavation Area

Project No. 4007736

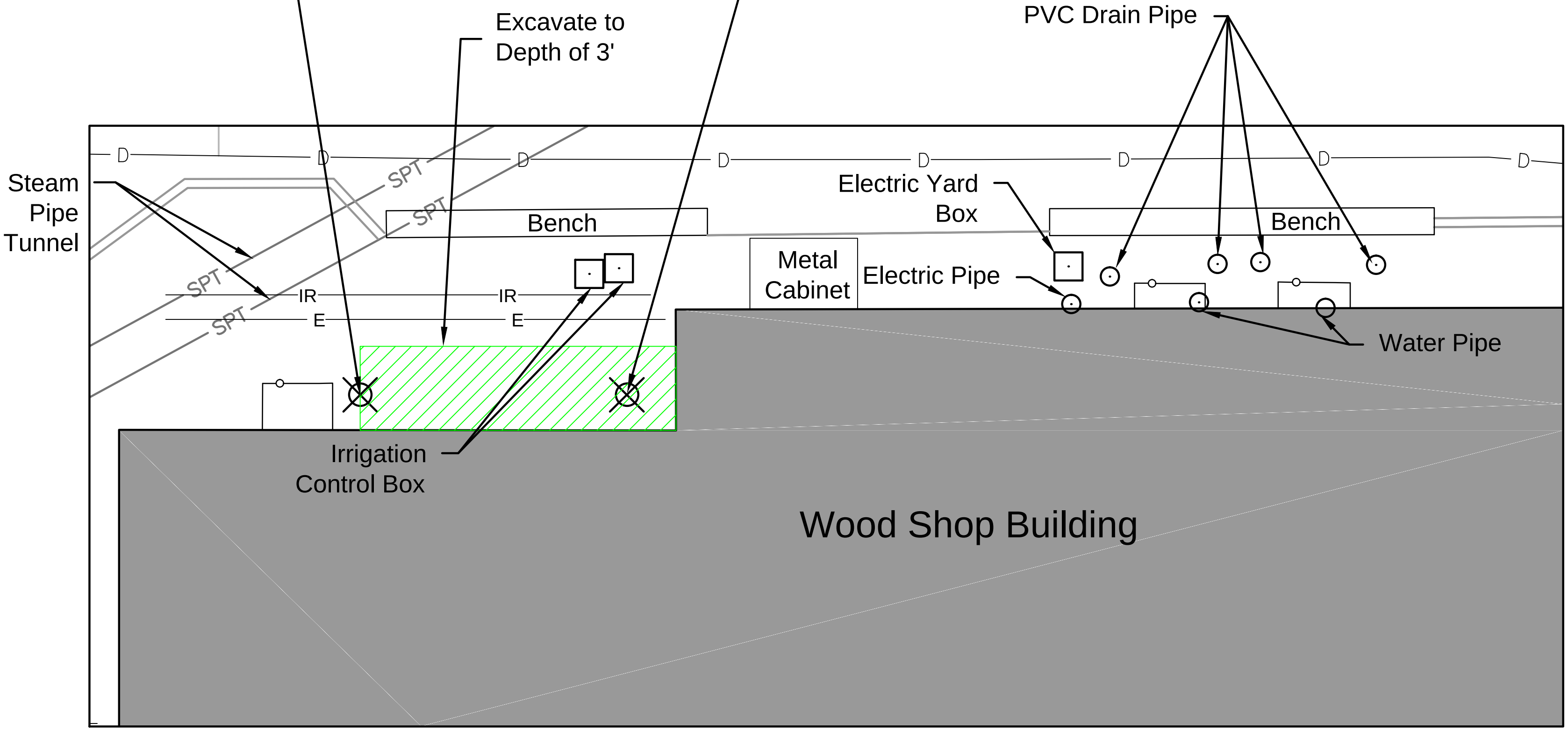
August 2017

SB1092S1

Depth	Pb
0.5	19.7
1.5	10.7
2.5	5.51
3.0	ND<2.0

SB109

Depth	Pb
0.5	**101**
1.5	**132**
2.5	**88.8**



Legend

Building Exterior Samples

- Soil Boring ID
- Electrical Line
- Drain Line
- Irrigation Line
- Excavation Removal Area

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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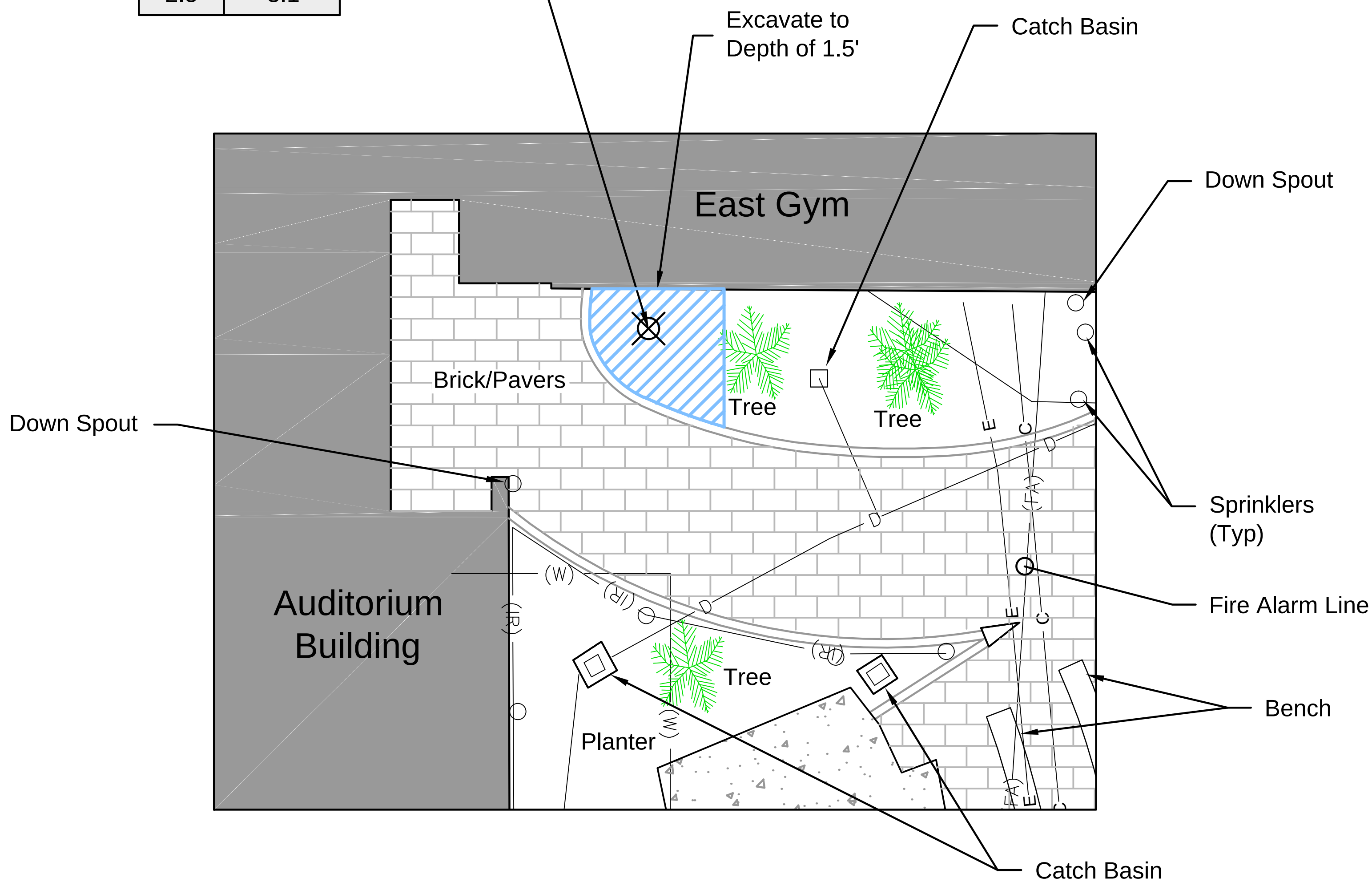
Figure 3.14
SB109 Remedial Excavation Area

Project No. 4007736

August 2017

Depth	Pb
0.5	**286**
1.5	ND<2.0
2.5	3.1



Legend

Building Exterior Samples

- Soil Boring ID
- E — Electrical Line
- (W) — Water Line
- (IR) — Irrigation Line
- D — Drain Line
- C — Comm Line
- Excavation Removal Area

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg)
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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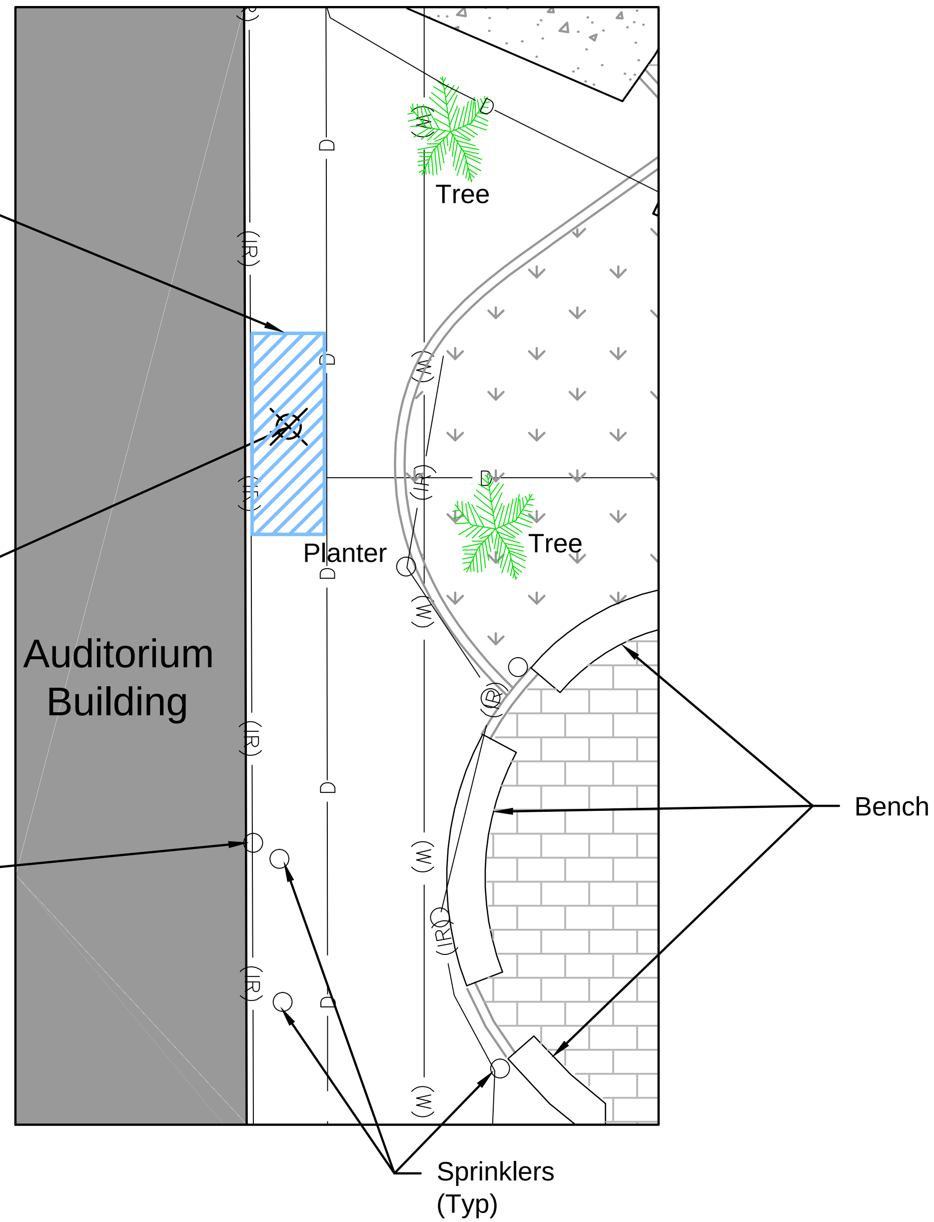
Figure 3.15
SB114 Remedial Excavation Area

Project No. 4007736

August 2017



Depth	Pb
0.5	**357**
1.5	10.5
2.5	55.0

Legend

Building Exterior Samples

- Soil Boring ID
- Drain Line
- Water Line
- Irrigation Line
- Grass
- Brick/Pavers
- Excavation Removal Area

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg)
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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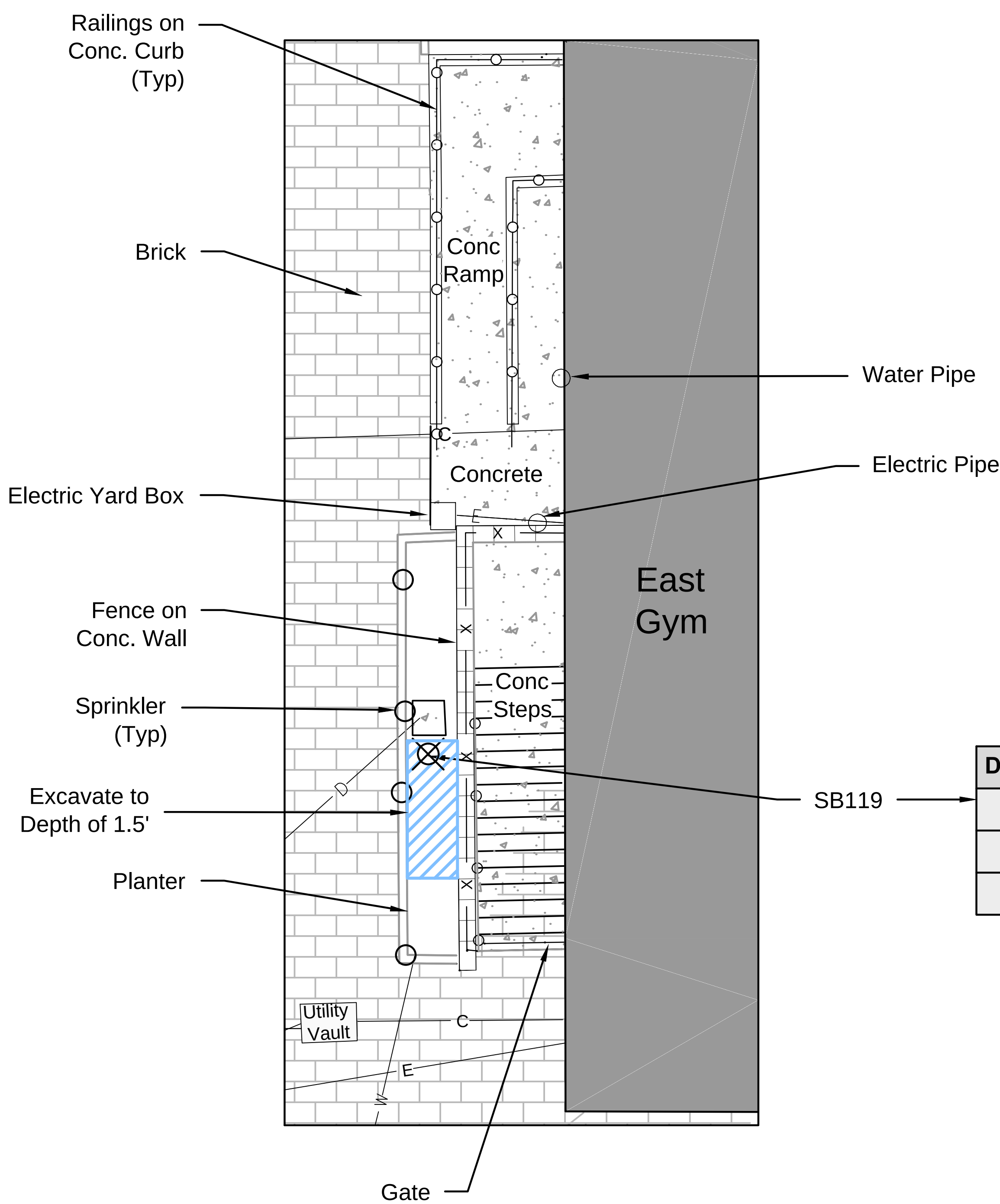
Figure 3.16
SB115 Remedial Excavation Area

Project No. 4007736

August 2017



Depth	Arsenic
0.5	2.19
1.5	**19.3**
2.5	ND<2.0

Legend

Building Exterior Samples

- Soil Boring ID
- —E— Electrical Line
- —W— Water Line
- —X— Fence Line
- —D— Drain Line
- —C— Comm Line
- Excavation Removal Area

- All Arsenic concentrations reported in milligrams per kilogram (mg/kg)
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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Figure 3.17
SB119 Remedial Excavation Area

Project No. 4007736 | August 2017

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Removal Locations and Staging Area
North Hollywood High School
North Hollywood, CA

Figure 4.1

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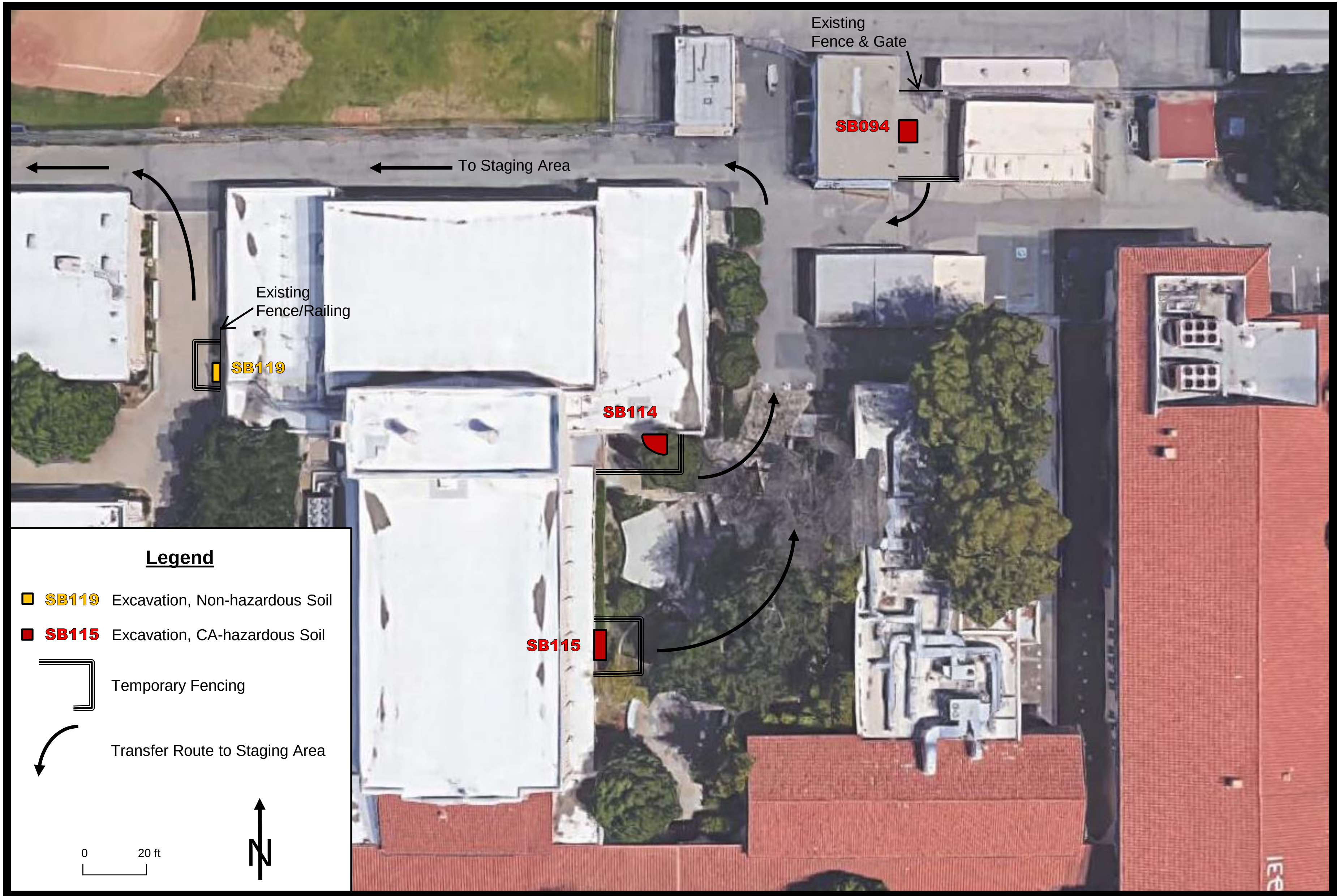
Removal Locations – Area 1
North Hollywood High School
North Hollywood, CA

Figure 4.2



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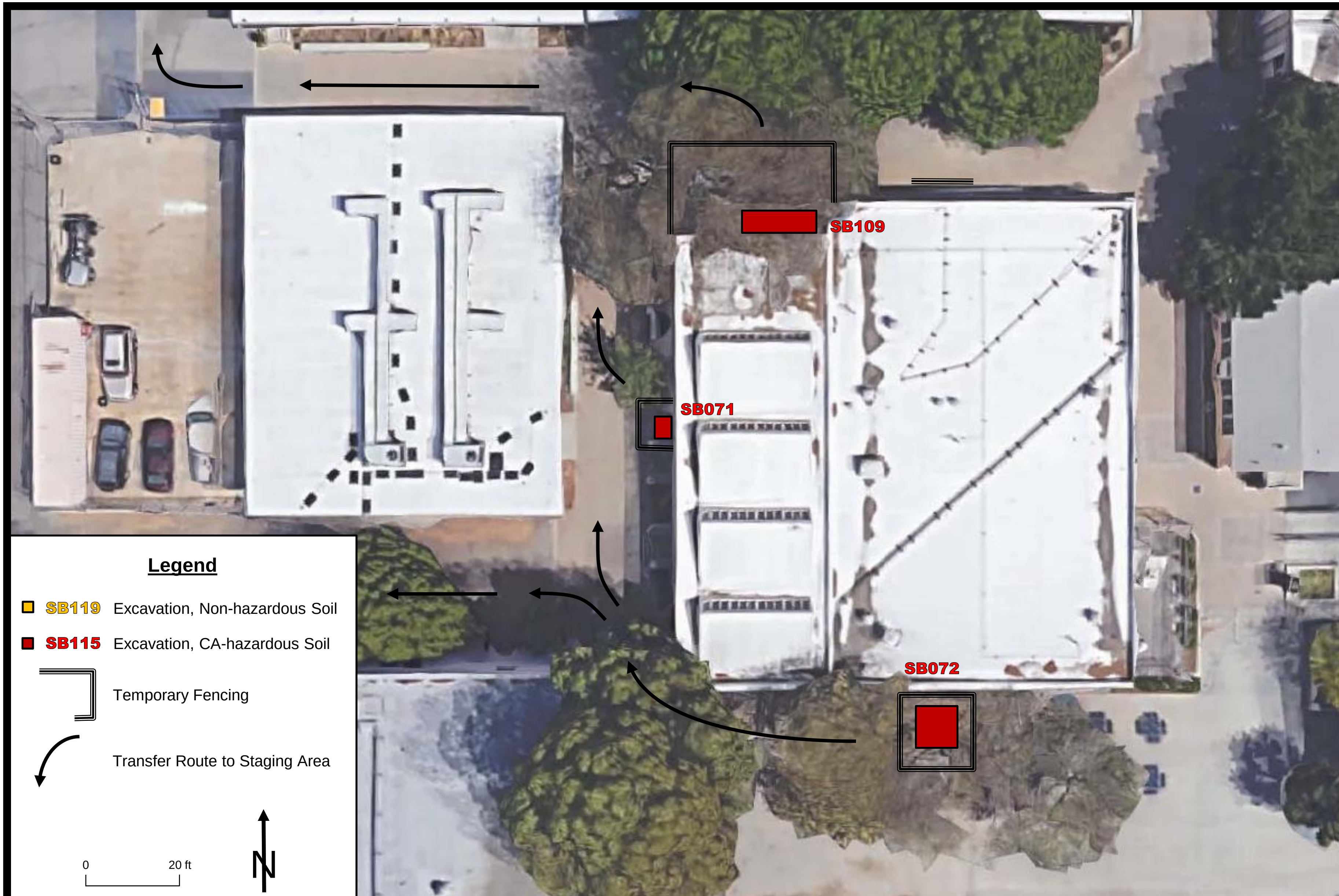
Removal Locations – Area 2
North Hollywood High School
North Hollywood, CA

Figure 4.3



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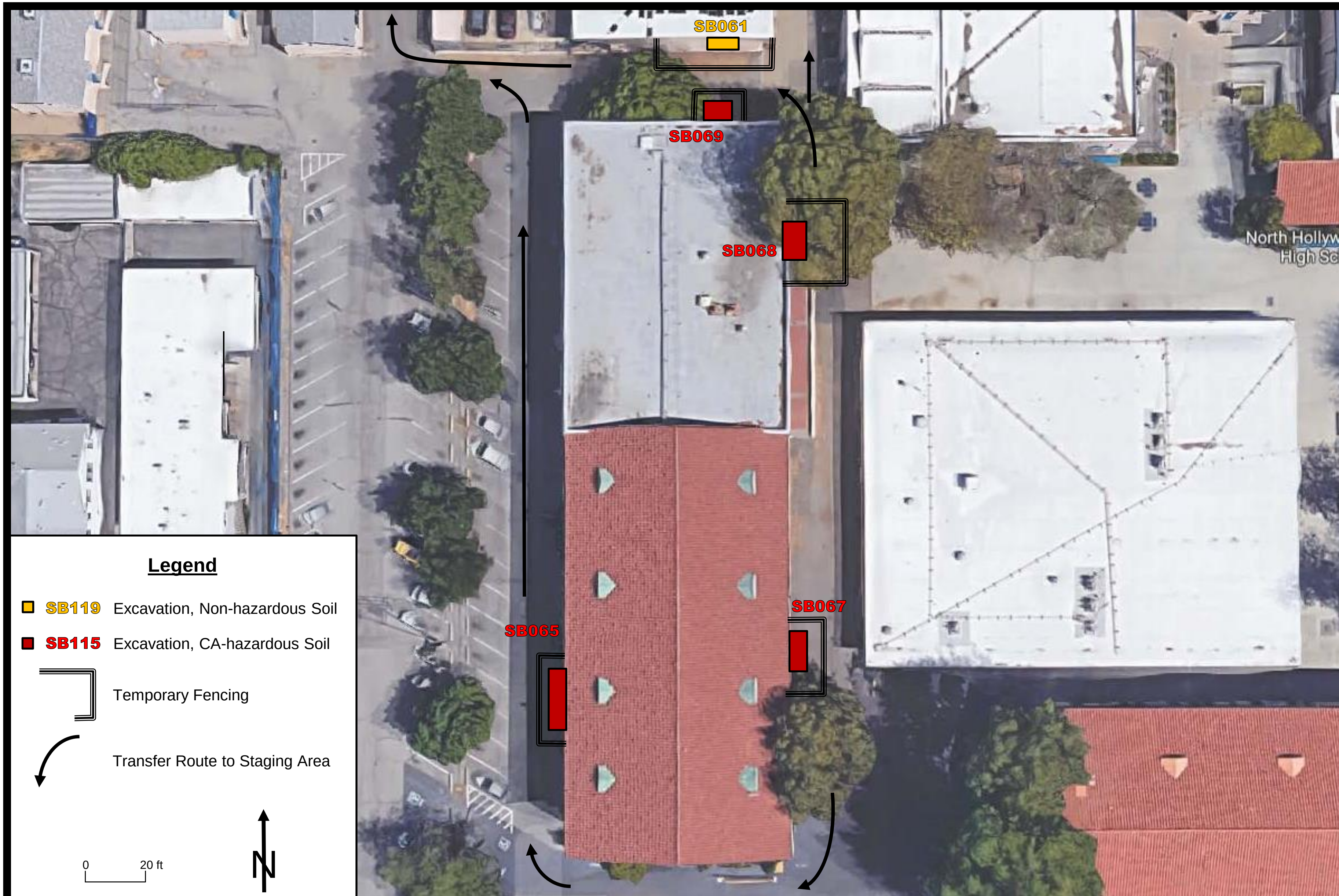
Removal Locations – Area 3
North Hollywood High School
North Hollywood, CA

Figure 4.4



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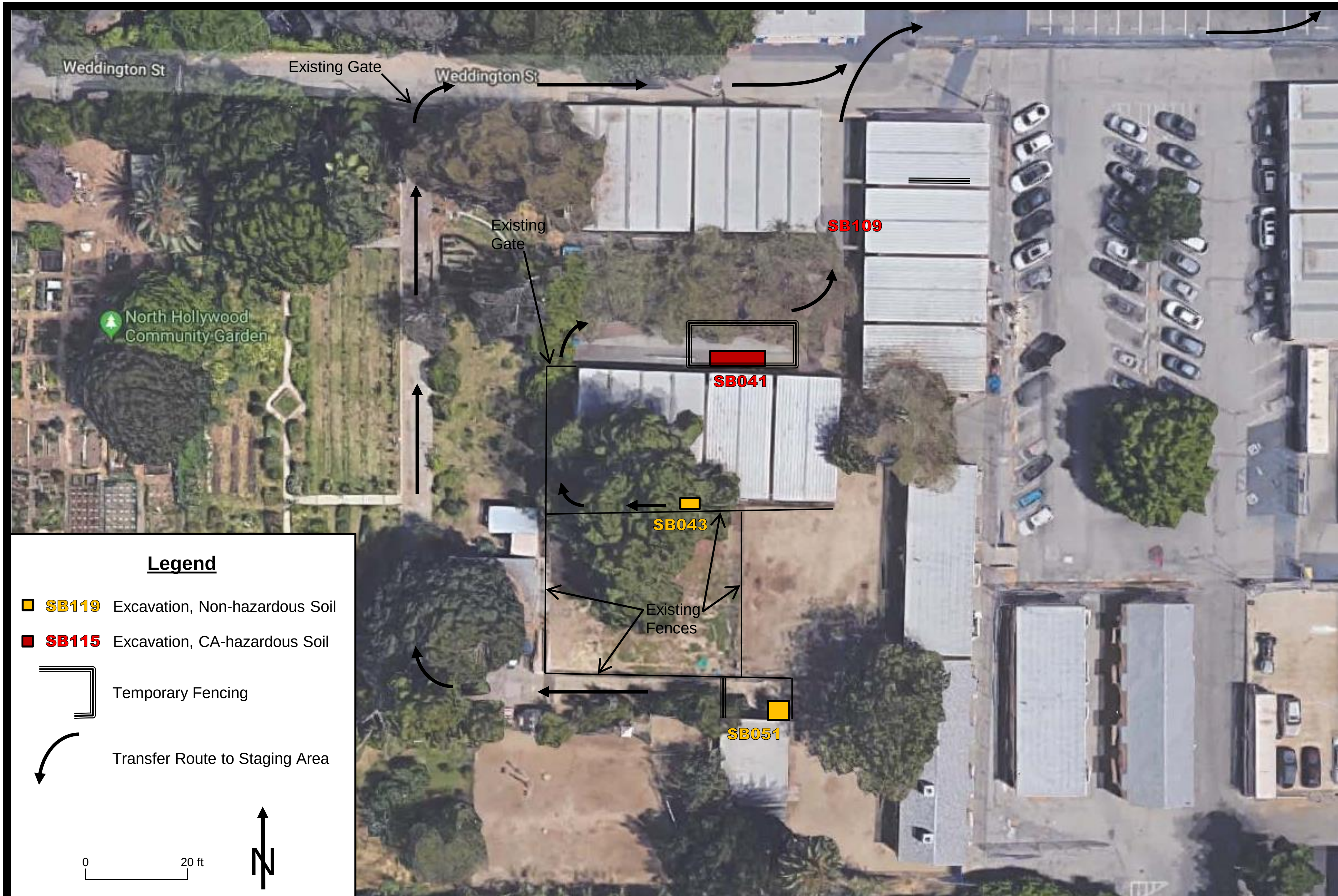
Removal Locations – Area 4
North Hollywood High School
North Hollywood, CA

Figure 4.5



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Removal Locations – Area 5
North Hollywood High School
North Hollywood, CA

Figure 4.6

TABLES

TABLE 1
SUMMARY OF ESTIMATED VOLUME OF IMPACTED SOIL
NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Area	COC	Impacted Surface Area (Feet)		Impacted Depth (Feet bgs)	Impacted Volume in Cubic Feet	Impacted Volume in Cubic Yards
SB041	Arsenic	5 x 13	65	0 to 3	195	7.2
SB043	Lead	5 x 5	25	0 to 1.5	37.5	1.4
SB051	Lead	7 x 8	56	0 to 1.5	84	3.1
SB061	Arsenic	2.5 x 10	25	0 to 1.5	37.5	1.4
SB065	Lead	2.5 x 17	42.5	0 to 1.5	63.75	2.4
SB067	Lead	5 x 15	75	0 to1.5	112.5	4.2
SB068	Lead	7.5 x 12	90	0 to 1.5	135	5.0
SB069	Lead	5 x 10	50	0 to 1.5	75	2.8
SB071	Lead	3 x 4	12	0 to 2.5	30	1.1
SB072	Lead	7.5 x 7.5	56.25	0 to 1.5	84.375	3.1
SB094	Lead	5 x 7.5	37.5	0 to 2.5	93.75	3.5
SB100	Lead	5 x 11	55	0 to 1.5	82.5	3.1
SB102	Arsenic	10 x 17	170	0 to 1.5	255	9.4
		6 x 17	102	0 to 2.5	255	9.4
SB109	Lead	5 x 16	80	0 to 3	240	8.9
SB114	Lead	6 x 7	42	0 to 1.5	63	2.3
SB115	Lead	3 x 10	30	0 to 1.5	45	1.7
SB119	Arsenic	2.5 x 7.5	18.75	0 to 2.5	46.875	1.7
Total Impacted Volume						71.7

TABLE 2
SUMMARY OF SOIL WASTE CHARACTERIZATION DATA
NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample ID	Total and Soluble Waste Threshold Concentrations						Waste Characterization
	Arsenic TTLC	Arsenic STLC	Arsenic TCLP	Lead TTLC	Lead STLC	Lead TCLP	
	mg/kg	mg/l	mg/l	mg/kg	mg/l	mg/l	
Hazardous Waste Limit	500	5	5	1,000	5	5	
SB041S1-2.5	117	7.81	1.46	--	--	--	Calfornia Hazardous Waste
SB043-0.5	ND <2.0	--	--	168	0.52	ND <0.01	Non-Hazardous Waste
SB051-0.5	ND <2.0	--	--	96.7	4.5	ND <0.01	Non-Hazardous Waste
SB061-0.5	15.7	--	--	12.9	--	--	Non-Hazardous Waste
SB065-0.5	ND <2.0	--	--	149			CA Haz - Characterized by SB67 and 68, adjacent to Classroom 1 Building
SB067-0.5	ND <2.0	--	--	207	13.3	2.19	California Hazardous Waste
SB068-0.5	2.8	--	--	211	17.9	0.45	California Hazardous Waste
SB069-0.5	2.48	--	--	131	--	--	CA Haz - Characterized by SB67 and 68, adjacent to Classroom 1 Building
SB071-0.5	11.2	--	--	130	8.06	ND <0.01	California Hazardous Waste
SB072-0.5	ND <2.0	--	--	94.2	--	--	CA Haz - Characterized by SB71-0.5, adjacent to Woodshop Building
SB094-1.5	--	--	--	155	--	--	Ca Haz Waste - Characterized by SB100
SB100-0.5	ND <2.0	--	--	125	7.67	ND <0.01	Calfornia Hazardous Waste
SB102-0.5	54.5	6.07	--	49.5	--	--	California Hazardous Waste
SB102S4-1.5	111	5.87	1.42	--	--	--	California Hazardous Waste
SB109-0.5 to 1.5	ND <2.0	--	--	132	--	--	CA Haz - Characterized by SB71-0.5, adjacent to Woodshop Building
SB114-0.5 to 1.5	6.23	--	--	286	--	--	Assumed California Hazardous Waste
SB115-0.5 to 1.5	4.74	--	--	357	--	--	Assumed California Hazardous Waste
SB119-0.5 to 1.5	19.3	--	--	27.6	--	--	Non-Hazardous Waste

TABLE 3

ESTIMATED COSTS FOR REMEDIAL ALTERNATIVE 2

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

		Task 1	Task 2 Field Activities			Task 3	Task 4		
Labor Category	**Hrly Rate**	**Mobilization**	**Excavation and Sampling**	**Backfill and Loading**	**Transport and Disposal**	**Summary Report**	**Contingency (10%)**	**TOTAL HOURS**	**TOTAL COST**
								0.00	$0.00
Average Rate	125.00	30.00	180.00	20.00	8.00	60.00		298.00	$37,250.00
								0.00	$0.00
								0.00	$0.00
								0.00	$0.00
	Total Hours	**30.00**	**180.00**	**20.00**	**8.00**	**60.00**	**0.00**	**298.00**	
	Total Costs	**$3,750.00**	**$22,500.00**	**$2,500.00**	**$1,000.00**	**$7,500.00**	**$0.00**		**$37,250.00**
SUBCONTRACTOR COSTS									
Contractor ($4,000/day)		$2,500.00	$60,000.00	$8,000.00					$70,500.00
Transport and disposal Cal Haz ($170/ton x 118 tons)					$20,060.00				$20,060.00
Backfill Material				$3,000.00					$3,000.00
Laboratory ($40 each)			$4,000.00						$4,000.00
									$0.00
									$0.00
TOTAL SUBCONTRACTOR COSTS		**$2,500.00**	**$64,000.00**	**$11,000.00**	**$20,060.00**	**$0.00**	**$0.00**		**$97,560.00**
TRAVEL COSTS									
									0.00
TOTAL TRAVEL COSTS (Rental and Mileage)		**50.00**	**300.00**	**100.00**	**0.00**	**0.00**	**0.00**		**$450.00**
ODCs AND OTHER EQUIPMENT COSTS									
Field Supplies and Equipment			$2,000.00	$200.00					$2,200.00
									$0.00
TOTAL ODC COSTS		**$0.00**	**$2,000.00**	**$200.00**	**$0.00**	**$0.00**	**$0.00**		**$2,200.00**
TOTAL EXPENSES		**$2,550.00**	**$66,300.00**	**$11,300.00**	**$20,060.00**	**$0.00**	**$0.00**		**$100,210.00**
TOTAL COST PER TASK		**$6,300.00**	**$88,800.00**	**$13,800.00**	**$21,060.00**	**$7,500.00**	**$13,746.00**		**$151,206.00**

Table 4 -- RAW Planning Matrix
North Hollywood High School

RAW Area	RAW ID #	COC	Max Conc. (mg/kg)	Excavation Depth (feet bgs)	Primary Excavation Volume (CY)	Surface Cover	Utilities (Yes/no)*3	Waste Classification	Numbering, 10-yard Roll-off Bins	Total Yards per Area (cubic yards)	Sawcut required?	Excavation Equipment	Utility line to be protected?	Does vegetation need to be protected?	Backfill Material	Estimated Work Days to Complete[*1]	Estimated Weeks to Complete[*2]	Comments/Notes
1	SB100	Pb	125	1.5	3.1	Soil	Yes	Cal-Haz	#1	21.9	No	Hand	Elec & SD on sides	No	Soil	1	0.5	offset 1 ft off electrical
	SB102	As	111	1.5 & 2.5	18.8	Asphalt (and concrete?)	No	Cal-Haz	#1-3		Yes	Machine	No	No	Slurry	1.5		Move mat'ls & container; R&R ~25 ft fence section
2	SB094	Pb	155	2.5	3.5	Asphalt	Yes	Cal-Haz	#3	7.5	Yes	Hand	Sewer to E Septic to S	No	Slurry	1	0.5	
	SB114	Pb	286	1.5	2.3	Soil	No	Cal-Haz	#4		No	Hand	Irrig	Yes-protect or remove shrubs	Soil	0.5		
	SB115	Pb	357	1.5	1.7	Soil	Yes	Cal-Haz	#4		No	Hand	Irrig along bldg Drain along E side	Yes-protect or remove shrubs	Soil	0.5		
	SB119	As	19.3	2.5	1.7	Soil	Yes	Non-Haz	#5	1.7	No	Hand	Irrig along W side Drain at NW cor	Yes-protect or remove shrubs	Soil	0.5		
3	SB071	Pb	130	2.5	1.1	Soil	Yes	Cal-Haz	#6	13.1	No	Hand	Irrig along W side	No	Soil	0.5	0.6	
	SB072	Pb	94.2	1.5	3.1	Soil	No	Cal-Haz	#6		No	Hand	No	Yes-lg tree roots	Soil	0.75		
	SB109	Pb	132	3	8.9	Soil	Yes	Cal-Haz	#6		No	Hand & Machine	Elec to N Irrig to N	No	Soil	1.75		
4	SB061	As	15.7	1.5	1.4	Asphalt	Yes	Non-Haz	#5	1.4	Yes	Machine	Water to S	No	Slurry	0.5	0.8	
	SB065	Pb	149	1.5	2.4	Soil	Yes	Cal-Haz	#7	14.4	No	Hand	Irrig to W	Yes-protect or remove shrubs	Soil	0.75		Close parking spaces; route traffic lane around EZ
	SB067	Pb	207	1.5	4.2	Soil	Yes	Cal-Haz	#7		No	Hand	Irrig	Yes-protect or remove shrubs	Soil	1		
	SB068	Pb	211	1.5	5	Soil	Yes	Cal-Haz	#8		No	Hand	Irrig	No	Soil	1.25		
	SB069	Pb	131	1.5	2.8	Soil	Yes	Cal-Haz	#8		No	Hand	Irrig Water along bldg	Yes-cypress roots	Soil	0.5		
5	SB051	Pb	96.7	1.5	3.1	Soil	Yes	Non-Haz	#5	4.5	No	Hand & Machine	Sewer to W	Yes-sm tree roots	Soil	1	0.6	
	SB043	Pb	168	1.5	1.4	Soil	Yes	Non-Haz	#5		No	Hand	Elec along S side Fire Alarm NE cor	Yes-tree roots	Soil	0.5		offset 1 ft off electrical
	SB041	As	117	3	7.2	Asphalt	Yes	Cal-Haz	#9	7.2	Yes	Machine	Elec 8 ft to N	No	Slurry	1.5		
20% Bulking of Excavated Soil (CY)					14.3													
TOTAL ESTIMATES					86.0				9	71.7						15	3	

