FINAL
OFFSITE INTERIM REMEDIAL MEASURES WORK PLAN (IRMW)

Prepared for

The Department of Toxic Substances Control

Department of Toxic Substances Control

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CERTIFICATION

FINAL INTERIM REMEDIAL MEASURES WORK PLAN
OFFSITE RESIDENTIAL AREAS ASSOCIATED WITH THE
FORMER EXIDE BATTERY RECYCLING PLANT
VERNON, CALIFORNIA

This Interim Remedial Measures Work plan (IRMW) was prepared by Parsons Corporation (Parsons) for California Environmental Protection Agency - Department of Toxic Substances Control (DTSC). This document and interpretations or conclusions presented herein are based upon data collected during Site visits, field sampling and monitoring, and information from published documents that are cited and listed in the references section. This report was prepared in accordance with currently accepted professional practices; no warranty, expressed or implied, is made.

November 18, 2015

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ACRONYMS

AGC	Advanced GeoServices Corporation
bgs	below ground surface
BMP	best management practice
Cal-EPA	State of California Environmental Protection Agency
Caltrans	California Department of Transportation
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
DTSC	Department of Toxic Substances Control
ENVIRON	ENVIRON International Corporation
Exide	Exide Technologies
GSU	DTSC Geological Services Unit
HEPA	high efficiency particulate arrestance
HERO	DTSC's Human and Ecological Risk Office
IC	Incident Commander
IMWP	Interim Measures Work Plan
IRMW	Interim Remedial Measures Work plan
LOC	Letter of Completion
mg/kg	milligrams per kilogram
TERP	Transportation Emergency Response Plan
NPDES	National Pollution Discharge Elimination System
OEHHA	DTSC Office of Environmental Health Hazard Assessment
Parsons	Parsons Corporation
ppm	parts per million
PIA	Preliminary Investigation Area
PSHEP	Project Safety, Health and Environmental Plan
PPP	Public Participation Plan
RCRA	Resource Conservation and Recovery Act
SCAQMD	South Coast Air Quality Management District
TSDF	treatment, storage, and disposal facility
TSP	total suspended particles

UCL	upper confidence limit
USA	Underground Services Alert
USEPA	United States Environmental Protection Agency
XRF	X-ray fluorescence
$\mu g/m^3$	micrograms per cubic meter

1.0 INTRODUCTION AND BACKGROUND

1.1 GENERAL INFORMATION

The State of California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC) has tasked Parsons to develop this site-specific Interim Remedial Measures Work plan (IRMW) for implementing efforts to remove lead-impacted soil at 50 off-site residential and sensitive-use properties near the Exide Technologies facility in Vernon, California. The recommendations presented herein are to provide the remediation team with the approach for the successful implementation of remedial activities within affected areas.

DTSC's preliminary evaluation of the sampling results collected to date suggests that the geographic distribution of soils that have been affected by Exide's air emissions extends approximately 1.7 miles radially from the facility into portions of the incorporated and/or unincorporated cities of Maywood, Boyle Heights, East Los Angeles, Commerce, Bell, and Huntington Park (Preliminary Investigation Area [PIA]).

DTSC is taking on the role of contracting the soil sampling and removal work on properties within the PIA. The sampling work plan for X-ray fluorescence (XRF) was submitted to and approved by DTSC in November 2015. This work plan is for those properties with soil lead concentrations exceeding the highest priority cleanup level based on protection of human health.

This IRMW will serve as a master work plan that can be customized as necessary with the following information for an individual property (or for a collective set of properties remediated concurrently):

- Truck routes
- Special homeowners' requirements
- Equipment staging area
- Entry and exit routes
- Decontamination station
- Other site-specific requirements

This IRMW addresses 50 residential properties in PIA, some of which have already been determined to have the higher exposure potential from lead in soils based on the investigations performed to date (i.e., the 146 properties in the PIA sampled between September 2014 and May 2015). Cleanup efforts on these properties will begin upon IRMW finalization and in accordance with the California Environmental Quality Act (CEQA) requirements.

On March 10, 2014, DTSC issued a letter to Exide Technologies (Exide) referenced as DTSC Review of February 18, 2014, Off-Site Soil Sampling Report and Order, Exide Technologies, Vernon, CA (Stipulation and Order, Docket HWCA P3-12/13-010, OAH No. 2013050540, and Corrective Action Consent Order, Docket No. P3-01/02-010). In that letter, DTSC directed Exide to submit work plans for additional soil sampling and for implementation of interim measures, and to respond to comments that address the items discussed, including the review comments from the DTSC Human Health and Ecological Risk Office (HERO) and the DTSC Geological Services Unit (GSU). The two work plans and responses to comments were submitted on March 21, 2014, as required by DTSC. Following this submission, on June 19, 2014, DTSC

directed Exide to submit a separate, technical work plan to address soil removal activities at two residential properties that had been part of the March 21, 2014, Interim Remedial Measures Work Plan (IRMW). The Technical Work Plan was submitted to DTSC on June 30, 2014, and was approved by DTSC on July 8, 2014. The soil removal work on the two residential properties was completed in August 2014 in accordance with the Technical Work Plan. On July 14, 2014, DTSC provided review comments on the Interim Measures Work Plan (IMWP) submitted on March 21, 2014 by Advanced GeoServices Corp. (AGC).

In October 2015, Parsons was contracted directly by DTSC to perform interim cleanup of offsite residential properties around the former Exide Technologies facility in an effort to minimize potential lead exposure to the residents.

This IRMW was prepared by Parsons on behalf of DTSC; it sets forth the criteria under which DTSC will conduct further soil removal on residential properties within the geographic boundaries defined as the PIA surrounding the former Exide Facility.

1.2 BACKGROUND

The Exide Facility is located at 2700 South Indiana Street in the City of Vernon, California (Figure 1). The property occupies approximately 15 acres and is bounded by South Indiana Street to the west, 26th Street to the north, Bandini Boulevard to the south, and industrial properties to the east. The facility is an industrial property formerly used for lead battery recycling. Surrounding facilities are industrial.

To determine whether off-site residential soils contained selected constituents at concentrations that were greater than background or residential screening values, Exide's contractors, AGC and ENVIRON International Corporation (ENVIRON) conducted soil sampling at residential properties and at two nearby schools in November 2013. Additional samples were collected from a background area located in Long Beach, California approximately 14 miles to the south of the facility. Only the data from the residential properties within the initial assessment areas as defined below are germane to the Interim Measures presented in this work plan.

Based on air modeling conducted by the South Coast Air Quality Management District (SCAQMD), soil sampling took place in two residential areas:

- The Initial Northern Assessment Area in Boyle Heights and East Los Angeles
- The Initial Southern Assessment Area in Maywood

Nineteen properties were sampled in the Initial Northern Assessment Area, and twenty properties were sampled in the Initial Southern Assessment Area. Samples were taken from 0 to 1 inch, 1 to 3 inches, and 3 to 6 inches below ground surface (bgs). The results were compared to the background data and the Cal-EPA Office of Environmental Health Hazard Assessment (OEHHA) health screening levels.

Lead concentrations in the soil were found to be above the OEHHA Residential Soil Screening Value of 80 milligrams per kilogram (mg/kg) in both the Initial Northern and Initial Southern Assessment Areas.

Based on the air modeling conducted by SCAQMD, 219 residential properties in the Initial Assessment Areas were identified as most impacted; 182 of these properties have been cleaned up as of October 2015. Since the initial assessment, investigation was expanded to the north and

the south, and 146 properties were sampled in the Northern and Southern Expanded Assessment Areas of the PIA. Initially, the expanded area investigation results did not show a clear pattern of diminishing concentrations as investigations moved away from the facility. DTSC ordered Exide to conduct additional metals analysis to examine metal ratios as seen from emissions of a secondary lead smelting facility. DTSC has conducted a preliminary analysis of the additional metals data and is collaborating with SCAQMD and Los Angeles County Public Health to determine the extent of lead contamination from the Exide Facility's emissions. As mentioned above, the preliminary results suggest that lead contamination from Exide extends up to 1.7 miles from the facility; this 1.7-mile radius is referred to as the PIA.

Some of the 146 properties sampled in the Expanded Assessment Areas will be cleaned up in accordance with this IRMW.

1.3 PURPOSE AND OBJECTIVE

The purpose of this IRMW is to provide guidelines for removing soil to meet the overall objective of protecting human health by reducing the soil lead concentration to below 80 mg/kg based on a property-wide 95% upper confidence limit (UCL) of the mean average lead concentrations. This IRMW also documents the approach to removing soil in order to achieve the remedial goal. To meet these objectives, the IRMW outlines remedies that can be implemented now (under current conditions) or in the future that are protective of the health of the worker and the public.

1.4 PREVIOUS SITE INVESTIGATION ACTIVITIES

The properties that will be remediated under this IRMW were previously characterized by AGC and ENVIRON in late 2014 and early 2015. The investigations included the collection and analysis of soil samples at each of the properties in exposed areas with no hardscaping (e.g., concrete, asphalt, or structures). Sampling consisted of hand augering and collecting soil samples at the following depth ranges:

- 0 to 1 inch bgs
- 1 to 3 inches bgs
- 3 to 6 inches bgs
- 6 to 12 inches bgs
- 12 to 18 inches bgs

The sampling approach, findings, conclusions, and recommendations are presented in the reports prepared by AGC and ENVIRON. Soil samples collected during the course of the investigations were analyzed for lead using United States Environmental Protection Agency (USEPA) Method 6010. Results showed elevated soil lead concentrations at depths of up to 18 inches bgs. The exact depth of excavation is based on soil sampling results, which identify soils exceeding the 80-mg/kg total lead concentrations based on a property-wide 95% upper confidence limit (UCL) of the mean and therefore require remediation.

The scope of this IRMW was developed based on the investigation results; it will address DTSC work for some of the lead-impacted soil within the offsite areas associated with former Exide Facility emissions.

1.5 WORK PLAN ORGANIZATION

This IRMW is organized as follows:

- **Section 1.0 – Introduction and Background** provides general information on the IRMW, including purpose and objectives, and previous investigations.
- **Section 2.0 – Proposed Remedial Measures** summarizes the access requirements, documentation, permitting, and excavation approach, including the control measures necessary for site safety and protection of human health.
- **Section 3.0 – Removal Action Implementation Schedule** presents the major milestones for implementing the IRMW and letter completion reports.

In addition to the sections described above, tables and figures are provided. Finally, the appendices for this report are described below:

- **Appendix A – Access Agreement** provides a copy of the standard access agreement used to gain access to each property at which this work will be completed.
- **Appendix B – DTSC Clean Fill Advisory** provides a copy of the Advisory that outlines the import soil sampling necessary to meet project objectives.
- **Appendix C – Project Safety Plan** provides the documentation on how the work at the Site will be conducted in a safe manner.
- **Appendix D –Transportation Emergency Response Plan (TERP)** provides the plan by which materials will be transported to the appropriate landfill for disposal and includes a spill response/contingency plan for managing a spill if it were to occur.
- **Appendix E – Property Closeout Checklist -** provides the checklist by which the property will be released back to the owner with approval of the work granted via signature by the owner.

2.0 PROPOSED REMEDIAL MEASURES

2.1 SOIL REMOVAL

Soil removal activities outlined in this IRMW are designed to remove lead-impacted soil at properties that show an average lead concentration exceeding 80 mg/kg as documented in the AGC and ENVIRON investigation reports and based on new sampling information collected using XRF. The removal actions will consist of the following tasks:

- Prioritizing the properties based on specific guidelines
- Identifying site access procedures
- Conducting safety and site meetings prior to excavation activities
- Performing air monitoring
- Photo documentation and permitting
- Outlining the removal limits at each property
- Implementing controls associated with erosion control, water management, excavation area safety/security, protection of existing structures, and restoration.

Soil removal activities will initially be conducted at five properties identified by DTSC under the prioritization approach outlined below.

2.1.1 Prioritization of Properties for Soil Removal

Soil sampling results will be used to identify those residential properties that will be subject to soil removal activities. The following general criteria will be used to prioritize soil removal at sampled residential properties.

2.1.1.1 Priority 1 (Highest Priority)

For properties where discrete sample results identify soil lead concentrations greater than or equal to 1,000 mg/kg in any single soil sample in the uppermost depth interval (0 to 3 inches), soil removal will be given an initial *Priority 1* status. Further prioritization within Priority 1 status properties will be considered based on demographics and property characteristics, such as bare soils accessible, and if children and pregnant women reside on the property.

2.1.1.2 Priority 2 (Moderate Priority)

For properties where discrete sample results identify lead concentrations greater than 400 mg/kg in any single soil sample in the uppermost depth interval (0 to 3 inches), soil removal will be given a *Priority 2* status. However, if these properties are occupied by children (under 7 years) or pregnant women and bare soils are present, then soil removal may be given a *Priority 1* status.

2.1.1.3 Priority 3 (Lowest Priority)

For properties where the soil lead concentration is greater than or equal to 80 mg/kg based on a property-wide 95% UCL of the mean for the uppermost depth interval (0 to 3 inches), the

property will be given a *Priority 3* status. However, if these properties are occupied by children (under 7 years) or pregnant women, or if bare soils are present, then soil removal will be given a *Priority 2* status.

For all properties, soil removal will extend to the depth interval at which the 95% UCL is less than 80 mg/kg or to a depth of 18 inches. The horizontal and vertical limits of removal will be established upon review of the soil lead results to determine those portions of the property that require soil removal to satisfy the above criteria. The vertical limits of removal will not exceed 18 inches. All soil removal is subject to property owner approval.

Prior to initiating excavation activities, Underground Service Alert (USA) will be notified at least 48 hours prior to initiating excavation activities in accordance with Article 6 - Excavations in California Occupational Safety and Health Administration's Construction Safety Orders.

2.1.2 Public Participation Activities

To provide members of the public with site information and appropriate opportunities for public comment, recommended activities include (1) providing email and letter updates to interested parties at key project milestones, (2) preparing fact sheets for upcoming work, and (3) monthly public meetings on the project to keep the community informed.

Throughout the project, interested parties will be able to review project documents at the DTSC's website for the project:
(http://www.dtsc.ca.gov/HazardousWaste/Projects/UpdateExideSuspension.cfm).

2.1.3 Site Access

To perform soil sampling and removal, DTSC or their contractor will solicit Site access from the property owner. Appendix A presents the access agreement developed by Parsons. The agreement will include statements that the property owner will not be charged for the work and that the property will be restored to its original or better condition following soil removal. Diligent efforts will be made to obtain access. No work will be performed without a signed access agreement.

2.1.4 Initial and Pre-Excavation Meetings

Prior to the start of removal activities on a property, representatives from DTSC and Parsons will meet with each property owner (and tenant, with owner approval) to describe the soil sampling results as well as the removal and restoration activities to be performed on the property. Topics to be discussed will include protection of property and yard fixtures, determination of the home occupants (both human and animal), and post-remediation restoration, including obtaining approval for the installation of sod or mulch, whichever the property owner prefers.

DTSC will provide the residents with a flyer describing the work to be performed. The flyer includes a 24-hour toll-free bilingual (English and Spanish) hotline for residents or immediate neighbors to call if any questions or concerns arise during the work. The hotline will be answered by a bilingual representative who will collect caller information and distribute the request to the correct entity. The hotline will be answered in person during business hours and

will be able to receive voicemail during off hours. If an emergency situation arises and must be addressed immediately, Parsons will report to the Site to address the issue. If it is not an emergency, the issue will be addressed during business hours. The hotline will be available during the course of the construction activities subject to this IRMW.

During construction activities, a sign will be placed at the front of the property. This sign will display the toll-free hotline information and will be visible from the street nearest the excavation activities.

2.1.4.1 Mobilization

The preliminary stages of project mobilization consist of the following tasks associated with preparing for the removal action. The general sequence of preliminary work is outlined below.