Notes:
1 Estimated work days does not include site restoration
2 Estimated weeks to complete does not include site restoration
3 Other than irrigation lines, the utility lines are adjacent or near the excavation area
COC Compound of Concern
Conc. Concentration
CY Cubic Yards
Elec Electrical Line
SD Storm Drain
Irrig Irrigation Line
matl's Materials
R&R Remove and Replace
EZ Exclusion Zone

TABLE 5
SUMMARY OF CONFIRMATION SAMPLE TOTALS
NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE

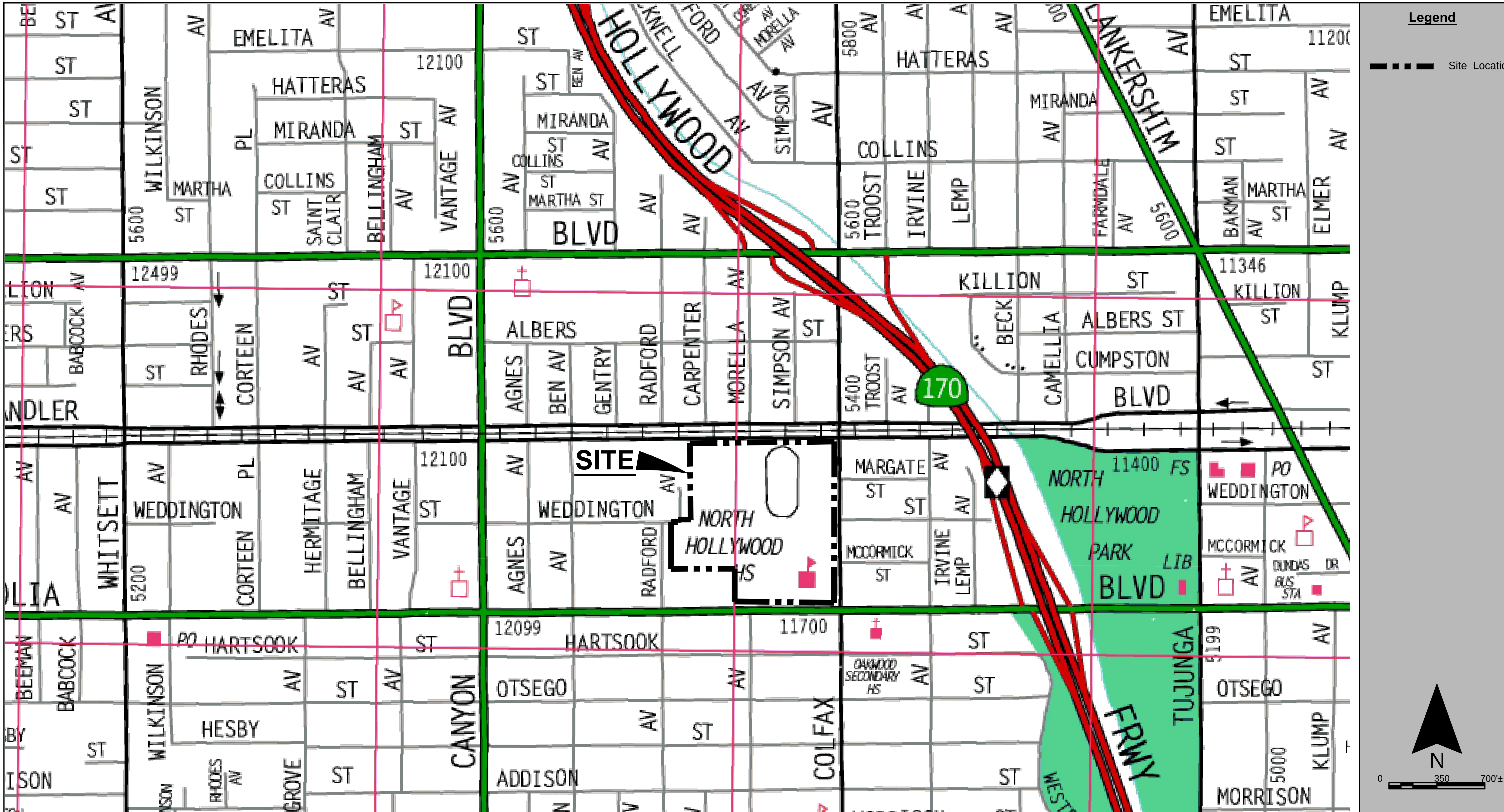
Location	Number of Confirmation Samples	COC
SB041	5	As
SB043	5	Pb
SB051	5	Pb
SB061	5	As
SB065	8	Pb
SB067	5	Pb
SB068	5	Pb
SB069	5	Pb
SB071	5	Pb
SB072	5	Pb
SB094	5	Pb
SB100	5	Pb
SB102	12	As
SB109	5	Pb
SB114	5	Pb
SB115	5	Pb
SB119	5	As

Estimated total 95

APPENDIX A

SUMMARY TABLES AND

FIGURES FROM PEA



CSC CLARK SEIF CLARK, INC.
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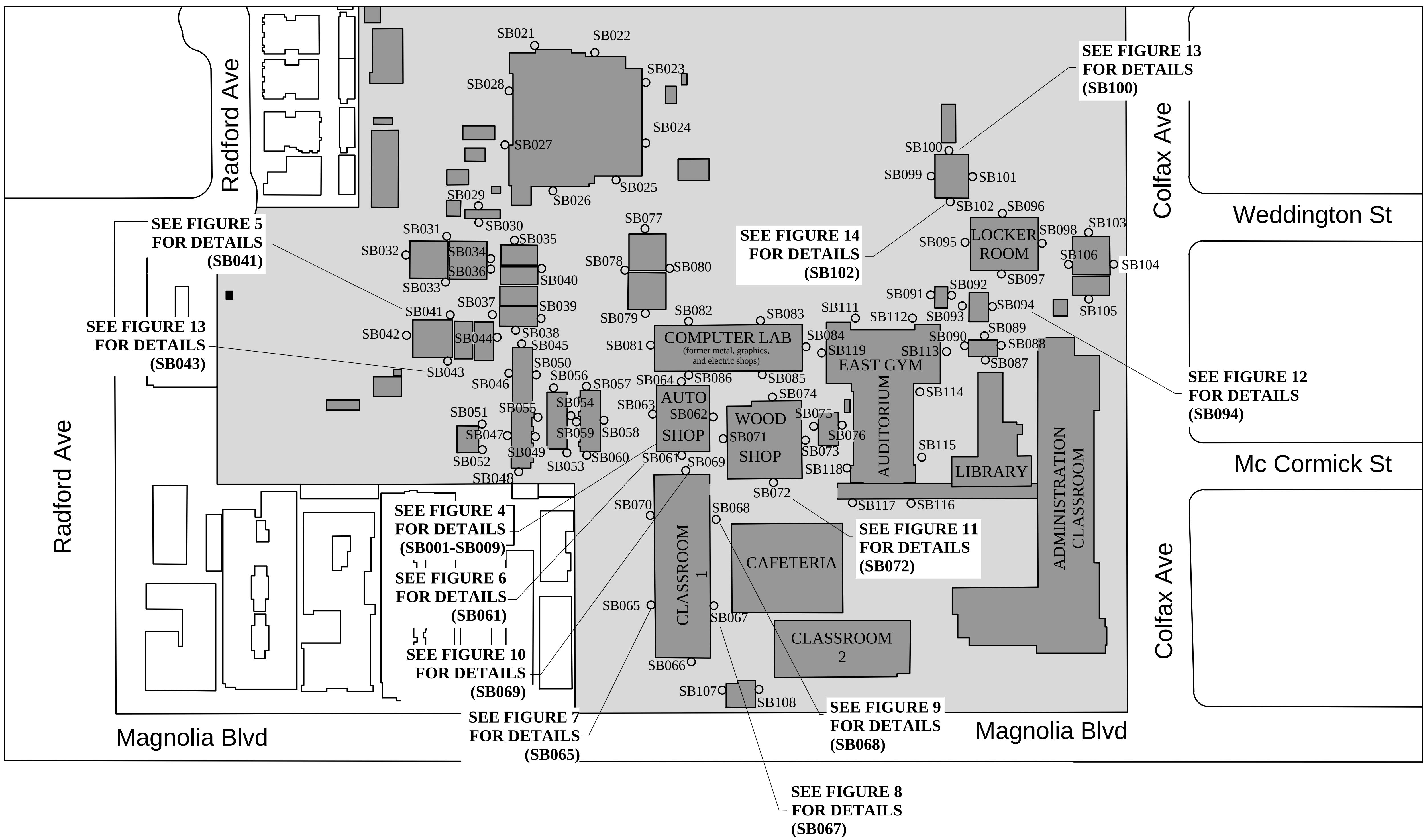
Figure 1
Site Location Map

Project No. 4007736	August 2017



Legend

Building Exterior Samples

o Soil Borings

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Figure 2
Shallow Soil Sampling Locations

Project No. 4007736	August 2017

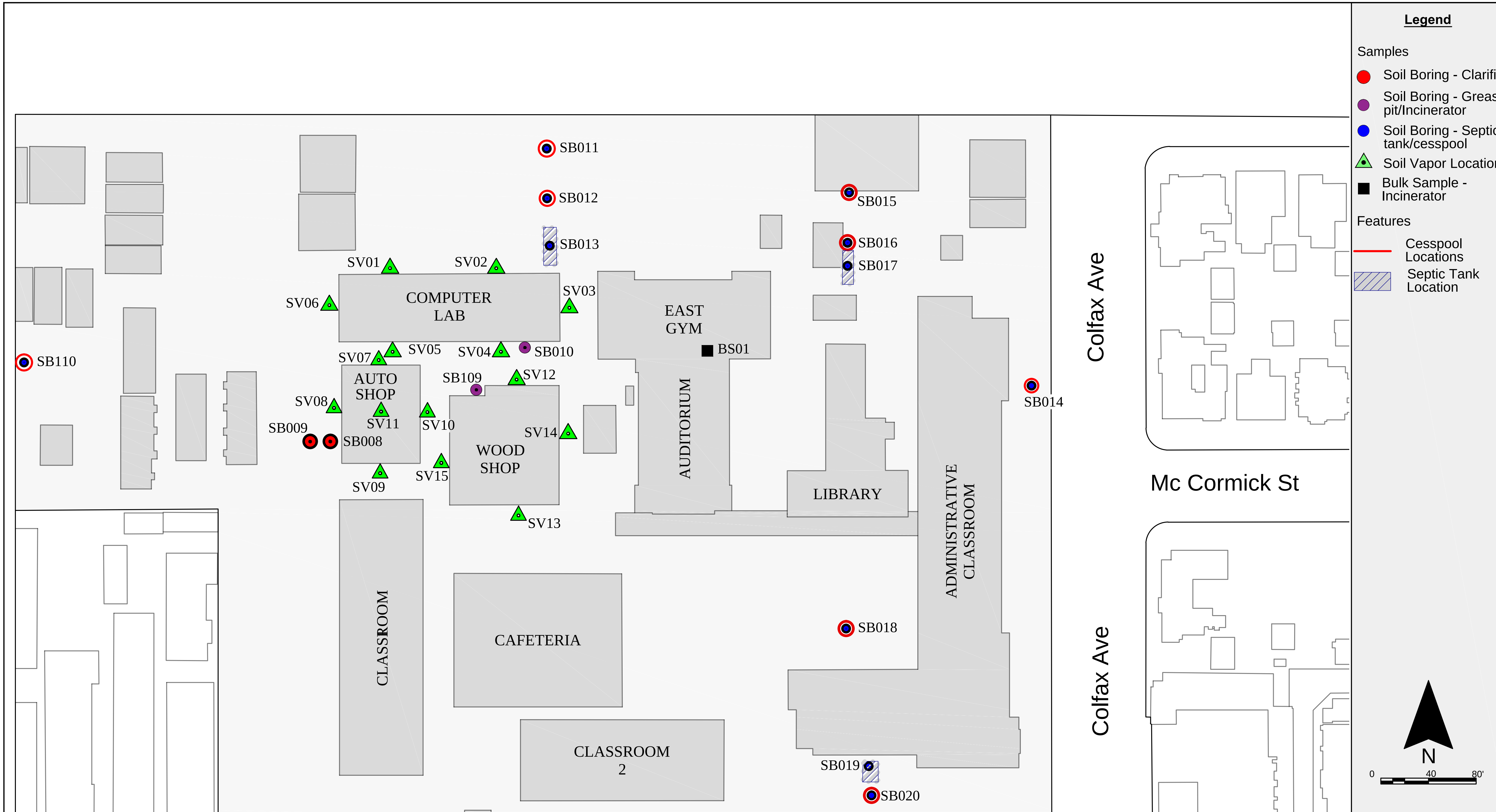

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Figure 3
Additional Sampling Locations

Project No. 4007736	August 2017

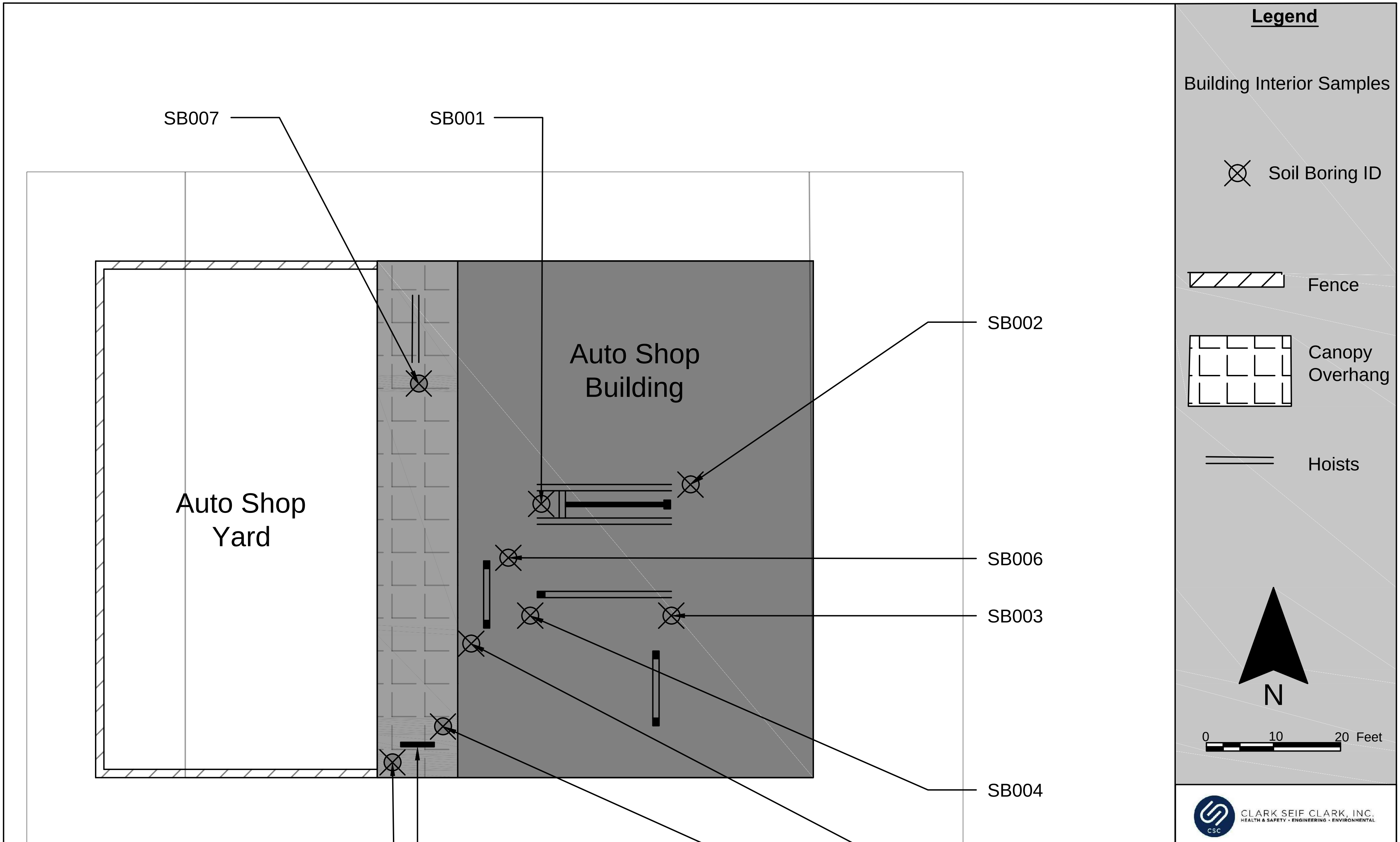

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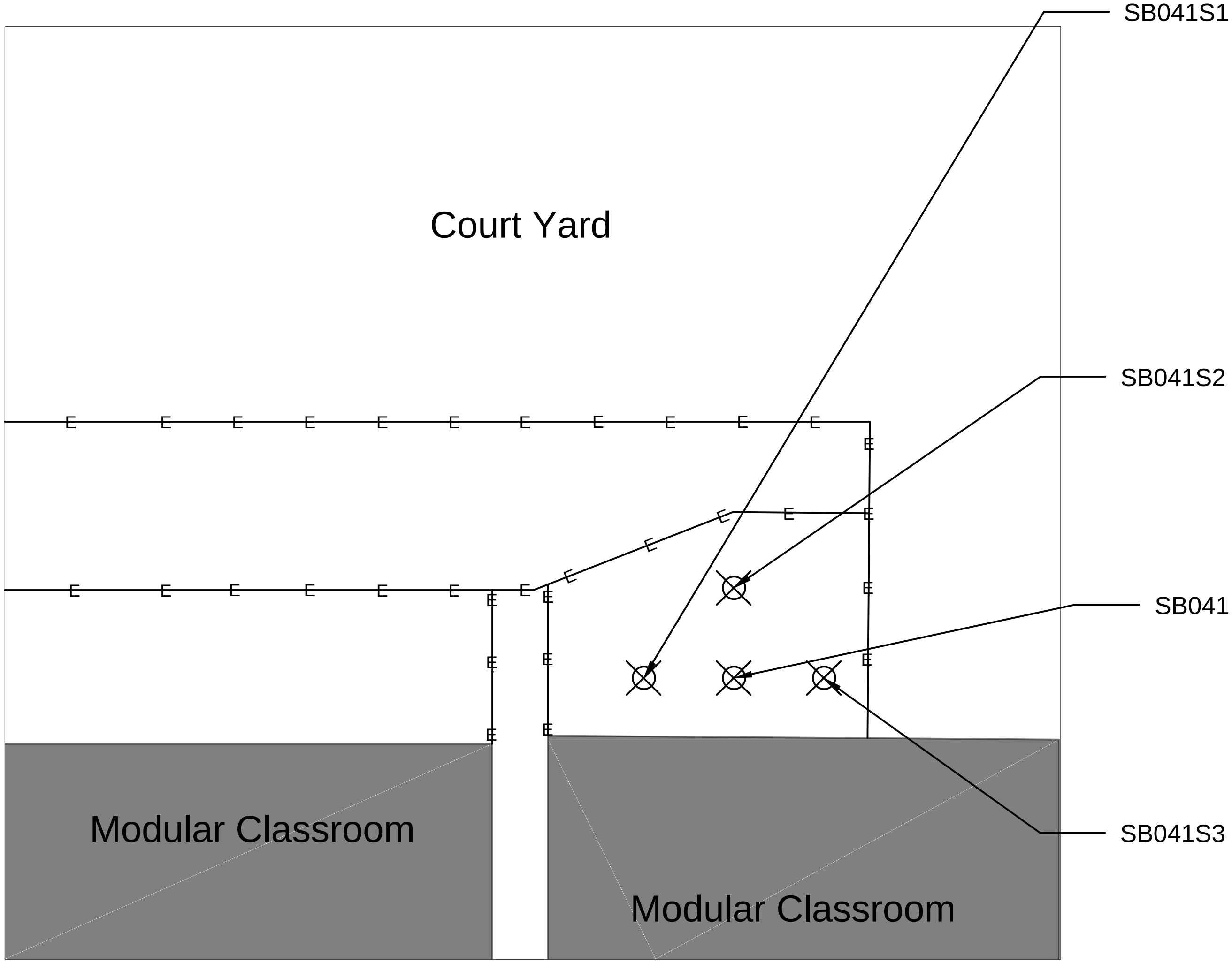
Figure 4
SB001 - SB009
Sampling Locations

Project No. 4007736

August 2017



SB041S1

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	**117**
3.0	ND<2.0
4.0	--
5.0	--

SB041S2

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	ND<2.0

SB041

Depth	Arsenic
0.5	**32.2**
1.5	**25.9**
2.5	--

SB041S3

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	7.67

Legend

Building Exterior Samples

Soil Boring ID

Proposed Soil Boring to 5ft bgs

Electrical Line

- All arsenic concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

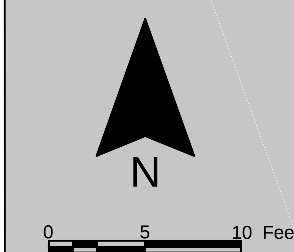


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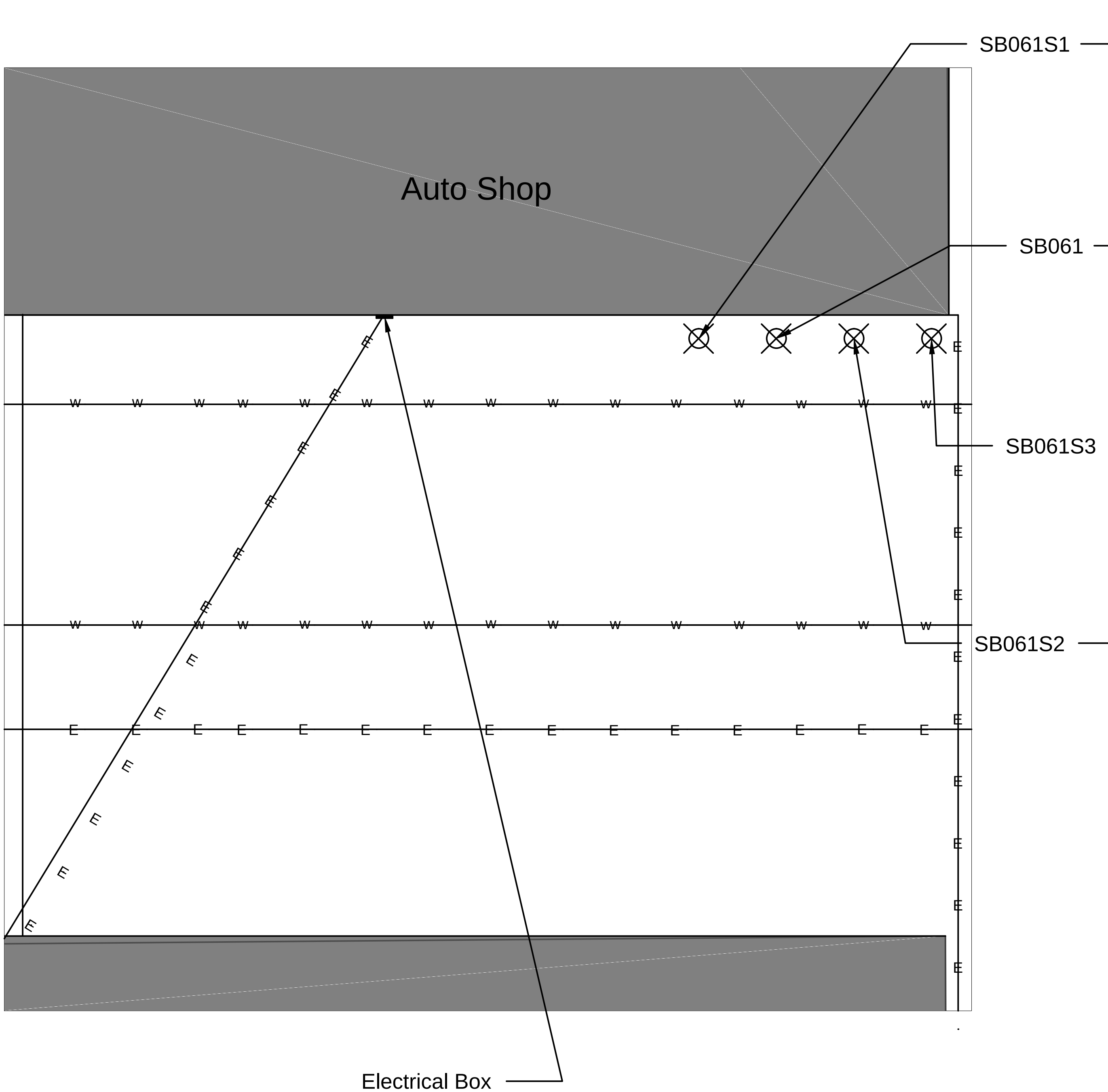
Figure 5
SB041 Step - out Sampling Locations

Project No. 4007736	August 2017



SB061S1

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB061

Depth	Arsenic
0.5	**15.7**
1.5	ND<2.0
2.5	--

SB061S3

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB061S2

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

Legend

Building Exterior Samples

Soil Boring ID

Electrical Line

Water Line

- All arsenic concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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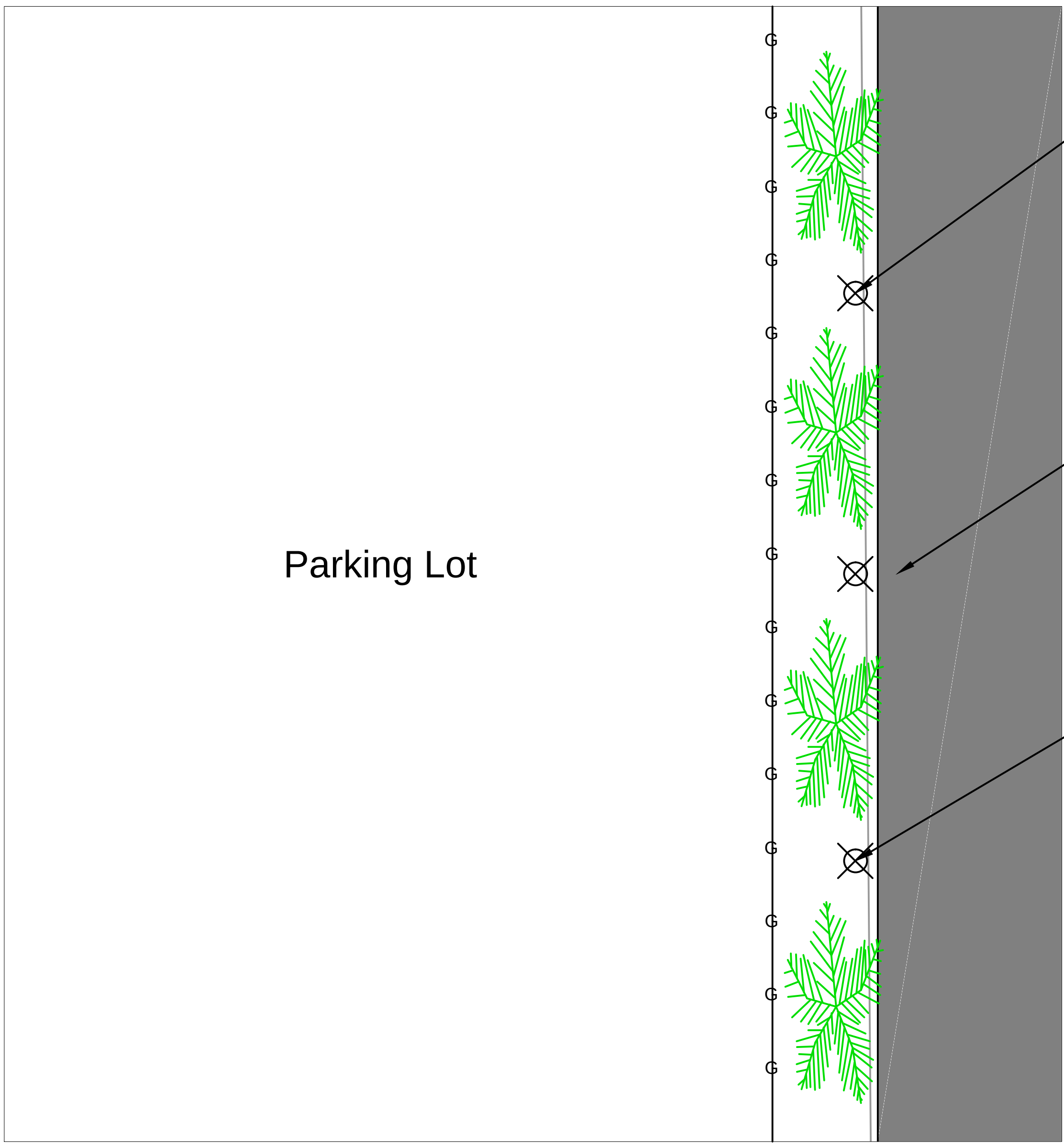
Figure 6
SB061 Step - out Sampling Locations

Project No. 4007736

August 2017



SB065S1

Depth	Pb
0.5	ND<2.0
1.5	3.64
2.5	--

SB065

Depth	Pb
0.5	**149**
1.5	8.9
2.5	--

SB065S2

Depth	Pb
0.5	11.1
1.5	8.38
2.5	--

Legend

Building Exterior Samples

Soil Boring ID

Gas Line

Bushes/Trees

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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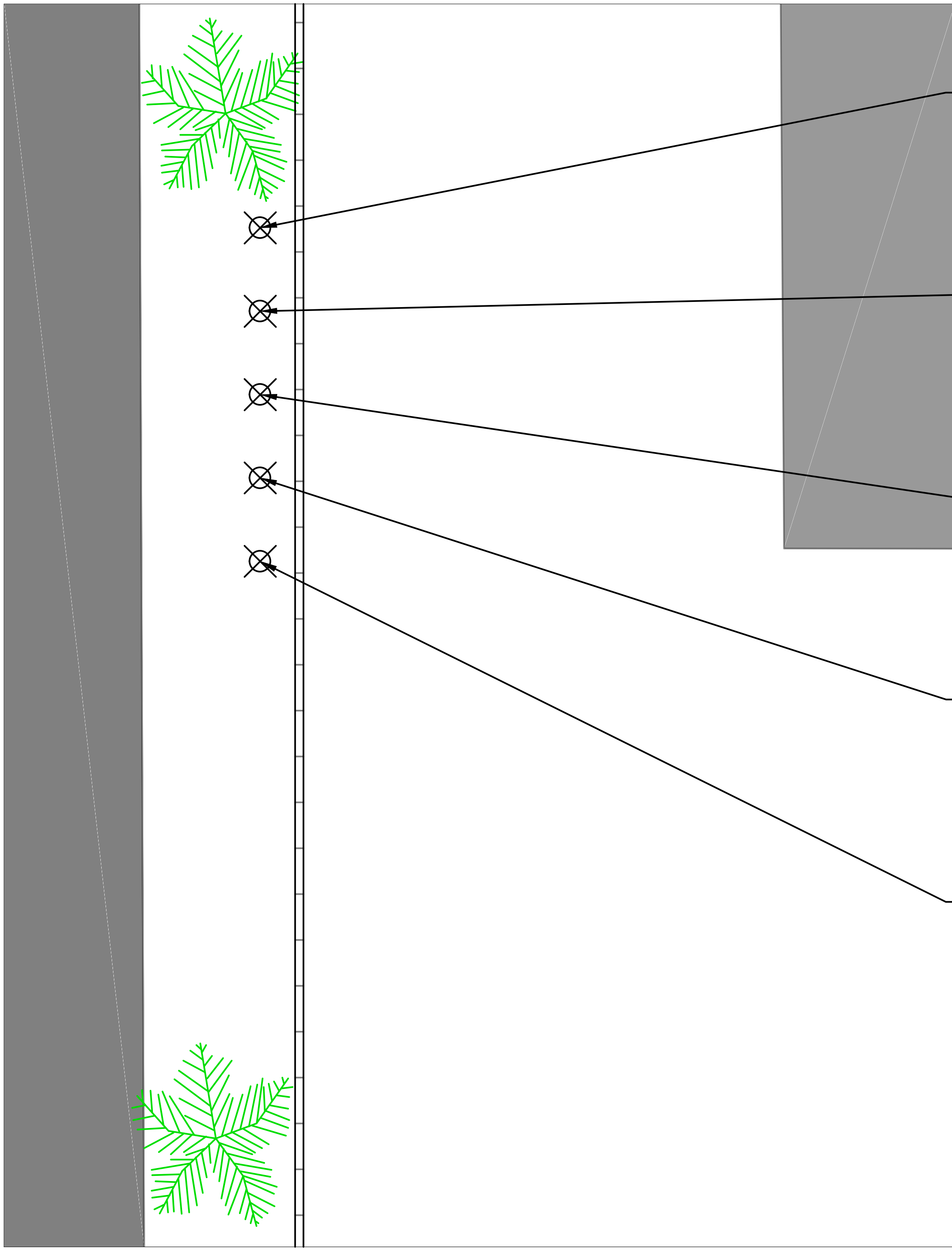
Figure 7
SB065 Step - out Sampling Locations

Project No. 4007736	August 2017



SB067S3

Depth	Pb
0.5	17.5
1.5	37.9
2.5	--

SB067S1

Depth	Pb
0.5	12.3
1.5	2.95
2.5	--

SB067

Depth	Pb
0.5	**207**
1.5	14.6
2.5	--

SB067S2

Depth	Pb
0.5	14.6
1.5	51.4
2.5	--

SB067S4

Depth	Pb
0.5	**176**
1.5	59.5
2.5	--

Legend

Building Exterior Samples

Soil Boring ID

Curb

Bushes/Trees

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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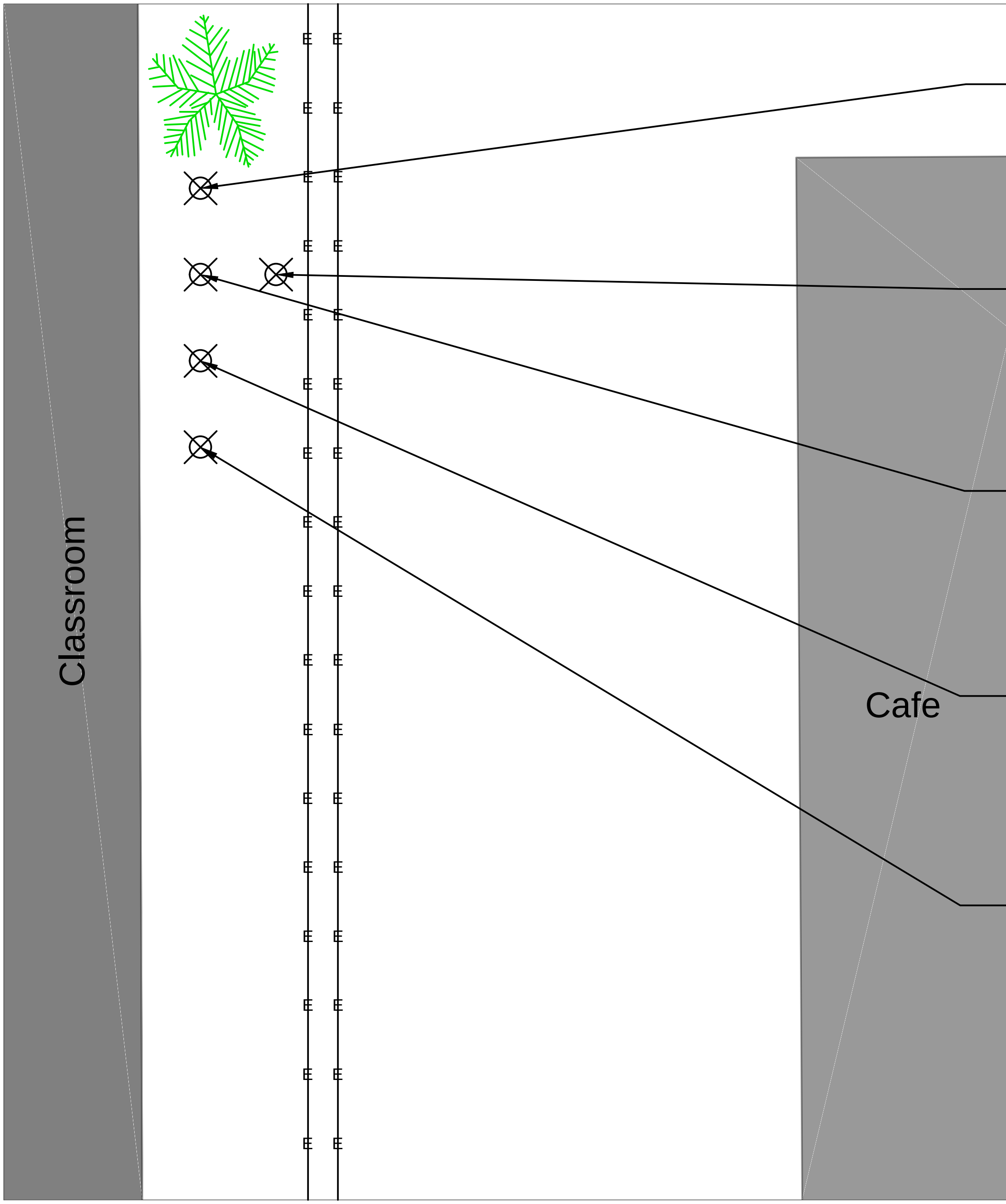
Figure 8
SB067 Step - out Sampling Locations

Project No. 4007736	August 2017



SB068S1

Depth	Pb
0.5	60
1.5	ND<2.0
2.5	--

SB068S2

Depth	Pb
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB068

Depth	Pb
0.5	**211**
1.5	50.7
2.5	--

SB068S3

Depth	Pb
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB068S4

Depth	Pb
0.5	ND<2.0
1.5	ND<2.0
2.5	--

Legend

Building Exterior Samples

Soil Boring ID

Electrical Line

Bushes/Trees

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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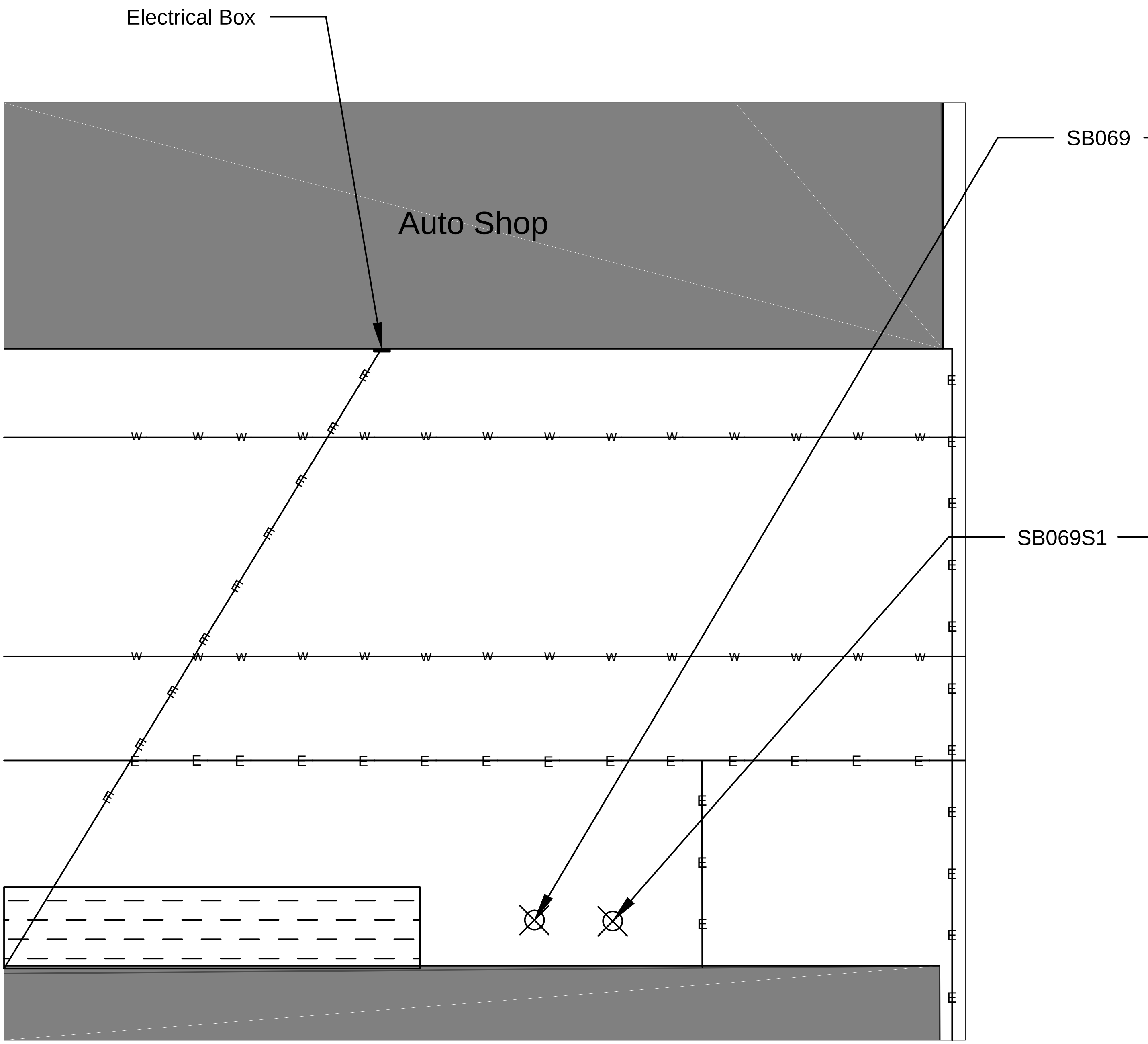
Figure 9
SB068 Step - out Sampling Locations

Project No. 4007736

August 2017



SB069

Depth	Pb
0.5	**131**
1.5	11.8
2.5	--

SB069S1

Depth	Pb
0.5	ND<2.0
1.5	ND<2.0
2.5	--

Legend

Building Exterior Samples

Soil Boring ID

Electrical Line

Water Line

Sidewalk

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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Figure 10
SB069 Step - out Sampling Locations

Project No. 4007736

August 2017

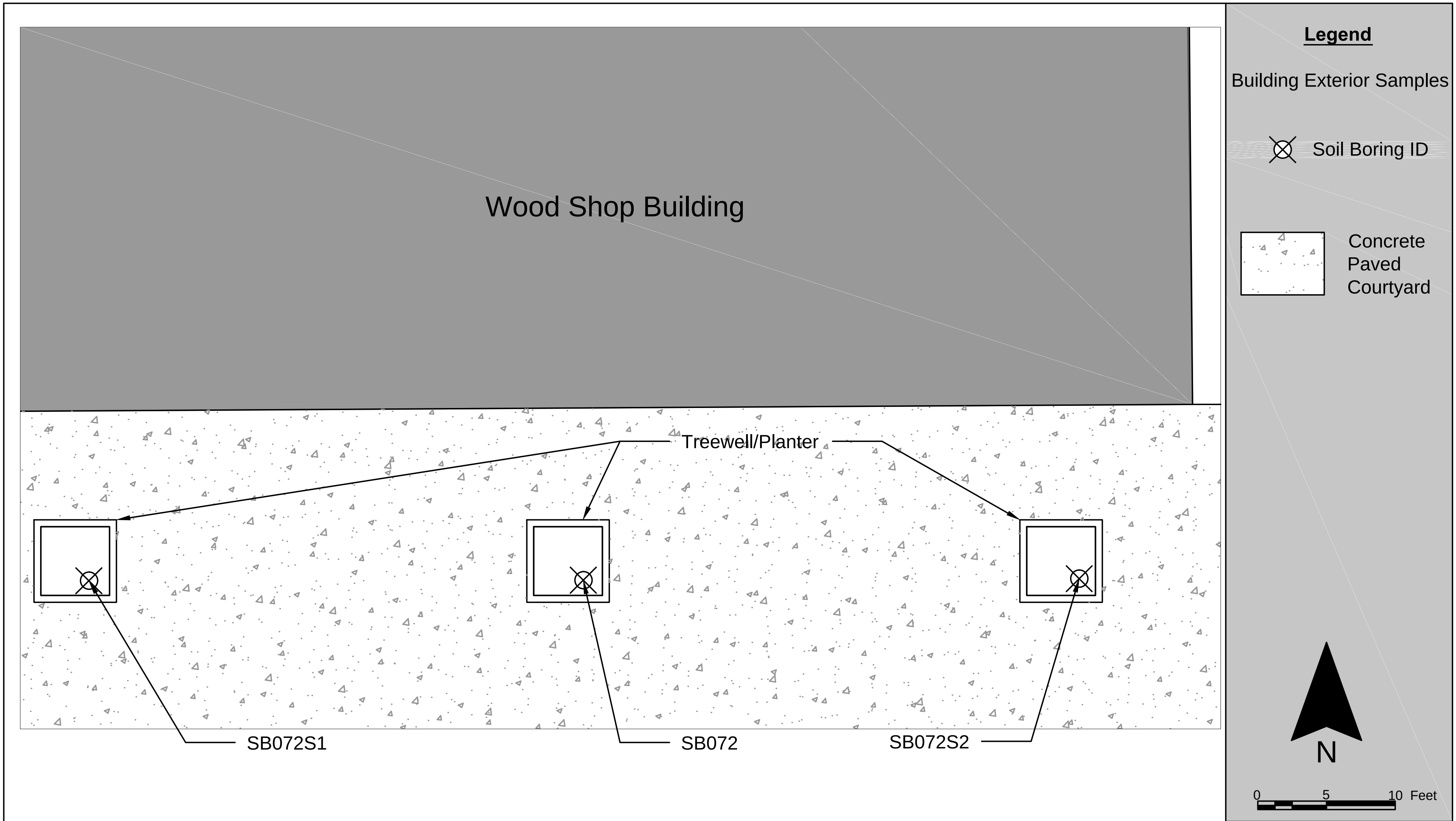

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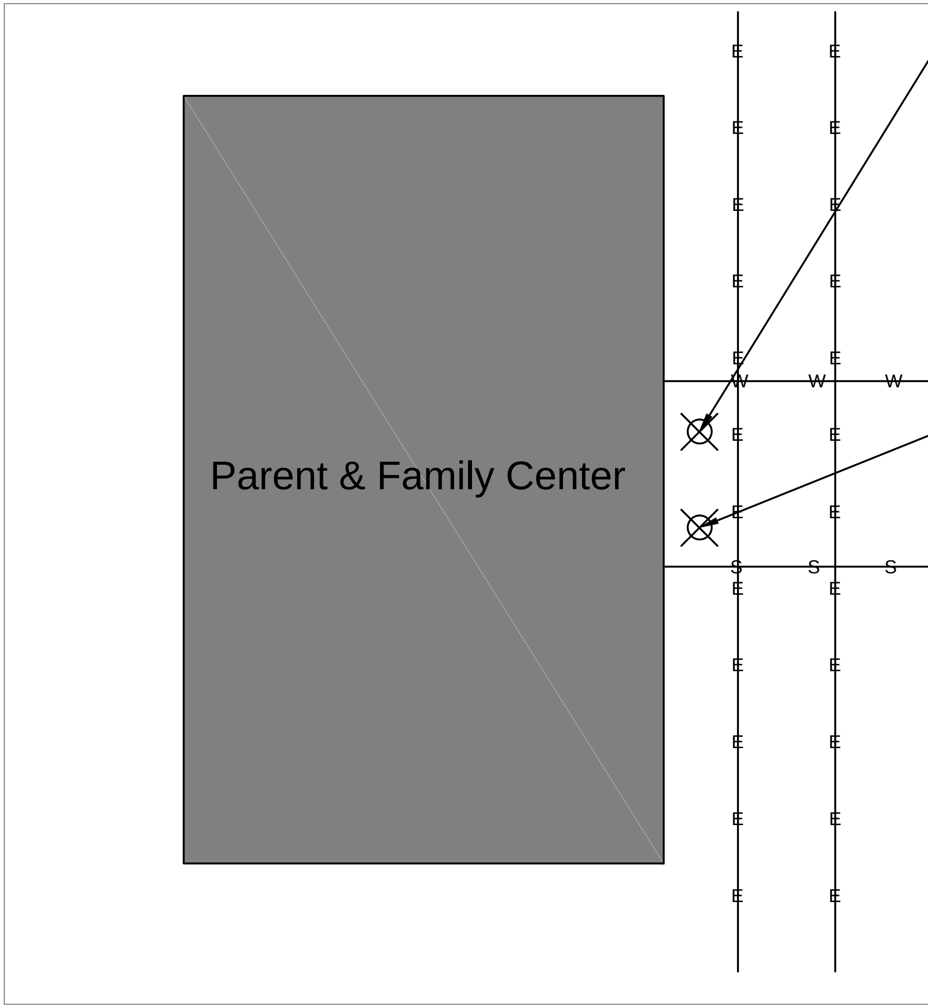
Figure 11
SB072 Step - out Sampling Locations

Project No. 4007736

August 2017



SB094S1

Depth	Pb
0.5	ND<2.0
1.5	ND<2.0
2.5	ND<2.0

SB094

Depth	Pb
0.5	**81.4**
1.5	**155**
2.5	71.1

Legend

Building Exterior Samples

Soil Boring ID

Electrical Line

Water Line

Sewer Line

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg)
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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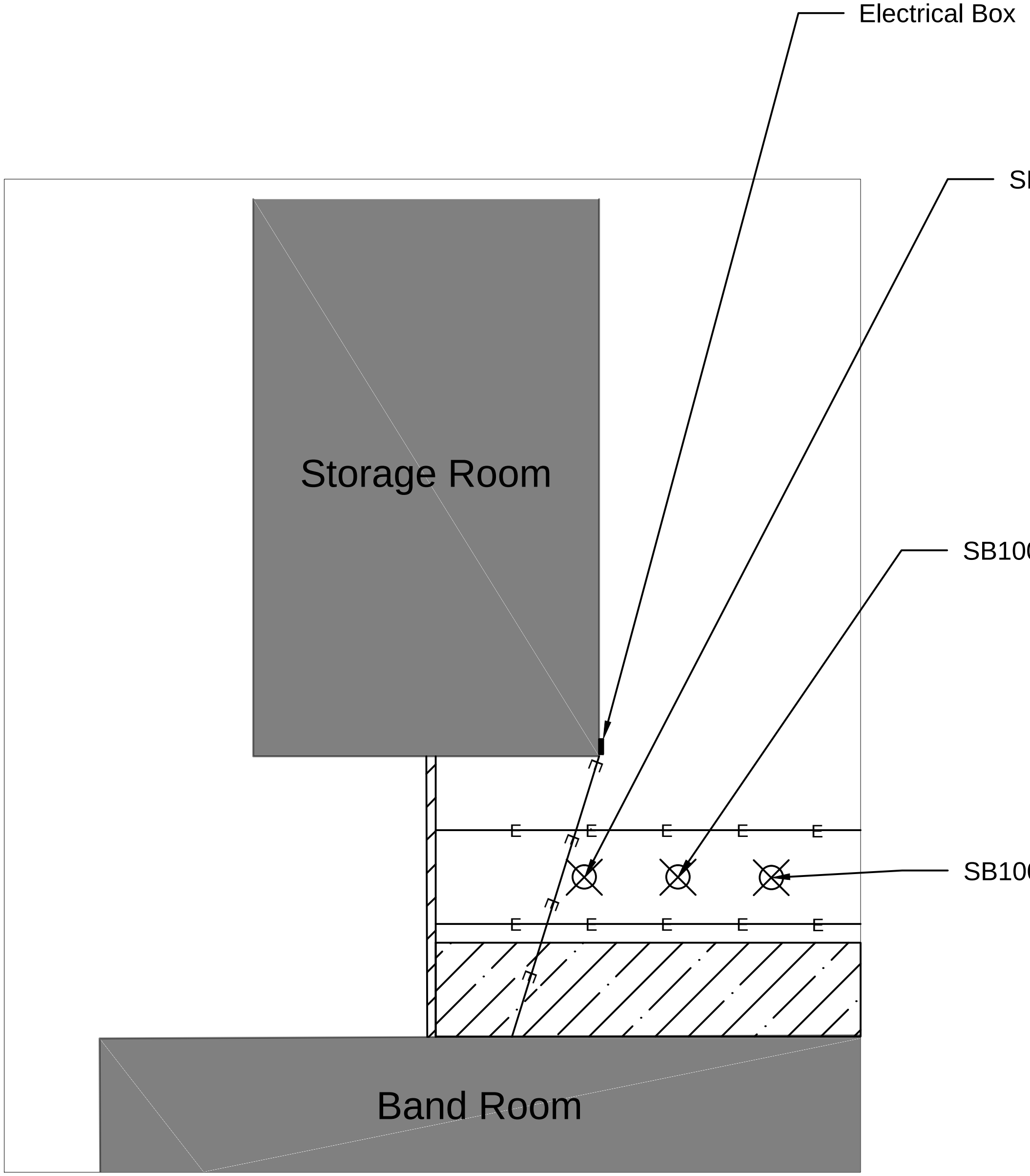
Figure 12
SB094 Step - out Sampling Locations

Project No. 4007736	August 2017



Depth	Pb
0.5	**125**
1.5	3.13
2.5	--

SB100S1

Depth	Pb
0.5	7.77
1.5	ND<2.0
2.5	--

SB100S2

Depth	Pb
0.5	ND<2.0
1.5	54.7
2.5	--

Legend

Building Exterior Samples

Soil Boring ID

Fence

Cement Swale / Water Line

Electrical Line

- All lead (Pb) concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs).

N

0 5 10 Feet

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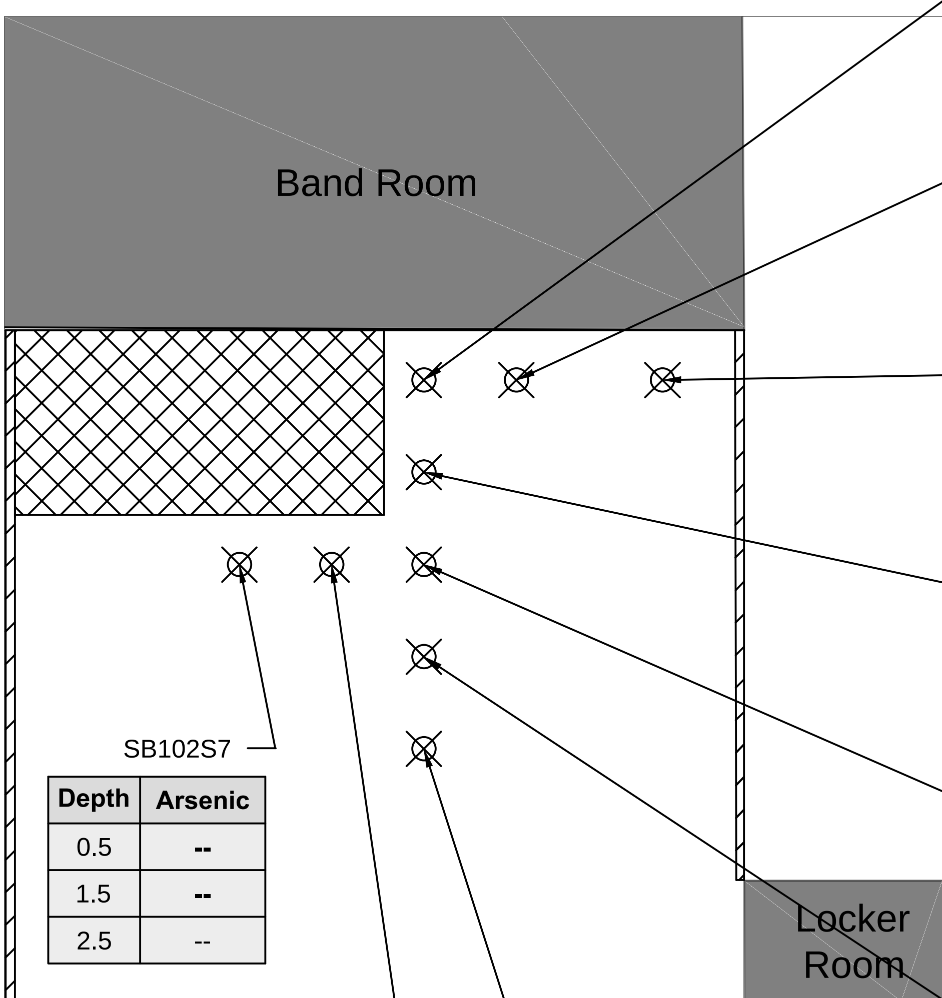
Figure 13
SB100 Step - out Sampling Locations

Project No. 4007736

August 2017



SB102

Depth	Arsenic
0.5	**54.5**
1.5	ND<2.0
2.5	--

SB102S2

Depth	Arsenic
0.5	**109.0**
1.5	ND<2.0
2.5	--

SB102S3

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB102S1

Depth	Arsenic
0.5	**57.1**
1.5	ND<2.0
2.5	--

SB102S4

Depth	Arsenic
0.5	**26.2**
1.5	**111**
2.5	ND<2.0

SB102S6

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB102S7

Depth	Arsenic
0.5	**--**
1.5	**--**
2.5	--

SB102S5

Depth	Arsenic
0.5	ND<2.0
1.5	ND<2.0
2.5	--

SB102S8

Depth	Arsenic
0.5	**--**
1.5	**--**
2.5	--

Legend

Building Exterior Samples

- Soil Boring ID
- Proposed Step-Out Soil Borings
- Fence
- Storage Continer

- All arsenic concentrations reported in milligrams per kilogram (mg/kg).
- Bolded results indicate concentrations exceeding regulatory limits.
- Depth is reported in feet below ground surface (ft. bgs)

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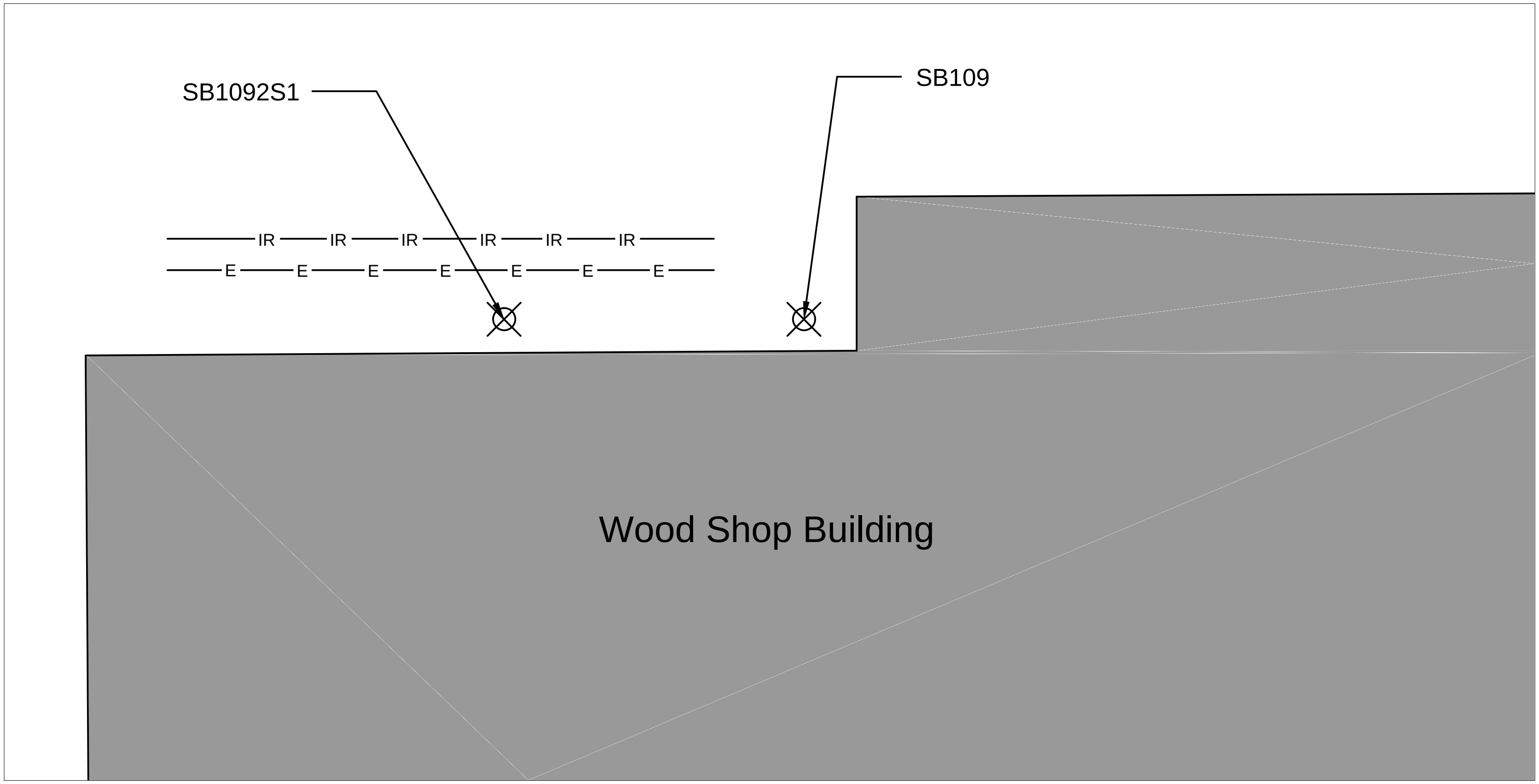
Figure 14
SB102 Step - out Sampling Locations

Project No. 4007736

August 2017



Legend

Building Exterior Samples

Soil Boring ID

Electrical Line

Irrigation Line

N

0 5 10 Feet

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Figure 15
SB109 Step - out Sampling Locations

Project No. 4007736

August 2017

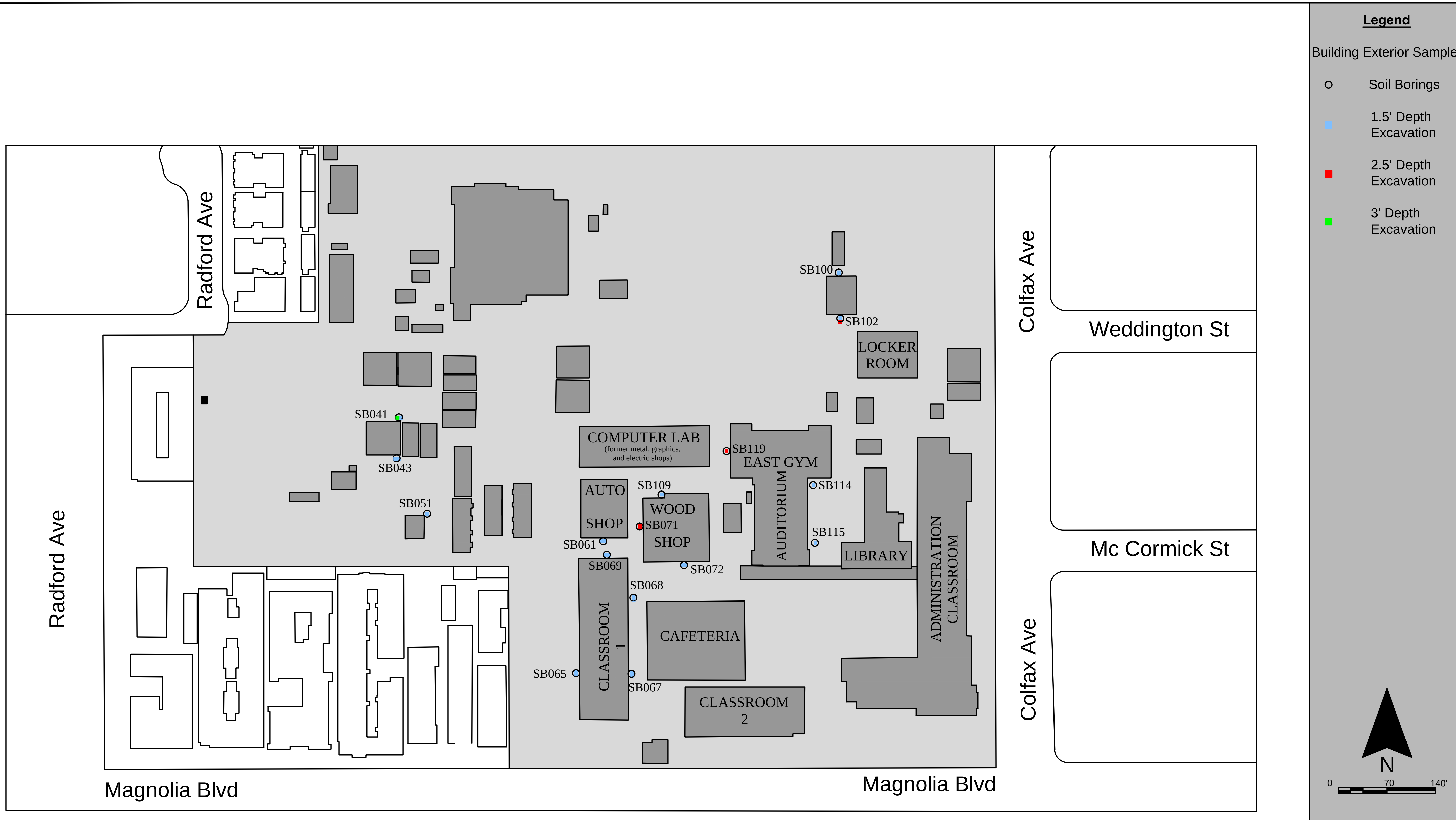

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Figure 16
Remedial Excavation Areas

Project No. 4007736	August 2017

TABLES

TABLE 1
SUMMARY OF SOIL VAPOR ANALYTICAL DATA
NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	Volatile Organic Compounds by EPA Method 8260
		micrograms per liter (ug/L)
November 19, 2017	SV1-5	ND
	SV1-15	ND
	SV2-5	ND
	SV2-15	ND
	SV3-5	ND
	SV3-15	ND
	SV4-5	ND
	SV4-15	ND
	SV5-5	ND
	SV5-15	ND
	SV6-5	ND
	SV6-15	ND
	SV7-5	ND
	SV7-15	ND
November 20, 2017	SV8-5	ND
	SV8-15	ND
	SV9-5	ND
	SV9-15	ND
	SV10-5	ND
	SV10-15	ND
	SV11-5	ND
	SV11-15	ND
	SV12-5	ND
	SV12-15	ND
	SV13-5	ND
	SV13-15	ND
November 19, 2017	SV14-5	ND
	SV14-15	ND
November 20, 2017	SV15-5	ND
	SV15-15	ND

Notes:
ND = Not detected

TABLE 2

SUMMARY OF TPH, VOCs, PCBs, PAHs, AND SVOCs ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Date	Sample ID	Total Petroleum Hydrocarbons by EPA Method 8015M	Volatile Organic Compounds by EPA Method 8260B	Polychlorinated Biphenyls by EPA Method 8081	Poly-Aromatic Hydrocarbons by EPA Method 8270C	Semi-Volatile Organic Compounds by EPA Method 8070C
		mg/kg	micrograms per kilogram (ug/kg)			
November 19, 2016	SB001-10	ND	--	ND <50	--	--
	SB001-15	ND	--	ND <50	--	--
	SB001-20	--	--	--	--	--
December 10, 2016	SB002-10	ND	--	ND <50	--	--
	SB002-15	--	--	--	--	--
	SB002-20	--	--	--	--	--
December 10, 2016	SB003-10	ND	--	ND <50	--	--
	SB003-15	--	--	--	--	--
	SB003-20	--	--	--	--	--
December 10, 2016	SB004-10	ND	--	ND <50	--	--
	SB004-15	--	--	--	--	--
	SB004-20	--	--	--	--	--
December 10, 2016	SB005-10	ND	--	ND <50	--	--
	SB005-15	--	--	--	--	--
	SB005-20	--	--	--	--	--
December 10, 2016	SB006-10	ND	--	ND <50	--	
	SB006-15	--	--	--	--	--
	SB006-20	--	--	--	--	--
December 10, 2016	SB007-10	ND	--	ND <50	--	--
	SB007-15	--	--	--	--	--
	SB007-20	--	--	--	--	--
December 10, 2016	SB008-4	ND	ND	ND <50	--	--
	SB008-8	ND	ND	ND <50	--	--
December 10, 2016	SB009-4	ND	ND	ND <50	--	--
	SB009-8	ND	ND	ND <50	--	--
November 19, 2016	SB010-10	ND	ND	--	--	--
	SB010-15	ND	ND	--	--	--
November 20, 2016	SB011-10	ND	ND	--	ND	--
	SB011-15	ND	ND	--	ND	--
November 20, 2016	SB012-10	ND	ND	--	ND	--
	SB012-15	ND	ND	--	ND	--
November 20, 2016	SB013-10	ND	ND	--	ND	--
	SB013-15	ND	ND	--	ND	--
December 3, 2016	SB014-10	ND	ND	--	ND	--
	SB014-15	ND	ND	--	ND	--
	SB014-15 Dup	ND	ND	--	ND	--
December 3, 2016	SB015-5	ND	ND	--	ND	--
	SB015-10	ND	ND	--	ND	--
	SB015-15	ND	ND	--	ND	--
	SB015-20	ND	ND	--	ND	--
	SB015-25	ND	ND	--	ND	--
	SB015-30	ND	ND	--	ND	--
	SB015-35	ND	ND	--	ND	--
	SB015-40	ND	ND	--	ND	--
December 3, 2016	SB016-5	ND	ND	--	ND	--
	SB016-10	ND	ND	--	ND	--
	SB016-15	ND	ND	--	ND	--
	SB016-15 Dup	ND	ND	--	ND	--
	SB016-20	ND	ND	--	ND	--
	SB016-25	ND	ND	--	ND	--
	SB016-30	ND	ND	--	ND	--
	SB016-35	ND	ND	--	ND	--
	SB016-40	ND	ND	--	ND	--

TABLE 2

SUMMARY OF TPH, VOCs, PCBs, PAHs, AND SVOCs ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Date	Sample ID	Total Petroleum Hydrocarbons by EPA Method 8015M	Volatile Organic Compounds by EPA Method 8260B	Polychlorinated Biphenyls by EPA Method 8081	Poly-Aromatic Hydrocarbons by EPA Method 8270C	Semi-Volatile Organic Compounds by EPA Method 8070C
		mg/kg	micrograms per kilogram (ug/kg)			
December 3, 2016	SB017-5	ND	ND	--	ND	--
	SB017-10	ND	ND	--	ND	--
	SB017-10 Dup	ND	ND	--	ND	--
	SB017-15	ND	ND	--	ND	--
	SB017-20	ND	ND	--	ND	--
	SB017-25	ND	ND	--	ND	--
	SB017-30	ND	ND	--	ND	--
	SB017-35	ND	ND	--	ND	--
	SB017-40	ND	ND	--	ND	--
December 10, 2016	SB018-5	ND	ND	--	ND	--
	SB018-10	ND	ND	--	ND	--
	SB018-15	ND	ND	--	ND	--
	SB018-20	ND	ND	--	ND	--
	SB018-25	ND	ND	--	ND	--
	SB018-30	ND	ND	--	ND	--
	SB018-35	ND	ND	--	ND	--
	SB018-40	ND	ND	--	ND	--
December 3, 2016	SB019-5	ND	ND	--	ND	--
	SB019-10	ND	ND	--	ND	--
	SB019-15	ND	ND	--	ND	--
	SB019-20	ND	ND	--	ND	--
	SB019-25	ND	ND	--	ND	--
	SB019-30	ND	ND	--	ND	--
	SB019-30 Dup	ND	ND	--	ND	--
	SB019-35	ND	ND	--	ND	--
	SB019-40	ND	ND	--	ND	--
December 3, 2016	SB020-5	ND	ND	--	ND	--
	SB020-10	ND	ND	--	ND	--
	SB020-15	ND	ND	--	ND	--
	SB020-20	ND	ND	--	ND	--
	SB020-25	ND	ND	--	ND	--
	SB020-30	ND	ND	--	ND	--
	SB020-35	ND	ND	--	ND	--
	SB020-40	ND	ND	--	ND	--
November 5, 2016	SB109-0.5	--	--	--	--	ND
	SB109-1.5	--	--	--	--	ND
	SB109-2.5	--	--	--	--	ND
December 10, 2016	SB110-5	ND	ND	--	ND	--
	SB110-10	ND	ND	--	ND	--
	SB110-15	ND	ND	--	ND	--
	SB110-20	ND	ND	--	ND	--
	SB110-25	ND	ND	--	ND	--
	SB110-30	ND	ND	--	ND	--
	SB110-35	ND	ND	--	ND	--
	SB110-40	ND	ND	--	ND	--

Notes:
ND = Not detected
-- = Not analyzed

TABLE 3

SUMMARY OF ORGANOCHLORINE PESTICIDES ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	Chlordane (alpha)	Chlordane (gamma)	Chlordane (Total)	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endrin	Endrin aldehyde	Heptachlor epoxide	Dilution Factor
		micrograms per kilogram (ug/kg)										
Screening Levels		440	440	440	2,300	2,000	1,900	34	19,000	--	70	
November 5, 2016	SB021-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB021-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB021-2.5	--	--	0	--	--	--	--	--	--	--	--
November 5, 2016	SB022-0.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	58.8	20.2	ND <4.0	16.7	ND <4.0	ND <4.0	2
	SB022-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB022-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB023-0.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	7.56	14.7	ND <4.0	8.13	ND <4.0	ND <4.0	2
	SB023-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB023-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB024-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB024-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB024-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB025-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB025-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB025-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB026-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1.41 J	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB026-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB026-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB027-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	4.51	7.61	ND <2.0	2.6	ND <2.0	ND <2.0	1
	SB027-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB027-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB028-0.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB028-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB028-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB029-0.5	--	--	--	--	--	--	--	--	--	--	--
	SB029-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB029-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB030-0.5	2.07	1.59 J	3.66	ND <2.0	9.91	5.97	4.13	ND <2.0	ND <2.0	ND <2.0	1
	SB030-1.5	--	--	--	--	--	--		--	--	--	--
	SB030-2.5	--	--	--	--	--	--		--	--	--	--
	SB030-0.5 Dup	6.21 J	ND <10	10.6	ND <10	6.72 J	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB030-1.5 Dup	--	--	--	--	--	--	--	--	--	--	--
	SB030-2.5 Dup	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB031-0.5	4.03	2.95	6.98	ND <2.0	8.34	14.1	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB031-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB031-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB032-0.5	ND <2.0	ND <2.0	ND <2.0	ND	1.01 J	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB032-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB032-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB033-0.5	6.76	4.62	11.4	ND <2.0	4.42	2.63	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB033-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB033-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB034-0.5	ND <4.0	ND <4.0	3.59 J	ND <4.0	3.44 J	3.18 J	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB034-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB034-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB035-0.5	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	10
	SB035-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB035-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB036-0.5	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	10
	SB036-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB036-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB037-0.5	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	10
	SB037-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB037-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB038-0.5	ND <2.0	1.38 J	2.09	ND <2.0	1.47 J	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB038-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB038-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB039-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB039-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB039-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB040-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB040-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB040-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB041-0.5	10.1	8.03	18.1	3.36 J	30	52.4	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB041-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB041-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB042-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB042-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB042-2.5	--	--	--	--	--	--	--	--	--	--	--
November 19, 2016	SB043-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB043-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB043-2.5	--	--	--	--	--	--	--	--	--	--	--
	SB043-0.5 Dup	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB043-1.5 Dup	--	--	--	--	--	--	--	--	--	--	--
	SB043-2.5 Dup	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB044-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB044-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB044-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB045-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB045-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB045-2.5	--	--	--	--	--	--	--	--	--	--	--
November 19, 2016	SB046-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB046-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB046-2.5	--	--	--	--	--	--	--	--	--	--	--
November 19, 2016	SB047-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	6.85	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB047-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB047-2.5	--	--	--	--	--	--	--	--	--	--	--
November 19, 2016	SB048-0.5	29.8	30.3	60.1	ND <2.0	ND <2.0	1.84 J	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB048-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB048-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB049-0.5	ND <2.0	ND <2.0	ND <2.0	2.24	16.8	16.4	ND <2.0	2.63	ND <2.0	ND <2.0	1
	SB049-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB049-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB050-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB050-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB050-2.5	--	--	--	--	--	--	--	--	--	--	--

TABLE 3

SUMMARY OF ORGANOCHLORINE PESTICIDES ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	Chlordane (alpha)	Chlordane (gamma)	Chlordane (Total)	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endrin	Endrin aldehyde	Heptachlor epoxide	Dilution Factor
		micrograms per kilogram (ug/kg)										
Screening Levels		440	440	440	2,300	2,000	1,900	34	19,000	--	70	
November 19, 2016	SB051-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	13.2	10.2	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB051-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB051-2.5	--	--	--	--	--	--	--	--	--	--	--
November 19, 2016	SB052-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	4.69	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB052-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB052-2.5	--	--	--	--	--	--	--	--	--	--	--
November 19, 2016	SB053-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB053-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB053-2.5	--	--	--	--	--	--	--	--	--	--	--
	SB053-0.5 Dup	ND <2.0	ND <2.0	ND <2.0	ND <2.0	4.69	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB053-1.5 Dup	--	--	--	--	--	--	--	--	--	--	--
	SB053-2.5 Dup	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB054-0.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB0541-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB054-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB055-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB055-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB055-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB056-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB056-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB056-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB057-0.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB057-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB057-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB058-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB058-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB058-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB059-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB059-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB059-2.5	--	--	--	--	--	--	--	--	--	--	--
November 20, 2016	SB060-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB060-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB060-2.5	--	--	--	--	--	--	--	--	--	--	--
November 19, 2016	SB061-0.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2.56 J	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB061-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB061-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB062-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	7.11	6.8	ND <2.0	3.66	ND <2.0	ND <2.0	1
	SB062-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB062-2.5	--	--	--	--	--	--	--	--	--	--	--
November 19, 2016	SB063-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB063-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB063-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB064-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB064-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB064-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB065-0.5	5.13	5.2	10.3	ND <2.0	ND <2.0	5.82	1.45 J	ND <2.0	ND <2.0	ND <2.0	1
	SB065-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB065-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB066-0.5	2.18	1.88 J	4.06	ND <2.0	ND <2.0	8.47	2.1	ND <2.0	ND <2.0	ND <2.0	1
	SB066-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB066-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB067-0.5	39.4	55.5	94.9	33.3	1,140	22.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB067-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB067-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB068-0.5	53.9	52.6	107	7.86	367	30.9	6.27	7.51	1.07 J	1.95 J	1
	SB068-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB068-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB069-0.5	16.4	26.4	42.8	26.6	535	146	5.6	48.8	1.81 J	ND <2.0	1
	SB069-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB069-2.5	--	--	--	--	--	--	--	--	--	--	--
November 19, 2016	SB070-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB070-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB070-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB071-0.5	ND <2.0	1.07 J	1.82 J	ND <2.0	2.17	4.40	1.97 J	ND <2.0	ND <2.0	ND <2.0	1
	SB071-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB071-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB072-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB072-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB072-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB073-0.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB073-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB073-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB074-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB074-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB074-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB075-0.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB075-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB075-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB076-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB076-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB076-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB077-0.5	ND <10	ND <10	8.62 J	ND <10	6.52 J	8.72 J	ND <10	ND <10	ND <10	ND <10	5
	SB077-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB077-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB078-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB078-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB078-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB079-0.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB079-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB079-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB080-0.5	6.31	5.11	11.4	ND <4.0	ND <4.0	2.50 J	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB080-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB080-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB081-0.5	ND <10.0	ND <10.0	ND <10.0	ND <10.0	ND <10.0	ND <10.0	ND <10.0	ND <10.0	ND <10.0	ND <10.0	5
	SB081-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB081-2.5	--	--	--	--	--	--	--	--	--	--	--