- Provide appropriate public/work notices to the surrounding community and provide on-site workers with public relations training.
- Secure all applicable and necessary permits.
- Contact USA to identify all proximal underground utilities. Each utility will be conspicuously marked.
- Mobilize a third-party geophysical contractor to the Site to mark utilities in and around excavation areas.
- The removal action contractor will mobilize necessary equipment and supplies to the site and prepare for remediation. The contractor will conduct work between 7:00 am to 4:00 pm, Monday through Friday, unless arranged otherwise by DTSC and the owner.
- Mobilize temporary facilities and utilities, such as portable toilets and hand-washing stations, as needed. Portable toilets shall be locked at the end of each work shift.
- Install temporary fencing around the excavation boundary within the area of excavation, and place erosion control materials as outlined in Section 2.1.8.
- Identify and clearly delineate the work zones, including the exclusion, decontamination, and support zones. The exclusion zone will include all areas of excavation, the contaminated soil staging area, and the truck loading area. The decontamination zone will be located immediately adjacent to the exclusion zone to decontaminate personnel, equipment, and vehicles as they exit the exclusion zone. The support zone will be located within the designated work area, but it will be outside the exclusion and decontamination zone. The support zone will be used to temporarily store equipment, vehicles, and clean soil, as well as to accommodate project personnel.
- Position all health and safety equipment and supplies, along with decontamination materials, for use when needed.
- Implement other site-specific precautionary measures, as necessary.

2.1.5 Property Photo Documentation

Before soil is removed from the identified properties, the location will be photographed and, at the discretion of the remediation contractor, video logged. The photographs will document the

existing condition of the properties and will document the condition of the proposed work area and adjacent structures prior to work activities. Photographs will be taken with a digital camera and will be correlated to a map that displays the position and direction from which each photograph was taken. Photographs will also be taken after restoration has been completed.

2.1.6 Permitting

All necessary permits for removal activities, excavation, and transportation will be obtained prior to remediation. The permits will be kept on site and will be made available for inspection during working hours. The anticipated permits may include, but are not necessarily limited to, the following:

- Grading and Drainage
- Encroachment
- Lane Closure (Traffic Control)

Equipment to be used for the work will be permitted in accordance with SCAQMD Rules 203 and 403. Personnel performing the work will be trained and certified as workers under Title 17 of the California Department of Public Health (CDPH). Parsons and/or its subcontractor will be responsible for notification requirements of the CDPH.

Although occurrence of underground storage tanks (USTs), cisterns, and other buried debris is not anticipated during these remediation efforts, additional permits may be necessary through the City or County for removal of these items. Procedures for removal of USTs, cisterns and buried debris are summarized in detail in the Spill Response and Contingency Plan, which is an attachment of the Transportation Emergency Response Plan (Appendix D).

2.1.7 Removal Limits

Areas will be excavated to a maximum of 18 inches bgs. The removal areas will be based on the concentrations of lead found in the soils and the accessibility of such soils for removal. Soil removal depths will range from 6 inches to 18 inches bgs. Trees and established shrubs will not be removed. Areas within the biological root zone of trees or established shrubs (dripline) will be excavated to a maximum depth of 6 inches in order to preserve the integrity and survivability of the trees. Excavations will be conducted using small construction equipment and/or hand digging. Potential equipment to be used is listed below:

- Mini-excavators and/or Bobcats for excavation and loading
- A walk-behind compactor for soil compaction
- A water buffalo or water from the residence for dust suppression and soil compaction efforts
- A street sweeper attachment (with a filter to be changes out when necessary) for the Bobcat to keep the project area and access roads clean
- A high-efficiency particulate arrestance (HEPA) vacuum for during and post remediation cleanup activities

- Trucks for exporting contaminated soil (appropriately secured to eliminate dust), and importing clean backfill soil
- Other hand-held equipment based on occasional field needs for areas not accessible by equipment
- Instrumentation for monitoring

As necessary, hand excavations will be conducted close to existing structures, utilities, mature trees, or other areas that would be difficult to excavate around or that could be damaged by equipment. Soil will not be removed beneath or inside structures, roads, sidewalks, brick patios, driveways, or other inaccessible or permanent features. Excavations against houses, garages, outbuildings, driveways, sidewalks, structural perimeter walls and fences and patios will be benched in six inch steps to the full removal depth, as necessary. No soil removal activities will occur under decks or other areas inaccessible by residents. If a planter is not structurally sound, the planter will be removed with permission of the property owner. Small shrubs and other plantings (excluding trees and mature shrubs) will be removed and disposed offsite with property owner concurrence.

2.1.8 Erosion Control

The erosion control activities to be implemented during remediation are to prevent surface runoff from entering or exiting the work area. Note that coverage under the state's National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Activities and an associated Stormwater Pollution Prevention Plan will not be required by the State Water Resources Control Board for the implementation of this IRMW because the initial size of the areas of disturbance is less than one acre. If remediation activities extend into the rainy season, waterproof covers will be placed over storm drains for temporary protection. Berms will be placed around the excavation area (i.e., sand bags) to prevent run-off from and run-on into the excavation area, thereby minimizing the amount of contaminated wastewater to be handled. These measures will be evaluated daily during active remediation activities to ensure that they function properly. To prevent sediment from leaving the work area during soil-disturbing activities, multiple erosion control best management practices (BMPs) will be used. These BMPs may include hay bales and/or silt socks/fence for the perimeter of the property, as needed. In addition, inlet control devices (including a combination of filter fabric and sandbags) will be used in case of rain. Proposed erosion control devices will be shared with DTSC for review and approval.

The following procedures will be used:

- Monitor the weather forecast very closely. When heavy rain is forecast, halt the remediation activities.
- Conduct the excavation in small sections so that, if rain begins to fall, the exposed excavation can be covered immediately to keep water out of the excavation.
- Use proper procedures to ensure that wet soil (mud) is not tracked offsite on the tires of trucks used for soil transportation. The procedure may include placing plastic sheeting at the loading area.

- Use plastic sheeting extensively to ensure that the area of excavation is protected from rain during off hours and during sudden heavy rain. Manage wastewater in accordance with the procedures described in Section 2.1.9.

In general, except for dust and odor control measures, the excavation will be kept dry to ensure that no wastewater is generated and no environmental concerns arise, and to ensure that the excavation can be backfilled promptly.

2.1.9 Wastewater Management

To prevent fugitive dust during construction, the excavation areas will be sprayed with a mist of water prior to removal as discussed in Section 2.1.14. The amount of water will not saturate the soils, and no runoff is expected during this operation. Although they are not anticipated to be needed to prevent offsite migration of soil, silt socks (compost-filled fabric tubes), silt fences, or similar measures will be installed along the perimeter of the excavations in the direction of surface water runoff flow. If necessary during loading, water will be sprayed while the transport vehicle is located on a decontamination area consisting of plastic sheeting and a water collection point.

All water used for loading and/or decontamination will be captured and transported to an offsite facility licensed to handle this waste for treatment and disposal, or it will be used as dust suppression on waste that will be hauled offsite for disposal. Following construction, dry decontamination methods (e.g., shovels to remove any fallen soil or brushes to loosen caked-on soil, followed by HEPA vacuuming) are anticipated to be used on transport trucks and on excavation equipment. No impact to water quality is anticipated.

Water absorption materials will be provided to capture all water and prevent runoff from leaving the property. This runoff includes any leaks in hoses or stormwater from a rain event that may occur during construction. As previously mentioned, all captured water will be transported to an offsite facility licensed to handle this waste for treatment and disposal, or it will be used as dust suppression on waste to be hauled offsite for disposal.

2.1.10 Excavation Area Safety and Security

Prior to initiating excavation activities, USA will be notified at least 48 hours prior to initiating excavation activities in accordance with Article 6 - Excavations in California Occupational Safety and Health Administration's Construction Safety Orders.

Access to the areas to be remediated may require an encroachment permit (blocking sidewalk access) and/or traffic control permit (lane closures) from the city in which the work will be conducted. During the remedial work, Site entry and exits will be controlled through the creation of work zones. An exclusion zone, contamination reduction zone (decontamination zone), and support zones, as well as the staging area (collectively known as the work zones), will be established within the area in which remedial activities will occur. During all remedial activities, Site access will be restricted to authorized personnel only. During non-working hours, access will be controlled via secured temporary orange safety fencing that will be placed, as needed, along the edges of excavation to restrict access to the excavation areas. The work area will be maintained clean of any contractor generated waste material. All contractor generated waste

material will be consolidated and removed from each property daily. Contractor waste will not be disposed in soil waste containers.