TABLE 3

SUMMARY OF ORGANOCHLORINE PESTICIDES ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	Chlordane (alpha)	Chlordane (gamma)	Chlordane (Total)	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endrin	Endrin aldehyde	Heptachlor epoxide	Dilution Factor
		micrograms per kilogram (ug/kg)										
Screening Levels		440	440	440	2,300	2,000	1,900	34	19,000	--	70	
November 6, 2016	SB082-0.5	4.09	5.35	9.44	ND <4.0	5.79	ND <4.0	2.53 J	ND <4.0	ND <4.0	ND <4.0	2
	SB082-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB082-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB083-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB083-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB083-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB084-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB084-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB084-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB085-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB085-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB085-2.5	--	--	--	--	--	--	--	--	--	--	--
November 6, 2016	SB086-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB086-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB086-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB087-0.5	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	10
	SB087-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB087-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB088-0.5	59.7	71.2	131	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB088-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB088-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB089-0.5	ND <10	ND <10	ND <10	12.6 J	ND	17.4 J	10.1 J	ND <10	ND <10	ND <10	5
	SB089-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB089-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB090-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB090-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB090-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB091-0.5	1.82 J	2.36	4.18	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB091-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB091-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB092-0.5	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	ND <4.0	2
	SB092-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB092-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB093-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB093-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB093-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB094-0.5	45.5	52.9	98.4	ND <20	ND <20	16.4 J	ND <20	ND <20	ND <20	ND <20	10
	SB094-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB094-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB095-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB095-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB095-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB096-0.5	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	10
	SB096-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB096-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB097-0.5	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	10
	SB097-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB097-2.5	--	--	--	--	--	--	--	--	--	--	--
November 19, 2016	SB098-0.5	8.31 J	9.73 J	18	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB098-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB098-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB099-0.5	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	10
	SB099-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB099-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB100-0.5	8.46	8.81	16.9	1.14 J	8.08	8.2	1.62 J	1.89 J	1.66 J	ND <2.0	1
	SB100-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB100-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB101-0.5	ND <2.0	ND <2.0	ND <2.0	7.99	213	5.41	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB101-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB101-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB102-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB102-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB102-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB103-0.5	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	ND <20	10
	SB103-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB103-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB104-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB104-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB104-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB105-0.5	116	116	232	2.29	3.12	4.87	3.42	ND <2.0	ND <2.0	17.5	17.5
	SB105-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB105-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB106-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB106-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB106-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB107-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	6.82	1.44 J	3.89	ND <2.0	ND <2.0	ND <2.0	1
	SB107-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB107-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB108-0.5	4.03	3.68	7.71	ND <2.0	34.8	1.79 J	2.14	ND <2.0	ND <2.0	ND <2.0	1
	SB108-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB108-2.5	--	--	--	--	--	--	--	--	--	--	--
November 5, 2016	SB109-0.5	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	ND <10	5
	SB109-1.5	--	--	--	--	--	--	--	--	--	--	--
	SB109-2.5	--	--	--	--	--	--	--	--	--	--	--
July 20, 2017	SB111-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB111-1.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB111-2.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
July 20, 2017	SB112-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB112-1.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB112-2.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
July 20, 2017	SB113-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB113-1.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB113-2.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
July 20, 2017	SB114-0.5	9.13	14.3	23.4	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB114-1.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB114-2.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1

TABLE 3

SUMMARY OF ORGANOCHLORINE PESTICIDES ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	Chlordane (alpha)	Chlordane (gamma)	Chlordane (Total)	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endrin	Endrin aldehyde	Heptachlor epoxide	Dilution Factor
		micrograms per kilogram (ug/kg)										
Screening Levels		440	440	440	2,300	2,000	1,900	34	19,000	--	70	
July 20, 2017	SB115-0.5	2.66	3.62	6.28	2.93	3.42	28.6	1.08 J	ND <2.0	ND <2.0	ND <2.0	1
	SB115-1.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB115-2.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
July 20, 2017	SB116-0.5	17.8	21.2	39	ND <2.0	2.64	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB116-1.5	2.11	2.65	4.76	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB116-2.5	3.96	5.78	9.74	ND <2.0	1.37 J	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
July 20, 2017	SB117-0.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB117-1.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB117-2.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
July 20, 2017	SB118-0.5	1.08 J	1.48 J	2.56	ND <2.0	1.71 J	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB118-1.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB118-2.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
July 20, 2017	SB119-0.5	1.20 J	1.86 J	3.06	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB119-1.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1
	SB119-2.5	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	1

Notes:

ND = Not Detected

-- = Not Analyzed

Dup = duplicate

Detection Limit = Equivalent to Practical Quantization Limit

TABLE 4

SUMMARY OF ARSENIC, LEAD AND PCBs ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	EPA Method 6010B		Dilution Factor	Poly-Chlorinated Biphenols by EPA Method 8082	Dilution Factor
		Arsenic	Lead			
		milligrams per kilogram (mg/kg)			ug/kg	
Detection Limit		2.0	2.0		--	
Site Screening Levels		12*	80**		--	
November 5, 2016	SB021-0.5	ND <2.0	ND <2.0	1	--	--
	SB021-1.5	--	--	--	--	--
	SB021-2.5	--	--	--	--	--
November 5, 2016	SB022-0.5	ND <2.0	ND <2.0	1	ND <100	2
	SB022-1.5	--	--	--	--	--
	SB022-2.5	--	--	--	--	--
November 6, 2016	SB023-0.5	ND <2.0	ND <2.0	1	--	--
	SB023-1.5	--	--	--	--	--
	SB023-2.5	--	--	--	--	--
November 6, 2016	SB024-0.5	ND <2.0	ND <2.0	1	--	--
	SB024-1.5	--	--	--	--	--
	SB024-2.5	--	--	--	--	--
November 6, 2016	SB025-0.5	ND <2.0	ND <2.0	1	--	--
	SB025-1.5	--	--	--	--	--
	SB025-2.5	--	--	--	--	--
November 6, 2016	SB026-0.5	ND <2.0	7.67	1	--	--
	SB026-1.5	--	--	--	--	--
	SB026-2.5	--	--	--	--	--
November 6, 2016	SB027-0.5	ND <2.0	11.3	1	--	--
	SB027-1.5	--	--	--	--	--
	SB027-2.5	--	--	--	--	--
November 6, 2016	SB028-0.5	ND <2.0	2.09	1	--	--
	SB028-1.5	--	--	--	--	--
	SB028-2.5	--	--	--	--	--
November 20, 2016	SB029-0.5	ND <2.0	29.7	1	--	--
	SB029-1.5	--	--	--	--	--
	SB029-2.5	--	--	--	--	--
November 20, 2016	SB030-0.5	ND <2.0	3.59	1	--	--
	SB030-1.5	--	--	--	--	--
	SB030-2.5	--	--	--	--	--
	SB030-0.5 Dup	ND <2.0	3.3	--	--	--
	SB030-1.5 Dup	--	--	--	--	--
	SB030-2.5 Dup	--	--	--	--	--
November 20, 2016	SB031-0.5	ND <2.0	ND <2.0	1	ND <100	2
	SB031-1.5	--	--	--	--	--
	SB031-2.5	--	--	--	--	--
November 20, 2016	SB032-0.5	ND <2.0	ND <2.0	1	--	--
	SB032-1.5	--	--	--	--	--
	SB032-2.5	--	--	--	--	--
November 20, 2016	SB033-0.5	ND <2.0	ND <2.0	1	--	--
	SB033-1.5	--	--	--	--	--
	SB033-2.5	--	--	--	--	--
November 20, 2016	SB034-0.5	ND <2.0	19.6	1	--	--
	SB034-1.5	--	--	--	--	--
	SB034-2.5	--	--	--	--	--
November 20, 2016	SB035-0.5	ND <2.0	9.07	1	--	--
	SB035-1.5	--	--	--	--	--
	SB035-2.5	--	--	--	--	--
November 20, 2016	SB036-0.5	ND <2.0	26.4	1	--	--
	SB036-1.5	--	--	--	--	--
	SB036-2.5	--	--	--	--	--
November 20, 2016	SB037-0.5	ND <2.0	18.6	1	--	--
	SB037-1.5	--	--	--	--	--
	SB037-2.5	--	--	--	--	--
November 5, 2016	SB038-0.5	ND <2.0	9.75	1	--	--
	SB038-1.5	--	--	--	--	--
	SB038-2.5	--	--	--	--	--
November 6, 2016	SB039-0.5	ND <2.0	2.3	1	--	--
	SB039-1.5	--	--	--	--	--
	SB039-2.5	--	--	--	--	--
November 6, 2016	SB040-0.5	ND <2.0	ND <2.0	1	--	--
	SB040-1.5	--	--	--	--	--
	SB040-2.5	--	--	--	--	--

TABLE 4

SUMMARY OF ARSENIC, LEAD AND PCBs ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	EPA Method 6010B Arsenic	EPA Method 6010B Lead	Dilution Factor	Poly-Chlorinated Biphenols by EPA Method 8082	Dilution Factor
		milligrams per kilogram (mg/kg)			ug/kg	
Detection Limit		2.0	2.0		--	
Site Screening Levels		12*	80**		--	
November 20, 2016	SB041-0.5	**32.2**	64.7	1	--	--
	SB041-1.5	**25.9**	3.37	1	--	--
	SB041-2.5	ND <2.0	--	1	--	--
March 26, 2016	SB041S1-0.5	ND <2.0	64.7	1	--	--
	SB041S1-1.5	ND <2.0	3.37	1	--	--
	SB041S1-2.5	**117**	--	1	--	--
April 29, 2016	SB041S1-3	ND <2.0	--	1	--	--
	SB041S1-4	--	--	--	--	--
	SB041S1-5	--	--	--	--	--
March 26, 2016	SB041S2-0.5	ND <2.0	--	1	--	--
	SB041S2-1.5	ND <2.0	--	1	--	--
	SB041S2-2.5	ND <2.0	--	1	--	--
	SB041S3-0.5	ND <2.0	--	1	--	--
	SB041S3-1.5	ND <2.0	--	1	--	--
	SB041S3-2.5	7.67	--	1	--	--
November 20, 2016	SB042-0.5	ND <2.0	2.86	1	ND <50	1
	SB042-1.5	--	--	--	--	--
	SB042-2.5	--	--	--	--	--
November 19, 2016	SB043-0.5	ND <2.0	**168**	1	--	--
	SB043-1.5	ND <2.0	12.6	1	--	--
	SB043-2.5	--	--	--	--	--
	SB043-0.5 Dup	ND <2.0	12.4	--	--	--
	SB043-1.5 Dup	--	12.6	--	--	--
	SB043-2.5 Dup	--	--	--	--	--
November 5, 2016	SB044-0.5	ND <2.0	ND <2.0	1	--	--
	SB044-1.5	--	--	--	--	--
	SB044-2.5	--	--	--	--	--
November 5, 2016	SB045-0.5	ND <2.0	ND <2.0	1	--	--
	SB045-1.5	--	--	--	--	--
	SB045-2.5	--	--	--	--	--
November 19, 2016	SB046-0.5	ND <2.0	11.7	1	--	--
	SB046-1.5	--	--	--	--	--
	SB046-2.5	--	--	--	--	--
November 19, 2016	SB047-0.5	ND <2.0	19.8	1	--	--
	SB047-1.5	--	--	--	--	--
	SB047-2.5	--	--	--	--	--
November 19, 2016	SB048-0.5	ND <2.0	62.2	1	--	--
	SB048-1.5	--	--	--	--	--
	SB048-2.5	--	--	--	--	--
November 6, 2016	SB049-0.5	ND <2.0	9.89	1	ND <50	1
	SB049-1.5	--	--	--	--	--
	SB049-2.5	--	--	--	--	--
November 6, 2016	SB050-0.5	ND <2.0	ND <2.0	1	--	--
	SB050-1.5	--	--	--	--	--
	SB050-2.5	--	--	--	--	--
November 19, 2016	SB051-0.5	ND <2.0	**96.7**	1	--	--
	SB051-1.5	ND <2.0	25.9	--	--	--
	SB051-2.5	--	--	--	--	--
November 19, 2016	SB052-0.5	ND <2.0	ND <2.0	1	--	--
	SB052-1.5	--	--	--	--	--
	SB052-2.5	--	--	--	--	--
November 19, 2016	SB053-0.5	ND <2.0	2.7	1	--	--
	SB053-1.5	--	--	--	--	--
	SB053-2.5	--	--	--	--	--
	SB053-0.5 Dup	ND <2.0	ND <2.0	--	--	--
	SB053-1.5 Dup	--	--	--	--	--
	SB053-2.5 Dup	--	--	--	--	--
November 20, 2016	SB054-0.5	ND <2.0	ND <2.0	1	--	--
	SB054-1.5	--	--	--	--	--
	SB054-2.5	--	--	--	--	--
November 6, 2016	SB055-0.5	ND <2.0	ND <2.0	1	--	--
	SB055-1.5	--	--	--	--	--
	SB055-2.5	--	--	--	--	--
November 6, 2016	SB056-0.5	ND <2.0	ND <2.0	1	ND <250	5
	SB056-1.5	--	--	--	--	--
	SB056-2.5	--	--	--	--	--

TABLE 4

SUMMARY OF ARSENIC, LEAD AND PCBs ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	EPA Method 6010B		Dilution Factor	Poly-Chlorinated Biphenols by EPA Method 8082	Dilution Factor
		Arsenic	Lead			
		milligrams per kilogram (mg/kg)			ug/kg	
Detection Limit		2.0	2.0		--	
Site Screening Levels		12*	80**		--	
November 6, 2016	SB057-0.5	ND <2.0	ND <2.0	1	--	--
	SB057-1.5	--	--	--	--	--
	SB057-2.5	--	--	--	--	--
November 20, 2016	SB058-0.5	ND <2.0	ND <2.0	1	--	--
	SB058-1.5	--	--	--	--	--
	SB058-2.5	--	--	--	--	--
November 20, 2016	SB059-0.5	ND <2.0	ND <2.0	1	--	--
	SB059-1.5	--	--	--	--	--
	SB059-2.5	--	--	--	--	--
November 20, 2016	SB060-0.5	ND <2.0	8.32	1	--	--
	SB060-1.5	--	--	--	--	--
	SB060-2.5	--	--	--	--	--
November 19, 2016	SB061-0.5	**15.7**	12.9	1	--	--
	SB061-1.5	ND <2.0	ND <2.0	1	--	--
	SB061-2.5	--	--	--	--	--
March 26, 2016	SB061S1-0.5	ND <2.0	--	1	--	--
	SB061S1-1.5	ND <2.0	--	1	--	--
	SB061S1-2.5	--	--	--	--	--
	SB061S2-0.5	ND <2.0	--	1	--	--
	SB061S2-1.5	ND <2.0	--	1	--	--
	SB061S2-2.5	--	--	--	--	--
	SB061S3-0.5	ND <2.0	--	1	--	--
	SB061S3-1.5	ND <2.0	--	1	--	--
	SB061S3-2.5	--	--	--	--	--
November 6, 2016	SB062-0.5	ND <2.0	16.1	1	--	--
	SB062-1.5	--	--	--	--	--
	SB062-2.5	--	--	--	--	--
November 19, 2016	SB063-0.5	8.58	30.5	--	--	--
	SB063-1.5	--	--	--	--	--
	SB063-2.5	--	--	--	--	--
November 6, 2016	SB064-0.5	ND <2.0	ND <2.0	--	--	--
	SB064-1.5	--	--	--	--	--
	SB064-2.5	--	--	--	--	--
November 6, 2016	SB065-0.5	ND <2.0	**149**	--	--	--
	SB065-1.5	--	8.9	--	--	--
	SB065-2.5	--	--	--	--	--
March 26, 2016	SB065S1-0.5	ND <2.0	ND <2.0	1	--	--
	SB065S1-1.5	--	3.64	1	--	--
	SB065S1-2.5	--	--	--	--	--
	SB065S2-0.5	ND <2.0	11.1	1	--	--
	SB065S2-1.5	--	8.38	1	--	--
	SB065S2-2.5	--	--	--	--	--
November 6, 2016	SB066-0.5	ND <2.0	48.2	--	--	--
	SB066-1.5	--	--	--	--	--
	SB066-2.5	--	--	--	--	--
November 6, 2016	SB067-0.5	ND <2.0	**207**	--	--	--
	SB067-1.5	--	14.6	--	--	--
	SB067-2.5	--	--	--	--	--
March 26, 2016	SB067S1-0.5	--	12.3	1	--	--
	SB067S1-1.5	--	2.95	1	--	--
	SB067S1-2.5	--	--	--	--	--
	SB067S2-0.5	--	14.6	1	--	--
	SB067S2-1.5	--	51.4	1	--	--
	SB067S2-2.5	--	--	--	--	--
	SB067S3-0.5	--	17.5	1	--	--
	SB067S3-1.5	--	37.9	1	--	--
	SB067S3-2.5	--	--	--	--	--
	SB067S4-0.5	--	**176**	1	--	--
	SB067S4-1.5	--	59.5	1	--	--
	SB067S4-2.5	--	--	--	--	--

TABLE 4

SUMMARY OF ARSENIC, LEAD AND PCBs ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	**Sample ID**	**EPA Method 6010B**		**Dilution Factor**	**Poly-Chlorinated Biphenols by EPA Method 8082**	**Dilution Factor**
		Arsenic	**Lead**			
		milligrams per kilogram (mg/kg)			ug/kg	
Detection Limit		2.0	2.0		--	
Site Screening Levels		12*	80**		--	
November 6, 2016	SB068-0.5	2.8	**211**	--	--	--
	SB068-1.5	--	50.7	--	--	--
	SB068-2.5	--	--	--	--	--
March 26, 2016	SB068S1-0.5	--	60.3	1	--	--
	SB068S1-1.5	--	ND <2.0	1	--	--
	SB068S1-2.5	--	--	--	--	--
	SB068S2-0.5	--	ND <2.0	1	--	--
	SB068S2-1.5	--	ND <2.0	1	--	--
	SB068S2-2.5	--	--	--	--	--
	SB068S3-0.5	--	ND <2.0	1	--	--
	SB068S3-1.5	--	ND <2.0	1	--	--
	SB068S3-2.5	--	--	--	--	--
	SB068S4-0.5	--	ND <2.0	1	--	--
	SB068S4-1.5	--	ND <2.0	1	--	--
	SB068S4-2.5	--	--	--	--	--
November 6, 2016	SB069-0.5	2.48	**131**	--	--	--
	SB069-1.5	--	11.8	--	--	--
	SB069-2.5	--	--	--	--	--
March 26, 2016	SB069-0.5	--	ND <2.0	1	--	--
	SB069-1.5	--	ND <2.0	1	--	--
	SB069-2.5	--	--	--	--	--
	SB069S1-0.5	--	ND <2.0	1	--	--
	SB069S1-1.5	--	ND <2.0	1	--	--
	SB069S1-2.5	--	--	--	--	--
November 19, 2016	SB070-0.5	ND <2.0	11.6	1	--	--
	SB070-1.5	--	--	--	--	--
	SB070-2.5	--	--	--	--	--
November 6, 2016	SB071-0.5	11.2	**130**	--	--	--
	SB071-1.5	--	**91.8**	--	--	--
	SB071-2.5	--	3.44	--	--	--
July 20, 2017	SB071S1-0.5	--	16.3			
	SB071S2-0.5	--	14.5	--	--	--
	SB071S2-0.5 Dup	--	14.3	--	--	--
November 6, 2016	SB072-0.5	ND <2.0	**94.2**	1	--	--
	SB072-1.5	--	2.05	--	--	--
	SB072-2.5	--	--	--	--	--
November 6, 2016	SB073-0.5	ND <2.0	8.66	1	--	--
	SB073-1.5	--	--	--	--	--
	SB073-2.5	--	--	--	--	--
November 6, 2016	SB074-0.5	ND <2.0	12.5	1	ND <50	1
	SB074-1.5	--	--	--	--	--
	SB074-2.5	--	--	--	--	--
November 6, 2016	SB075-0.5	ND <2.0	16.8	1	--	--
	SB075-1.5	--	--	--	--	--
	SB075-2.5	--	--	--	--	--
November 6, 2016	SB076-0.5	ND <2.0	37.9	1	--	--
	SB076-1.5	--	--	--	--	--
	SB076-2.5	--	--	--	--	--
November 6, 2016	SB077-0.5	ND <2.0	4.19	1	--	--
	SB077-1.5	--	--	--	--	--
	SB077-2.5	--	--	--	--	--
November 19, 2016	SB078-0.5	ND <2.0	7.59	1	--	--
	SB078-1.5	--	--	--	--	--
	SB078-2.5	--	--	--	--	--
	SB078-0.5 Dup	4.97	10.3	--	--	--
	SB078-1.5 Dup	--	--	--	--	--
	SB078-2.5 Dup	--	--	--	--	--
November 6, 2016	SB079-0.5	ND <2.0	ND <2.0	1	--	--
	SB079-1.5	--	--	--	--	--
	SB079-2.5	--	--	--	--	--
November 6, 2016	SB080-0.5	ND <2.0	4.66	--	--	--
	SB080-1.5	--	--	--	--	--
	SB080-2.5	--	--	--	--	--
November 6, 2016	SB081-0.5	ND <2.0	ND <2.0	1	ND <250	5
	SB081-1.5	--	--	--	--	--
	SB081-2.5	--	--	--	--	--

TABLE 4

SUMMARY OF ARSENIC, LEAD AND PCBs ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	EPA Method 6010B		Dilution Factor	Poly-Chlorinated Biphenols by EPA Method 8082	Dilution Factor
		Arsenic	Lead			
		milligrams per kilogram (mg/kg)			ug/kg	
Detection Limit		2.0	2.0		--	
Site Screening Levels		12*	80**		--	
November 6, 2016	SB082-0.5	ND <2.0	ND <2.0	1	--	--
	SB082-1.5	--	--	--	--	--
	SB082-2.5	--	--	--	--	--
November 6, 2016	SB083-0.5	ND <2.0	4.53	1	--	--
	SB083-1.5	--	--	--	--	--
	SB083-2.5	--	--	--	--	--
November 6, 2016	SB084-0.5	ND <2.0	19.4	1	--	--
	SB084-1.5	--	--	--	--	--
	SB084-2.5	--	--	--	--	--
November 6, 2016	SB085-0.5	ND <2.0	17.8	1	--	--
	SB085-1.5	--	--	--	--	--
	SB085-2.5	--	--	--	--	--
November 6, 2016	SB086-0.5	ND <2.0	64.6	1	--	--
	SB086-1.5	--	--	--	--	--
	SB086-2.5	--	--	--	--	--
November 5, 2016	SB087-0.5	ND <2.0	3.64	1	--	--
	SB087-1.5	--	--	--	--	--
	SB087-2.5	--	--	--	--	--
November 5, 2016	SB088-0.5	ND <2.0	23.7	1	--	--
	SB088-1.5	--	--	--	--	--
	SB088-2.5	--	--	--	--	--
November 5, 2016	SB089-0.5	ND <2.0	71.6	1	--	--
	SB089-1.5	--	--	--	--	--
	SB089-2.5	--	--	--	--	--
November 5, 2016	SB090-0.5	ND <2.0	6.18	1	--	--
	SB090-1.5	--	--	--	--	--
	SB090-2.5	--	--	--	--	--
November 5, 2016	SB091-0.5	ND <2.0	2.42	1	--	--
	SB091-1.5	--	--	--	--	--
	SB091-2.5	--	--	--	--	--
November 5, 2016	SB092-0.5	ND <2.0	ND <2.0	1	ND <100	2
	SB092-1.5	--	--	--	--	--
	SB092-2.5	--	--	--	--	--
	SB093-0.5	ND <2.0	5.06	1	--	--
	SB093-1.5	--	--	--	--	--
	SB093-2.5	--	--	--	--	--
November 5, 2016	SB094-0.5	ND <2.0	**81.4**	1	--	--
	SB094-1.5	--	**155**	--	--	--
	SB094-2.5	--	71.1	--	--	--
March 26, 2016	SB094S1-0.5	--	ND <2.0	1	--	--
	SB094S1-1.5	--	ND <2.0	--	--	--
	SB094S1-2.5	--	ND <2.0	--	--	--
November 5, 2016	SB095-0.5	9.15	16.1	1	--	--
	SB095-1.5	--	--	--	--	--
	SB095-2.5	--	--	--	--	--
November 5, 2016	SB096-0.5	2.19	13.1	1	--	--
	SB096-1.5	--	--	--	--	--
	SB096-2.5	--	--	--	--	--
November 5, 2016	SB097-0.5	ND <2.0	76.1	1	--	--
	SB097-1.5	--	--	--	--	--
	SB097-2.5	--	--	--	--	--
November 5, 2016	SB098-0.5	2.56	37.9	1	--	--
	SB098-1.5	--	--	--	--	--
	SB098-2.5	--	--	--	--	--
November 5, 2016	SB099-0.5	5.39	15.3	1	--	--
	SB099-1.5	--	--	--	--	--
	SB099-2.5	--	--	--	--	--
November 5, 2016	SB100-0.5	ND <2.0	**125**	1	--	--
	SB100-1.5	--	3.13	1	--	--
	SB100-2.5	--	--	--	--	--
March 26, 2016	SB100S1-0.5	--	7.77	1	--	--
	SB100S1-1.5	--	ND <2.0	1	--	--
	SB100S1-2.5	--	--	--	--	--
	SB100S2-0.5	--	ND <2.0	1	--	--
	SB100S2-1.5	--	54.7	1	--	--
	SB100S2-2.5	--	--	--	--	--

TABLE 4

SUMMARY OF ARSENIC, LEAD AND PCBs ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	EPA Method 6010B		Dilution Factor	Poly-Chlorinated Biphenols by EPA Method 8082	Dilution Factor
		Arsenic	Lead			
		milligrams per kilogram (mg/kg)			ug/kg	
Detection Limit		2.0	2.0		--	
Site Screening Levels		12*	80**		--	
November 5, 2016	SB101-0.5	ND <2.0	64.5	1	--	--
	SB101-1.5	--	--	--	--	--
	SB101-2.5	--	--	--	--	--
	SB102-0.5	**54.5**	49.5	1	--	--
	SB102-1.5	ND <2.0	--	1	--	--
	SB102-2.5	--	--	--	--	--
March 26, 2016	SB102S1-0.5	**57.1**	--	1	--	--
	SB102S1-1.5	ND <2.0	--	1	--	--
	SB102S1-2.5	--	--	--	--	--
	SB102S2-0.5	**109**	--	1	--	--
	SB102S2-1.5	ND <2.0	--	1	--	--
	SB102S2-2.5	--	--	--	--	--
	SB102S3-0.5	ND <2.0	--	1	--	--
	SB102S3-1.5	ND <2.0	--	1	--	--
	SB102S3-2.5	--	--	--	--	--
	SB102S4-0.5	**26.2**	--	1	--	--
	SB102S4-1.5	**111**	--	1	--	--
	SB102S4-2.5	ND <2.0	--	1	--	--
April 29, 2016	SB102S5-0.5	ND <2.0	--	1	--	--
	SB102S5-1.5	ND <2.0	--	1	--	--
	SB102S5-2.5	--	--	--	--	--
	SB102S6-0.5	ND <2.0	--	1	--	--
	SB102S6-1.5	ND <2.0	--	1	--	--
	SB102S6-2.5	--	--	--	--	--
	SB102S7-0.5	--	--	--	--	--
	SB102S7-1.5	--	--	--	--	--
	SB102S7-2.5	--	--	--	--	--
	SB102S8-0.5	--	--	--	--	--
	SB102S8-1.5	--	--	--	--	--
	SB102S8-2.5	--	--	--	--	--
November 5, 2016	SB103-0.5	3.37	7.13	1	--	--
	SB103-1.5	--	--	--	--	--
	SB103-2.5	--	--	--	--	--
November 5, 2016	SB104-0.5	ND <2.0	12.8	1	--	--
	SB104-1.5	--	--	--	--	--
	SB104-2.5	--	--	--	--	--
November 5, 2016	SB105-0.5	3.54	20.6	1	--	--
	SB105-1.5	--	--	--	--	--
	SB105-2.5	--	--	--	--	--
November 5, 2016	SB106-0.5	ND <2.0	22.3	1	--	--
	SB106-1.5	--	--	--	--	--
	SB106-2.5	--	--	--	--	--
November 5, 2016	SB107-0.5	ND <2.0	10.5	1	--	--
	SB107-1.5	--	--	--	--	--
	SB107-2.5	--	--	--	--	--
November 5, 2016	SB108-0.5	ND <2.0	20.3	1	--	--
	SB108-1.5	ND <2.0	--	--	--	--
	SB108-2.5	ND <2.0	--	--	--	--
July 20, 2017	SB111-0.5	2.19	ND <2.0	1	--	--
	SB111-1.5	ND <2.0	ND <2.0	--	--	--
	SB111-2.5	ND <2.0	ND <2.0	--	--	--
July 20, 2017	SB112-0.5	ND <2.0	ND <2.0	1	--	--
	SB112-1.5	ND <2.0	ND <2.0	--	--	--
	SB112-2.5	ND <2.0	ND <2.0	--	--	--
July 20, 2017	SB113-0.5	ND <2.0	11.9	1	--	--
	SB113-1.5	ND <2.0	ND <2.0	--	--	--
	SB113-2.5	ND <2.0	ND <2.0	--	--	--
July 20, 2017	SB114-0.5	ND <2.0	**286**	1	--	--
	SB114-0.5 Dup	6.23	**285**	--	--	--
	SB114-1.5	ND <2.0	ND <2.0	--	--	--
	SB114-2.5	ND <2.0	3.1	--	--	--
July 20, 2017	SB115-0.5	4.74	**357**	1	--	--
	SB115-1.5	ND <2.0	10.5	--	--	--
	SB115-2.5	ND <2.0	55.0	--	--	--
July 20, 2017	SB116-0.5	ND <2.0	59.3	1	--	--
	SB116-1.5	ND <2.0	26.9	--	--	--
	SB116-2.5	ND <2.0	53.1	--	--	--
July 20, 2017	SB117-0.5	7.40	27.0	1	--	--
	SB117-0.5 Dup	10.6	27.0	--	--	--
	SB117-1.5	ND <2.0	ND <2.0	--	--	--
	SB117-2.5	ND <2.0	ND <2.0	--	--	--

TABLE 4

SUMMARY OF ARSENIC, LEAD AND PCBs ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	EPA Method 6010B		Dilution Factor	Poly-Chlorinated Biphenols by EPA Method 8082	Dilution Factor
		Arsenic	Lead			
		milligrams per kilogram (mg/kg)			ug/kg	
Detection Limit		2.0	2.0		--	
Site Screening Levels		12*	80**		--	
July 20, 2017	SB118-0.5	2.96	16.7	1	--	--
	SB118-1.5	ND <2.0	2.50	--	--	--
	SB118-2.5	ND <2.0	5.71	--	--	--
July 20, 2017	SB119-0.5	2.19	18.0	1	--	--
	SB119-1.5	**19.3**	27.6	--	--	--
	SB119-2.5	ND <2.0	ND <2.0	--	--	--

Notes:

-- = Not Analyzed or Not Applicable
ug/kg = micrograms per kilogram
Dup = duplicate
Arsenic and Lead Detection Limit = Equivalent to Practical Quantization Limit
* Regional background arsenic concentration (12 mg/kg) for Southern California soils; Department of Toxic Substances Control (DTSC), March 2008
**DTSCs Human and Ecological Risk Office (HERO), Note 3, Modified Screening Level for lead (80 mg/kg) detected in Site soils, January 2016

Bold concentrations exceed screening levels

TABLE 5

SUMMARY OF METALS ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	Title 22 Metals by EPA Method 6010B/7470A																	Dilution Factor
		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
		milligrams per kilogram (mg/kg)																	
Detection Limit		2.0	2.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	5.0	
DTSC Screening Level[1]		30	12*	5,200	16	1.7	100,000	660	3,000	80	1.0	380	1,600	380	380	5.00	530	23,000	
November 20, 2016	SB011-10	ND <2.0	ND <2.0	140	ND <1.0	ND <1.0	17.7	10.5	22.3	ND <2.0	ND <0.05	ND <2.0	13.7	ND <2.0	ND <1.0	ND <2.0	41.1	47.7	1
	SB011-15	ND <2.0	ND <2.0	101	ND <1.0	ND <1.0	16.7	9.08	17.8	ND <2.0	ND <0.05	ND <2.0	12.1	ND <2.0	ND <1.0	ND <2.0	38.1	40.8	1
November 20, 2016	SB012-10	ND <2.0	ND <2.0	128	ND <1.0	ND <1.0	16.3	9.57	17.5	ND <2.0	ND <0.05	ND <2.0	12.8	ND <2.0	ND <1.0	ND <2.0	38.5	42.4	1
	SB012-15	ND <2.0	ND <2.0	167	ND <1.0	ND <1.0	25.4	12.4	23.9	ND <2.0	ND <0.05	ND <2.0	17.8	ND <2.0	ND <1.0	ND <2.0	48.9	55.5	1
November 20, 2016	SB013-10	ND <2.0	ND <2.0	60.1	ND <1.0	ND <1.0	8.5	4.25	8.97	ND <2.0	ND <0.05	ND <2.0	5.29	ND <2.0	ND <1.0	ND <2.0	30.2	19.2	1
	SB013-15	ND <2.0	ND <2.0	97.9	ND <1.0	ND <1.0	9.44	2.78	38.9	ND <2.0	ND <0.05	ND <2.0	5.64	ND <2.0	ND <1.0	ND <2.0	25.1	54.8	1
December 3, 2016	SB014-10	ND <2.0	ND <2.0	140	ND <1.0	ND <1.0	20.6	13.3	25.9	4.39	ND <0.05	ND <2.0	17.1	ND <2.0	ND <1.0	ND <2.0	44.6	53.2	1
	SB014-15	ND <2.0	ND <2.0	147	ND <1.0	ND <1.0	17.2	12.3	19.7	4.24	ND <0.05	ND <2.0	13.7	ND <2.0	ND <1.0	ND <2.0	36.1	46.6	1
	SB014-15 Dup	ND <2.0	ND <2.0	146	ND <1.0	ND <1.0	21.7	13.5	23.8	4.53	ND <0.05	ND <2.0	17.1	ND <2.0	ND <1.0	ND <2.0	46.1	52.8	1
December 3, 2016	SB015-5	ND <2.0	ND <2.0	111	ND <1.0	ND <1.0	29.9	10.8	20.4	3.17	ND <0.05	ND <2.0	14.1	ND <2.0	ND <1.0	ND <2.0	34.4	44.7	1
	SB015-10	ND <2.0	ND <2.0	132	ND <1.0	ND <1.0	18.5	11.9	21.7	3.28	ND <0.05	ND <2.0	15.9	ND <2.0	ND <1.0	ND <2.0	40.1	47.3	1
	SB015-15	ND <2.0	ND <2.0	127	ND <1.0	ND <1.0	20.6	12.1	22.2	3.21	ND <0.05	ND <2.0	14.7	ND <2.0	ND <1.0	ND <2.0	37.4	44.2	1
	SB015-20	ND <2.0	ND <2.0	70.6	ND <1.0	ND <1.0	11.9	8.19	13.2	ND <2.0	ND <0.05	ND <2.0	8.53	ND <2.0	ND <1.0	ND <2.0	28.5	26.7	1
	SB015-25	ND <2.0	ND <2.0	50.8	ND <1.0	ND <1.0	7.6	5.84	9.3	ND <2.0	ND <0.05	ND <2.0	5.62	ND <2.0	ND <1.0	ND <2.0	20.3	16.8	1
	SB015-30	ND <2.0	ND <2.0	179	ND <1.0	ND <1.0	22.5	17.6	32	3.16	ND <0.05	ND <2.0	17.3	ND <2.0	ND <1.0	ND <2.0	41.9	58.2	1
	SB015-35	ND <2.0	ND <2.0	216	ND <1.0	ND <1.0	23.2	17.2	29.1	2.28	ND <0.05	ND <2.0	16.5	ND <2.0	ND <1.0	ND <2.0	42.3	53.1	1
	SB015-40	ND <2.0	ND <2.0	147	ND <1.0	ND <1.0	25.8	20.2	35.2	4.04	ND <0.05	ND <2.0	15.8	ND <2.0	ND <1.0	ND <2.0	63.8	56.4	1
December 3, 2016	SB016-5	ND <2.0	ND <2.0	150	ND <1.0	ND <1.0	19.2	13.5	21.7	3.7	ND <0.05	ND <2.0	15.3	ND <2.0	ND <1.0	ND <2.0	39.5	50.9	1
	SB016-10	ND <2.0	ND <2.0	133	ND <1.0	ND <1.0	21.2	12.7	21.4	3.18	ND <0.05	ND <2.0	16.6	ND <2.0	ND <1.0	ND <2.0	39.6	48.3	1
	SB016-15	ND <2.0	ND <2.0	134	ND <1.0	ND <1.0	20.7	11.6	21.6	4.38	ND <0.05	ND <2.0	15.7	ND <2.0	ND <1.0	ND <2.0	40.3	47.7	1
	SB016-15 Dup	ND <2.0	ND <2.0	131	ND <1.0	ND <1.0	20.6	11.7	22.4	4.54	ND <0.05	ND <2.0	17.2	ND <2.0	ND <1.0	ND <2.0	42.9	47.9	1
	SB016-20	ND <2.0	ND <2.0	82.2	ND <1.0	ND <1.0	12.8	8.45	12.8	3.36	ND <0.05	ND <2.0	8.93	ND <2.0	ND <1.0	ND <2.0	31.2	28.6	1
	SB016-25	ND <2.0	ND <2.0	65.7	ND <1.0	ND <1.0	6	5.18	11.4	2.97	ND <0.05	ND <2.0	5.66	ND <2.0	ND <1.0	ND <2.0	15.7	21.2	1
	SB016-30	ND <2.0	ND <2.0	213	ND <1.0	ND <1.0	22.3	17.1	31.2	4.89	ND <0.05	ND <2.0	17.3	ND <2.0	ND <1.0	ND <2.0	42.3	55.8	1
	SB016-35	ND <2.0	ND <2.0	95.9	ND <1.0	ND <1.0	12.5	8.82	13.3	2.17	ND <0.05	ND <2.0	9.5	ND <2.0	ND <1.0	ND <2.0	20.9	28	1
	SB016-40	ND <2.0	ND <2.0	60.8	ND <1.0	ND <1.0	24.9	7.28	21.9	2.52	ND <0.05	ND <2.0	7.95	ND <2.0	ND <1.0	ND <2.0	48.9	20.4	1
December 3, 2016	SB017-5	ND <2.0	ND <2.0	96.9	ND <1.0	ND <1.0	15.4	10.1	14.6	ND <2.0	ND <0.05	ND <2.0	11.3	ND <2.0	ND <1.0	ND <2.0	35.1	36.5	1
	SB017-10	ND <2.0	ND <2.0	134	ND <1.0	ND <1.0	21.6	13.9	23.8	3.87	ND <0.05	ND <2.0	18.5	ND <2.0	ND <1.0	ND <2.0	47.5	54.6	1
	SB017-10 Dup	ND <2.0	ND <2.0	122	ND <1.0	ND <1.0	22.2	12.7	24.9	5.18	ND <0.05	ND <2.0	18.2	ND <2.0	ND <1.0	ND <2.0	48.9	53.9	1
	SB017-15	ND <2.0	ND <2.0	150	ND <1.0	ND <1.0	22.6	14.3	24.9	4.5	ND <0.05	ND <2.0	17.7	ND <2.0	ND <1.0	ND <2.0	45.2	55.2	1
	SB017-20	ND <2.0	ND <2.0	94.4	ND <1.0	ND <1.0	17.7	11.2	17.2	2.58	ND <0.05	ND <2.0	13.3	ND <2.0	ND <1.0	ND <2.0	42.2	36.7	1
	SB017-25	ND <2.0	ND <2.0	46.7	ND <1.0	ND <1.0	8.98	5.39	8.74	ND <2.0	ND <0.05	ND <2.0	6.57	ND <2.0	ND <1.0	ND <2.0	22.9	18.4	1
	SB017-30	ND <2.0	ND <2.0	208	ND <1.0	ND <1.0	22.8	16.4	31.1	2.32	ND <0.05	ND <2.0	16.5	ND <2.0	ND <1.0	ND <2.0	42.9	55.7	1
	SB017-35	ND <2.0	ND <2.0	131	ND <1.0	ND <1.0	21.1	16.4	26.3	ND <2.0	ND <0.05	ND <2.0	17.1	ND <2.0	ND <1.0	ND <2.0	46.1	48.5	1
	SB017-40	ND <2.0	ND <2.0	59.6	ND <1.0	ND <1.0	10.9	7.9	12.9	ND <2.0	ND <0.05	ND <2.0	8.29	ND <2.0	ND <1.0	ND <2.0	25.5	24.4	1
December 10, 2016	SB018-5	ND <2.0	ND <2.0	97.4	ND <1.0	ND <1.0	11.7	8.91	14.8	ND <2.0	ND <0.05	ND <2.0	8.34	ND <2.0	ND <1.0	ND <2.0	25.8	34.3	1
	SB018-10	ND <2.0	ND <2.0	131	ND <1.0	ND <1.0	22.7	12.1	22.6	ND <2.0	ND <0.05	ND <2.0	15.3	ND <2.0	ND <1.0	ND <2.0	39.4	50.1	1
	SB018-15	ND <2.0	ND <2.0	122	ND <1.0	ND <1.0	13.7	10.1	17.1	ND <2.0	ND <0.05	ND <2.0	10.8	ND <2.0	ND <1.0	ND <2.0	31.8	39.2	1
	SB018-20	ND <2.0	ND <2.0	161	ND <1.0	ND <1.0	26.8	11.9	27.3	2.23	ND <0.05	ND <2.0	16.8	ND <2.0	ND <1.0	ND <2.0	39.9	75.9	1
	SB018-25	ND <2.0	ND <2.0	97.4	ND <1.0	ND <1.0	39.6	8.98	26.9	ND <2.0	ND <0.05	ND <2.0	15.9	ND <2.0	ND <1.0	ND <2.0	28.4	170	1
	SB018-30	ND <2.0	ND <2.0	142	ND <1.0	ND <1.0	18.2	13.2	24.5	ND <2.0	ND <0.05	ND <2.0	12.9	ND <2.0	ND <1.0	ND <2.0	34.9	50.2	1
	SB018-35	ND <2.0	ND <2.0	284	ND <1.0	ND <1.0	20.7	18.4	37.5	3.08	ND <0.05	ND <2.0	16.6	ND <2.0	ND <1.0	ND <2.0	43.1	60.9	1
	SB018-40	ND <2.0	ND <2.0	39.5	ND <1.0	ND <1.0	6.35	5.02	8.00	ND <2.0	ND <0.05	ND <2.0	4.72	ND <2.0	ND <1.0	ND <2.0	17	16	1
December 3, 2016	SB019-5	ND <2.0	ND <2.0	111	ND <1.0	ND <1.0	18.8	11.4	18.1	2.84	ND <0.05	ND <2.0	14.5	ND <2.0	ND <1.0	ND <2.0	39.3	39.5	1
	SB019-10	ND <2.0	ND <2.0	127	ND <1.0	ND <1.0	21.9	13.1	25.6	5.44	ND <0.05	ND <2.0	19.1	ND <2.0	ND <1.0	ND <2.0	47.4	52.9	1
	SB019-15	ND <2.0	ND <2.0	89.3	ND <1.0	ND <1.0	14.5	9.2	15.1	2.78	ND <0.05	ND <2.0	12.3	ND <2.0	ND <1.0	ND <2.0	30.2	31.9	1
	SB019-20	ND <2.0	ND <2.0	95.4	ND <1.0	ND <1.0	17.4	10.3	15.7	2.07	ND <0.05	ND <2.0	12.7	ND <2.0	ND <1.0	ND <2.0	37.7	34.2	1
	SB019-25	ND <2.0	ND <2.0	102	ND <1.0	ND <1.0	14.5	10.1	13.4	6.92	ND <0.05	ND <2.0	12.2	ND <2.0	ND <1.0	ND <2.0	34.2	38.9	1
	SB019-30	ND <2.0	ND <2.0	142	ND <1.0	ND <1.0	24.1	13.5	22.9	4.12	ND <0.05	ND <2.0	19.3	ND <2.0	ND <1.0	ND <2.0	46	51.8	1
	SB019-30 Dup	ND <2.0	ND <2.0	136	ND <1.0	ND <1.0	23.4	13.8	24	4.81	ND <0.05	ND <2.0	19.1	ND <2.0	ND <1.0	ND <2.0	44.9	49.2	1
	SB019-35	ND <2.0	ND <2.0	130	ND <1.0	ND <1.0	22.3	16.4	28	2.53	ND <0.05	ND <2.0	16.9	ND <2.0	ND <1.0	ND <2.0	40.6	54	1
	SB019-40	ND <2.0	ND <2.0	82.8	ND <1.0	ND <1.0	17.3	11.5	22.6	2.94	ND <0.05	ND <2.0	13.3	ND <2.0	ND <1.0	ND <2.0	38.5	41.3	1