It is assumed that the average property will have an area of 200 square yards and excavation volumes of 33, 67, or 100 bank cubic yards at 6-, 12-, or 18-inch excavation depths, respectively. This waste will be managed as outlined below and as required by DTSC.

2.1.10.1 Disposal of Excavated Soil

To the degree possible, excavated soil will be characterized based on existing soil samples.

Based on the waste characterization and prior to removal work at that property, the disposal facility will be identified, and DTSC will be notified before the soil is transported to the disposal facility.

The treatment, storage, and disposal facility (TSDF) for the soils is expected to be either the La Paz County landfill in Parker, Arizona, or the Waste Management Kettleman Hills Facility in Kettleman City, California. Both facilities are permitted for the acceptance of lead-impacted nonhazardous, non-Resource Conservation and Recovery Act (RCRA) hazardous and RCRA hazardous waste. All non-RCRA and RCRA hazardous waste will be transported under Uniform Hazardous Waste Manifest. All nonhazardous waste will be transported under a Bill of Lading or Nonhazardous Manifest. Nonhazardous waste may also be handled at local landfills, including the Azusa Landfill in Azusa, California; or the Waste Management Simi Valley Landfill in Simi Valley, California.

After loading and decontamination, the trucks/roll-offs will proceed directly to the disposal facility. All necessary precautions will be taken to prevent track-out from trucks or roll-off bins. The vehicles will undergo dry decontamination (e.g., shovels to remove any fallen soil and brushes to loosen caked-on soil, followed by HEPA vacuuming), as necessary. Following the transport vehicle's departure, residual soils will be removed from the decontamination area using the techniques described above. In addition, all loading operations will be conducted atop plastic sheeting to avoid the potential spread of impacted waste.

Transport vehicle departure will be scheduled when the transport vehicle has reached its limit of weight or volume. Actual times for departure will be determined in the field. A (TERP consistent with the California Department of Transportation (Caltrans) Maintenance Manual, Volume 1, Chapter 05 Spills and Substances on Highway Rights of Way, dated July 2014, is provided in Appendix D as part of the overall plan to address any accidental spills or releases of excavated soils that may occur during transport along the transport highway routes.

A TERP will also be prepared and submitted to DTSC for review and approval. This plan will describe the specific route(s) proposed for transportation of soils to/from the residential areas.

The MTERP requires the following mitigation measures:

- The contracted trucking company hauling the soils to the disposal facility must be licensed in California to transport hazardous waste if the waste are characterized as such.
- Operator (driver) training:
  - The operator will receive education on the characteristics of the waste being transported.

- The operator will ensure that the hazardous waste manifest, including the waste characterization, is present in the cab of the truck at all times.
- The operator will perform a pre-travel inspection of the vehicle and a safety check on the emergency equipment included with the vehicle.
- The operator will be trained to notify the correct authorities in case of an accidental waste spill during transport to the disposal facility.
- The operator will be trained for emergency response.

- Notification to California Highway Patrol; the Incident Commander (IC).
- Notification to Caltrans:
  - Caltrans will take the lead to ensure proper cleanup. Caltrans will determine which qualified operator will perform the cleanup depending upon conditions, identification and hazard assessment, containment, and cleanup.
- Spill handling performed by Caltrans or qualified contractor:
  - Safe approach
  - Isolation and containment
  - Notifications
  - Identification and hazard assessment
  - Cleanup and disposal

If a spill occurs at the remediation area, the remediation contractor will be prepared to respond in a safe and efficient manner specific to the spill situation. Procedures established in the Spill Response Plan will be used for handling of spills, whether they be onsite spills or spills occurring during transportation. The provisions of the Spill Response Plan (Appendix D) will be strictly followed in order to ensure the continued protection of the public and the environment.

2.1.11 Decontamination Procedures

To prevent transfer of contamination offsite or residual contamination from being left onsite by construction equipment and personnel, decontamination procedures have been developed in the Project Safety, Health and Environmental Plan (PSHEP, Appendix C) prepared for this removal action. These procedures are summarized as follows:

- Before excavated waste is loaded into trucks, plastic sheeting will be placed on the ground or asphalt so that spilled waste cannot contact the ground surface. Trucks may be rolled back and forth to allow area property owners access to driveways/streets. In these cases, the plastic should be rolled back to the sidewalk so that the truck tires don't roll over spilled soil and deposit it into the gutter/street. When loading is complete, debris will be placed in the appropriate container for proper disposal, and the plastic sheeting will be folded and disposed daily.
- All equipment wheels/tires will be cleaned over plastic sheeting by means of shovels and stiff-bristled brooms or brushes until they are fully cleaned. When cleaning is complete,

debris will be placed in the appropriate container for proper disposal, and the plastic sheeting will be folded and disposed.

- A HEPA-certified vacuum will be used on hardscape areas where residual impacts may be present following the removal actions. A HEPA vacuum will be used on any spilt soils as necessary.
- Personal protective equipment will be removed and discarded in the contamination reduction zone. Reusable items such as work boots will be decontaminated using the following two-stage process:
  - HEPA vacuum boots, if necessary.
  - Wash the items in a detergent solution with a stiff-bristled brush and rinsing them with clean water.
  - Distribute the rinsate water over contaminated soil (to be exported) for dust control.

The decontamination containers will be clearly marked and will identify the wash and rinse containers to be used. To avoid potential cross contamination, rinse water will only be applied to waste that will be offloaded for disposal; it will not be applied to any of the open excavations.

2.1.12 Confirmation Sampling

Following soil removal, confirmation sampling will be required to confirm that remedial goals have been achieved and that the lead-impacted soil has been removed. The goal of the confirmation sampling plan is to collect enough data to document that the removal goals were achieved after the removal action is completed. Confirmation soil sampling will occur after the proposed excavation activities are completed and before backfilling and restoration activities begin. For residences where the lowest lead analysis data shows compliance with the 80-mg/kg lead concentrations as calculated for the 95% UCL, no additional confirmation sampling will be required.

The following subsections describe the process that will be used to demonstrate attainment of the removal action goal for lead-impacted soil with concentrations above the target cleanup goals.

2.1.12.1 Soil Sample Collection

All soil sampling equipment will be decontaminated before each sample is collected. Prior to sampling, any loose waste or soil will be gently brushed off the surface of the excavation, and care will be taken to collect the sample from an undisturbed area.

Confirmation sampling will be performed at the bottom of the excavation. To begin restoration as soon as possible, backfill will be placed after the excavation limit (not to exceed 18 inches) is verified. Confirmation sampling will be conducted using XRF, consistent with the sampling approach used during the investigation activities. XRF analysis will be conducted with a portable XRF spectrometer capable of determining elemental metal concentrations in soil and sediment using Method 6200. An XRF sample will be collected from eight locations at each property: four from the front yard and four from the back yard. The XRF analysis will be conducted for lead only. Two samples per property will then be collected for fixed laboratory analysis for lead, antimony, cadmium, copper, and zinc. Results from the fixed laboratory will be compared to the

XRF samples to assess whether the XRF results correlate well to the laboratory results. It should be noted that excavations will not extend beyond 18 inches bgs unless confirmation sampling identifies lead levels in soil at concentrations exceeding the 80 mg/kg standard. The XRF results are anticipated to be less than 80 mg/kg at this depth. Analytical results will be evaluated from a statistical standpoint to confirm that the 95% UCL for these samples is below the 80-mg/kg remedial goal.

All soil samples for analyses by a fixed laboratory will be submitted to State of California certified laboratory (Orange Coast Analytical). As the analytical results become available, they will be evaluated and compared to the XRF data and the cleanup criteria in soil to determine if there is a direct correlation between the results as expected. Note that backfill operations will not depend on the results of the fixed laboratory analyses.

2.1.12.2 Sample Designation

Each confirmation soil sample will have a unique identification code to indicate where and at what depth a sample was collected. Procedures generally consistent with the sample designations previously used during the investigation of the properties will be used for confirmation samples.

2.1.13 Protection of Existing Structures

Throughout the site preparation, removal, and restoration activities, procedures will be implemented to protect existing property features from damage. These procedures will include safe working distances, warning tape, manual digging, and temporary fencing and barriers. At the daily completion of work, and as necessary during the course of work, driveways and sidewalks on the property will be cleaned using HEPA-certified vacuums. If wet cleanup is necessary (e.g., power spray), the water will be collected in a manner that prevents sediment from entering stormwater inlets or other structures. If the remediation team causes any damage to public or private utilities within the properties being remediated, the damage will be addressed at no expense to the property owner.

The potential intrusion of fugitive dust into the residential structures will be minimized by using the dust suppression techniques discussed in Section 2.1.14 and by requesting all that residence windows and doors be closed before excavation activities begin. If windows are kept open by the owners, open windows will be sealed with plastic sheets prior to start of any excavation activity. All soil excavation work or work that may generate dust will cease until all residence windows and doors are closed.

If the predicted high air temperature exceeds 80°F while excavation work is taking place, the resident will be offered an air conditioner to use on a temporary basis until the windows can be opened again following excavation work.

2.1.14 Dust Suppression

The largest potential source of dust and emissions during the work will be the excavation and handling of waste during soil removal. As discussed above, dry decontamination techniques will be used on transport trucks and HEPA vacuuming will be used as needed. Excavation equipment will be stored so that it does not generate fugitive dust immediately after completion of work. Immediately after completion of the work and prior to exiting the property, excavation

equipment will be decontaminated by wet wash or by a HEPA vacuum equipped with a filter rated by the manufacturer to achieve 99.97% capture efficiency for 0.3-micron particles.

To comply with the SCAQMD rules and the PSHEP (Appendix C), dust control measures will be implemented during remediation activities. The planned excavation areas are expected to require simple control measures to mitigate fugitive dust. The following typical dust control measures may be considered:

- Spray of water
- Spray of water amended with environmentally safe additives (e.g., Simple Green, Envirotech Vapor Suppression, or equivalent)
- Application of chemical foams
- Coverage of volatile organic compound sources with plastic sheeting or clean soil

Further details of dust suppression activities/approaches are provided in the next section.

Onsite monitoring of dust levels is planned as required by the PSHEP. Special considerations will be applied during earth-moving operations (excavation, contaminated soil loading, and unloading of clean soil). Dust monitoring will be conducted with dust meters (i.e., Dust Trak model 8530 or model 8532 dust meters or equivalent) as a means of documenting concentrations of airborne dust. Dust readings will be recorded on site-specific dust monitoring forms or in the field logbook.

Dust levels will also be monitored during excavation and loading activities at the Site perimeters. If the monitoring data at the Site perimeters indicates that dust levels are beyond the SCAQMD limit of 50 micrograms per cubic meter ($\mu g/m^3$) above background, then additional engineering control measures (listed below) will be implemented to reduce the dust level. If stockpiles of contaminated soil or surface excavations are left overnight, the exposed portion will be covered with plastic to reduce dust emissions. The equipment proposed for the Site remediation will be maintained properly so that exhaust emissions will be within acceptable standards. If necessary, the tires of soil transport trucks will be washed in order to prevent tracking of soil that would increase in fugitive dust levels outside the Site perimeters.

2.1.14.1 Dust Suppression Techniques

A rule of "no visible dust" will be applied to all aspects of the work that involve impacted soils and fill placement. To control the possible generation and migration of dust during the excavation and handling of waste, the following procedures will be implemented:

- Apply water directly to the active excavation prior to soil disturbance. Also apply water during the truck loading operations, as appropriate.
- Promptly apply water to excavation, loading, or unloading operations upon any observance of dust.
- Control dust during operation of trucks by not allowing waste to be dropped from heights above the top rail of the truck body.
- For days on which wind speeds exceed 20 mph, cease work and immediately secure or cover excavation areas and soils in a manner that does not generate fugitive lead dust.

- Regularly inspect all rear gate seals and locking mechanisms on waste transport vehicles in order to prevent spillage and dust production.
- HEPA-vacuum the trucks before they leave the loading areas to prevent the deposition of waste.
- Clean up all spilled soil waste within the loading area and work areas. Following each day's construction activities, the contractor will HEPA-vacuum all areas to remove any residual soils from non-excavation areas.
- To prevent leaking, use polyethylene sheeting to line all transport vehicles used for offsite transport of waste. Place sufficient sheeting material in the transport vehicle to allow the contractor to cover and wrap the waste within the vehicle. The contractor will install secured, strapped-down covers to prevent fugitive lead dust during transport to the disposal facility.

To ensure compliance with the project performance standards, air monitoring will be conducted as described below.

2.1.15 Air Monitoring Plan

Air monitoring will be performed during soil removal and placement activities to ensure that there is no fugitive dust from the impacted soils or fill materials. Real-time particulate monitors and personal air monitors (PAMs) will be used during the operations as detailed below.

2.1.15.1 Real-Time Particulate Monitors

Particulate dust monitors measure the total dust in the air. Three particulate dust monitors will be set up daily at each property:

- One monitor will be placed downwind of the excavation area to monitor the effects of the work.
- One monitor will be placed upwind of the excavation to monitor dust coming from sources unrelated to the work.
- One third monitor will be placed at the homes' closest entryway to excavation to identify particulates near the work area.

The contractor will use Dust Trak model 8530 or model 8532 to measure total suspended particles (TSP) in the air. These monitors measure aerosol particulates corresponding to particulate matter up to 10 microns in diameter (PM_{10}).

Monitors will be placed each day prior to soil disturbance or placement activities, and the levels relative to the area-specific action level will be reviewed hourly during the work. The action level will be the SCAQMD's standard for PM_{10}, which is 50 $\mu g/m^3$ above background levels. This concentration will be greater than the upwind monitor reading that measures the ambient (i.e., nonwork-related) conditions. If the downwind or entryway monitor shows a level exceeding the action level, the upwind monitor will be checked to see if there is an upwind source for the increased dust level, DTSC will be informed, and the monitor will be checked again in 10 minutes to determine whether the level has dropped below the action level. If it has not, work will be decreased and the dust suppression techniques will be correspondingly increased (as

described in Section 2.1.14) as needed to lower the dust levels below the action level. Although dust monitoring will not be conducted during a significant rain event, dust meters will be protected in place in the event of a sudden shower. Dust meters can be encapsulated in plastic, if necessary, ensuring no obstructions to the flow of the meter.

2.1.15.2 Personal Air Monitors

In addition to the three dust monitors described above, during disturbance of lead-impacted soils, a Gilian GilAir-5 model (or comparable) PAM will be co-located with a dust monitor at each location during the excavation work. The PAM cassettes will be analyzed for lead content at an offsite laboratory after completion of the excavation work. The findings will be reviewed and documented. The date, start time, end time, and air flow will be recorded on the cassette for analysis.

2.1.16 Supplemental Environmental Controls

Other environmental controls may be required if conditions change at the Site. Remediation will be conducted in a very proactive manner in order to identify unforeseen conditions and develop appropriate engineered measures to improve those conditions. If unforeseen conditions are identified, work will be transitioned to another portion of the property where these conditions will not affect the ongoing operations.

2.1.17 Traffic Control

Vehicle traffic around the excavation areas is expected to be moderate. To ensure safe and uninterrupted traffic flow, extreme caution will be exercised while the vehicles are being staged and/or entering and exiting the work area. During soil hauling periods, traffic into and out of the area will be planned to optimize traffic flow. The trucks' entry into and exit from the work sites will be facilitated by flagmen (as necessary), with due consideration for the traffic hazards associated with nearby businesses and pedestrian traffic in the remediation area.

Excavated waste will be transported via surface streets (following the DTSC-approved TERP) directly to the offsite disposal facility. Backfill will also be transported directly to the residential property in accordance with the TERP (Appendix D).

Construction vehicular traffic will be controlled to ensure that activities are performed safely and efficiently. Site workers will remain cognizant of the nature of this work within residential neighborhoods and will perform work in a safe manner. Speed limits will be established and implemented by signs and flagmen, as necessary, to minimize dust generation and maintain a safe environment for workers and local residents, including children. All trucks hauling excavated or backfill soil will be tarped during transportation.

2.1.18 Site Restoration

For excavations that are 12 inches or deeper, structural soil fill material will be used to achieve backfill grades to within 6 inches of final grade. Structural fill, unlike a pure sand fill material, contains enough fines to prevent accelerated drainage of water, and as such it is a satisfactory support for topsoil. A minimum o f 6-inch of topsoil will be placed as final grade in each excavation. For 6-inch excavations, only topsoil will be used to backfill the entire 6-inch depth.