TABLE 5

SUMMARY OF METALS ANALYTICAL DATA

NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	Title 22 Metals by EPA Method 6010B/7470A																	Dilution Factor
		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
		milligrams per kilogram (mg/kg)																	
Detection Limit		2.0	2.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	5.0	
DTSC Screening Level[1]		30	12*	5,200	16	1.7	100,000	660	3,000	80	1.0	380	1,600	380	380	5.00	530	23,000	
December 3, 2016	SB020-5	ND <2.0	ND <2.0	125	ND <1.0	ND <1.0	20.9	11.3	18.1	2.73	ND <0.05	ND <2.0	15	ND <2.0	ND <1.0	ND <2.0	42.6	42.5	1
	SB020-10	ND <2.0	ND <2.0	94.6	ND <1.0	ND <1.0	19.6	11.7	19.4	3.33	ND <0.05	ND <2.0	16.3	ND <2.0	ND <1.0	ND <2.0	44.9	47.2	1
	SB020-15	ND <2.0	ND <2.0	145	ND <1.0	ND <1.0	23.6	14	23.9	3.49	ND <0.05	ND <2.0	19.2	ND <2.0	ND <1.0	ND <2.0	48.6	56.1	1
	SB020-20	ND <2.0	ND <2.0	99.9	ND <1.0	ND <1.0	18.2	10.5	16.7	2.27	ND <0.05	ND <2.0	13.5	ND <2.0	ND <1.0	ND <2.0	44.2	37.4	1
	SB020-25	ND <2.0	ND <2.0	129	ND <1.0	ND <1.0	21.6	13	24.8	3.1	ND <0.05	ND <2.0	17.6	ND <2.0	ND <1.0	ND <2.0	42.8	46.3	1
	SB020-30	ND <2.0	ND <2.0	214	ND <1.0	ND <1.0	27.4	19.9	35.5	4.32	ND <0.05	ND <2.0	21.5	ND <2.0	ND <1.0	ND <2.0	55.1	62.2	1
	SB020-35	ND <2.0	ND <2.0	200	ND <1.0	ND <1.0	28.4	19.1	31.8	2.64	ND <0.05	ND <2.0	19.8	ND <2.0	ND <1.0	ND <2.0	47.9	59.8	1
	SB020-40	ND <2.0	ND <2.0	113	ND <1.0	ND <1.0	15.9	9.46	19.7	2.05	ND <0.05	ND <2.0	12.1	ND <2.0	ND <1.0	ND <2.0	35.6	41.5	1
November 5, 2016	SB109-0.5	ND <2.0	2.13	9.49	ND <1.0	ND <1.0	ND <1.0	24.2	ND <2.0	**101**	ND <0.5	ND <2.0	3.7	ND <2.0	ND <1.0	ND <2.0	ND <2.0	508	1
	SB109-1.5	--	--	--	--	--	--	--	--	**132**	--	--	--	--	--	--	--	--	--
	SB109-2.5	--	--	--	--	--	--	--	--	**88.8**	--	--	--	--	--	--	--	--	--
July 20, 2017	SB109S1-0.5	--	--	--	--	--	--	--	--	19.7	--	--	--	--	--	--	--	--	--
	SB109S1-1.5	--	--	--	--	--	--	--	--	10.7	--	--	--	--	--	--	--	--	--
	SB109S1-2.5	--	--	--	--	--	--	--	--	5.51	--	--	--	--	--	--	--	--	--
	SB109-3	--	--	--	--	--	--	--	--	ND <2.0	--	--	--	--	--	--	--	--	--
December 10, 2016	SB110-5	ND <2.0	ND <2.0	68.2	ND <1.0	ND <1.0	9.46	6.77	10.1	ND <2.0	ND <0.05	ND <2.0	7.05	ND <2.0	ND <1.0	ND <2.0	26.2	25.5	1
	SB110-10	ND <2.0	ND <2.0	162	ND <1.0	ND <1.0	22.5	14.1	26.6	3.71	ND <0.05	ND <2.0	18.3	ND <2.0	ND <1.0	ND <2.0	47.1	61.7	1
	SB110-15	ND <2.0	ND <2.0	160	ND <1.0	ND <1.0	19.2	13.4	23.5	3.27	ND <0.05	ND <2.0	17.6	ND <2.0	ND <1.0	ND <2.0	44.3	57.4	1
	SB110-20	ND <2.0	ND <2.0	152	ND <1.0	ND <1.0	18.6	12.4	21.6	3.27	ND <0.05	ND <2.0	14.8	ND <2.0	ND <1.0	ND <2.0	41.4	47.5	1
	SB110-25	ND <2.0	ND <2.0	112	ND <1.0	ND <1.0	16.7	9.82	15.4	ND <2.0	ND <0.05	ND <2.0	11.1	ND <2.0	ND <1.0	ND <2.0	35.3	37.5	1
	SB110-30	ND <2.0	ND <2.0	249	ND <1.0	ND <1.0	23.4	18.3	32.5	ND <2.0	ND <0.05	ND <2.0	18.2	ND <2.0	ND <1.0	ND <2.0	44.3	62.4	1
	SB110-35	ND <2.0	ND <2.0	180	ND <1.0	ND <1.0	21.4	15.6	26.3	2.51	ND <0.05	ND <2.0	15.4	ND <2.0	ND <1.0	ND <2.0	42.1	55.9	1
	SB110-40	ND <2.0	ND <2.0	62.2	ND <1.0	ND <1.0	9.59	7.18	10.3	ND <2.0	ND <0.05	ND <2.0	7.81	ND <2.0	ND <1.0	ND <2.0	20.5	21.6	1

Notes

-- = Not Analyzed

Dup = duplicate

Arsenic and Lead Detection Limit = Equivalent to Practical Quatization Limit

* Regional background arsenic concentration (12 mg/kg) for Southern California soils; Department of Toxic Substances Control (DTSC), March 2008

[1] - DTSC HERO Note 3, June 2016

**DTSCs Human and Ecological Risk Office (HERO), Note 3, Modified Screening Level for lead (80 mg/kg) detected in Site soils, January 2016

Bold concentrations exceed screening levels

TABLE 6
SUMMARY OF ESTIMATED VOLUMES OF IMPACTED SOIL
NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Area	COC	Impacted Surface Area (Feet)		Impacted Depth (Feet bgs)	Impacted Volume in Cubic Feet	Impacted Volume in Cubic Yards
SB041	Arsenic	7 x 15	105	0 to 3	315	11.7
SB043	Lead	8 x 8	64	0 to 1.5	96	3.6
SB051	Lead	5 x 10	50	0 to 1.5	75	2.8
SB061	Arsenic	5 x 10	50	0 to 1.5	75	2.8
SB065	Lead	5 x 30	150	0 to 1.5	225	8.3
SB067	Lead	8 x 15	120	0 to1.5	180	6.7
SB068	Lead	8 x 10	80	0 to 1.5	120	4.4
SB069	Lead	5 x 10	50	0 to 1.5	75	2.8
SB071	Lead	5 x 5	25	0 to 2.5	62.5	2.3
SB072	Lead	5 x 5	25	0 to 1.5	37.5	1.4
SB094	Lead	3 x 5	15	0 to 2.5	37.5	1.4
SB100	Lead	5 x 5	25	0 to 1.5	37.5	1.4
SB102	Arsenic	16 x 14	224	0 to 1.5	336	12.4
		10 x 5	50	1.5 to 2.5	50	1.9
SB109	Lead	5 x 5	25	0 to 2.5	62.5	2.3
SB114	Lead	5 x 5	25	0 to 1.5	37.5	1.4
SB115	Lead	5 x 5	25	0 to 1.5	37.5	1.4
SB119	Arsenic	5 x 5	25	0 to 2.5	62.5	2.3
Total Impacted Volume						71

TABLE 7
SUMMARY OF SOIL WASTE CHARACTERIZATION DATA
NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample ID	Total and Soluble Waste Threshold Concentrations						Waste Characterization
	Arsenic TTLC	Arsenic STLC	Arsenic TCLP	Lead TTLC	Lead STLC	Lead TCLP	
	mg/kg	mg/l	mg/l	mg/kg	mg/l	mg/l	
Hazardous Waste Limit	500	5	5	1,000	5	5	
SB041S1-2.5	117	7.81	1.46	--	--	--	Calfornia Hazardous Waste
SB043-0.5	ND <2.0	--	--	168	0.52	ND <0.01	Non-Hazardous Waste
SB051-0.5	ND <2.0	--	--	96.7	4.5	ND <0.01	Non-Hazardous Waste
SB061-0.5	15.7	--	--	12.9	--	--	Non-Hazardous Waste
SB065-0.5	ND <2.0	--	--	149	CA Haz - Characterized by SB67 and 68, adjacent to Classroom 1 Building		
SB067-0.5	ND <2.0	--	--	207	13.3	2.19	California Hazardous Waste
SB068-0.5	2.8	--	--	211	17.9	0.45	California Hazardous Waste
SB069-0.5	2.48	--	--	131	CA Haz - Characterized by SB67 and 68, adjacent to Classroom 1 Building		
SB071-0.5	11.2	--	--	130	8.06	ND <0.01	California Hazardous Waste
SB072-0.5	ND <2.0	--	--	94.2	CA Haz - Characterized by SB71-0.5, adjacent to Woodshop Building		
SB094-1.5	--	--	--	155	Ca Haz Waste - Characterized by SB100		
SB100-0.5	ND <2.0	--	--	125	7.67	ND <0.01	Calfornia Hazardous Waste
SB102-0.5	54.5	6.07	--	49.5	--	--	California Hazardous Waste
SB102S4-1.5	111	5.87	1.42	--	--	--	California Hazardous Waste
SB109-0.5 to 1.5	ND <2.0	--	--	88-132	CA Haz - Characterized by SB71-0.5, adjacent to Woodshop Building		

TABLE 8
SUMMARY OF BULK SAMPLE ANALYTICAL DATA
NORTH HOLLYWOOD HIGH SCHOOL 5231 COLFAX AVENUE LOS ANGELES CA

Sample Collection Date	Sample ID	Title 22 Metals by EPA Method 6010B/7470A																						Semi-Volatile Organic Compounds by EPA Method 8070C	
		Antimony	**Arsenic**	**Arsenic STLC**	**Arsenic TCLP**	**Barium**	**Beryllium**	**Cadmium**	**Chromium**	**Cobalt**	**Copper**	**Lead**	**Lead STLC**	**Lead TCLP**	**Mercury**	**Molybdenum**	**Nickel**	**Nickel STLC**	**Selenium**	**Silver**	**Thallium**	**Vanadium**	**Zinc**	**Benzoic Acid**	**Other SVOCs**
		milligrams per kilogram (mg/kg)																						micrograms per kilogram (ug/kg)	
December 12, 2017	BS01	ND <2.0	116	2.50 mg/l	0.08 mg/l	220	ND <1.0	ND <1.0	39.8	56.3	114	665	4.39 mg/l	0.04 mg/l	ND <0.05	ND <2.0	1,040	35.7 mg/l	ND <2.0	ND <1.0	ND <2.0	1,670	213	4,300	ND
	TTLC	500	500	--	--	10,000	75	--	2,500	8,000	2,500	1,000	--	--	20	3,500	2,000	--	100	500	700	2,400	5,000	--	--
	STLC	15	--	5	--	100	75	--	5	80	25	75	5	--	0.2	350	--	20	1	5	7	24	250	--	--
	TCLP	--	--	--	5	100	--	--	5	--	--	--	--	5	0.2	--	--	--	1	5	--	--	--	--	--

Notes:
-- = Not Analyzed
ND = Not Detected
STLC = Soluble Toxic
ND = Not Detected

TABLE 9
HUMAN HEALTH SCREENING EVALUATION
NORTH HOLLYWOOD HIGH SCHOOL
5231 COLFAX AVENUE, LOS ANGELES, CA

Constituent of Concern	Maximum Concentration (mg/kg)	Sample Location	Depth (feet bgs)	Cancer Screening Level (mg/kg) [1]	Non-Cancer Screening Level (mg/kg) [1]	Calculated Cancer Risk	Calculated Hazard Index
Arsenic	117	SB041S4-2.5	2-2.5	Use Screening Level of 12 mg/kg			
Lead	357	SB115-0.5	0-0.5	Use Screening Level of 80 mg/kg			
Chlordane	0.232	SB105-0.5	0-0.5	0.44	35	5.27E-07	6.63E-03
DDT	0.146	SB069-0.5	0-0.5	1.9	37	7.68E-08	3.95E-03
DDE	1.14	SB067-0.5	0-0.5	2	--	5.70E-07	--
DDD	0.0333	SB067-0.5	0-0.5	2.3	--	1.45E-08	--
Dieldrin	0.0101	SB089-0.5	0-0.5	0.034	3.2	2.97E-07	3.16E-03
Endrin	0.0488	SB069-0.5	0-0.5	--	19	--	2.57E-03
Heptachlor epoxide	0.0175	SB105-0.5	0-0.5	0.07	1	2.50E-07	1.75E-02
Cumulative Risk						1.74E-06	3.38E-02

[1] - DTSC HERO Note 3, June 2016

APPENDIX B

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

Removal Action Workplan
Comprehensive Modernization Project
North Hollywood High School
5231 Colfax Avenue
Los Angeles, California 91601

Prepared for:

Los Angeles Unified School District
Office of Environmental Health and Safety
333 South Beaudry Avenue
Los Angeles, California 90017

Project Number:
4007736.03

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April 2, 2018

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HEALTH AND SAFETY PLAN
REMOVAL ACTION WORK PLAN

NORTH HOLLYWOOD HIGH SCHOOL
5231 COLFAX AVENUE, NORTH HOLLYWOOD, CA

1.0 INTRODCUTION

This Health and Safety Plan (HASP) has been prepared specifically for the Removal Action Workplan (RAW) implementation at North Hollywood High School (the Site) located at 5231 Colfax Avenue, on the northwest corner at the intersection of Colfax Avenue and Magnolia Boulevard in North Hollywood, California 91601 (Figure 1). The following plan describes specific responsibilities, training requirements, protective equipment and site operating procedures to be utilized to protect on-site personnel from potential hazards associated with investigation and remediation activities associated with the planned Comprehensive Modernization Project at the Site.

The procedures in this HASP have been developed based on current knowledge regarding the specific chemicals and physical hazards that are known or anticipated for operations to be conducted at the site. Activities covered by this HASP must be conducted in complete compliance with this HASP and with all applicable Federal, State and local health and safety regulations, including California Occupational Safety and Health Administration (Cal/OSHA), Title 8 California Code of Regulations (CCR), Federal OSHA, “Hazardous Waste Operations and Emergency Response” regulations in Title 29 of the Code of Federal Regulations (CFR) Section 1910.120, and “Construction Industry Standards” in 29 CFR Section 1926.

The Site Safety Officer (SSO) is responsible for maintaining compliance with the HASP. The HASP will be reviewed and discussed with all site personnel before commencing on-site activities and safety tailgate meetings will be held prior to initiating work each day. A copy of the HASP will be available on-site during field activities. Field personnel will have access to the plan for reviewing pertinent safety guidelines for specific activities. The HASP will be amended as required by field conditions, and field personnel will be informed of pertinent amendments.

2.0 BACKGROUND

The site is identified as North Hollywood High School and the property has been assigned Los Angeles County Assessor's Parcel Number 2348-013-900. North Hollywood High School is located at 5231 Colfax Avenue on the northwest corner of the intersection of Colfax Avenue and Magnolia Boulevard in the North Hollywood, California 91601 (Figure 1). The School site is approximately 22-acres and developed with 10 permanent buildings and approximately 20 modular buildings. The school buildings include classrooms, offices, cafeteria, gym, auto shop, and a wood shop. Other parts of the school include a sports field, petting zoo, agriculture area, courtyards, walkways, and landscaped areas.

Adjacent and surrounding properties consist mostly of multifamily residences. Commercial/retail businesses (barbershop, donut shop, fast food restaurant) are located to the southeast.

A Preliminary Environmental Assessment (PEA) was conducted for the major Comprehensive Modernization Program planned for the school site. The PEA, completed by Clark Seif Clark and dated September 29, 2017 (CSC, 2017), identified approximately 67.4 cubic yards of lead- and arsenic-affected surface soil that requires remediation. The remedial activities and procedures for the contaminated soil are provided in the RAW, completed by CSC and dated April 2, 2018 (CSC, 2018). Estimated volume of impacted soil was revised to 71.7 cubic yards in the RAW.

2.1 Site Contact

The designated contact person for LAUSD Office of Environmental Health and Safety is Mr. Steven Morrill, PE, Site Assessment Project Manager. Mr. Morrill's contact information is listed below.

Los Angeles Unified School District
Office of Environmental Health & Safety
333 South Beaudry Avenue, 21st Floor
Los Angeles, California 90017
Office: 213.241.4672
Cell: 626.808.3405

2.2 Scope of Work

During the PEA investigation, a total of 17 locations at the school were identified with soils containing lead above 80 milligrams per kilogram (mg/kg) or arsenic above 12 mg/kg. The highest detections of arsenic and lead were 117 mg/kg and 357 mg/kg, respectively. An approximate in-place volume of arsenic- and lead-impacted soil was determined during the PEA investigation: 67.4 cubic yards from the 17 separate locations (revised in RAW to 71.7 cubic yards).

The recommended remediation method (Alternative 2) in the RAW (CSC, 2018) involves excavation and off-site disposal of impacted soil from 17 identified locations spread throughout the Site (Figure 2). Approximately 71.7 cubic yards (in-place) of impacted soil would be excavated to depths of 1.5 feet to 3 feet below ground surface (bgs). Once impacted soil has been removed, soil samples will be collected from exposed excavation sidewalls and bottoms to confirm site-specific cleanup goals have been met and remedial action objectives have been achieved. Excavations will be backfilled and graded with clean soil from new Site construction operations or with imported backfill material.

Impacted soil will be excavated to depths between 1.5 feet and 3.0 feet bgs using conventional excavation equipment where possible, such as backhoes, mini-excavators, and loaders. Most locations will require hand digging methods due to size, accessibility, and presence of underground utilities or vegetation that must be protected in place. Remedial activities will be performed by a remediation contractor with a California Hazardous Substance Removal Certification under the environmental oversight of a LAUSD approved consultant who is a California registered professional civil engineer (PE Civil) and/or registered professional geologist (PG). Successful completion of the remedial action will be demonstrated by the collection and analysis of confirmation soil samples after all impacted soils have been excavated.

3.0 PERSONNEL

LAUSD contractors are responsible for ensuring their personnel, subcontractor personnel, and site visitors are protected during implementation of the removal action work. Key personnel responsible for safety on this project are described in the following section and include:

- Project Manager (PM) - responsible for overall project implementation
- Site Safety Officer (SSO) - responsible for implementation of this Health and Safety Plan
- Contractor Safety Officer (CSO) – responsible for health and safety for their personnel and coordinating with SSO.

3.1 Project Manager (PM)

The PM is responsible for overall project performance and for compliance with applicable regulations. The PM is also responsible for overseeing activities of the SSO in ensuring methods and procedures outlined in this HASP are being implemented to ensure safe completion of the project.

3.2 Site Safety Officer (SSO)

The SSO is responsible for assuring that the established safety procedures are followed, that notifications are made as specified in this plan, and that proper records are maintained. The SSO or designated representative will directly supervise field activities and will require that all subcontractors, at a minimum, follow procedures detailed in this Health and Safety Plan.

3.3 Contractor Safety Officer (CSO)

Subcontractor services are expected for specific activities such as excavation, loading and transportation. For any activities that require more than one person in the field, each subcontractor will be required to designate a Contractor Safety Officer (CSO). The CSO will directly supervise their personnel in the field and will be responsible for compliance with applicable safety procedures of this Health and Safety Plan and regulations, and for coordinating with the designated SSO.

4.0 JOB HAZARD ANALYSIS

The proposed field work may result in exposure of site workers and community to physical or chemical hazards if appropriate safety precautions are not undertaken. Possible hazards are identified and evaluated in the following section. This evaluation should be continually monitored and amended as appropriate based on changing job activities or site conditions.

4.1 Chemical Hazards

Previous investigations indicate the following chemicals of concern ("COC") at the Site:

- Arsenic – identified maximum concentration – 117 mg/kg
- Lead - identified maximum concentration – 357 mg/kg

Contaminant	Exposure Limit [a]	IDLH [b]	Routes of Exposure	Symptoms and Effects of Exposure
Arsenic and Arsenic Compounds	TLV – 0.01 mg/M^3 STEL – None PEL – 0.01 mg/M^3	5 mg/M^3 as Arsenic	Inhalation Ingestion	Eye and respiratory irritation; muscle weakness
Lead	TLV – 0.05 mg/M^3 STEL – None PEL – 0.05 mg/M^3	100 mg/M^3 as lead	Inhalation Ingestion	Eye and respiratory irritation; CNS with peripheral neuropathy

Footnotes:
a Appropriate value of PEL, REL, or TLV listed;
b IDLH = immediately dangerous to life and health (units are the same as specified "Exposure Limit" units for that contaminant)

The following brief descriptions of the physical characteristics, incompatibilities, toxic effects, routes of entry, and target organs for the COCs are provided to alert personnel to the hazards associated with these chemicals. These data are summarized from U.S. Department of Labor information (Noyes Data Corporation, 1990, OSHA Regulated Hazardous Substances). Exposure standards for these chemicals are contained in "Threshold Limit Values and Biological Indices" published by the American Conference of Governmental Industrial Hygienists (ACGIH, 2010 TLVs and BEIs). Certain chemicals which may be present on the site are known to the State of California to cause cancer or reproductive toxicity under the criteria of Proposition 65.

NOTE: All information given in this section is representative of pure or concentrated material. The data are accurate; however, we do not expect to encounter material in this form.

4.1.1 Arsenic

Arsenic is an element with the atomic weight 74.92. The most common form of arsenic is a gray brittle crystalline solid with a specific gravity of 5.72. It also exists in amorphous forms: black, specific gravity of 4.7 and yellow, specific gravity of 2.0, which is relatively volatile. Yellow arsenic is soluble in carbon disulfide; the other forms are insoluble in water or solvents, but dissolved by oxidizing acids. (Arsenic TLV: 0.01 mg/M^3)

Health Effects

OSHA regulates inorganic arsenic as an occupational carcinogen. Arsenic compounds are irritants of the skin, mucous membranes, and eyes; arsenical dermatosis and epidermal carcinoma are reported risks of exposure to arsenic compounds, as are other forms of cancer. Conjunctivitis produced by inorganic arsenical dusts is characterized by itching, burning, and watering of eyes, with photophobia and sometimes hyperemia and chemosis.

Peripheral nervous system effects have been observed in numerous cases of acute, subacute and chromic arsenic exposures. Symptoms include peripheral sensory effects characterized by the appearance of peripheral neuritis symptoms, which originate distally and, over the course of a few weeks, often progressively become more widespread in both lower and upper extremities, usually appearing first in the feet and later in the hands. Signs and symptoms of peripheral motor nerve effects include: symmetrical muscular weakness of the extremities, predominately distal but at times extending to proximal muscle groups and, rarely, the shoulder or pelvic girdle; evidence of foot and/or wrist drop; and, in some cases, rapidly developing paralysis and atrophy of lower leg muscles and small muscles of the hand.

4.1.2 Lead

Lead is a metallic element that is heavy, ductile, and bluish-white in color. Atomic weight is 207.2 and specific gravity is 11.34. The compounds of lead are rarely soluble in water, but many are dissolved by acids. (Lead TLV: 0.05 mg/M^3)

Health Effects

Exposure to the airborne dusts or fumes of inorganic lead causes central nervous system effects, peripheral neuropathy, gastrointestinal disturbances, and anemia. Kidney damage has also been reported among exposed workers. In workers whose blood lead levels ranged from 50 to 70 mg/100 gm, decreases in nerve conduction velocities have been observed. Symptoms of exposure include lassitude, pallor, anorexia, weight loss, malnutrition, constipation, abdominal pain, colic, hypotension, anemia, gingival lead line, tremors, and paralysis of the wrist.

4.1.3 Dust

Dust particles not otherwise classified are from solid substances without specific occupational exposure standards. These include inert or nuisance dusts, whether mineral or other inorganic material. Exposure route is primarily through inhalation, with symptoms including irritation of the eyes, skin, throat, and upper respiratory tract. The TLV for total dust is 10 mg/M^3 for dusts containing less than 1 percent silica. The PEL is 15 mg/M^3 for total dust and 5 mg/M^3 for respirable dust.

Potential exposure to chemical hazards will be mitigated by use of Personal Protective Equipment (PPE), which provides a barrier to eye contact, skin contact, and skin absorption. Inhalation of contaminated dust is not expected to result in exposures greater than the respective TWAs or IDLHs. Activities will be conducted outdoors and soil concentrations are low, therefore, TWAs will not be reached at allowable total or respirable dust thresholds.

4.2 Physical Hazards

Physical hazards associated with removal action activities include:

- Working around heavy equipment
- Traffic
- Hand tool safety
- Slip, trip and fall
- Underground utilities
- Noise
- Heat stress

Physical hazards will be avoided by using proper lifting and hoisting procedures, maintaining a neat and orderly work area, marking underground utilities, and utilizing personal protective equipment such as hard hats, safety vests, eye protection and hearing protection. Vehicles and other equipment will be operated by trained personnel in accordance with established applicable safety procedures.

Prior to excavation, Dig Alert will be contacted to survey the job location for buried utilities and pipelines. The Dig Alert notification will occur at least two working days (*i.e.,* 48 hours) in advance of the work. Dig Alert will furnish a site-specific number which is good for two weeks. If startup of site activities extends beyond this time, Dig Alert must be re-contacted.

Appropriate hearing protection will be used where noise levels exceed 85 dBA or as determined by the Site Safety Officer. If needed, a noise level meter will be onsite to monitor the noise level.

Heat stress may be a concern if field activities are performed during the summer months or when ambient temperatures are over 90 degrees Fahrenheit. Persons supervising field activities will take particular care to assure that all personnel have adequate fluid intake and rest periods. Shaded rest areas will be provided as needed.

The Site Safety Officer and each employee will observe their co-workers to check for signs of heat exhaustion or heat stroke, as follows:

SYMPTOMS AND TREATMENT OF HEAT STRESS					
	Heat Syncope	**Heat Rash**	**Heat Cramps**	**Heat Exhaustion**	**Heat Stroke**
Signs and Symptoms	Sluggishness or fainting while standing erect or immobile in heat.	Profuse tiny raised red blister-like vesicles on affected areas, along with prickling sensations during heat exposure.	Painful spasms in muscles used during work (arms, legs, or abdomen); onset during or after work hours.	Fatigue, nausea, headache, giddiness; skin clammy and moist; complexion pale, muddy, or flushed; may faint on standing; rapid thready pulse and low blood pressure; oral temperature normal or low	Red, hot, dry skin; dizziness; confusion; rapid breathing and pulse; high oral temperature.
Treatment	Remove to cooler area. Rest lying down. Increase fluid intake. Recovery usually is prompt and complete.	Use mild drying lotions and powders, and keep skin clean preventing infection.	Remove to cooler area. Rest lying down. Increase fluid intake.	Remove to cooler area. Rest lying down, with head in low position. Administer fluids by mouth. Seek medical attention.	Cool rapidly by soaking in cool–but not cold–water. Call ambulance, and get medical attention immediately!

If any symptoms are apparent, victim will be placed in shade and cooled with wet cloths or doused with cool water. Electrolyte replacement fluids (*e.g.*, Gatorade™) will be given at the rate of four ounces every 15 minutes. Victims of heat stroke will be given professional medical attention promptly. Cold stress is not expected to be a problem at this location.

5.0 TRAINING AND MEDICAL SURVEILLANCE REQUIREMENTS

All personnel working on this site investigation will have prior training for potential contact with hazardous materials. This will include basic health and safety training (Section 5.1) and daily tailgate safety briefings (Section 5.2).

5.1 Basic Health and Safety Training

The remediation contractor and environmental oversight consultant personnel must have completed the basic 40-hour health and safety training for hazardous waste workers (*i.e.*, HAZWOPER). Annual (8-hour) refresher training must be current. Surveyors or persons working in other roles that do not involve direct contact with potentially hazardous materials and persons observing field operations will not need this training but will be given the tailgate briefings described below.

5.2 Tailgate Safety Briefing

Tailgate safety briefings will be performed daily under direction of the Site Safety Officer or Project Manager. All persons working on this environmental investigation will be required to attend. Attendance and topics discussed will be documented on the Tailgate Safety Briefing Record (Figure 3) which will be posted at the work area. All personnel receiving the Tailgate safety briefing are required to sign the safety form.

Topics addressed in the daily briefings will include reminders of routine conditions, in addition to any new procedures or changed conditions. These briefings also will serve as the safety training for those persons observing the field operations or performing tasks that are not expected to involve potential contact with chemical hazards.

5.3 Medical Surveillance

All personnel engaged in performing the sampling activities covered by this Health and Safety Plan are required to be covered by a medical surveillance program that is in compliance with California Code of Regulations, Title 8, Section 5192(f). All subcontractors are expected to cover their own employees. It is the responsibility of the Site Safety Officer to insure that all subcontractors' medical surveillance programs meet the minimum requirements of 29 CFR1910.120

6.0 PERSONAL PROTECTION

Personal protection will be provided by use of protective equipment (Section 6.1), employing safe work practices (Section 6.2), providing decontamination procedures (Section 6.3), and spill containment (Section 6.4). Potentially unsafe activities will be prohibited during field operations (Section 6.5).

6.1 Personal Protective Equipment ("PPE")

In view of the potential hazards anticipated in this site investigation program, work will be performed in normal work clothes (Level D protection). Hard hats will be worn when around overhead hazards or construction equipment (*e.g.*, drill rig, excavator), and steel-toe work boots with skid-resistant soles will be worn by all persons in the work area. Additionally, safety glasses will also be worn by all personnel in the work area.

Gloves made of neoprene, PVC, nitrile, latex, or other suitable materials will be used when handling soils. In the event that pure product is encountered during the investigation or removal activities (not expected), nitrile gloves with latex or vinyl inner gloves will be worn, at a minimum. This requirement may be raised or lowered by the Site Safety Officer as appropriate.

In the event that rotating equipment (*e.g.*, drill head) is present in the work area, personnel with loose fitting clothing will not be allowed into the work area. Additional restrictions on employee movement and clothing may be imposed by the Site Safety Officer, as appropriate, if working conditions change.

Ear plugs or other hearing protection will be available and used as needed. Hearing protection will be required in the immediate vicinity of loud machinery such as a drill rig or excavation equipment.

First aid kits and fire extinguishers will be available at locations of all field activities. Location and operation of the nearest accessible telephone, which may include cell phones carried by onsite workers, will be checked at the start of each work shift and location discussed during the tailgate safety meeting.

Respiratory protection would not be needed for the chemical hazards anticipated in this environmental investigation. If pure product or unforeseen conditions are encountered that appear to necessitate respiratory protection, work shall be stopped immediately, and all persons will be moved upwind. The Site Safety Officer will be notified promptly, and revised plans will be prepared as needed.

6.2 Safe Work Practices

The following work practices will be followed by all persons performing or observing the planned field operations:

1. Personal protective equipment will be used as specified herein or as further indicated in the daily briefings.

2. Persons entering or leaving the facility will check-in and check-out following procedures specified by the Site Project Manager.

3. Field activities will be performed during daylight or with adequate artificial light.

4. Persons supervising or performing field activities will be alert to potential weather problems that could require changes in field operations, such as lightning, rain, high winds, or extreme heat or cold.

5. Proper sanitation and personal hygiene will be used, including washing up before meal breaks, when leaving the field, and immediately following suspected contact with hazardous materials.

6. Containers of potentially hazardous waste materials will be marked properly.

7. The Site Project Manager or Site Safety Officer will designate a restricted area around the work zone. The location and any special safety requirements for entrance or work within this zone will be discussed during the tailgate safety meeting.

8. Contaminated equipment will be decontaminated using procedures specified in the scope of work for the investigation prior to leaving the work zone.

9. Contaminated soils or groundwater will be stored in DOT-approved drums, roll-off containers, or tanks. Contaminated soil may be temporarily staged in stockpiles placed on and covered by plastic sheeting.

6.3 Decontamination

The potential for contamination of personnel within the restricted area is minimal (thus the Level D designation) and limited to superficial soil on the employees and their boots. Prior to personnel leaving this area, their coveralls and boots will be cleaned of loose soil to remove dust. The minimal soil that may be accumulated will be combined with soil staged or containerized for disposal in accordance with all local, state and federal requirements. Before moving to the next soil removal location and re-establishing the restricted area, the former restricted area will be swept. The sweepings will likewise be combined with soil planned for disposal.

All equipment that comes in contact with the subsurface soils will be new or cleaned in a three-stage process: 1) a soapy wash, 2) clean water rinse, 3) followed by a final distilled water rinse. The decontamination fluids will be drummed, labeled and left on site pending analysis. Once the sample results have been obtained, proper disposal of the decontamination fluids will be conducted. All equipment (PPE, gloves, etc.) that has come in contact with potentially contaminated soils will be decontaminated and disposed of as rubbish.

6.4 Spill Containment

Spill containment is not necessary for field activities to be conducted initially under this Health and Safety Plan, since the only liquids available for spillage are those liquids employed in decontaminating the equipment. This equipment consists of three 5-gallon buckets, each bucket containing approximately 1 gallon of water. In the event of a spill from these buckets, the spillage will be soaked up with bentonite (which is compatible with the soapy water) and placed with the decontamination fluids for proper disposal as discussed in Section 6.2 and 6.3.

6.5 Prohibited Practices

The following practices are prohibited during the field operations:

1. Entrance into the work areas without authorization or without the specified training and protection.
2. Eating or drinking in work areas that potentially could contain hazardous materials.
3. Open flames or smoking outside designated areas.
4. Use of drugs or alcohol.
5. Removing contaminated protective clothing, equipment, or materials from the work site without specific authorization.
6. Removing waste materials from the work site without specific authorization.

7.0 SITE CONTROLS AND MONITORING

Site controls are necessary to protect workers and the public from chemical and physical hazards at the site. Site control procedures will include establishment of work zones and air monitoring.

7.1 Work Zones

Potentially hazardous areas include any area where field personnel are required to utilize PPE. At this site, these areas are locations where excavation, staging, containerization, or loading activities are conducted. Establishment of work zones will help ensure that personnel are adequately protected against hazards, work activities and contamination are restricted to appropriate areas, and personnel may be readily located and evacuated in the event of an emergency.

Depending on the activities and layout of the site, as many as three separate work zones may be established: the exclusion zone (EZ), contaminant reduction zone (CRZ), and support zone (SZ). Work zone areas will be defined using demarcation measures such as barrier tape, temporary fencing, or delineators. Existing infrastructure at many locations such as building facades, walls, fences, and hedges can be used to delimit work zones.

The EZ is defined as an area where activities present a potential hazard to personnel. Initially, the EZ will be determined for each task based on the nature and location of the hazards within the area. Zone boundaries will be adjusted by the Site Safety Officer as necessary based on new data or observations. The boundaries of the EZ will be demarcated as described in the previous paragraph. Access control point(s) will be established at the outer boundary of the EZ to control flow of personnel, contaminated material, and equipment into and out of the EZ. Entry is restricted to personnel with appropriate training, documentation, and utilizing appropriate PPE. Eating, drinking, and smoking are prohibited in the EZ.

The CRZ is the area where personnel conduct personal and equipment decontamination. The location and extent are delineated based on site access and other considerations. The CRZ represents a transition area between contaminated areas and clean areas, and allows decontamination activities to prevent or reduce potential transfer of contaminants that might be present on personnel or equipment exiting the EZ. The CRZ will be of sufficient extent to maintain emergency and first aid equipment, equipment resupply, and temporary rest facilities, either wih the CRZ, or nearby. The levels of COPCs may be sufficiently low that potential hazards associated with contaminant transfer from the EZ are extremely low. In such situations, an abbreviated “step-out” CRZ may be appropriate, with minimal decontamination measures required. Passage through the CRZ will be through ACPs. Activities conducted in the CRZ will require the same level of PPE as required for the EZ. Exit requires removal of any suspected or known contaminated PPE and following proper decontamination procedures.