Soil samples of any fill materials will be collected prior to use and will be submitted by the contractor for laboratory analysis. The sampling procedures will follow DTSC's *Information Advisory for Clean Imported Fill Material,* dated October 2001 (Appendix B). Sample analysis results will be shared with the DTSC project oversight and will be compared to the DTSC Residential Screening Values for approval. Soil fill materials will be free from roots and other organic matter, as well as trash, debris, and stones larger than 3 inches in any dimension. Soil fill materials (including topsoil if only topsoil is used) will be placed in loose, 8-inch lifts and will be lightly compacted by mechanical methods.

Topsoil material will be a natural, friable soil with enough organic content and nutrients to sustain grass growth, and it will be free of trash or other deleterious debris. The maximum particle size will be 3/4 inch, and rocks larger than 1/8 inch will not exceed 5% of the total weight. The topsoil will be screened, as required, so that the maximum particle size is not exceeded. Topsoil samples will be collected prior to use and will be submitted for laboratory analysis, and the results will be compared to the DTSC Residential Screening Values as well as to determine the appropriate soil nutrients and organic content. The topsoil must be free of total petroleum hydrocarbons, volatile and semivolatile organic compounds, asbestos, polychlorinated biphenyls, pesticides, and herbicides. Topsoil materials will be placed to an approximately 6-inch depth over the structural soil fill material or unexcavated soils. After the topsoil is placed, it will be tilled to a depth of 2 inches for acceptance of sod. If the homeowner selects mulch or decomposed granite as the final grade at the property, the topsoil will be lightly compacted to allow for the placement of the mulch.

All fill replacement areas and areas disturbed by soil removal operations will be uniformly smooth graded to mimic the pre-excavation grades, except as necessary to permit adequate drainage (with the notification and acceptance of the property owner).

Grade control will be performed to confirm the appropriate grades and to make modifications, as necessary.

If the homeowner prefers replacement sod, a sod that tolerates the local climate conditions will be provided. The topsoil will be moistened before the sod is laid. The sod will be laid tightly together with no open joints visible and no overlapping. End joints will be staggered by a minimum of 12 inches. To ensure a good bond between sod and soil, the sod will be rolled using rollers not exceeding 100 pounds or using suitable wooden or metal tampers. Sod will be watered immediately after installation to a saturation depth of approximately 3 inches. It will be the responsibility of the individual home owners to maintain and water new sod after installation. In general, new sod should be watered twice a day for a 15-20 minute duration.

Excavation operations/activities will stay a minimum of 6 inches away from gas and water lines that feed the property from the street. Therefore, these lines will not be exposed. This will minimize the potential impact to these utilities as well as potential associated repairs to these lines. If these lines are accidentally damaged, they will be repaired by the remediation contractor.

2.1.19 Post-Remediation Interior Cleaning

Following soil removal and restoration, if interior cleaning is necessary, property owners will be provided letters, certificates, or coupons to schedule an interior cleaning by a bonded national cleaning service experienced in residential home deep cleaning, such as cleaning following fire,

flood, or lead-based paint abatement. The certificate will typically allow for a one-time cleaning of the interior of the home to include HEPA-vacuuming of all floorings, window sills, drapes, and furniture. Following the HEPA-vacuuming, all surfaces will be washed with a lead-specific detergent, high-phosphate detergent, or other suitable cleaning agent to dislodge any ground-in contamination, then rinsed. The cleaning solution will be changed after every room is cleaned. The resident/property owner would schedule the cleaning directly with the cleaning company. All waste generated would be collected by the service company and would be disposed appropriately.

2.2 HEALTH AND SAFETY PLAN

The PSHEP (Appendix C) establishes prudent health and safety guidelines to minimize the risk of occupational accidents and exposure to hazardous substances associated with environmental sampling and removal of potentially contaminated soil and construction debris materials. The PSHEP, in conjunction with the TERP (Appendix D), also provides emergency incidence response guidelines and contacts in the event of an accident or a hazardous exposure. This PSHEP includes include the following:

- Planned site activities
- Site health and safety characterization
- Physical hazards
- Characterization of waste
- Hazard evaluation of waste
- Responsibilities of key personnel

The PSHEP (Appendix C) was developed specifically for this project and will be used to establish minimum onsite and offsite safety requirements, as well as policies and procedures adequate to protect Site workers, the public, and the environment from the predicted hazards. All remediation contractors involved in the removal, transport, and handling of impacted waste will be required to abide by these minimum requirements. As indicated in the PSHEP, if unanticipated conditions occur at the Site, the plan will be modified accordingly.

Modified Level D personal protective equipment will be required for project activities unless health and safety monitoring shows otherwise. If monitoring indicates a potential issue or exposure, then engineering controls or personal protective equipment may be necessary to protect workers and/or the surrounding community.

Chemical exposure to lead in soil for site workers is anticipated to be of low risk for this project. Dust generation as part of the remediation activities will be prevented with proper dust control measure (i.e. wetting of soil, slow excavation activities, etc.). As such exposure due to inhalation is of minimal concern. Dust suppression, and ambient and personnel air monitoring will be conducted as specified in Section 2.1.14 and 2.1.15 above. Exposure due to ingestion may pose a risk, which can be easily mitigated by proper use of Level D PPE. Hands and shoes may come in direct contact with potentially contaminated soil. Therefore, workers will be required to wear steel toed work boots, latex gloves, high visibility vests, and hard hats as part of their Level D PPE. Handling of soil, soil samples, sampling equipment, and any other equipment

that comes in contact with soil is only allowed while wearing latex gloves, or work gloves over latex gloves. Whenever a task necessitating the use of PPE is completed, the latex gloves will be discarded and hand washing will be required. Additionally, to prevent track-out off-site, work boots will be decontaminated by brushing off any loose soil on site, and washing the boots with water.

3.0 SCHEDULE

3.1 IRMW REVIEW AND FINALIZATION

This IRMW is subject to DTSC review and comment; DTSC will also obtain clearance from review requirements under CEQA. The IRMW will be finalized after the DTSC review and approval of the document and the CEQA review requirements are satisfied.

After the DTSC review and comment, responses to each comment will be provided along with the corresponding modification to this IRMW, as required. After the comments have been adequately addressed, the IRMW will be finalized.

3.2 PREPARATION FOR IRMW IMPLEMENTATION

While the procedures for this remedial action are under review, DTSC will conduct the following activities to allow faster implementation of the subsequent cleanup activities:

- DTSC will establish the horizontal and vertical limits of excavation for each residential property with available data.
- DTSC will identify and retain qualified contractors.
- Proposals will be developed for property-specific soil removal plans on Priority 1 properties. DTSC will review and approve the property-specific soil removal plans for each Priority 1 property.
- DTSC will obtain and execute an access agreement with individual property owners and coordinate remediation details and schedule with each owner.

3.3 ONGOING INVESTIGATION

DTSC will be overseeing additional investigation to identify additional properties within the PIA that have been impacted by emissions from the Exide Facility.

Investigation activities are expected to begin within 30 days of an approved sampling and analysis plan and will be conducted concurrently with remediation activities outlined in this IRMW. As the sampling results are received, DTSC will use the results to prioritize properties for cleanup using the criteria discussed above and will incorporate these properties into the property cleanup schedule.

3.4 IRMW IMPLEMENTATION

Implementation of the IRMW will commence after the work plan is finalized and after access agreements are obtained from the home owners. Priority 1 properties will be addressed first, followed by Priority 2 and Priority 3 properties. The scheduling of Priority 2 and 3 properties may become fluid as Priority 1 status properties are discovered during the ongoing and long-term sampling efforts. Interim measures activities that include interacting with the property owners, pursuing access agreements, and conducting pre-excavation meetings followed by soil removal will begin on properties according to the established priority. Efforts will be made to contact the property owner and begin the IRMW process within 2 to 3 weeks after the Priority 1 status is determined. Backfill and restoration will immediately follow the soil removal. DTSC will be notified as soon as practicable if circumstances beyond the control of the remediation contractor

(e.g., extended rain, receipt of permits, unforeseen material or obstacles in the yard, or difficulties in obtaining access) prevent the work from being completed according to this schedule. Compensation for interior cleaning will be completed within 2 weeks after completion of exterior work on the property as scheduled by the property owner. All work is subject to property owner approval as demonstrated by signing the access agreement.

The following table provides the tentatively anticipated future work schedule to be conducted for the remedial activities.

Description	Date	Status
Initiate Soil Removal Activities at Priority 1 Properties	December 2015	Pending
Complete Soil Removal at Priority 1 Properties	May 2016	Pending
Submit Draft Letter of Completion (LOC) to DTSC	December 2015 to May 2016	Pending
Receive DTSC review and comments on Draft LOC	January 2016 to May 2016	Pending
Incorporate DTSC comments into Draft Final LOC	January 2016 to June 2016	Pending
Submit Final LOC to DTSC	February 2016 to June 2016	Pending

3.5 LETTER OF COMPLETION

A letter of completion (LOC) will be prepared and submitted to the DTSC for review and approval following the completion of remedial activities. The LOC will document the removal activities that were completed at the Site and will be used to document residual impacts remaining in subsurface soil, if any. The LOC will provide an overview of the project and will include the following:

- Documentation of project activities, sample locations, analytical results for lead, findings, and recommendations
- Signed access agreements
- Interior cleaning compensation (if required)
- Signed inspection/agreement form
- Tables presenting results from XRF and fixed laboratory analyses of soil samples
- Figures that illustrate the work areas and sample locations
- Preparation of a photographic chronology of the project to be included as an attachment to the report
- Laboratory data reports

- Property costs for future cost recovery.

3.6 PROPERTY CLOSEOUT

Before the remediation team leaves a property, a final closeout meeting will be conducted with the property owner to address any and all punch list items that might remain after the team completes its activities. The meeting will resolve any outstanding issues related to the work that was performed. After the meeting is complete, the property owner will be asked to sign a property closeout checklist (Appendix E) to document that the remedial activities are complete and that the property owner is satisfied with the resolution of any outstanding issues.

FIGURES

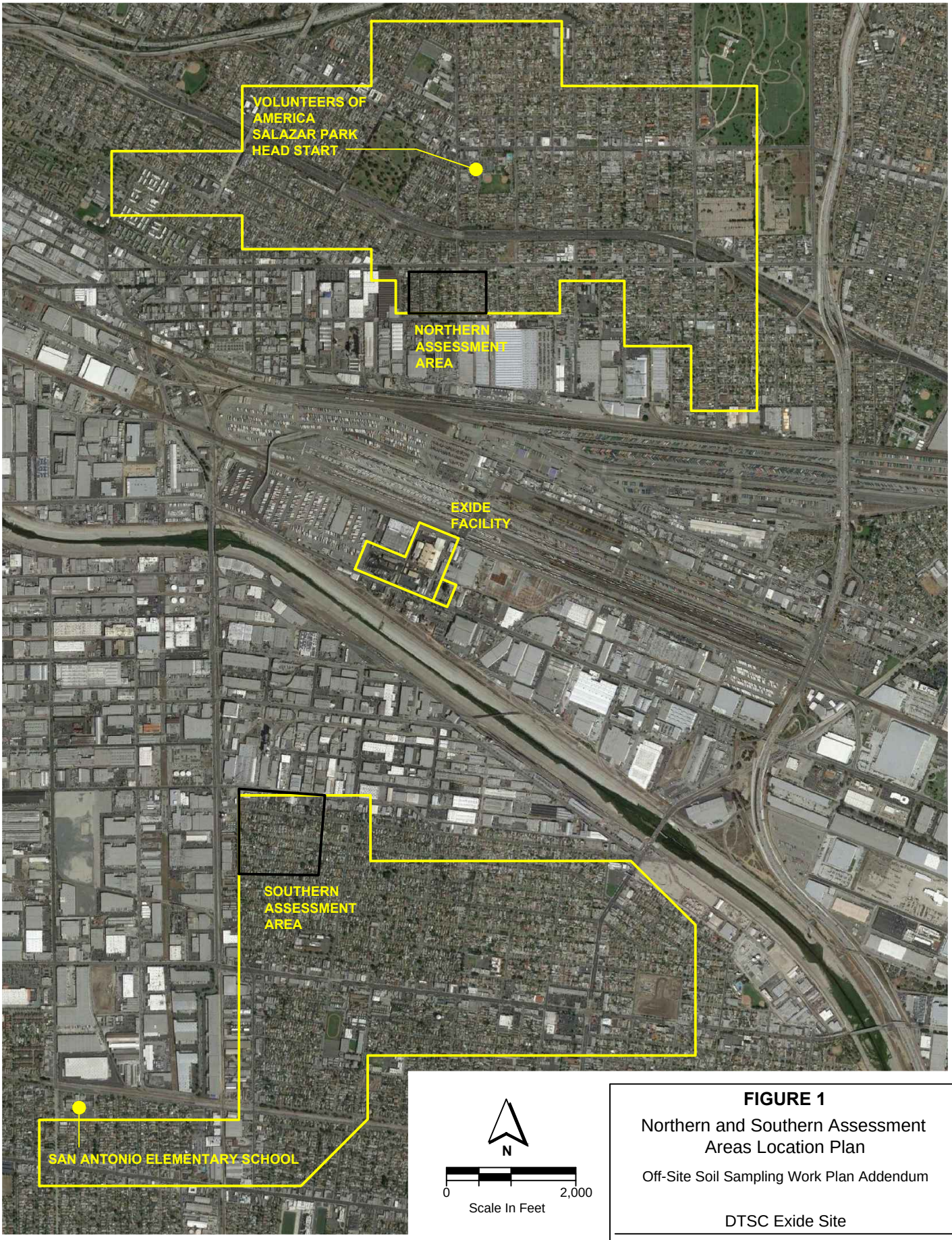

FIGURE 1

Northern and Southern Assessment Areas Location Plan

Off-Site Soil Sampling Work Plan Addendum

DTSC Exide Site

PARSONS

Pasadena, CA

K:\Depts\Dept42b\DTSC\Orphan Sites MSA\Exide\03 Offsite sampling Workplan – 1000 homes\Figure 1 – Northern & Southern Assessment Areas.dwg

APPENDIX A

ACCESS AGREEMENT TEMPLATE

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Barbara A. Lee, Director
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806

Edmund G. Brown Jr.
Governor

CONSENT FOR ACCESS TO PROPERTY

Name: _____

Property Address: _____

_____

I, the undersigned, by virtue of my ownership of the real property identified above, and any structures located on the real property (collectively referred to as "Property"), hereby grant continued access to the Property to the Department of Toxic Substances Control (DTSC), its officers, employees, and authorized representatives including contractors for any or all of the following purposes:

- *Remedial Investigation, including but not limited to boring through soil, soil sampling, sampling of exterior paint on structures, and sampling of paint chips or flakes found at the Property.*
- *Removal and Remedial Action, including but not limited to soil excavation and any other activities necessary for remediation of hazardous substances from the Property.*
- *Restoration work, including but not limited to backfilling with clean soil.*

I recognize that these actions by DTSC are undertaken pursuant to its response and enforcement responsibilities under the Health and Safety Code section 25358.3, subdivision (c).

The activities to be carried out on the Property by DTSC will be more specifically set forth in a Scope of Work that will be accessible on DTSC's web site: www.dtsc.ca.gov.

This written permission is given voluntarily with knowledge of my right to refuse and without threats or promises of any kind.

Printed on Recycled Paper

This grant of Property access shall terminate upon DTSC's completion of the activities described above.

DTSC agrees to provide at least ten (10) business days advance notice to the undersigned before beginning activities on the Property.

DTSC agrees to provide the undersigned with copies of any analytical results obtained from samples taken on the Property.

The undersigned, by signature to this document, represents that he or she has the authority to execute this Agreement.

This Access Agreement is effective on the date of my execution of this Agreement set forth below.