The SZ is outside the CRZ and is an area where potential for encountering hazardous conditions is negligible. Activities conducted in the SZ include administrative support, command post (CP), and supervision of operations and field teams. CP personnel are responsible for maintaining internal and external communications, and alerting proper authorities in the event of an emergency. Telephone communication will be maintained by the use of cellular phones at the site. Emergency telephone numbers, hospital route information, and contact information will be kept here. Health and safety records and current copies of the HASP will be kept in the SZ. Break, conference, lunch, supplies, security, sanitation, and emergency medical facilities will be established in the SZ.

7.2 Air Monitoring

Air monitoring is performed within the EZ to determine potential exposure of and protect workers from airborne contaminants. EZ monitoring is separate from, but may be a component of, a monitoring program to protect overall air quality and against potential migration.

The COCs at the site (arsenic and lead) can adhere to soil particles and become airborne in the dust generated during handling of impacted soil. Dust monitoring will be performed to protect workers at locations where soil excavation, transfer, loading, and other earthmoving activities are conducted.

Dust monitoring will be conducted using real-time particulate monitors equipped with data loggers. Real-time and time weighted average (TWA) readings will be tracked and recorded by on-site personnel approximately every 30 minutes. Logged data will be downloaded at the end of the day.

The TLV for total dust is 10 mg/M^3 (assuming 1 percent or less silica as quartz). The PEL is 15 mg/M^3 for total dust and 5 mg/M^3 for respirable dust. An action level of half the PEL for respirable dust (i.e., 2.5 mg/M^3) steady over a 5 minute period will be applied for workers in the EZ. Exceedance of this action level will trigger increased dust suppression to mitigate dust levels to below 2.5 mg/M^3. Respiratory protection will be worn if dust levels exceed this action level for greater than 5 minutes. If dust suppression does not control dust emissions within 15 minutes, work will cease and a certified Industrial Hygienist will be consulted.

Because concentrations of COCs are relatively low in soil, airborne concentrations will be well below TLVs and PELs of the contaminants at the dust action level of 2.5 mg/M^3.

As required in the RAW (CSC, 2018), continuous air monitoring will be conducted in the work zone and along the fenceline of the work zone at upwind and downwind locations. The purpose of the air monitoring is to record the dust levels to the workers and potentially leaving the work zone. Dust suppression (i.e., water misting) will be implemented during all earthwork activities and the dust threshold for the air monitoring is 0.025 mg/M^3, which is significantly below the TLVs and PELs. All earthwork activities during the RAW implementation will stop if the dust levels at the work zone fence line cannot be controlled under the 0.025 mg/M^3 threshold.

8.0 EMERGENCY PROCEDURES

Emergency procedures will be followed in cases of injury to any persons, fire, explosion, release of hazardous material, or other such incident. The procedures to be followed in such incidents include immediate action (Section 7.1), emergency notifications (Section 7.2), and reporting (Section 7.3).

8.1 Immediate Actions

In the event of a site emergency, all persons will stop work immediately and take the appropriate actions. In case of explosion or release of hazardous materials, persons will immediately move away from the area in the upwind direction and make the required notifications. In case of fire, the persons involved will have to make a field judgment as to whether the fire can be extinguished or retarded significantly by the available means. If so, firefighting will be attempted while making the required notifications. If not, all workers will evacuate the area.

In case of injury, the injured person will be given first aid as appropriate. If professional medical attention is needed, it will be obtained as soon as possible by dialing 911. A land line should always be used if reasonably available. The Tail Gate Safety Form (Figure 3) contains the emergency telephone numbers and name, address, and map for the nearest hospital or clinic equipped to handle emergencies. Emergency decontamination of injured persons should not be needed for the chemical hazards anticipated in this site investigation.

The tailgate safety meeting will emphasize the above procedures and will denote the evacuation routes to be used and the area where evacuated personnel will report for a head count.

8.2 Emergency Notifications

If an emergency occurs, the appropriate agencies will be notified immediately. The emergency telephone numbers for this project are as follows:

Police: **911**
Fire: **911**
Ambulance: **911**
Sherman Oaks Hospital: **(818) 981-7111**

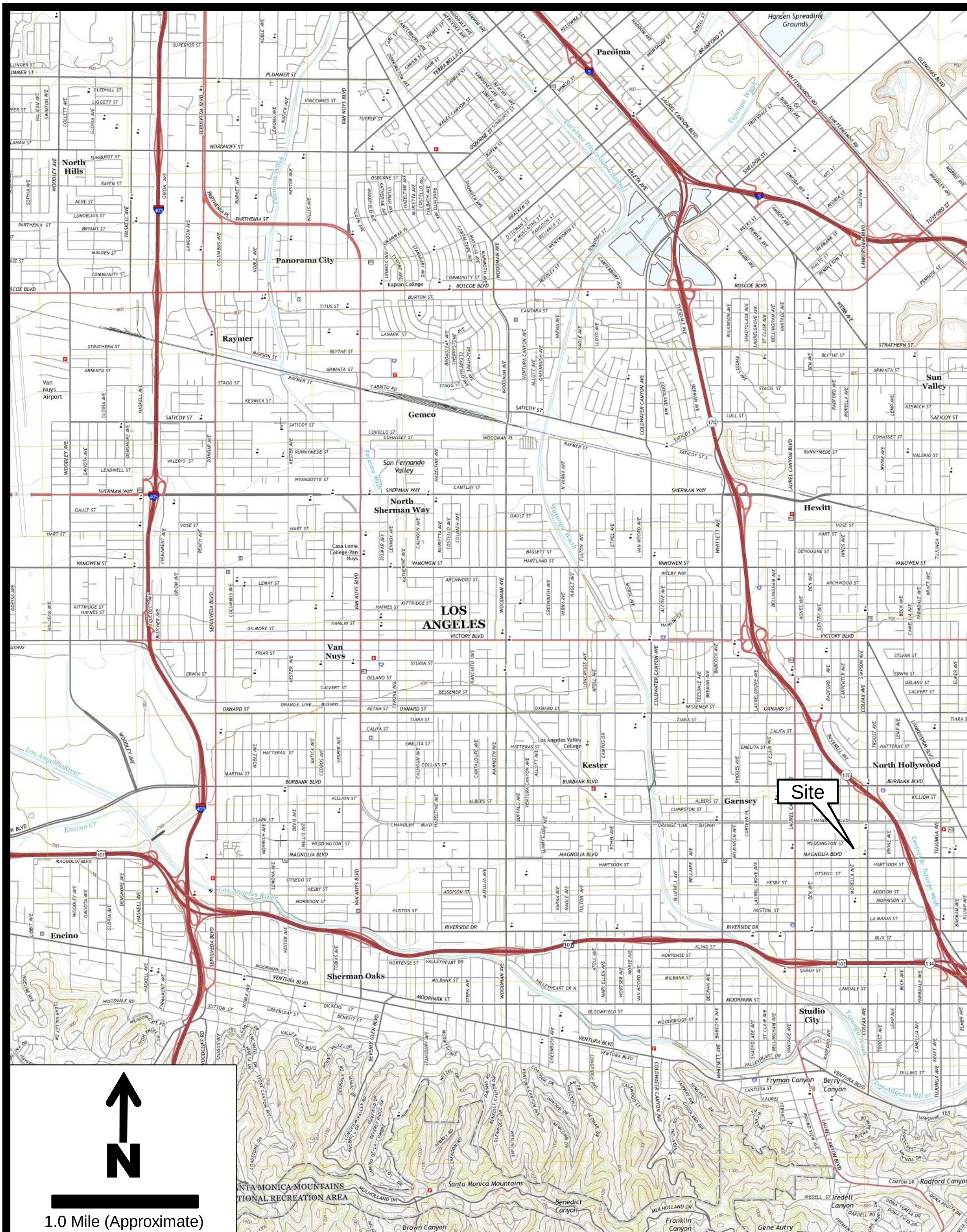
These numbers, as well as a map /driving directions to the nearest hospital, are also located on the attached Tailgate Safety Form and on the Tailgate Safety Form posted at the job location.

Hospital: Sherman Oaks Hospital
4929 Van Nuys Boulevard
Sherman Oaks, CA 91403
(818) 981-7111

8.3 Reporting

After any emergency and particularly any injury to a person involved in this environmental investigation and remedial activity, a complete written report will be made to the Site Safety Officer. The report will be submitted as soon as practical. It will include a complete description of the emergency or injury, statements from any witnesses, and any other information requested by the Site Project Manager.

Figures



CLARK SEIF CLARK, INC.
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Site Location Map
North Hollywood High School
Los Angeles, California

Figure 1

CLARK SEIF CLARK, INC.
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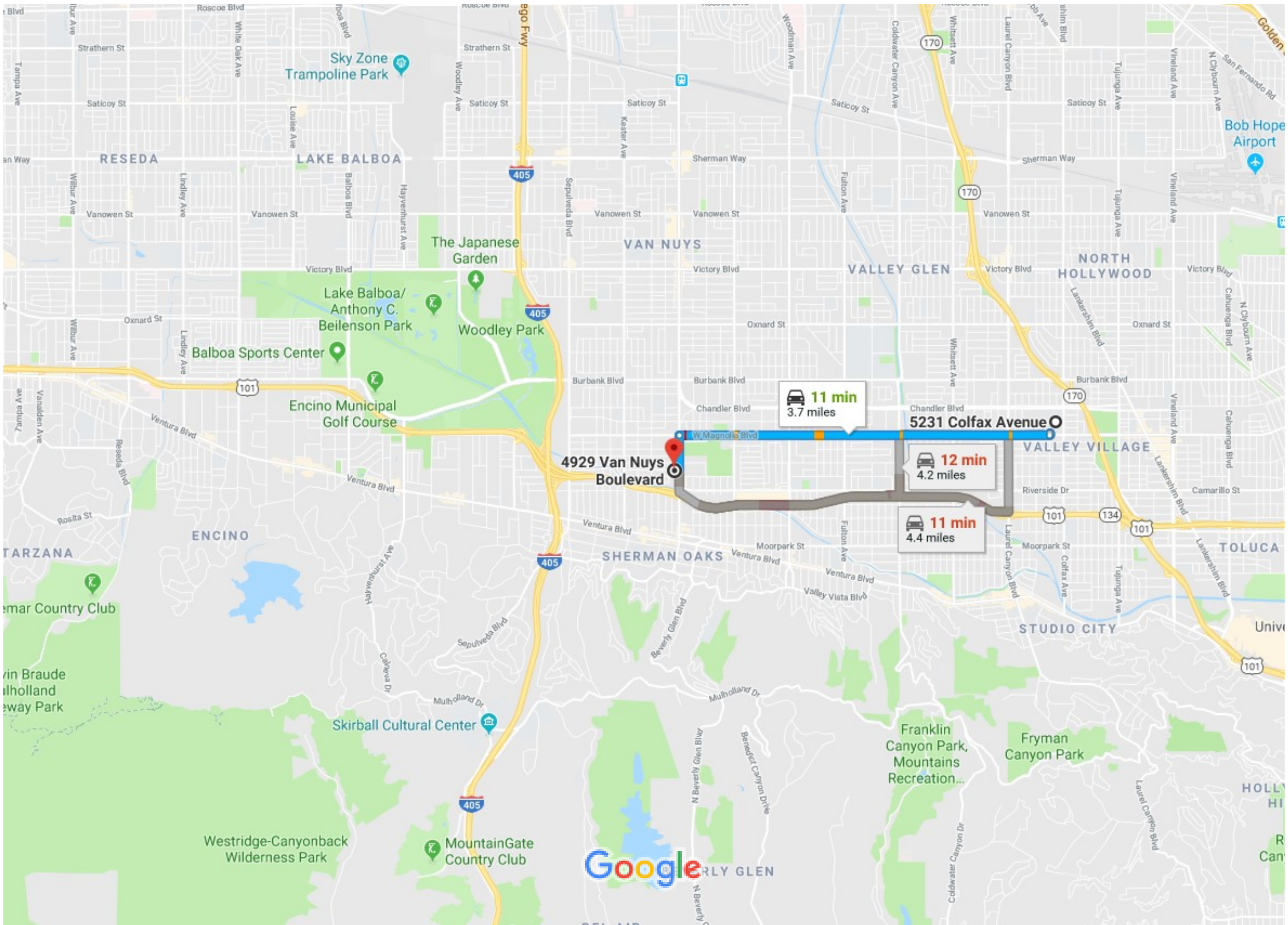
Aerial Photograph North Hollywood High School North Hollywood, CA	**Figure 2**

Google Maps

5231 Colfax Avenue, North Hollywood, CA to 4929 Van Nuys Boulevard, Sherman Oaks, CA

Drive 3.7 miles, 11 min



Map data ©2018 Google 1 mi

5231 Colfax Ave

North Hollywood, CA 91601

1. Head south on Morella Ave toward W Magnolia Blvd

85 ft

2. Turn right onto W Magnolia Blvd

3.4 mi

3. Turn left onto Van Nuys Blvd

Destination will be on the right

0.3 mi

4929 Van Nuys Blvd

Sherman Oaks, CA 91403

SAFETY MEETING FORM

Facility: LAUSD North Hollywood High School	Job Number:
Date:	Time:
Site Location: 5231 Colfax Avenue, Los Angeles (North Hollywood), California 91601	
Type of Work: Soil Removal Action and Confirmation Soil Sampling	
Chemicals of Concern (COCs): Arsenic, Lead	
SAFETY TOPICS PRESENTED	
Personal Protective Equipment (PPE) / Clothing: Level D	
Chemical Hazards: Potential inhalation, ingestion, and dermal exposures to the COCs listed above.	
Physical Hazards: Slip- trip-fall; injuries from mechanical equipment (excavator, truck, etc.); vehicular traffic on- and off-site.	
Environmental Hazards: Heat related disorders. Drink plenty of liquids (hydrate), rest as needed in shaded areas. Avoid stinging or biting insects and spiders.	
Health Effects of Exposure: Weakness, abdominal pain, headache, dizziness, nose/throat/eye irritation.	
Emergency Procedures: Call 911 or take injured individual to nearest emergency room.	
Nearest Hospital: Sherman Oaks Hospital – 4929 Van Nuys Boulevard, Van Nuys, CA 91403	
Hospital Telephone: 818-981-7111	Paramedics Telephone: 911
Special Equipment: N/A	
Other:	
Meeting Conducted by:	
Supervisor:	
ATTENDEES	
Name Printed/Signature	**Name Printed/Signature**

Acknowledgement Statement

I understand and agree to abide by the provisions of this health and safety plan.

Name	Title	Date
Name	Title	Date
Name	Title	Date
Name	Title	Date
Name	Title	Date
Name	Title	Date
Name	Title	Date
Name	Title	Date
Name	Title	Date
Name	Title	Date
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Name	Title	Date
Name	Title	Date

APPENDIX C

QUALITY ASSURANCE PROJECT PLAN

Quality Assurance Project Plan
Removal Action Workplan
Comprehensive Modernization Project
North Hollywood High School
5231 Colfax Avenue
Los Angeles, California 91601

Prepared for:

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1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) has been prepared by Clark Seif Clark, Inc. (CSC) to address quality assurance (QA) and quality control (QC) policies associated with the collection of environmental data at the Los Angeles Unified School District's (District's) North Hollywood High School ("Site"). United States Environmental Protection Agency (USEPA) policy requires preparation of a QAPP for all environmental data collection projects mandated or supported by the USEPA through regulations or other formalized means (USEPA, 2002a). The purpose of this QAPP is to identify the methods to be employed to establish technical accuracy, precision, and validity of the data that are generated for this project.

The environmental sampling and analytical program that will be governed by the QAPP is described in detail in the *Removal Action Workplan* (CSC, 2018). The QAPP contains general and specific details regarding field sampling, laboratory, and analytical procedures that will apply to the planned field activities. It provides field and laboratory personnel with instructions regarding activities to be performed before, during, and after the field investigation or sampling. These instructions will ensure that the data collected for use in project decisions will be of the type and quality needed and expected for their intended purpose.

Guidelines followed in the preparation of this QAPP are described in *EPA Requirements for Quality Assurance Plans* (USEPA, 2001) and *EPA Guidance for Quality Assurance Project Plans* (USEPA, 2002a). Other documents that have been referenced in this plan include *EPA Guidance for the Data Quality Objectives Process* (USEPA, 2000) and *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (USEPA, 1997a). It is intended that the data collected through implementation of this QAPP will satisfy federal, state, and local data quality requirements.

1.1 SITE ADDRESS AND LOCATION

The LAUSD's North Hollywood High School is located at 5231 Colfax Avenue, Los Angeles, California 91601 (Figure 1). The high school occupies one parcel of land approximately 22 acres in size and is bounded by residences and commercial businesses on the west, Chandler Boulevard on the north, Colfax Avenue on the east, and Magnolia Boulevard on the south.

1.2 SITE HISTORY AND CURRENT USE

The initial buildings at North Hollywood High School were originally constructed around 1927 or 1928, with no apparent development before that time. The Site is currently developed with approximately 10 permanent buildings and 20 modular structures. School buildings include classrooms, offices, cafeteria, gymnasiums, auto shop, and a wood shop (Figure 2). Other features include sports field, petting zoo, agriculture area, courtyards, walkways, and landscaped areas.

1.3 PROJECT BACKGROUND

A *Phase I Environmental Site Assessment* (ESA) was previously conducted for the Site (E2 ManageTech, Inc. 2016). The Phase I ESA identified several recognized environmental conditions (RECs) across the campus that required further investigation. A *PEA Equivalent Sampling Locations* document was subsequently prepared to focus the planned Preliminary Environmental Assessment (PEA). The *PEA Equivalent* for the Site was conducted in 2017 (CSC, 2017). Following completion of all testing, a *Removal Action Workplan* (RAW) was developed to address soil with elevated concentration of arsenic and lead at the Site (CSC, 2018).

2.0 PROJECT DESCRIPTION

The PEA concluded that elevated concentrations of arsenic and lead above action levels were present locally in shallow soil at the Site. A remedial response was developed that involved the removal of the impacted soil in order to implement the Comprehensive Modernization Project (CMP) at the Site. Site-specific cleanup goals (SSCGs) have been established for arsenic and lead based on a health risk analysis that assumed a school-based exposure scenario. Soil with chemicals of concern (COCs, i.e. arsenic and lead) concentrations greater than the SSCGs will be excavated and removed and confirmation samples will be collected to ensure that elevated concentrations are no longer present. Details regarding the scope of the confirmation soil sampling and analytical program are provided in the following section.

2.1 SAMPLING AND ANALYTICAL SCOPE

The lateral and vertical limits of the impacted soil are defined by PEA sample locations where arsenic and lead concentrations are below SSCGs. It is anticipated that the results of the waste profile confirmation soil samples collected as part of the CMP and PEA may be considered outdated and unacceptable to the disposal facilities when the RAW is executed. If needed, the Environmental Consultant shall collect and analyze soil samples as necessary to confirm the waste classification. Representative samples will be collected either from the locations of greatest impacts or from composites of the containerized waste. Each sample shall be analyzed to determine its TTLC (for comparison to the original sample), STLC, and if necessary (i.e. STLC result greater than 5 mg/L), its TCLP concentration. The results of these samples will be used to confirm characterization of the soil as either non-hazardous, California non-RCRA hazardous, or RCRA hazardous, and obtain approval from the disposal facility. The Total Threshold Limit Concentration (TTLC) and STLC for lead that define a waste as non-RCRA hazardous are 1,000 mg/kg and 5 mg/L, respectively. The TTLC and STLC concentrations for arsenic that define a waste as non-RCRA hazardous are 500 mg/kg and 5 mg/L, respectively. The TCLP concentration that defines a waste as RCRA-hazardous is 5 mg/L for both lead and arsenic.

If existing waste characterization data is deemed acceptable by the disposal facilities, no further characterization samples will be collected.

Once waste profile samples have been analyzed and the soil has been removed to the planned excavation limits, confirmation soil samples will be collected from the exposed excavation sidewalls and bottoms to confirm that the SSCGs have been met and the removal action objectives have been achieved. The RAW provides tables and figures that show the numbers, locations, and chemical analyses to be performed for the confirmation soil samples. The samples will be delivered to an off-site, State-certified laboratory under chain-of-custody control as soon as possible following collection. Once at the laboratory, the soil samples will be homogenized and analyzed for COCs by USEPA Method 6010B for lead and USEPA Method 6020 for arsenic.

If the analytical results for the initial samples indicate that SSCGs have not been met, additional soil may be removed and follow-up soil samples collected. The follow-up samples will be analyzed for the COC(s) that exceeded the SSCG(s) in the original samples. The collection, analysis, and validation of the confirmation soil samples will be conducted in accordance with this QAPP.

2.2 DATA USE

The data collected during implementation of the RAW will be used to confirm that soil with COC concentrations greater than SSCGs has been excavated and removed such that the Site is safe for school use. Analytical results will be compared against the SSCGs, namely, values of 12 mg/kg for arsenic and 80 mg/kg for lead.

Upon completion of the soil removal action, a *Removal Action Completion Report* (RACR) will be prepared that includes the analytical results for the confirmation soil samples, along with appropriate conclusions and recommendations. The RACR will also contain a data validation memorandum that discusses the quality of the analytical data collected during the soil removal action.

3.0 PROJECT ORGANIZATION

This section provides a description of the organizational structure and responsibilities of the various individuals and entities associated with this project. This description is intended to define the lines of communication and identify key personnel and their responsibilities regarding various activities for the project.

3.1 REGULATORY AGENCY

LAUSD has elected to pursue this project without oversight of a governmental agency such as the DTSC. However, DTSC guidance and procedures are being followed as often as is practical.

3.2 LOS ANGELES UNIFIED SCHOOL DISTRICT

The District has chosen to self-certify on environmental matters relating to the North Hollywood High School project. The District will assign a Project Manager with overall responsibility for ensuring the proper and successful implementation of the RAW. The District Project Manager is responsible for directional and funding decisions for work conducted on behalf of the District. The District Project Manager will also review all work plans, reports, and other work products generated for this project.

3.3 CONSULTANT

The District will retain the services of a qualified, professional environmental Consultant to implement the RAW. Together, the Consultant's management team (e.g., Project Manager, Project Geologist/Engineer, and Field Manager) will be responsible for the technical planning and implementation of the RAW. The Consultant Project Manager will serve as the primary contact for the District and will be responsible for strategy development, budget control, and document review. The Field Manager and Site Safety Officer will be responsible for the day-to-day coordination of field activities under the Consultant Project Manager. Other responsibilities will include coordination of subcontractors and field crews to ensure that field activities conform to the RAW and the Health and Safety Plan. The Quality Assurance Manager is responsible for ensuring that all required QA/QC field and laboratory protocols are met. Commonly, all of these roles are performed by one person.

3.4 LABORATORIES

An off-site laboratory certified by the State's Environmental Laboratory Accreditation Program (ELAP) will provide laboratory analysis for the confirmation soil samples collected during the project. The Laboratory Manager will report to the Contractor Project Manager and Field Manager on all aspects of the sample analysis and will be advised of any matters related to data quality during the course of the project. The laboratory will conform to the QA/QC procedures outlined in its respective laboratory Quality Assurance Manual and/or Standard Operating Procedures, as well as the procedures described in this QAPP.

4.0 DATA QUALITY OBJECTIVES

Data Quality Objectives (DQOs) have been identified for each data collection activity. All work will be conducted and documented so that the data collected are of sufficient quality for their intended use (USEPA, 2002a). DQOs specify the data type, quality, quantity, and uses needed to make decisions, and provide the basis for designing data collection activities. The DQOs have been used to help design the RAW data collection activities. The DQOs for the project are described in the following sections.

4.1 DATA QUALITY OBJECTIVE PROCESS

The project DQOs developed specifically for the planned sampling and analysis program have been determined based on USEPA's seven-step DQO process (USEPA, 2000). The Consultant Project Manager will evaluate the project DQOs to determine if the quantitative and qualitative needs of the sampling and analysis program have been met. The project definition associated with each step of the DQO process can be summarized as follows:

- State the Problem: The purpose of the sampling program is to confirm that all identified COC-impacted soil has been removed and properly managed. This objective will be accomplished by the collection and analysis of soil samples from designated locations within the areas where soil is removed.

- Identify the Decision: The data obtained from the sampling and analysis activities will be used to determine the need for further excavation in order to ensure that any residual concentrations of COCs in soil are below SSCGs.

- Identify Inputs to the Decision: Inputs to the decision will include results of analytical testing of samples from selected locations on the site. The specified analytes are identified in Section 2.1.

- Define the Study Boundaries: The boundaries of the field sampling and analysis program consist of the entirety of North Hollywood High School as shown on Figure 2.

- Develop a Decision Rule: Decisions will be based upon laboratory results for the target constituents for each respective matrix tested. If the data indicate that SSCGs for one or more chemical constituents have been exceeded, additional soil from the excavation sidewalls or bottoms will be removed and the newly exposed surfaces will be re-sampled. This process will be continued iteratively until the SSCGs are demonstrated to have been met.

- Specify Limits on Decision Errors: The results of the analytical testing will be subjected to data validation, as specified in Section 7.3. Data are determined to be valid if the specified limits on precision, accuracy, representativeness, comparability, and completeness are achieved. The results of any detected target constituents will be considered in evaluating the need for additional sampling and assessing the necessity for reducing any risks posed by the potential contamination.

- Optimize the Design for Obtaining Data: The detailed sampling and analytical procedures presented in the RAW have been designed to provide the type and quantity of data needed to satisfy each of the aforementioned objectives. The RAW provides the specifications for the data collection activities, including the numbers of samples, respective locations and sampling techniques. The quality of the data will be assessed through the procedures further described in this QAPP.

4.2 ANALYTICAL DATA QUALITY LEVELS

In the Data Quality Objectives Process for Superfund (USEPA, 1993), the USEPA distinguishes between screening level data and definitive level data. These data categories are associated with the type of site, the level of precision and accuracy required, and the intended use of the data. That is, the type of data to be generated depends on the qualitative and quantitative DQOs developed for the project. The two levels of analytical data are described below.

4.2.1 Screening Data

Screening data are generated by rapid, less precise methods of analysis with less rigorous sample preparation. Screening data provide analyte identification and quantification, although the quantification may be approximate. Field analysis and on-line process data are considered screening data. They are obtained using field equipment, such as pH meters, conductivity/resistivity meters, pressure and flow measurement devices, flame ionization detectors (FIDs), photo-ionization detectors (PIDs), and X-ray fluorescence (XRF) instruments. Screening data are used during site assessment, groundwater monitoring, and other field projects to provide real time data concerning site conditions. Screening data may be confirmed using analytical methods and QA/QC procedures associated with definitive data (see Section 4.2.2). Screening data without associated confirmation data are not considered to be data of known quality.

4.2.2 Definitive Data

Definitive data are generated using analytical methods, such as approved USEPA reference methods. Definitive data are analyte-specific, with confirmation of analyte identity and concentration. Analytical methods produce tangible raw data (e.g., chromatograms, spectra, and digital values) in the form of paper printouts or computer-generated electronic files. For data to be definitive, either analytical or total measurement error must be determined.

Valid data are defined as results generated when the instrument and quality controls are within the designated limits. Data validation procedures are designed to identify valid data and to assign qualifiers that indicate limited usability of the data or other data. The usability of data collected during a site investigation depends on data quality. A number of factors relate to the quality of data. Sample collection methods are as important as the method used for sample analysis. Following SOPs for both sample collection and analysis reduces sampling and analytical error. Completion of chain-of-custody records and adherence to required sample preservation techniques, holding times, and proper shipment methods ensure sample integrity. Obtaining valid and comparable data also requires adequate QA/QC procedures and documentation, as well as established detection and control limits.

4.3 DATA CHARACTERISTICS

The basis for assessing the elements of data quality is discussed in the following subsections. In the absence of laboratory-specific precision and accuracy limits, the QC limits listed in this section must be met.

4.3.1 Accuracy

Accuracy is the level of agreement of a measurement or average of measurements with an accepted reference or "true" value, and represents a measure of bias in the analytical system. Accuracy includes components of random error (variability due to imprecision) and systematic error. Accuracy of the data will be assessed and controlled with the analysis of matrix spike (MS), laboratory control sample (LCS), and surrogate spikes. The recoveries will be calculated and compared to pre-established acceptance limits for each laboratory.

For surrogate compounds and LCSs, a database of percent recovery is collected. The calculation formula for percent recovery is:

Percent Recovery = [(Concentration Found)/(Concentration Spiked)] x 100

A similar calculation used to determine the recovery of a spike concentration added to a sample is the percent spike recovery:

Percent Spike Recovery = {[(Value of Sample Plus Spike – Value of Unspiked Sample)]/(Value of Spike Added)]} x 100

The arithmetic mean and standard deviation of the percent spike recoveries for LCSs are calculated on a minimum of 20 data points. From this information, warning limits and control limits for accuracy are determined. Warning limits are defined as the mean ± two standard deviations. Control limits are the mean ± three standard deviations. The percent recovery of each subsequent QC sample is compared with the calculated control limits. Surrogate recovery calculations are based on a minimum of 30 points.

Recoveries outside the established limits indicate some assignable cause, other than normal measurement error, and the possible need for corrective action. This may include reanalysis of the QC sample, recalibration of the instrument, reanalysis of the samples in the batch, or qualifying the data set as suspect, if the anomaly cannot be resolved. For matrix spikes, the assignable cause for recoveries outside acceptable limits may be, and often is, due to matrix interferences. Acceptable analytical system performance will be demonstrated by analysis of an LCS. If a matrix effect is confirmed by acceptable performance on the LCS, the MS data will be flagged.

Blanks make up another group of QC checks that address measurement bias. Instead of assessing and controlling overall accuracy, field and laboratory blanks will be used to control bias due to sample contamination from external or internal sources and to assess the extent to which this source of bias impacts the results. Because sample contamination generally occurs at relatively low levels, the effects of contamination are most pronounced in terms of relative error for low-concentration samples.

Laboratory method blanks will be used to check for contamination introduced during sample preparation and analysis. Blanks are typically considered acceptable when the results are less than the reporting limit (RL) for the constituent. Field blanks will be used primarily to assess the overall magnitude and extent of contamination. Contamination introduced during sample collection may be estimated from the difference between field and laboratory blank results. Some types of field blanks, such as equipment blanks, will be used primarily in a qualitative role.

4.3.2 Precision

Precision measures the reproducibility of repetitive measurements. It is strictly defined as the degree of mutual agreement among independent measurements as the result of repeated application of the sample process under similar conditions. Analytical precision is a measurement of the variability associated with duplicate or replicate analyses of the same sample in the laboratory, and is determined by analysis of laboratory QC samples, such as laboratory control sample duplicates (LCSD), duplicate control samples (DCS), matrix spike duplicates (MSD), or sample duplicates. If the recoveries of analytes in the specified control samples are comparable within established control limits, then precision is within limits.

Total precision is a measurement of the variability associated with the entire sampling and analytical process. It is determined by analysis of duplicate or replicate field samples, and measures variability introduced by both the laboratory and field operations. Field duplicate samples are analyzed to assess field and analytical precision. Duplicate results are assessed using the relative percent difference (RPD) between duplicate measurements. The RPD will be calculated as follows:

$$RPD = [(X_1 - X_2)/(X_1 + X_2)] \times 200$$

where X_1 and X_2 are measurements of the same parameter of duplicate/replicate sample analyses.

If the RPD for laboratory quality control samples exceeds the laboratory established limits, the data will be qualified as described in the applicable validation procedure. If the RPD between primary and duplicate field samples exceeds 100 percent for soil matrix samples for concentrations greater than 5 times the reporting limit, the data will be qualified as described in the applicable validation procedure. In instances where one or both values are non-detects, an evaluation will be made during data validation of the replication.

4.3.3 Representativeness

Representativeness expresses the degree to which data accuracy and precisely represents a characteristic of a given set of samples or data sets. The use of appropriate methods and sound judgment in the field will ensure that samples are representative. To maximize representativeness of results, sampling procedures should follow established protocols and sample locations should be chosen based on sound judgment and knowledge of the particular site. Some samples may require analysis of multiple phases of matrix to obtain representative results.

4.3.4 Completeness

Completeness is the amount of valid data obtained compared to the amount that was expected under ideal conditions. The number of valid results divided by the number of possible results, expressed as a percentage, determines the completeness of the data set. Factors that can adversely affect completeness objectives include receipt of samples in broken containers, receipt of samples with chain-of-custody or sample integrity compromised, samples received with insufficient volume to perform initial or repeat analysis, improperly preserved samples, and samples held longer than allowable holding times.

The objective for completeness is to recover at least 90% of the planned data to support field efforts. The formula for calculation of completeness is as follows:

Percent Completeness = (Number of Valid Results)/(Number of Expected Results) x 100

4.3.5 Comparability

Comparability is an expression of confidence with which one data set can be compared to another. Comparability is provided through the use of established and approved sample collection techniques and analytical methods, consistency on the basis of analysis (e.g., wet weight and volume), consistency in reporting units, and analysis of standard reference materials. The objective of comparability is to ensure that data developed during the investigation are comparable to site knowledge and adequately address applicable criteria or standards established by the USEPA and California Department of Public Health (DPH). This QAPP addresses comparability by specifying laboratory methods that are consistent with the current standards of practice as approved by the USEPA and DPH.

5.0 SAMPLING QUALITY CONTROL ELEMENTS

This section presents QA/QC requirements relevant to the collection, handling, and laboratory transfer of environmental samples. The defensibility of data is dependent on the use of well defined, accepted sampling procedures. Collection of environmental samples of high integrity is important to the quality of chemical data to be generated. Therefore, strict field procedures have been developed that will be employed during the investigation. All drilling, environmental sampling, and related field activities will conform to federal, state, and local agency requirements and applicable guidelines, including standard field protocols. The field procedures are designed to ensure that:

- All sample and field measurements are consistent with project objectives
- Samples are identified, preserved, and transported in a manner that ensures the integrity and validity of the samples
- Proper decontamination procedures are employed to prevent cross-contamination of collected samples
- Appropriate field QC samples (e.g., trip blanks, equipment blanks, etc.) are collected to monitor for contamination of samples in the field or in the laboratory
- Field measurements are collected in a manner that allows comparison and provides an adequate database for preparation of the final report.

5.1 SAMPLING METHODOLOGY

Field activities for this project include soil matrix sampling. It is not anticipated that soil gas, groundwater, or surface water samples will be collected. Confirmation soil samples will be collected directly into laboratory-supplied, pre-cleaned 4-ounce glass jars or new metal sleeves, using a decontaminated hand trowel or disposable utensil to facilitate collection, if required. The samples will be labeled as to identification and date and time of collection, and stored on ice at 4 degrees Celsius (^{o}C) (± 2 ^{o}C). The samples will be delivered to an off-site, State-certified laboratory under chain-of-custody control as soon as possible following collection. Once at the laboratory, the soil samples will be homogenized and analyzed for COCs by USEPA Method 6010B for lead and USEPA Method 6020 for arsenic.

QA/QC elements specific to the collection of soil samples are as follows:

- Duplicate soil samples will be collected and analyzed at a frequency of approximately 10 percent of the primary samples. The duplicate soil samples will be analyzed for the same parameters as the primary samples.

- Equipment blank samples will be collected if re-useable, decontaminated equipment is utilized for sample collection. In such an event, equipment blanks will be collected daily for each type of sampling equipment and analyzed for the same parameters as the soil samples being analyzed on that day.
- All samples will be properly preserved and analyzed within holding times prescribed for individual test methods.
- Laboratory detection limits for individual chemical constituents will be set at appropriate levels to allow for comparison of the data with site-specific cleanup goals and otherwise meet RAW program objectives.
- All soil samples will be transferred to the laboratory under chain-of-custody control.

5.2 FIELD SUPPLIES

All field supplies will be inspected prior to their use in the field. The descriptions for sample collection and analysis contained in the methods will be used as a guideline for establishing the acceptance criteria for supplies. A current inventory and appropriate storage system for these materials will ensure their integrity prior to use. Efficiency and purity of supplies will be monitored through the use of blank samples and calibration standards, where applicable.

5.3 EQUIPMENT DECONTAMINATION

Non-dedicated and reuseable equipment will be decontaminated before and after each sample is collected using the triple rinse method. The triple rinse decontamination method involves washing the equipment with a non-phosphate detergent (e.g., Alconox®) and potable water, followed by a rinse in potable water, and a final rinse in distilled or deionized water. Ample time will be provided for the equipment to air dry prior to reuse. Sampling equipment that cannot be readily decontaminated will be discarded. Discarded materials, including decontamination solutions, will be accumulated and stored in appropriate receptacles for proper disposal (e.g., DOT-approved 55-gallon drums).

5.4 FIELD EQUIPMENT CALIBRATION AND MAINTENANCE

All instruments and other sampling, measuring, and test equipment used for data collection activities affecting quality must be controlled and, at specified intervals, calibrated to maintain accuracy within specified limits. This calibration must be documented and traceable to the instrument. Field equipment will be calibrated prior to use in the field as appropriate. The calibration procedures will follow standard manufacturers' instructions to ensure that the equipment is functioning within tolerances established by the manufacturer and required for the project. A record of field analytical instrument calibration checks will be maintained by field personnel on daily calibration logs or in the field logbook.

Standards used to calibrate field equipment will be certified by National Institute of Standards and Technology (NIST), USEPA, or other equivalent source. The standards will be current. The expiration date will be established by the manufacturer or based on chemical stability, the possibility of contamination, and environmental and storage conditions. Standards will be labeled with expiration dates, and will reference primary standard sources if applicable. Expired standards will be discarded.

All instruments will be stored, transported, and handled with care to preserve equipment accuracy. Damaged instruments will be taken out of service immediately and not used again until a qualified technician repairs and recalibrates the instrument. Scheduled equipment maintenance will be performed by trained personnel. Subcontractors are responsible for maintenance of all equipment needed to carry out subcontracted duties.

5.5 SAMPLE LABELING AND IDENTIFICATION

Once environmental samples have been collected, a label will be affixed to the sample container that provides the following information:

- Sample identification number
- Sample collector’s name or initials
- Date sampled
- Time sampled
- Sample location
- Project number

The sample number, along with the date and time the sample was obtained, will also be recorded on the chain-of-custody form (see Section 5.7). Unique identifiers will be used so that sample location, depth, and purpose (e.g., matrix type, duplicate, etc.) can be readily determined by comparison of chain-of-custody records and laboratory reports.

5.6 SAMPLE CONTAINERS, PRESERVATION, AND PACKAGING

Sample containers provided by the laboratory will be purchased commercially from I-Chem, Eagle Pitcher, or other equivalent source. Soil sample sleeves will be purchased new and will not be reused. All environmental samples and field QC samples submitted to an off-site laboratory will be packaged carefully to avoid breakage or contamination, and will be shipped to the laboratory at proper temperatures. A list of the required sample containers, preservatives, and recommended maximum holding times for soil matrix samples for various test methods is provided below.

Sample Containers, Preservation, and Holding Times			
Sample Matrix	**Container**	**Preservation**	**Holding Time for 6010B/6020**
Soil	4-ounce glass Jar, Teflon lined lid, precleaned	Chill to 4 ºC. (± 2 ºC.)	180 Days

The following packaging requirements will be followed, as applicable, for the collection and transfer of soil samples:

- All sample containers will be wiped with paper towels before placement in the shipping container.
- All samples will be placed in zip-lock type bags prior to placing in cooler.
- Sample bottle lids will not be mixed. All sample lids will stay with the original containers.
- If the sample volume is low because of limited sample availability, the level will be marked on the outside of the container with a grease pencil or indelible marker. This procedure will help the laboratory assess if any leakage occurred during shipment.
- All glass sample bottles will be wrapped in bubble pack or other protective packing material and placed in plastic bags to minimize the potential for contamination and breakage during shipment. Plastic bottles and soil samples contained in liners will be placed in plastic bags. 40-ml glass volatile organic analysis (VOA) bottles will be placed in the laboratory-supplied foam pack.
- All samples will be cooled unless "no cooling" has been specified. The sample containers will be placed in insulated coolers and surrounded by ice.

Upon receipt of the soil samples, the laboratory will immediately notify the Consultant Project Manager or the Field Manager if conditions or problems are identified that require immediate resolution. Such conditions may include container breakage, missing or improper chain-of-custody, exceedance in holding times, missing or illegible sample labeling, or temperature exceedances.

5.7 CUSTODY CONTROL

For each sample that is submitted to the laboratory for analysis, an entry will be made on a chain-of-custody form supplied by the laboratory. The information to be recorded includes the sampling date and time, sample identification number, matrix type, requested analyses and methods, preservatives, and the sampler's name. Sampling team members will maintain custody of the samples until they are relinquished to laboratory personnel or a professional courier service. The chain-of-custody form will accompany the samples from the time of collection until received by the laboratory. Each party in possession of the samples (except the professional courier service) will sign the chain-of-custody form signifying receipt.

The chain-of-custody form will be placed in a plastic bag and shipped with samples inside the cooler. After the soil samples, ice, and chain-of-custody forms are packed in the coolers, the cooler will be appropriately sealed before it is relinquished to the courier. Upon receipt, the laboratory will inspect the condition of the sample containers and report the information on a chain-of-custody or similar form. Copies of the original completed chain-of-custody forms will be provided by the laboratory along with the report of results.

5.8 FIELD QC SAMPLES

Various field QC samples will be collected as part of the overall QA/QC program. Field QC samples will be collected, stored, transported and analyzed in a manner consistent with the Site samples. QC samples that will be collected as a component of the sampling program are described in the following sections.

5.8.1 Field Equipment Blanks

A field equipment blank is a sample that is prepared in the field by pouring de-ionized or distilled water over, through, or into cleaned sampling equipment. The water is then collected in a jar and submitted to the laboratory for analysis as an aqueous sample. Field equipment blanks are typically blind (given a fictitious name so that the laboratory will not recognize it as a blank). The field equipment blank gives an indication of contamination from field procedures (e.g., improperly cleaned sampling equipment, cross-contamination, etc.). In order to confirm the effectiveness of the decontamination process, a minimum of one equipment blank will be prepared and analyzed for each day that wet decontamination procedures are used in the field. Equipment blanks will be analyzed for the same parameters as the samples that were collected that day.

5.8.2 Trip Blanks

Trip blanks are collected when field programs involve sampling for volatile organic compounds (VOCs). VOCs are not identified as constituents of potential concern at the Site and it is not anticipated that VOC analyses will be required. Therefore, trip blanks will not be collected.

5.8.3 Field Duplicate Samples

Field duplicate samples are defined as a single sample divided into two equal parts for the purpose of analysis. They are collected and analyzed to evaluate sampling and analytical precision. Field duplicates are collected and analyzed in the same manner as the primary samples. Agreement between duplicate sample results will indicate good sampling and analytical precision. Specific locations will be designated for the collection of field duplicates prior to the start of field activities. Each duplicate sample will be analyzed for all laboratory analyses requested for the primary sample.

Duplicate soil matrix samples will be collected in a second sample container from a location immediately adjacent to the primary sample (also known as co-located sample). The duplicate sample will be assigned a fictitious identity so that it is analyzed as a blind sample by the laboratory. Duplicate samples will be collected and analyzed at the rate of 10% of the primary samples. The precision goal for field duplicate analyses will be ±100% RPD for concentrations reported five times above the reporting limit.

5.8.4 XRF Confirmation Samples

If soil samples are screened in the field using an X-ray Fluorescence (XRF) unit, all final samples used for decision-making will be submitted to a fixed laboratory for confirmation analysis of lead and arsenic by USEPA Method 6010B or Method 6020. The confirmation soil samples will be submitted to the laboratory in the same Chemplex® sample cup used for the XRF analysis. Samples should be homogenized and sieved in the field with a minimum 25 mesh sieve prior to field analysis for lead.

6.0 LABORATORY QUALITY CONTROL ELEMENTS

The purpose of the laboratory portion of the QC program is to produce data of known quality that satisfy the project objectives and that meet or exceed the requirements of the standard methods of analysis. This program provides a mechanism for ongoing control and evaluation of data quality measurements through the use of QC materials. Key aspects of the laboratory QC program are the preparation and analysis of method blanks, matrix spike samples, laboratory control samples, surrogates, calibration standards, and other checks of instrument accuracy and precision to ensure the integrity of the analytical results.

6.1 ANALYTICAL METHODS

The analytical methods expected to be used for this project are USEPA approved. If required, physical soil tests, such as moisture content, grain size analysis, permeability, etc., would involve the use of test methods approved by other organizations, such as the American Petroleum Institute (API) or American Society for Testing Materials (ASTM). Specific analytical method procedures are detailed in the Quality Assurance Manuals and Standard Operating Procedures maintained by the selected laboratories. These documents may be reviewed by the Consultant's quality assurance staff during laboratory audits to ensure that project specifications are met (see Section 8).

The types of environmental samples and analytical methods that will be used for this project are summarized in Section 2.1. Soil samples will be analyzed by an off-site stationary laboratory that has received certification pursuant to the DPH Environmental Laboratory Accreditation Program (ELAP). Field screening may also be conducted for lead or arsenic using a portable Niton XL 700 XRF instrument, or equivalent (see Section 5.8.4).

6.2 INTERNAL STANDARDS

Internal standards are measured amounts of method-specified compounds added after preparation, or extraction, of a sample. Internal standards are added to samples, controls, and blanks in accordance with method requirements to identify column injection losses, purging losses, or viscosity effects. Acceptance limits for internal standard recoveries are set forth in the applicable method. If the internal standard recovery falls outside of acceptance criteria, the instrument will be checked for malfunction and reanalysis of the sample will be performed after any problems are resolved. This information will be made available upon request.

6.3 REAGENTS

Laboratory reagent water is checked daily. The resistivity of the water is measured and recorded in a daily logbook. Blanks are routinely analyzed for purity and accompany each batch tested. High-purity reagents are purchased as dictated by each test method and are documented by batch, lot number, and supplier, as well as time period of laboratory use (date opened, date depleted, etc.).

6.4 RETENTION TIME WINDOWS

Retention time windows will be established as described in SW-846 Method 8000A for applicable analyses of organic compounds. Retention time windows are used for qualitative identification of analytes and are calculated based on multiple, replicated analyses of a respective standard. Retention times will be checked on a daily basis. Acceptance criteria for retention time windows are established in the referenced method. If the retention time falls outside the respective window, actions will be taken to correct the problem. The instrument must be re-calibrated after any retention time window failure and the affected samples must be reanalyzed. This information will be made available upon request. Analysis of organic compounds will not be required for this project; therefore, retention time windows will not be evaluated.

6.5 INSTRUMENT CALIBRATION

Analytical laboratories, including mobile laboratories, are responsible for all analytical equipment calibration and maintenance as described in their laboratory QA program. Analytical instruments will be calibrated in accordance with the procedures specified in the applicable method. All analytes that are reported will be present in the initial and continuing calibrations, and these calibrations must meet the acceptance criteria specified in the reference method. Records of standard preparation and instrument calibration will be maintained. Records will unambiguously trace the preparation of standards and their use in calibration and quantitation of sample results. Calibration records will be traceable to standard materials, as described in Section 6.1.

At the onset of analysis, instrument calibration will be checked using all of the analytes of interest. At the minimum, calibration criteria will satisfy method requirements. The highest concentration calibration standard is considered to be the upper linear range of the instrument. The lowest concentration standard is at the laboratory RL. Analyte concentrations can be determined with either calibration curves or response factors, as defined in the method. Guidance provided in SW-846 should be considered to determine appropriate evaluation procedures. All project samples must fall within the calibration range established for the instrument. Otherwise, the samples must be diluted to an appropriate level and reanalyzed. As mentioned in Section 6.7, dilution has a corresponding effect on the laboratory’s method detection and reporting limits. This information will be made available upon request.

6.6 HOLDING TIME COMPLIANCE

Sample preparation and analysis will be completed within the required method holding times (see Section 5.6). Holding time begins at the time of sample collection. If holding times are exceeded, and the analyses are performed, the associated results will be described as “qualified” in the applicable validation procedure. The following definitions of extraction and analysis compliance are used to assess holding times:

- Preservation or Analysis Completion -- Completion of the sample preservation in accordance with USEPA Method 5035 for soil samples analyzed for VOCs and TPH-g. No samples will be analyzed for VOCs or TPH-g, therefore, Method 5035 preservation is not applicable for this project.
- Preparation or Extraction Completion -- Completion of the sample preparation process, as described in the applicable method, prior to any necessary extract cleanup.
- Analysis Completion -- Completion of all analytical runs, including dilutions, second-column confirmations, and any required reanalysis.

6.7 METHOD DETECTION LIMITS AND REPORTING LIMITS

The method detection limit (MDL) is the minimum concentration of an analyte or compound that can be measured and reported with 99% confidence that the concentration is greater than zero. MDLs are established for each method, matrix and analyte, and for each instrument used to analyze project samples. MDLs are derived using the procedures described in 40 CFR 136 Appendix B. The USEPA requires that MDLs be established on an annual basis. The reporting limit (RL) refers to the lowest concentration of an analyte that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. The RL is validated by analysis of a laboratory standard and is generally two to five times greater than the MDL. Laboratories typically flag detected concentrations that are between the MDL and RL with the letter “J” to indicate that the results should be interpreted with caution because they can have high variability.

The RLs and Screening Levels that will be used by the fixed laboratory for soil samples are presented below. The RL concentrations are adequate for project data evaluation requirements, including the evaluation of potential human health risk. It should be noted that matrix interferences and high concentrations of chemical constituents in a sample can result in the need to dilute the sample, thereby increasing the laboratory’s MDLs and RLs proportionately. For results with a high reported detection limit, the laboratory should provide a written explanation. Re-sampling and analysis may be required at the appropriate detection limit for a specific compound.

Method Reporting Limits and Soil Screening Levels		
Analyte	**Reporting Limits (mg/Kg)**	**Site Specific Soil Screening Level (mg/Kg)**
Arsenic	1.0	12
Lead	1.0	80

6.8 LABORATORY QC SAMPLES

Test method protocol and standard laboratory practice calls for the routine analysis of various laboratory QC samples to ensure the accuracy and precision of the sample results. QC samples that will be prepared and analyzed as a component of the laboratory program are described in the following sections.

6.8.1 Laboratory Reagent Blanks

A laboratory reagent blank is de-ionized, distilled water that is extracted by the laboratory and analyzed as a sample. Analysis of the reagent blank indicates potential sources of contamination from laboratory procedures (e.g., contaminated reagents, improperly cleaned laboratory equipment, or persistent contamination due to presence of certain compounds in the ambient laboratory air).

6.8.2 Method Blanks

A method blank is a QC sample that consists of reagents specific to the method and is carried through every aspect of the procedure, including preparation, analysis, and clean-up. The method blank is used to identify interference or background contamination that may lead to the reporting of elevated analyte concentrations or false positive data. Potential sources of contamination include solvent, reagents, glassware, other sample processing hardware, or the laboratory environment.

The method blank is prepared from similar matrices (i.e., aqueous, soil, and vapor) and analyzed for each batch of 20 samples or less. The analyte concentrations of the method blank must be less than the RL established for the method. For common laboratory contaminants, the acceptance criterion is less than or equal to ten times the RL. For uncommon laboratory contaminants, the acceptance criterion is less than or equal to five times the RL. If the analyte concentration exceeds these limits, the source of contamination will be investigated and, if possible, eliminated. All affected samples for the analyte in question will be reanalyzed. If the problem persists, the affected data will be qualified in the laboratory data report.

6.8.3 Matrix Spike/Matrix Spike Duplicate Samples

Matrix spike (MS) samples are prepared and analyzed by the analytical laboratory to evaluate the efficiency of the sample extraction and analysis procedures, and are necessary because matrix interference (that is, interference from chemical constituents in the sample matrix) may have a widely varying impact on the accuracy and precision of the extraction analysis. The MS is prepared by the addition of known quantities of target compounds to a sample. The sample is then extracted and analyzed. The results of the analysis are compared with the known additions and a MS recovery is calculated, which provides an evaluation of the accuracy of the extraction and analysis procedures. MS recoveries are reviewed to check that they are within acceptable ranges. However, the acceptable ranges vary widely with both sample matrix and analytical method and the laboratory established acceptance limits.

Typically, MSs are performed in duplicate in order to evaluate the precision of the procedures as well as the accuracy. Precision objectives (represented by agreement between MS and matrix spike duplicate (MSD) recoveries) and accuracy objectives (represented by MS recovery results) are based on statistically generated limits established annually by the analytical laboratory. It is important to note that these objectives are to be viewed as goals, not as criteria. If matrix bias is suspected, the associated data will be qualified and the direction of the bias indicated in the data validation report.

6.8.4 Laboratory Control Samples

A laboratory control sample (LCS) is a volume of reagent water for aqueous samples, blank soil for solid samples, or a contaminant-free suitable vapor matrix representing vapor samples, which is spiked with known quantities of target analytes and surrogates near the midpoint calibration range. The LCS measures method performance under matrix-free conditions. LCS results, together with matrix spike results, help determine the presence or absence of matrix effect. An LCS is analyzed for each batch of up to 20 client samples of similar matrix. If the percent recovery is outside of the laboratory acceptance criteria, the LCS must be reinjected/reanalyzed, and/or all affected samples and a new LCS must be prepared and analyzed.

6.8.5 Surrogate Compounds

For GC and GC/MS analyses, the analytical process includes the addition, subsequent detection, and recovery calculations of surrogate spiking compounds. Surrogates are organic compounds that are similar to the analytes of interest, but are not normally found in environmental samples. They should not interfere with target analytes. Surrogate compounds are added to every sample, blank, duplicate, LCS, MS, and MSD before purging or extraction. The surrogate spike recovery data provide information regarding the efficiency of the sample preparation and the analytical process. Because organic analyses will not be conducted, use of surrogates is not applicable to this project.

6.8.6 Performance Evaluation Samples

Double blind performance evaluation (PE) samples may be submitted to the analytical laboratory during any site investigation. These samples may be of water or soil matrix, and are used to assess the accuracy of analytical procedures employed for a given sample set. If used, double blind PE samples will be prepared by Environmental Resources Standards, or similar supplier, in similar sample containers as the project field samples, and shipped from the field to the laboratory for analysis.

Double blind PE samples will be prepared using NIST and/or A2LA certified standards. The project-specific PE samples will contain known concentrations of the analytes of interest. Laboratory results will be evaluated against the original Certificates of Analyses for precision and accuracy. PE samples may be submitted for analysis as part of the laboratory pre-qualification process, or as part of a given sampling event. Results will be reported to the laboratory and presented with associated field sample results.

7.0 DATA REPORTING

7.1 FIELD DATA

Data measured by field instruments will be recorded in field notebooks, laptops, and/or on required field forms. Units of measure for field analyses will be identified on the field forms. Information will be recorded legibly in indelible ink, with all entries signed and dated. If an entry must be changed, the change will not obscure the original entry and will be initialed and dated. The field data will be reviewed by the Consultant Project Manager and Field Manager to evaluate completeness of the field records and appropriateness of the field methods employed. All field records will be retained in the project files.

7.2 LABORATORY DATA

Data storage and documentation will be maintained using logbooks and bench sheets. Raw data will be stored on electronic media with hard copies kept on file at the laboratory. Reports will be reviewed by the Analytical Supervisor and the Laboratory Manager. Data reduction calculations will be included in the data files. Some laboratory tests, such as titrations or sensory evaluations, are not linked to a particular instrumentation. For these, the quantitative result or observation is recorded directly in an analysis logbook or on a preprinted form.

The laboratory system includes several levels of review. Each level requires specific action to prevent the release of erroneous data and to correct problems discovered during the review process. The analyst who generates the analytical data has the primary responsibility for generating correct and complete analytical data. Each analyst performs a review of his/her work and documents the review via a checklist. The checklist addresses the following items:

- Sample preparation and analysis information are correct and complete
- The appropriate method SOPs were followed
- Analytical results are correct and complete
- QC samples are within established control limits
- Special sample preparation and analytical requirements were met
- Documentation is complete.

The analyst then passes the data package to an independent reviewer who performs a review to check that:

- Calibration data are scientifically sound, appropriate to the method, and documented

- QC samples are within method-specified guidelines
- Qualitative identification of sample components is correct
- Quantitation of results is correct
- Manual integrations are appropriate (if performed)
- Documentation is complete and correct (e.g., anomalies in the preparation and analysis have been documented, non-conformance memoranda forms, if required, are complete, holding times are documented, etc.)
- The component data package is ready for incorporation into the final report
- The data package is complete and ready for archival.

The data review is documented using a checklist. The data that meet the requirements are then released and forwarded to a report coordinator, who assembles the data package, reviews it for completeness, and prepares the final laboratory report. Before the report is released, the Laboratory Manager performs a final review of the report to check that data are in compliance with the aforementioned criteria.

Analytical data reports provided to the Consultant will contain the necessary sample results and quality control data to evaluate the DQOs defined for the project. Documentation requirements for laboratory data are defined in USEPA Region 9 Draft Laboratory Documentation Requirements for Data Validation (USEPA, 1997b). Further guidance is provided in the DTSC Data Validation Memorandum (DTSC, 2006). The laboratory reports from the fixed laboratory will be consistent with USEPA Level II documentation and will include the following data and summary forms:

- Narrative, cross-reference, chain-of-custody, and method references
- Analytical results
- Surrogate recoveries (as applicable)
- Blank results
- Laboratory control sample recoveries
- Duplicate sample results or duplicate spike recoveries
- Sample spike recoveries
- Associated raw data (upon request)

- Magnetic tape or equivalent (upon request).

7.3 PROCEDURES FOR DATA VALIDATION

Data validation criteria are derived from the USEPA *Contract Laboratory Program National Functional Guidelines for Organic and Inorganic Data Review* (USEPA, 1999 and 2002b). The National Functional Guidelines provide specific data validation criteria that can be applied to data generated for this investigation. The laboratory data will be reviewed for compliance with the applicable method and the quality of the data reported.

The application of data validation criteria is a function of project-specific DQOs. The Project Manager will determine if the DQOs for the analytical data have been met. Data validation will include checking that required QC samples have been performed at the required frequency and ensuring the QC acceptance criteria have been met. The areas of data validation are summarized below:

- Data completeness
- Holding times
- Calibrations
- Blanks
- Laboratory control samples
- Matrix spike/matrix spike duplicates
- Surrogates (as applicable)
- Field quality control samples
- Compound identification and quantification.

Results of the data validation review will be documented and submitted in the final report prepared for the project. This documentation should be referenced as a Data Validation Memorandum (DVM).

7.4 DATA QUALIFIERS

The data validation procedures were designed to review each data set and identify biases inherent to the data and determine its usefulness. Data validation flags are applied to those sample results that fall outside of specified tolerance limits, and, therefore, do not meet the program's DQOs. Data validation flags to be used for this project are defined in the National Functional Guidelines. Data validation flags will indicate if results are considered anomalous, estimated, or rejected. Only rejected data are considered unusable for decision-making purposes; however, other qualified data may require further verification.

For some methods, the validator may determine that blank contamination reported as detected between the MDL and RL may also be used for blank-quantification of data. Sample results less than five times the maximum level found in the associated blanks or less than ten times the level of contamination for common laboratory contaminants (e.g., methylene chloride, acetone, and common phthalate esters) are qualified according to the blank qualification rules. Results for common laboratory contaminants may be qualified at concentrations less than ten times the RL even when not found in associated blanks if the analyte has been documented as an historical contaminant at that laboratory. Blank-qualified results are considered to be non-detect (ND) at the reported level, or at the RL for organic compounds reported at less than the RL, according to the blank qualification rules specified in the National Functional Guidelines. If, in the professional judgment of the validator, results in a sample to be blank-qualified are due to real concentrations of an analyte in the sample, the result may be estimated without being considered to be ND. In instances where more than one blank is associated with a given sample, qualification should be based upon comparison with the associated blank having the highest concentration of a contaminant. Results for environmental samples must not be corrected by subtracting concentrations of analytes detected in associated blanks.

For field duplicates, the RPD value is not defined for duplicate pairs for which one or both results are below RLs. For values less than five times the RL, RPDs will not be used for evaluation. If field duplicate pairs frequently exhibit large differences, sampling and/or analytical procedures will be re-evaluated.

8.0 PERFORMANCE AND SYSTEM AUDITS

Audit programs are established and directed by the Consultant and laboratory staff to ensure that field and laboratory activities are performed in compliance with project controlling documents. This section describes responsibilities, requirements and methods for scheduling, conducting and documenting audits of field and laboratory activities.

8.1 FIELD 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 QC 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.

8.2 LABORATORY AUDITS

Laboratory audits include reviews of sample handling procedures, internal sample tracking, SOPs, analytical data documentation, QA/QC protocols, and data reporting. Any selected mobile or stationary laboratory will be licensed by the State of California as a certified testing laboratory, and will participate in a DPH-approved Performance Evaluation Program for hazardous waste and wastewater analyses. If no previous audit has been conducted by the Consultant, a scheduled audit will be conducted by the quality assurance staff during the course of this project to ensure the integrity of sample handling and processing by the laboratory.

8.3 DATA AUDITS

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 7.3, or may involve a more detailed review of laboratory analytical records. Detailed data audits require the laboratory to submit complete raw data files to the Consultant for validation and verification. The Consultant 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 all supporting documentation in a timely fashion.

8.4 SCHEDULING

Audits will be scheduled such that field and laboratory activities are adequately monitored, or in the event discrepancies are identified. The overall frequency of audits conducted for these activities will be based on the importance and duration of work, as well as significant changes in project scope or personnel.

8.5 REPORTS TO MANAGEMENT AND RESPONSIBILITIES

Upon completion of any audit, the auditor will submit a report or memorandum to the Consultant Project Manager and Field Manager that describes any problems or deficiencies identified during the audit. It is the responsibility of the Consultant Project Manager to determine if the deviations will result in any adverse effect on the project conclusions. If it is determined that corrective action is necessary, procedures outlined in Section 8.6 will be followed.

8.6 CORRECTIVE ACTION

Corrective actions will be initiated whenever data quality indicators suggest that DQOs have not been met. Corrective actions will begin with identifying the source of the problem. Potential problem sources include failure to adhere to method procedures, improper data reduction, equipment malfunctions, or systemic contamination. The first level of responsibility for identifying the problems and initiating corrective action lies with the analyst/field personnel. The second level of responsibility lies with any person reviewing the data. Corrective actions may include more intensive staff training, equipment repair followed by a more intensive preventive maintenance program, or removal of the source of systemic contamination. Once resolved, the corrective action procedure will be fully documented and, if DQOs were not met, the samples in question will be recollected and/or reanalyzed utilizing a properly functioning system.

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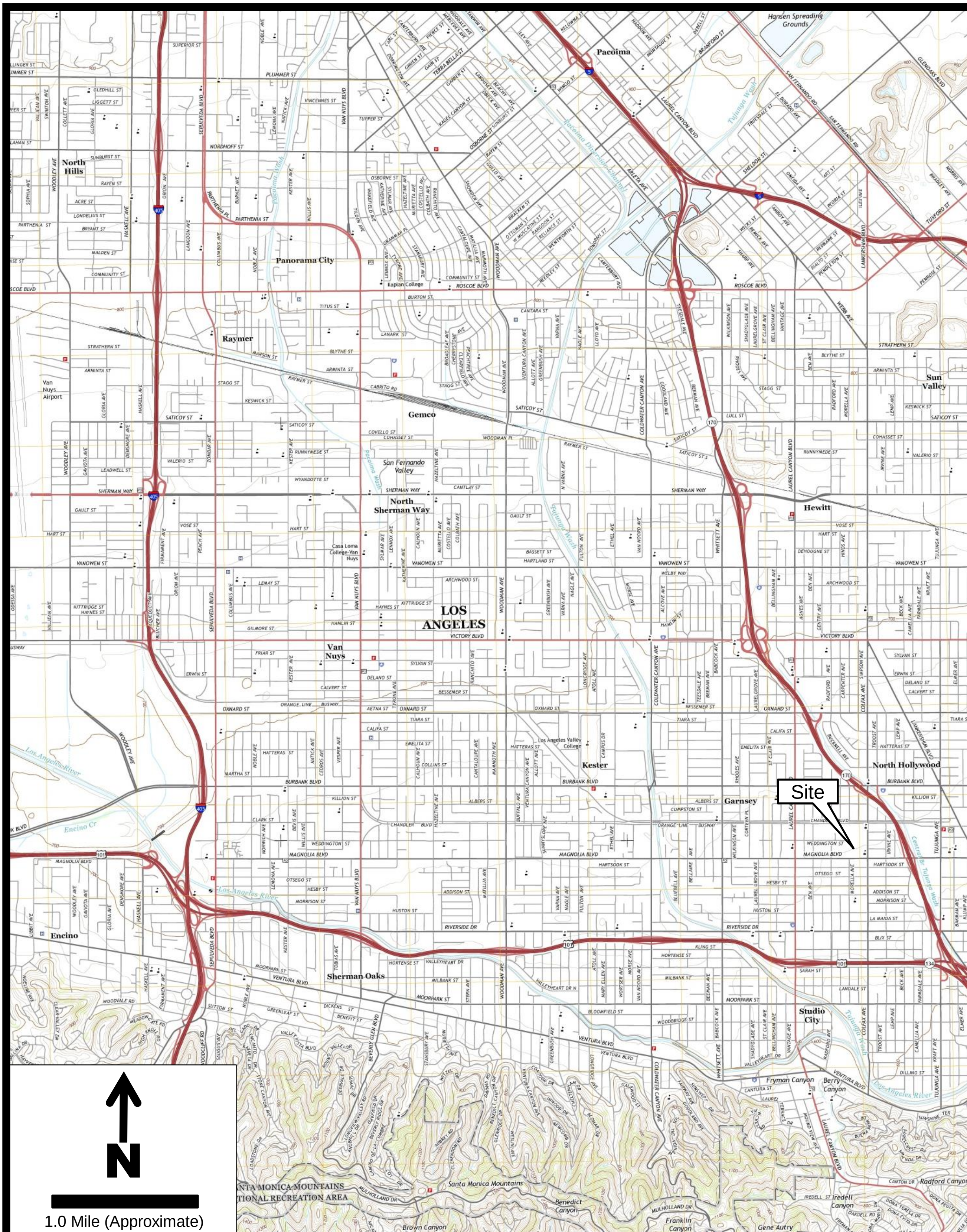
FIGURES

FIGURES



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Site Location Map
North Hollywood High School
Los Angeles, California

Figure 1

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Aerial Photograph
North Hollywood High School
North Hollywood, CA

Figure 2

APPENDIX D

TRANSPORTATION PLAN

Transportation Plan
Removal Action Workplan
Comprehensive Modernization Project
North Hollywood High School
5231 Colfax Avenue
Los Angeles, California 91601

Prepared for:

Los Angeles Unified School District
Office of Environmental Health and Safety
333 South Beaudry Avenue
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Project Number:
407736.03

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April 2018

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1.0 INTRODUCTION

This Transportation Plan has been prepared to minimize potential health, safety, and environmental risks resulting from the movement of material and/or equipment during implementation of a Removal Action Workplan (RAW) at the Los Angeles Unified School District's North Hollywood High School (Site). The Transportation Plan follows the guidelines set forth in the Department of Toxic Substances Control's (DTSC's) *Transportation Plan -- Preparation Guidance for Site Remediation* (DTSC, 2001). All removal, transportation, disposal and Site restoration activities will be performed in accordance with the RAW, this plan, and applicable Federal, State, and local laws, regulations, and ordinances.

A summary of the project is presented in the table below:

Project Summary

Element	Description
Project Site ("Site")	North Hollywood High School
Site Address	5231 Colfax Avenue, Los Angeles, California 91601
Project Proponent	Los Angeles Unified School District ("District or LAUSD")
Remediation Contractor	To be determined[1]
Chemicals of Concern (COCs)	Arsenic and lead
Estimated Volume of Soil Removal	71.7 cubic yards in-place (107.6 tons at 1.5 tons per cubic yard) plus a contingency of 7.2 cubic yards (10 percent) for an estimated total of 78.9 cubic yards (118 tons). This includes 70.5 in-place cubic yards, after 10% contingency (105.7 tons) of non-RCRA hazardous soil, with the remainder being non-hazardous. Total "loose" yardage including 10% contingency estimated to be 94.7 cubic yards (78.9 times 120%). Total of 17 individual locations to be excavated between 1.5 and 3 feet in depth. One location (SB102) has two separate excavations.
Distance to Nearest Sensitive Environment	The project is to be completed on the active North Hollywood High School. Oakwood Middle School is located approximately 1200 feet east of the Site. Colfax Charter Elementary School is located approximately 1500 feet south of the Site.

1 It is the responsibility of the Project Proponent to ensure compliance with the applicable transportation requirements during the proposed removal action. This Transportation Plan should be updated to be site-specific by the Removal Action Contractor. Additional company-specific or site-specific transportation requirements should be added as an addendum to this Transportation Plan.

2.0 SITE BACKGROUND

2.1 SITE DESCRIPTION

The LAUSD is in the process of a Comprehensive Modernization Project (CMP) at North Hollywood High School that will require building demolition, grading, and new construction across the campus (Figure 2). The North Hollywood High School campus occupies one parcel of land comprising approximately 22 acres. Ten permanent buildings and approximately 20 modular structures are present on the property. School buildings include classrooms, offices, cafeteria, gymnasiums, auto shop, and a wood shop. The remainder of the property is developed with a sports field, agricultural area, petting zoo, courtyards, walkways, and landscaped areas. Location of the Site is shown on Figure 1.

2.2 REMOVAL ACTION WORKPLAN (RAW)

After completion of a *Phase I Environmental Site Assessment Report* ([ESA]; E2 ManageTech, Inc. 2016a), *Preliminary Environmental Assessment Equivalent, Sampling Locations* document (E2 ManageTech, Inc., 2016b), and *Preliminary Environmental Assessment Equivalent Report* ([PEA]; Clark Seif Clark, Inc. [CSC], 2017), it was determined that shallow soil at the Site was locally impacted with arsenic and lead at concentrations that posed a potential health risk and hazard to occupants of the school. Accordingly, a *Removal Action Workplan* ([RAW]; Clark Seif Clark, 2018) was developed to remediate the soil and mitigate the health risk. The RAW evaluated three remedial alternatives, and recommended Alternative 2 (Soil Excavation and Off-Site Disposal) for implementation.

2.3 RAW ALTERNATIVE 2

RAW Alternative 2 involves the excavation of all areas of impacted soil, followed by the off-site transport and disposal of the soil at appropriate landfills. Impacted soil would be excavated to depths between 1.5 feet and 3.0 feet below ground surface (bgs) using conventional excavation equipment at some locations, such as backhoes, mini-excavators, and loaders, and hand digging methods at most locations. An estimated 78.9 in-place cubic yards (118 tons) of soil will be removed and disposed of off-site. The method of managing the excavated soil will be as follows:

- Place soil in covered roll-off containers for subsequent transport off-site.

Because access at most of the excavation locations is restricted, direct loading is not a feasible option for this Site. Soil would need to be excavated and then transferred in small quantities to containers at the designated staging area.

Soils would be sent to an appropriate licensed facility(ies) for management as either non-hazardous or non-RCRA hazardous waste, based on previous waste profile characterization results. Once the impacted soil had been removed, confirmation soil samples would be collected from the bottoms and sidewalls of the excavations to verify that site-specific cleanup goals

(SSCGs) had been met. The excavations would then either be backfilled with import fill that had been tested and certified to be clean, sand-cement slurry, or filled in as part of the overall grading effort.

3.0 WASTE CHARACTERISTICS

3.1 WASTE PROFILE

The Site-specific chemicals of concern (COCs) are arsenic and lead. Excavated soils will be profiled for acceptance by the selected disposal facility(ies). Approval from the disposal facility will be obtained before any transportation and disposal activities commence. Documentation pertaining to waste disposal profiles, waste disposal acceptance, and transportation manifests will be provided to the LAUSD in the *Removal Action Completion Report* (RACR) prepared upon completion of the project. Based on the available analytical data, soils excavated from the Site will be managed (handled, transported, and disposed of) as either non-hazardous or California (non-RCRA) hazardous waste, as discussed in the following sections.

3.1.1 Hazardous Waste Management

Federal and State regulations that govern waste classification are found in Title 40, CFR, Part 261 and Title 22, CCR, Chapter 11, “Identification and Listing of Hazardous Waste,” respectively titled. These regulations were used to characterize the impacted soils at the Site as either non-hazardous or California non-RCRA hazardous for purposes of disposal. Based on the analytical results, none of the soil would be characterized as RCRA hazardous waste under Federal Regulations. California non-RCRA hazardous waste is classified as such based on the Total Threshold Limit Concentration (TTLC) and Soluble Threshold Limit Concentration (STLC) values for certain chemicals that are listed under 22 CCR §66261.24(a)(2).

Concentrations of lead exceeded the State STLC of 5 mg/L in four samples, but were below the federal Toxicity Characteristic Leaching Procedure (TCLP) threshold value for lead of 5 mg/L. Concentrations of arsenic exceeded the State STLC of 5 mg/L in three additional samples, but similarly were below the federal Toxicity Characteristic Leaching Procedure (TCLP) threshold value for arsenic of 5 mg/L.

Accordingly, the soil removed from around these sample points and seven additional locations also characterized from these results will be managed as California non-RCRA hazardous waste. Locations where excavated soil will be managed as California non-RCRA hazardous waste are listed in Table 1 and depicted in Figure 2.

All of the California non-RCRA hazardous soil shall be removed separately and kept segregated from the other soil. This soil, estimated to total 70.5 in-place cubic yards, including a 10 percent contingency (approximately 105.7 tons), will be transported off-site for disposal at a properly licensed facility. The USEPA ID number for the Site is CAD982037855. All DTSC regulations governing hazardous waste management, generation, temporary on-site storage, transportation, and disposal of the soil must be complied with.

3.1.2 Non-Hazardous Waste Management

The results of the PEA indicate that some soils impacted by arsenic and/or lead above respective action levels do not qualify as hazardous waste and therefore may be managed as non-hazardous. The estimated quantity of non-hazardous soil to be removed is 8.4 cubic yards in-place, including 10 percent contingency (12.6 tons). Depending on the types and concentrations of COCs and permit limitations of the receiving facility, non-hazardous waste can be either disposed of at a Class 3 landfill, used as daily cover at a Class 3 landfill, or recycled at a soil treatment facility. Any or all of these options may be employed by the Remediation Contractor.

3.2 CONTAMINATED SOIL CONTROL

After the delineated areas of impacted soil have been excavated to the planned depths, confirmation soil samples will be collected from the bottom and sidewalls of the excavations. Confirmation sampling frequency and clean-up goals are discussed in the RAW (CSC, 2018).

3.3 WASTE QUANTITY

Table 1 provides a detailed summary of the anticipated volumes and waste classifications for the soil that will be excavated during the removal action. The various locations where non-hazardous and non-RCRA hazardous soil will be excavated are shown on Figure 2. Non-hazardous and hazardous waste volumes and corresponding truckloads are summarized below:

<u>Non-Hazardous Waste</u> – The estimated quantity of non-hazardous waste that will be transported off-site for disposal is 8.4 in-place cubic yards (12.6 tons). This equates to approximately 15 “loose” (12.6 times 120%) cubic yards. Based on an assumed roll-off container capacity of 10 “loose” cubic yards, one to two roll-off containers may be required to export the non-hazardous soil.

<u>Non-RCRA Hazardous Waste</u> - The estimated quantity of California non-RCRA hazardous waste that will be transported off-site for disposal is 70.5 in-place cubic yards (105.7 tons). It is estimated this equates to 84.6 “loose” cubic yards. Based on an assumed roll-off container capacity of 10 cubic yards, eight to nine roll-off containers may be required to export the California non-RCRA hazardous soil.

3.4 IMPORT FILL MATERIAL

It is possible that excavation activities associated with the Comprehensive Remodeling Plan, such as for foundations of any proposed new buildings, could generate excess soil that would require off-site export. In that case, implementation of the RAW would not be expected to require significant quantities of imported fill to backfill soil removal excavations and import of any soil for backfill might be negligible. Regardless whether backfill soil is derived from other on-site excavation or is imported, the fill will be tested and certified in accordance with

LAUSD's *Specification Section 01 4524 Environmental Import/Export Materials Testing* (LAUSD, 2011).

4.0 SOIL LOADING OPERATIONS

In some locations, soil may be removed with mechanized equipment including mini-excavators, backhoes, or other types of earth moving equipment. However, in most locations, hand digging methods will be necessary due to small areas, restricted access, and need to protect underground utilities and vegetation. As soil is excavated, it will be necessary to transfer the soil in small quantities from the excavation locations to a readily accessible temporary staging area. The preferred designated staging area is shown on Figure 2, along with transfer routes. Direct loading of soil into transportation trucks is not feasible in most locations due to restricted access to the excavations.

Soil will be transferred from the excavations locations to the designated staging area using a forklift equipped with a one-cubic yard hopper, and placed into 10-cubic yard closed top steel roll-off containers. Use of roll-off containers is preferred because potential release of contaminated material or fugitive dust will be mitigated. Further, soil handling effort will be minimized as compared with stockpiling.

Excavation locations across the Site are shown in Figure 2. Individual excavations are shown in Figures 3.1 to 3.17. An overview of excavation locations and transfer routes to the waste staging area are shown in Figure 4.1. The excavations have been grouped into five work areas across the Site:

- Area 1 – SB100 and SB102
- Area 2 – SB094, SB114, SB115, and SB119
- Area 3 – SB071, SB072, and SB109
- Area 4 – SB061, SB065, SB067, SB068, and SB069
- Area 5 – SB051, SB043, and SB041

Figures 4.2 to 4.6 show excavations within each of the five work areas, as well as recommended layout for exclusion zone fencing.

4.1 DUST CONTROL

During remediation activities, each excavation area will be enclosed with isolation fencing fitted with windscreen to minimize potential off-site migration of windborne dust. The generation of dust will be controlled with the use of water as a dust suppressant. The water will be available from an on-site water service, via a water truck, or through a metered discharge from a fire hydrant located on or proximal to the Site. Dust suppression will be performed by applying a light water spray to soil stockpiles, exposed excavation surfaces, excavator buckets, and internal roadways, as necessary, to maintain dust concentrations below action levels.

After excavation, soils will be transferred to the waste staging area using a one-cubic yard hopper and forklift. The forklift will maintain slow speeds (i.e., less than 5 miles per hour) for safety purposes and to control dust generation. A flag man will accompany each hopper load to prevent soil spills and prevent conflicts with pedestrians, other vehicles, and structures. If wind speeds exceed an amount at which engineering controls are determined to be ineffective (e.g., sustained 25 mph windspeed for 15 minutes), excavation and transfer operations will cease.

4.2 SOIL SEGREGATION OPERATIONS

Based on the Site's previous analytical results excavated soils shall be segregated based on waste classification as non-hazardous or California non-RCRA hazardous waste. Soil segregation will occur at the time of excavation and will follow the waste management descriptions provided in Table 1 and shown on Figure 2.

4.3 SOIL BACKFILL OPERATIONS

Upon completion of the soil removal action, it is anticipated that portions of the excavated areas will be backfilled and compacted to return them to a grade consistent with school construction plans. Backfilling of remedial excavations will be completed to the standards requested by the Geotechnical Engineer of record, as recommended in the project geotechnical investigation reports. Typically, backfilling proceeds in approximately 8-inch to 12-inch lifts (loose thickness) with moisture conditioning and compaction between each successive lift. In-situ density tests will be conducted under the direction of the Geotechnical Engineer of record to achieve the project standards (typically, a minimum relative compaction of 90%). Similar to soil removals, a forklift equipped with a hopper or similar will be utilized to transfer small quantities of backfill material from the staging area to each excavation.

For paved areas, backfilling will utilize sand-cement slurry. Mixture used will be approved by the Geotechnical Engineer and approved prior to delivery to or preparation on Site.

4.4 LOADING OPERATIONS

After transfer to the waste staging area, the hopper will be carefully emptied into the roll-off containers. The Remediation Contractor will employ measures to minimize generation of airborne dust including using short drop distances and dust suppression by lightly spraying or misting the work area with water. The waste will be carefully segregated to avoid mixing of non-hazardous soil with non-RCRA hazardous soil. Roll-off containers will be closed and tops secured at the end of each day as well as prior to loading on trucks to be transported off-site secured to prevent soil from blowing or spilling out of containers.

The selected transport company will be required to be fully licensed and insured to transport hazardous waste (see Section 11.0). Prior to loading soil classified as hazardous waste into the truck, the transport company will be required to provide proof of valid certification for the transport of hazardous soil/materials and documentation that the trucks will not release soil during transport.

Vehicles are not anticipated to require decontamination prior to leaving the staging area, as impacted or bare ground will not be traversed by the trucks. For track-out prevention and control, trucks will be broom cleaned after loading if necessary. As noted above, tops of roll-off containers will be closed and secured to prevent soil and/or dust from spilling out of the truck during transport to the disposal facility.

Prior to leaving the Site, each truck will be inspected by the Remediation Contractor to ensure that containers are adequately covered and secured, the trucks are cleaned of spilled or adhered soil, and the shipment is properly manifested. Proper hazardous waste placarding may be required for transportation of hazardous wastes.

4.5 WORKING HOURS AND DURATION

During school operation, trucking times must be pre-approved by LAUSD. Excavation and loading operations would most feasibly be conducted during breaks in school sessions, including holidays and weekends.

In most cases, excavation and truck loading/unloading will be conducted between the hours of 7:00 am to 6:00 pm Monday through Friday. As needed, and with prior LAUSD approval excavation, truck loading, and unloading and offsite transport to the licensed disposal facility may be conducted on Saturdays from 8:00 AM to 5:00 PM. It is anticipated that initial removal of the impacted soil from the phased removal areas at the Site can be completed with the following time durations:

- Area 1 – 2.5 working days.
- Area 2 – 2.5 working days.
- Area 3 –Three working days.
- Area 4 – Four working days.
- Area 5 – Three working days.

Further completion of all restoration activities (additional excavation/transfer/loading, backfilling, compaction, landscaping, and irrigation repair), if any, will be conducted immediately after site-specific cleanup goals have been met, as demonstrated through confirmation sampling, and LAUSD concurrence has been obtained.

5.0 TRANSPORTATION CONTROLS

5.1 DUST CONTROL DURING TRANSPORTATION

Soil for off-site disposal will be transported in roll-off bins to an approved land disposal facility. All waste hauler vehicles will be decontaminated as necessary prior to leaving the staging area. Clean fill materials will be transported in covered trailers/trucks to the Site. If deemed necessary, a wet street sweeper will be operating on the local streets adjacent to the Site to mitigate any potential residual dust or track-out of soil.

5.2 TRAFFIC CONTROL

Truck Staging Area - Prior to loading or unloading at the Site, all trucks will be staged on-site to the extent possible to avoid impacts on the local streets. Careful coordination of trucks will be exercised to help avoid off-site staging and long wait times for trucks. A flag person provided by the Remediation Contractor will direct truck traffic into and out of the staging area. Trucks will not be allowed to sit idling for more than 5 minutes to avoid unnecessary exhaust fumes.

Site Access Control - Field personnel will be present, as needed, to assist the truck drivers in safely entering and departing the waste staging area at the Site. Forklifts used to transfer soil to waste staging area will set up outside the excavation limits so as not to track soil from remediation areas. When transferring soil to the staging area, forklifts will utilize internal roads. A flag man on foot will accompany the fork lift each trip to watch for spillage and for protection of pedestrians, other vehicles, and structures.

Speed Limit - While on-site, all vehicles will be required to maintain slow speeds (e.g., less than 5 miles per hour) for safely purposes and for dust control. While on local streets or freeways, all transporters will follow the posted speed limit and adhere to defensive driving techniques appropriate for actual traffic and road conditions.

Rush Hour - Transportation trucks will be timed to avoid rush hour traffic to the extent practicable.

5.3 TRANSPORTATION ROUTES

The primary route for off-site shipment of impacted soils to the candidate waste disposal facilities are shown on Figures 3 to 7. The transportation routes were selected to minimize the trucks' travel time on surface streets, to avoid residential neighborhoods, and to provide the shortest travel distance. Additionally, given the characteristics of the material being transported, there are no apparent restrictions that would preclude the trucks from following these routes to the disposal facilities.

All trucks will depart the Site via the gate to the north of the staging area, then make a right turn onto Chandler Boulevard, heading east.

For disposal facilities located to the north, turn left at Colfax Avenue, turn left again at Burbank Boulevard and turn right to enter the north bound State Route 170 freeway.

For disposal facilities located to the south and east, turn right on Colfax Avenue heading south. Turn left on Magnolia Boulevard, then turn right to enter south bound State Route 170 freeway.

Before leaving the Site, truck drivers will be instructed to notify the Remediation Contractor's Site Manager, who will provide the driver with his/her cellular telephone number. It will be the responsibility of the truck driver to contact the Site Manager if problems arise after leaving the Site. It will be the responsibility of the Site Manager to notify the District of any unforeseen incidents.

In addition, the Los Angeles County Service Authority for Freeway Emergencies (SAFE) was created pursuant to California Streets and Highways Code §2550 et. seq. SAFE is responsible for the operations and maintenance of the Los Angeles County Call Box System. There are more than 4,400 call boxes located throughout Los Angeles County and situated at roadside locations along the truck routes described above. The call boxes are intended to be used to report roadside emergencies to the California Highway Patrol (CHP) dispatch center. As such, the truck driver will be instructed to report any roadside emergency to the CHP using the Call Box System and also to notify the Site Manager.

5.3.1 Transportation Regulations

Trucks will be loaded in a manner such that their total gross weight does not exceed limits imposed by the California Department of Transportation, up to a maximum of 40 tons. Mobilization and demobilization of large earthmoving equipment may exceed this weight and could require additional permits (green and/or purple) from the State (and local transportation agencies). Heavier loads have higher permit fees and restrictions on time of travel.

5.3.2 Local Traffic Control

Transportation of impacted soil or fill material will be on arterial streets and/or freeways approved for truck traffic to minimize any potential impact on the local neighborhood. Moving along the proposed transportation routes, all street intersections (except those marked on the transportation route map) are controlled by traffic lights or stop signs. To assist in Site ingress and egress, and for any local intersections without traffic control signs, a flag person provided by the Remediation Contractor may be located to assist or direct traffic flows. Therefore, the number of daily truckloads during implementation of the RAW is not expected to cause the disruption in local traffic.

5.3.3 Street Maintenance

The surfaces of surrounding streets will be routinely inspected and, if necessary, maintained or repaired by the Remediation Contractor during implementation of the RAW. The Remediation

Contractor is responsible for cleaning streets from spilled or tracked out soils and the final cleanup after completion of field activities, such as washing paved areas. The number of daily and total truckloads during implementation of the RAW is not expected to cause damage to surface streets.

6.0 OFF-SITE LAND DISPOSAL FACILITIES

Impacted soil targeted for off-site disposal will be properly managed, manifested, and transported by a registered waste hauler to an approved waste management facility located in California or an out-of-state facility permitted to accept the waste. Based on the results of waste profile and classification, the majority of the excavated soil will be classified as non-RCRA hazardous waste and is expected to be transported under hazardous waste manifest to a fully permitted and licensed Class 1 disposal facility or equivalent out-of-state facility. A smaller quantity off the soil is expected to be transported under non-hazardous manifests or other proper shipping documents to a fully permitted and licensed Class 3 disposal facility in California. Candidate facilities that may be used for off-site waste management are identified in the following sections. Transportation routes to three candidate waste management facilities are provided as Figures 3 to 7.

6.1 HAZARDOUS WASTE FACILITIES (CLASS I)

All non-RCRA hazardous wastes will be disposed of at a California Class I land disposal facility or an out-of-state landfill permitted to accept such wastes. The waste management facilities listed below may be selected for this project:

Waste Management, Inc. (see Figure 3)
Kettleman Hills Facility
35251 Old Skyline Road
Kettleman, California 93239
Phone: (559) 386-9711

Clean Harbors Buttonwillow, LLC (see Figure 4)
2500 West Lokern Road
Buttonwillow, California 93206
Phone: (661) 762-6200

Yuma County Landfill (see Figure 5)
19536 South Avenue 1E
Yuma, Arizona 85365
Phone: (928) 341-9300

Others (with prior approval from LAUSD)

6.2 NON-HAZARDOUS WASTE FACILITIES (CLASS 3)

Non-hazardous soils may be transported to the following Class 3 facilities for disposal or use as daily landfill cover:

Chiquita Canyon Landfill (see Figure 6)

29201 Henry Mayo Dr.
Castaic, California 91384
Phone: (661) 257-3655

Waste Management, Inc, Antelope Valley/Palmdale Landfill (see Figure 7)
1200 W. City Ranch Road
Palmdale, California 91551
Phone: (661) 223-3418

Others (with prior approval from LAUSD)

7.0 SHIPPING DOCUMENTATION

The Uniform Hazardous Waste Manifest (hazardous waste manifest) form will be used to track the movement of soil sent off-site as hazardous waste from the point of generation to the point of ultimate disposition. The hazardous waste manifests will include information such as:

- Name and address of the generator, transporter, and the destination facility.
- United States DOT description of the waste being transported and any associated hazards.
- Waste quantity.
- Name and phone number of a contact in case of an emergency.
- USEPA Hazardous Waste Generator ID Number.
- Other information required either by the USEPA or DTSC.

Non-hazardous waste manifests or other proper shipping documents (e.g., bills of lading) will be used to track the movement of soil sent off-site as non-hazardous waste from the point of generation to the point of treatment or disposal.

Before transporting the excavated soil off-site, an authorized representative of the District will sign each waste manifest. The Remediation Contractor's Site Manager will maintain one copy of the waste manifest on-site. Copies of the waste manifests, signed by the receiving facilities, will be included in the RACR prepared upon completion of the removal action. While at the disposal facility, the truck will be weighed before offloading the payload. Weight tickets or bills of lading will be provided to the Remediation Contractor after the material has been shipped off-site. Copies of weight tickets will also be provided in the RACR.

8.0 RECORDKEEPING

The Remediation Contractor and/or Environmental Consultant will be responsible for maintaining a field logbook during the period of remedial activities. The field logbook will serve to document observations, on-site personnel, equipment arrival and departure times, sampling details, and other vital project information. Logbook entries will be complete and accurate enough to permit reconstruction of field activities. Logbooks will be bound with consecutively numbered pages. Each page will be dated and the time of entry noted. All entries will be legible, written in black ink, and signed by the individual making the entries. Language will be factual, objective, and free of personal opinions or other terminology that 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.

9.0 HEALTH AND SAFETY

A site-specific Health and Safety Plan (HASP) has been prepared and included in the RAW (CSC, 2018). Prior to the commencement of each day's activities, a tailgate health and safety meeting will be held. All personnel working at the Site will be required to be familiar with the HASP and attend the daily tailgate meetings and periodic health and safety briefings. All personnel working at the Site will be required to sign field forms to demonstrate that they are familiar with the HASP and participated in the daily tailgate meeting.

10. REQUIREMENTS OF FILL MATERIAL

If required, import fill materials will be procured in accordance with the latest version of LAUSD's Specification 01 4524 (LAUSD, 2011). All sources of soil will be approved by the LAUSD prior to importing fill materials to the Site.

11.0 REQUIREMENTS OF TRANSPORTERS

Qualified transporters will be hired by the Remediation Contractor for hauling excavated soil away or hauling fill materials to the Site. Minimum qualifications are described below.

11.1 LICENSES AND INSURANCE

The selected haulers will be fully licensed and insured to transport the excavated soils or fill materials. Hazardous wastes must be shipped by a registered hazardous waste hauler. Prior to hiring, the Remediation Contractor will verify the status of registration and the insurance policies of the selected transporters.

11.2 CONTINGENCY PLAN

Each transporter is required to have a Contingency Plan prepared to deal with emergency situations (e.g., vehicle breakdown, accident, waste spill, waste leak, fire, explosion, etc.) during transportation of excavated soils from the Site to the destination disposal facility, or during transportation of fill materials from a source to the Site. The Contingency Plan will be prepared in accordance with DTSC's *Transportation Plan -- Preparation Guidance for Site Remediation* (DTSC, 2001).

12.0 REFERENCES

Clark Seif Clark, Inc. 2017. Preliminary Environmental Assessment Equivalent Report, Comprehensive Modernization Project, North Hollywood High School. Prepared for Los Angeles Unified School District. Project No. LASD1-27.0. September 29.

Clark Seif Clark, Inc. 2018a. Draft Removal Action Workplan, North Hollywood High School. Prepared for Los Angeles Unified School District. Project No. 4007736. Revised April 2018.

Clark Seif Clark, Inc. 2018b. Health and Safety Plan, North Hollywood High School. Prepared for Los Angeles Unified School District. Project No. 4007736. April 2018.

DTSC. 2001. Transportation Plan – Preparation Guidance for Site Remediation. Interim Final. December 5.

E2 ManageTech, Inc. 2016a. Phase I Environmental Site Assessment Report, North Hollywood High School, 5232 Colfax Avenue, North Hollywood, CA 91601. Prepared for Los Angeles Unified School District. August 25, 2016.

E2 ManageTech, Inc. 2016b. PEA Equivalent Sampling Locations, North Hollywood High School, 5232 Colfax Avenue, North Hollywood, CA 91601. Prepared for Los Angeles Unified School District.

Los Angeles Unified School District. 2011. Specification Section 01 4524 Environmental Import/Export Material Testing. October 1

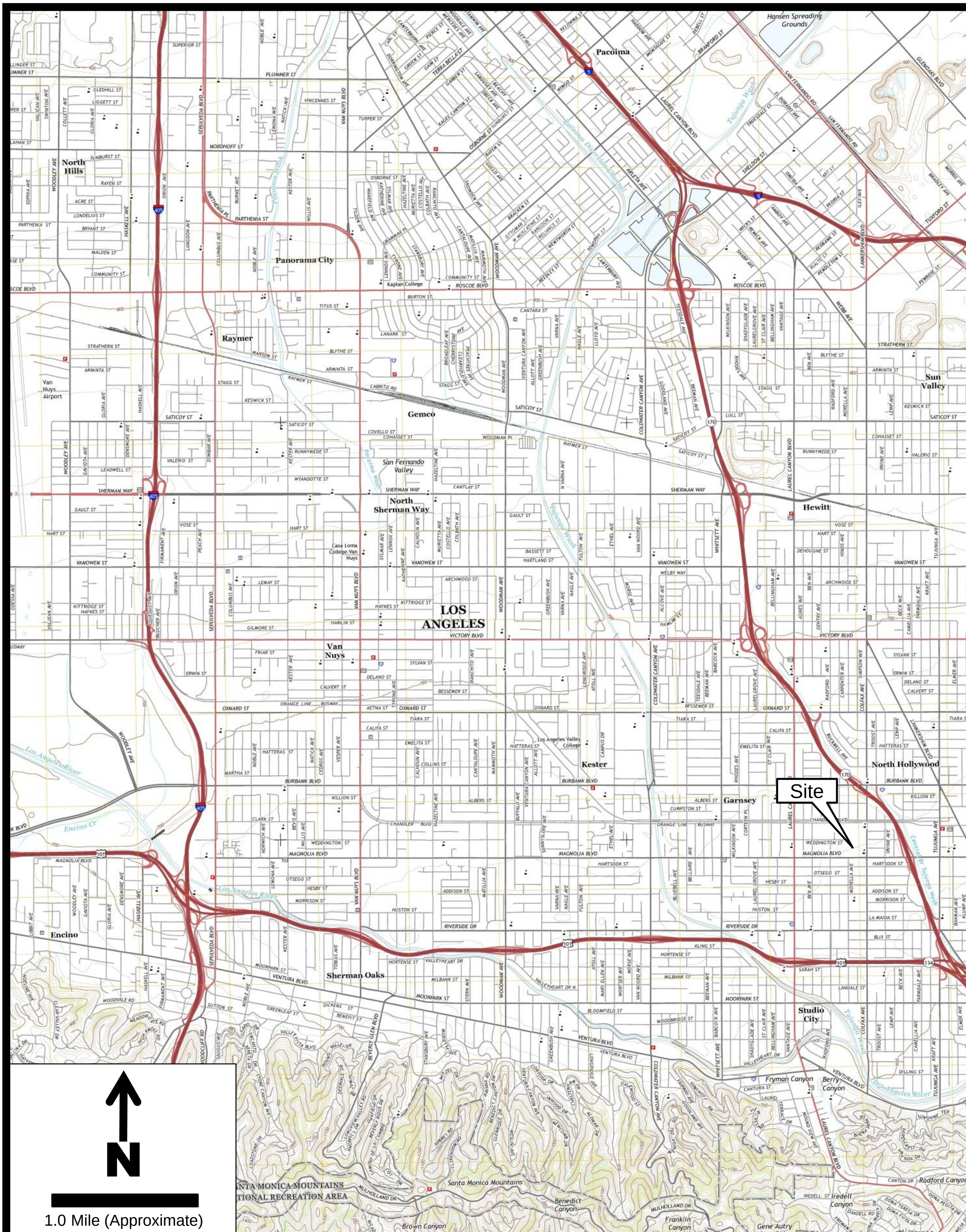
Tables

TABLE 1
ESTIMATED VOLUMES AND CHARACTERIZATION OF IMPACTED SOIL
NORTH HOLLYWOOD HIGH SCHOOL - 5231 COLFAX AVENUE, LOS ANGELES, CA

Sample Area	COC	Waste Characterization	Impacted Surface Area (Feet)		Impacted Depth (Feet bgs)	Impacted Volume (Cubic Feet)	Impacted Volume (Cubic Yards)
SB041	Arsenic	Non-RCRA Hazardous	5 x 13	65	0 to 3	195	7.2
SB043	Lead	Non-Hazardous	5 x 5	25	0 to 1.5	37.5	1.4
SB051	Lead	Non-Hazardous	7 x 8	56	0 to 1.5	84	3.1
SB061	Arsenic	Non-Hazardous	2.5 x 10	25	0 to 1.5	37.5	1.4
SB065	Lead	Non-RCRA Hazardous	2.5 x 17	42.5	0 to 1.5	63.75	2.4
SB067	Lead	Non-RCRA Hazardous	5 x 15	75	0 to1.5	112.5	4.2
SB068	Lead	Non-RCRA Hazardous	7.5 x 12	90	0 to 1.5	135	5.0
SB069	Lead	Non-RCRA Hazardous	5 x 10	50	0 to 1.5	75	2.8
SB071	Lead	Non-RCRA Hazardous	3 x 4	12	0 to 2.5	30	1.1
SB072	Lead	Non-RCRA Hazardous	7.5 x 7.5	56.25	0 to 1.5	84.38	3.1
SB094	Lead	Non-RCRA Hazardous	5 x 7.5	37.5	0 to 2.5	93.75	3.5
SB100	Lead	Non-RCRA Hazardous	5 x 11	55	0 to 1.5	82.5	3.1
SB102	Arsenic	Non-RCRA Hazardous	10 x 17	170	0 to 1.5	255	9.4
		Non-RCRA Hazardous	6 x 17	102	0 to 2.5	255	9.4
SB109	Lead	Non-RCRA Hazardous	5 x 16	80	0 to 3	240	8.9
SB114	Lead	Non-RCRA Hazardous	6 x 7	42	0 to 1.5	63	2.3
SB115	Lead	Non-RCRA Hazardous	3 x 10	30	0 to 1.5	45	1.7
SB119	Arsenic	Non-Hazardous	2.5 x 7.5	18.75	0 to 2.5	46.88	1.7
Total Impacted Volume							71.7

COC=Chemical of concern
RCRA = Resource Conservation and Recovery Act

Figures



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Site Location Map
North Hollywood High School
Los Angeles, California

Figure 1

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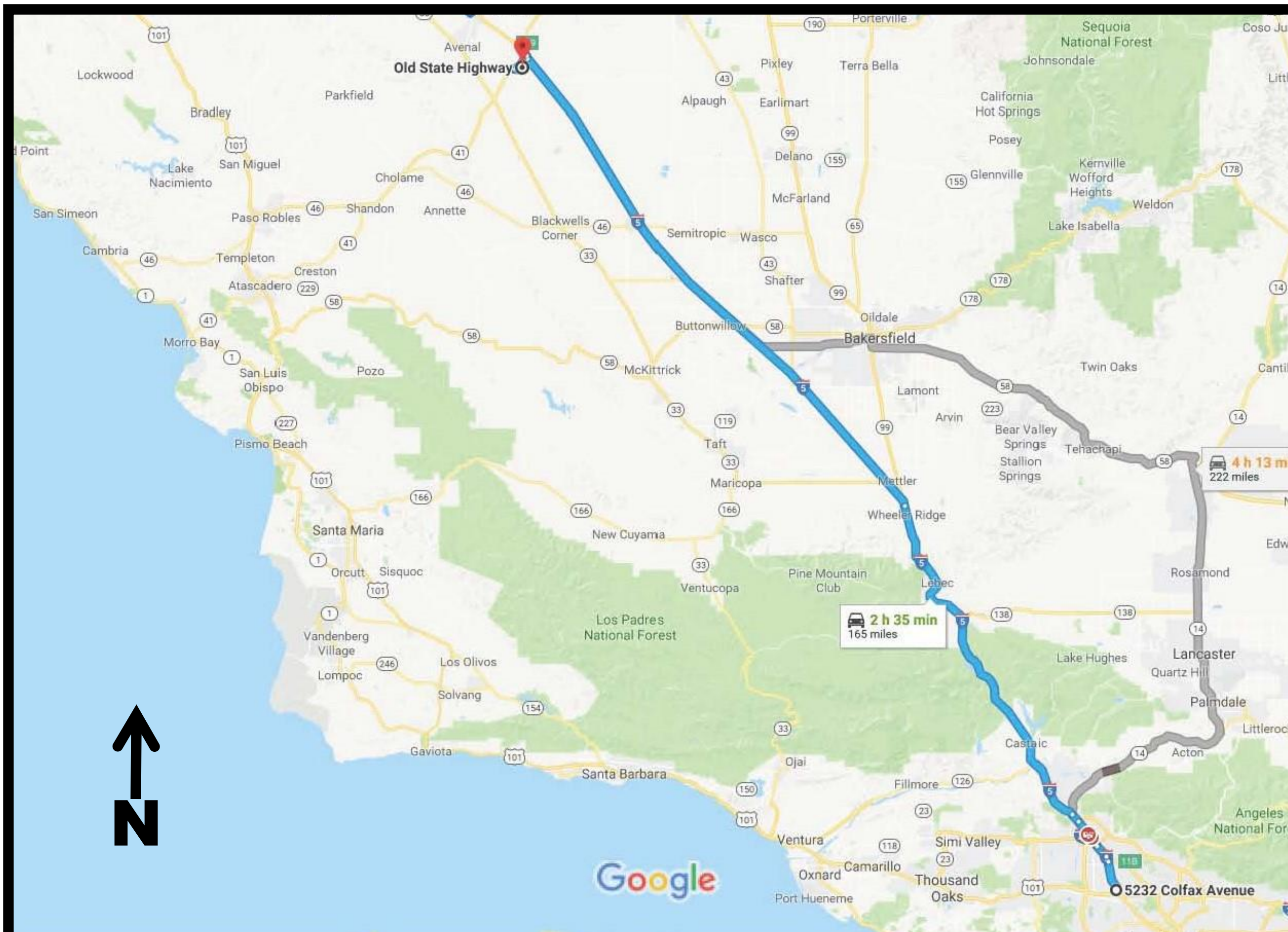
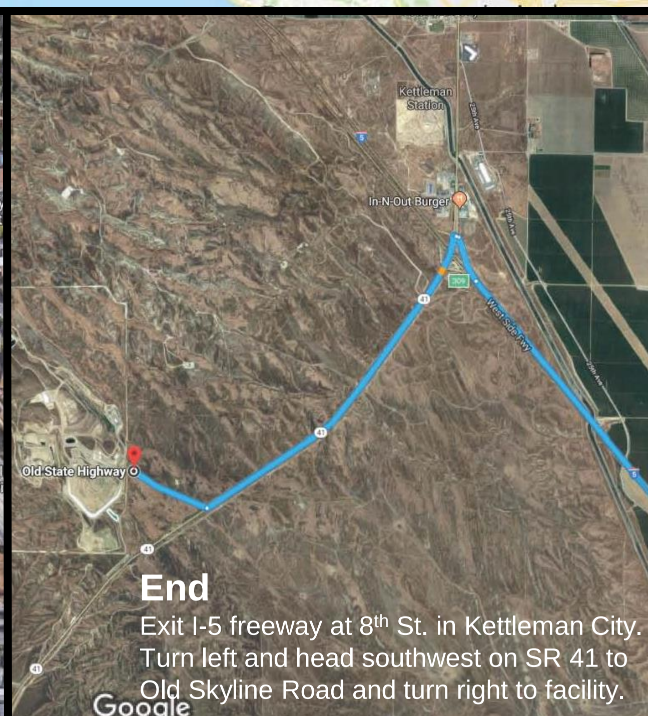
Removal Locations and Staging Area
North Hollywood High School
North Hollywood, CA

Figure 2





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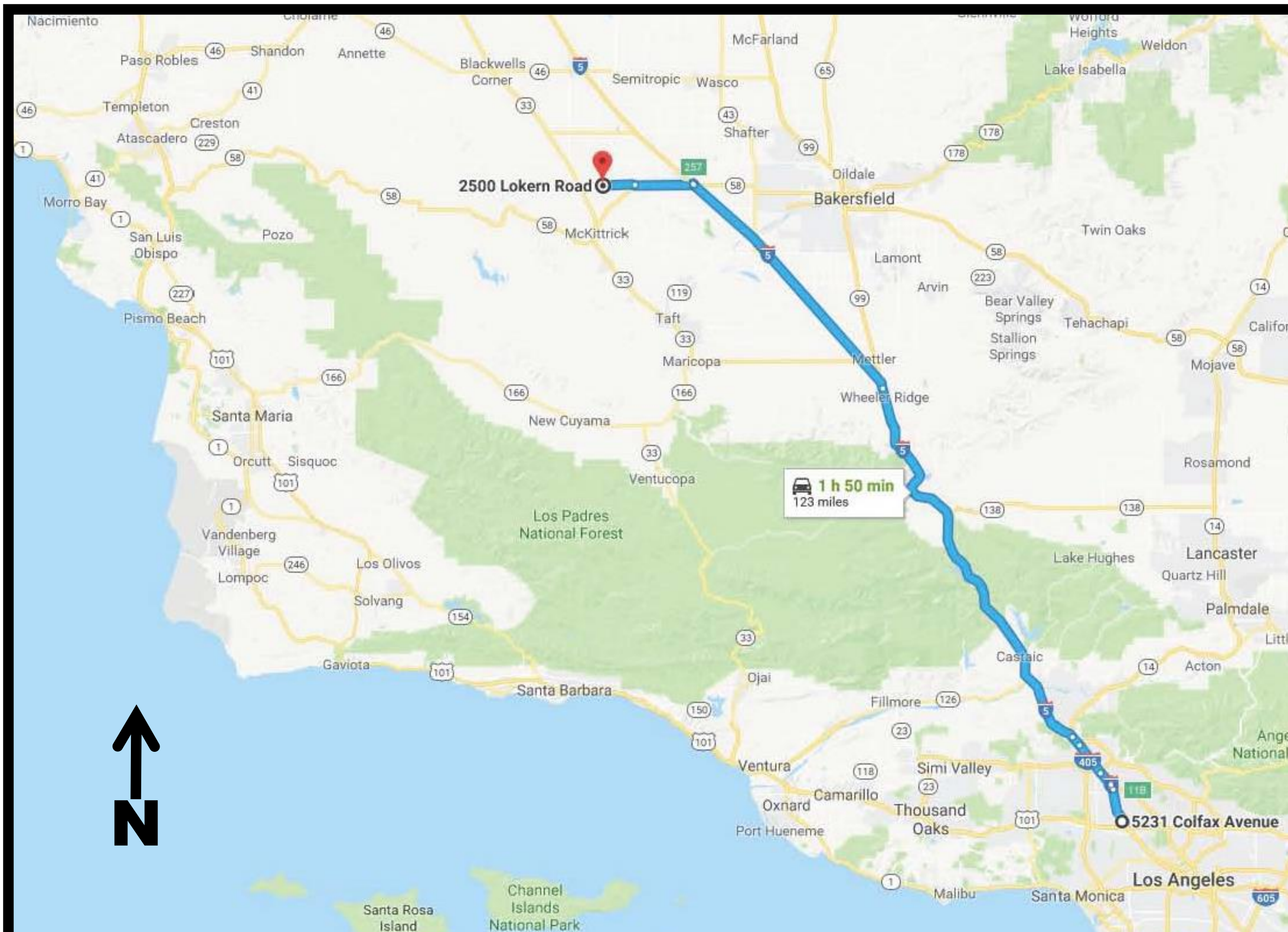
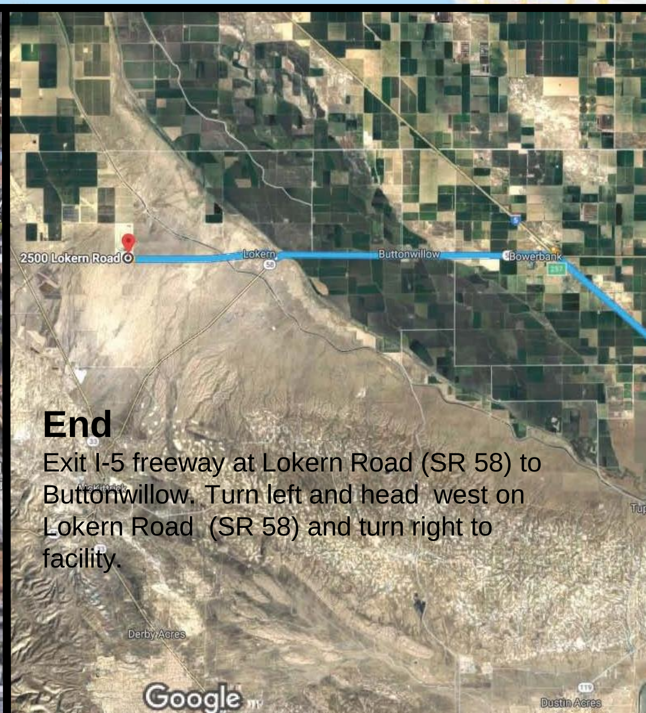
Route to WM Kettleman Hills Facility
North Hollywood High School
Los Angeles, California

Figure 3





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Route to Clean Harbors Buttonwillow Facility
North Hollywood High School
Los Angeles, California

Figure 4

CLARK SEIF CLARK, INC.
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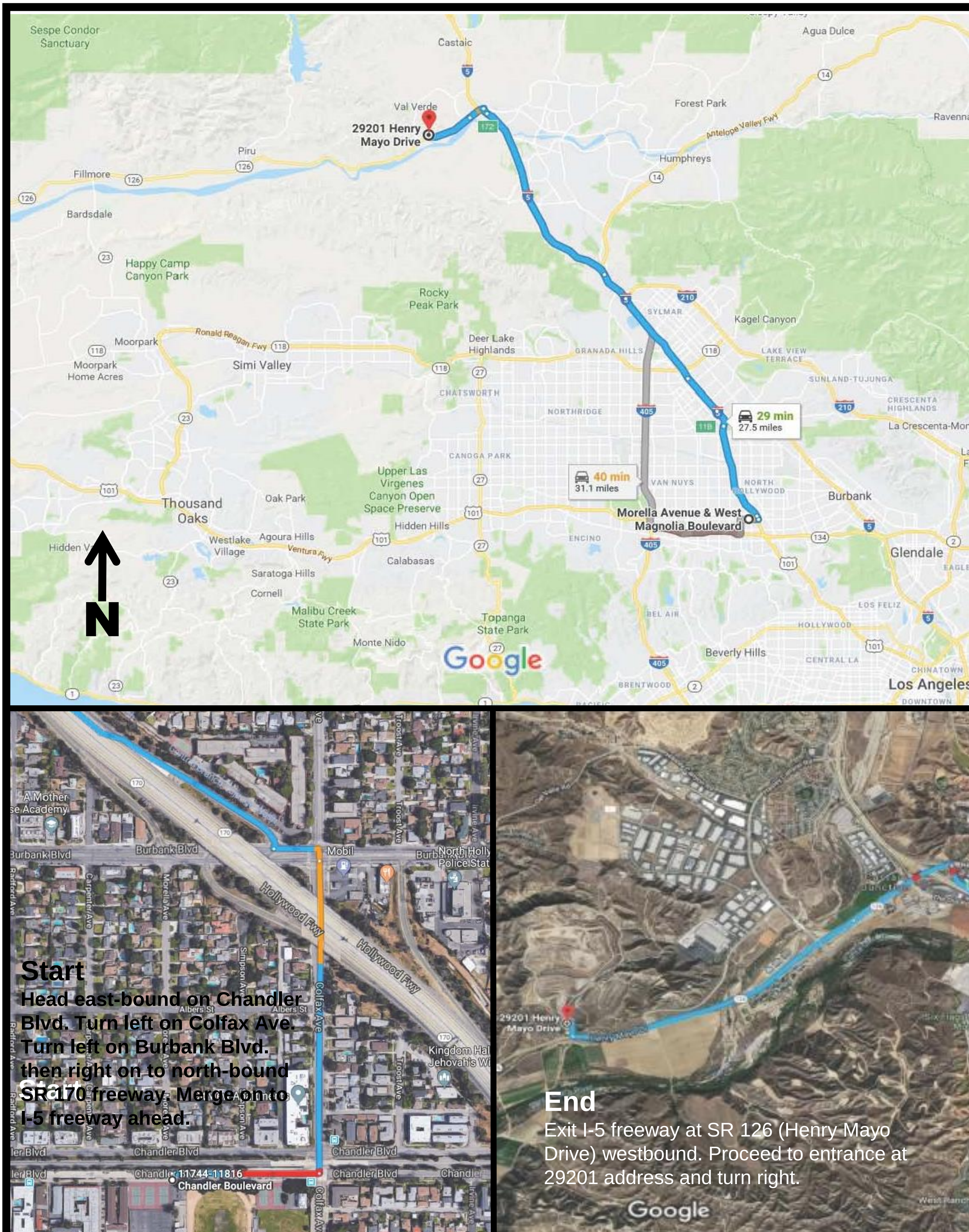
Route to Yuma County Landfill Facility
North Hollywood High School
Los Angeles, California

Figure 5



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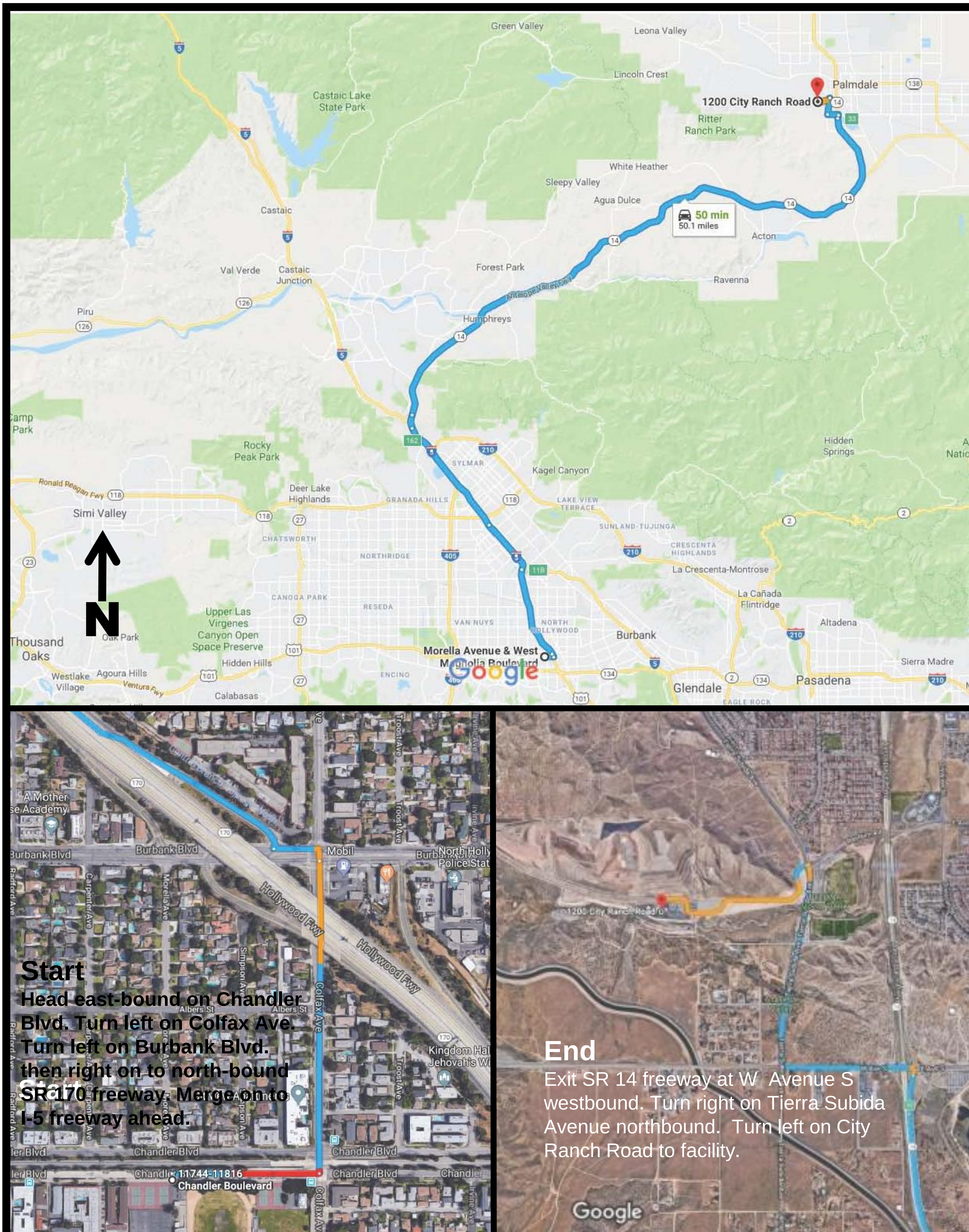
Route to Chiquita Canyon Landfill Facility
North Hollywood High School
Los Angeles, California

Figure 6



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Route to WM Antelope Valley Landfill Facility
North Hollywood High School
Los Angeles, California

Figure 7

APPENDIX E

PUBLIC NOTICES AND COMMENTS

Los Angeles Unified School District

Office of Environmental Health and Safety

MICHELLE KING
Superintendent of Schools

THELMA MELÉNDEZ, PH.D.
Chief Executive Officer, Office of Educational Services

ROBERT LAUGHTON
Director, Environmental Health and Safety

CARLOS A. TORRES
Deputy Director, Environmental Health and Safety

September 19, 2016

TO: Neighbors and Community Members of the
North Hollywood High School

FROM: Los Angeles Unified School District
Office of Environmental Health and Safety

REGARDING: Preliminary Environmental Assessment
North Hollywood High School, Los Angeles, California

The Los Angeles Unified School District (LAUSD) - Office of Environmental Health and Safety (OEHS) would like to provide you with advance notice of a Preliminary Environmental Assessment (PEA) that will be conducted within the boundaries of North Hollywood High School, located at 5231 Colfax Avenue, North Hollywood, California, 91601. The PEA will cover most of the campus scheduled to undergo a comprehensive modernization.

A licensed contractor, working on behalf of LAUSD, will perform the environmental investigation under the independent oversight of the LAUSD-OEHS, which is independent from the LAUSD Facilities Services Division (The Facilities Services Division is the responsible Branch for the development and construction of the project). The environmental investigation will consist of the sampling of soil and soil gas in the locations on campus where existing buildings will be demolished, new buildings will be constructed, where hydraulic hoists are located in shop buildings, where a clarifier/oil water separator is located outside the auto shop, and at the locations of historic cesspools, septic tanks, and dry wells. Soil will be analyzed for potential residual arsenic, hydrocarbons, lead-based paint, polychlorinated biphenyls (PCBs), organochlorine pesticides (OCPs), petroleum hydrocarbons, polycyclic aromatic hydrocarbons, and volatile organic compounds (VOCs) in soil. Soil gas will be analyzed for VOCs. If necessary, a soil cleanup will be performed prior to construction activities to protect students, faculty, and staff.

Fieldwork is scheduled to begin over the weekends starting September 29 and 30, 2016, and is expected to be completed over the course of 5 weekend days. All fieldwork is scheduled to be conducted when students are away from school, on the weekends, between 7:00 am and 5:00 pm.

The results of the investigation will be submitted to LAUSD-OEHS in a report for review. The report will include an assessment of whether any of the above listed compounds are present in soil at concentrations that would require further assessment or a response action before the Site is cleared for construction activities. When the OEHS's review is complete, OEHS will issue a determination with regard to the assessment.

If you have any questions concerning the upcoming environmental investigation or other related activities for the proposed comprehensive modernization of North Hollywood High School, please contact Dane Robinson, LAUSD Office of Environmental Health and Safety Site Assessment Project Manager, at (213) 241-4122 (email at dane.robinson@lausd.net).

Si desea información en español comuníquese con Fortunato Tapia de FSD Relaciones Comunitarias al (213) 241-1338 (línea directa) o (213) 241-1340 (línea principal) o por correo electrónico a fortunato.tapia@lausd.net.