_____	_____
Date	Signature
	_____
	Contact Telephone Number

Departamento de Control de Sustancias Tóxicas

Matthew Rodríguez
Secretario de Protección Ambiental

Barbara A. Lee, Directora
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806

Edmund G. Brown Jr.
Gobernador

CONSENTIMIENTO PARA ACCESO A LA PROPIEDAD

Nombre: _____

Dirección de la Propiedad: _____

_____

El que suscribe, en virtud de mi propiedad del inmueble identificado anteriormente y de todas las estructuras ubicadas en el inmueble (conjuntamente denominados como la "Propiedad"), por este medio otorgo acceso continuo a la Propiedad al Departamento de Control de Sustancias Tóxicas (DTSC, por sus siglas en inglés), sus funcionarios, empleados y representantes autorizados incluyendo contratistas para cualquiera o todos los siguientes fines:

- *Investigación de Restauración, incluyendo pero no limitándose a perforación a través del suelo, muestreo de suelo, muestreo de pintura exterior en estructuras y muestreo de astillas o escamas de pintura encontradas en la Propiedad.*

- *Acción de Remoción y Restauración, incluyendo pero no limitándose a excavación de suelo y cualesquier otras actividades necesarias para la restauración de sustancias peligrosas de la Propiedad.*

- *Trabajos de restauración, incluyendo pero no limitándose a rellenado con suelo limpio.*

Reconozco que dichas acciones del DTSC se llevan a cabo en cumplimiento de sus responsabilidades de respuesta y aplicación conforme al Código de Salud y Seguridad sección 25358.3, subdivisión (c).

Las actividades que se llevarán a cabo en la Propiedad por el DTSC estarán más específicamente establecidas en un Alcance del Trabajo que será accesible en el sitio web del DTSC: www.dtsc.ca.gov.

Printed on Recycled Paper

Este permiso por escrito es otorgado voluntariamente con el conocimiento de mi derecho a revocarlo y sin amenazas o promesas de ningún tipo.

Esta concesión de acceso a la Propiedad concluirá a la terminación del DTSC de las actividades anteriormente mencionadas.

El DTSC acuerda a proporcionar al suscrito un aviso anticipado de al menos diez (10) días hábiles antes del inicio de actividades en la Propiedad.

El DTSC acuerda proporcionar al suscrito, copias de cualquier resultado de análisis obtenido de las muestras tomadas en la Propiedad.

El suscrito, con la firma de este documento, representa que él o ella tiene la autoridad para celebrar el presente Acuerdo.

Este Acuerdo de Acceso entra en vigor en la fecha de mi celebración de este Acuerdo establecida a continuación.

_____
Fecha

_____
Firma

_____
Número Telefónico de Contacto

APPENDIX B

DTSC CLEAN FILL ADVISORY

Information Advisory
Clean Imported Fill Material

October 2001

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

It is DTSC's mission to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

State of California

California Environmental Protection Agency

Executive Summary

This fact sheet has been prepared to ensure that inappropriate fill material is not introduced onto sensitive land use properties under the oversight of the DTSC or applicable regulatory authorities. Sensitive land use properties include those that contain facilities such as hospitals, homes, day care centers, and schools. This document only focuses on human health concerns and ecological issues are not addressed. It identifies those types of land use activities that may be appropriate when determining whether a site may be used as a fill material source area. It also provides guidelines for the appropriate types of analyses that should be performed relative to the former land use, and for the number of samples that should be collected and analyzed based on the estimated volume of fill material that will need to be used. The information provided in this fact sheet is not regulatory in nature, rather is to be used as a guide, and in most situations the final decision as to the acceptability of fill material for a sensitive land use property is made on a case-by-case basis by the appropriate regulatory agency.

Introduction

The use of imported fill material has recently come under scrutiny because of the instances where contaminated soil has been brought onto an otherwise clean site. However, there are currently no established standards in the statutes or regulations that address environmental requirements for imported fill material. Therefore, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) has prepared this fact sheet to identify procedures that can be used to minimize the possibility of introducing contaminated soil onto a site that requires imported fill material. Such sites include those that are undergoing site remediation, corrective action, and closure activities overseen by DTSC or the appropriate regulatory agency. These procedures may also apply to construction projects that will result in sensitive land uses. The intent of this fact sheet is to protect people who live on or otherwise use a sensitive land use property. By using this fact sheet as a guide, the reader will minimize the chance of introducing fill material that may result in potential risk to human health or the environment at some future time.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.dtsc.ca.gov.

Overview

Both natural and manmade fill materials are used for a variety of purposes. Fill material properties are commonly controlled to meet the necessary site specific engineering specifications. Because most sites requiring fill material are located in or near urban areas, the fill materials are often obtained from construction projects that generate an excess of soil, and from demolition debris (asphalt, broken concrete, etc.). However, materials from those types of sites may or may not be appropriate, depending on the proposed use of the fill, and the quality of the assessment and/or mitigation measures, if necessary. Therefore, unless material from construction projects can be demonstrated to be free of contamination and/or appropriate for the proposed use, the use of that material as fill should be avoided.

Selecting Fill Material

In general, the fill source area should be located in nonindustrial areas, and not from sites undergoing an environmental cleanup. Nonindustrial sites include those that were previously undeveloped, or used solely for residential or agricultural purposes. If the source is from an agricultural area, care should be taken to insure that the fill does not include former agricultural waste process byproducts such as manure or other decomposed organic material. Undesirable sources of fill material include industrial and/or commercial sites where hazardous ma-

Potential Contaminants Based on the Fill Source Area

Fill Source:	Target Compounds
Land near to an existing freeway	Lead (EPA methods 6010B or 7471A), PAHs (EPA method 8310)
Land near a mining area or rock quarry	Heavy Metals (EPA methods 6010B and 7471A), asbestos (polarized light microscopy), pH
Agricultural land	Pesticides (Organochlorine Pesticides: EPA method 8081A or 8080A; Organophosphorus Pesticides: EPA method 8141A; Chlorinated Herbicides: EPA method 8151A), heavy metals (EPA methods 6010B and 7471A)
Residential/acceptable commercial land	VOCs (EPA method 8021 or 8260B, as appropriate and combined with collection by EPA Method 5035), semi-VOCs (EPA method 8270C), TPH (modified EPA method 8015), PCBs (EPA method 8082 or 8080A), heavy metals including lead (EPA methods 6010B and 7471A), asbestos (OSHA Method ID-191)

**The recommended analyses should be performed in accordance with USEPA SW-846 methods (1996). Other possible analyses include Hexavalent Chromium: EPA method 7199*

Recommended Fill Material Sampling Schedule

Area of Individual Borrow Area	Sampling Requirements
2 acres or less	Minimum of 4 samples
2 to 4 acres	Minimum of 1 sample every 1/2 acre
4 to 10 acres	Minimum of 8 samples
Greater than 10 acres	Minimum of 8 locations with 4 subsamples per location
Volume of Borrow Area Stockpile	**Samples per Volume**
Up to 1,000 cubic yards	1 sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 samples for first 1000 cubic yards +1 sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 samples for first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

terials were used, handled or stored as part of the business operations, or unpaved parking areas where petroleum hydrocarbons could have been spilled or leaked into the soil. Undesirable commercial sites include former gasoline service stations, retail strip malls that contained dry cleaners or photographic processing facilities, paint stores, auto repair and/or painting facilities. Undesirable industrial facilities include metal processing shops, manufacturing facilities, aerospace facilities, oil refineries, waste treatment plants, etc. Alternatives to using fill from construction sites include the use of fill material obtained from a commercial supplier of fill material or from soil pits in rural or suburban areas. However, care should be taken to ensure that those materials are also uncontaminated.

Documentation and Analysis

In order to minimize the potential of introducing contaminated fill material onto a site, it is necessary to verify through documentation that the fill source is appropriate and/or to have the fill material analyzed for potential contaminants based on the location and history of the source area. Fill documentation should include detailed information on the previous use of the land from where the fill is taken, whether an environmental site assessment was performed and its findings, and the results of any testing performed. It is recommended that any such documentation should be signed by an appropriately licensed (CA-registered) individual. If such documentation is not available or is inadequate, samples of the fill material should be chemically analyzed. Analysis of the fill material should be based on the source of the fill and knowledge of the prior land use.

Detectable amounts of compounds of concern within the fill material should be evaluated for risk in accordance with the DTSC Preliminary Endangerment Assessment (PEA) Guidance Manual. If

metal analyses are performed, only those metals (CAM 17 / Title 22) to which risk levels have been assigned need to be evaluated. At present, the DTSC is working to establish California Screening Levels (CSL) to determine whether some compounds of concern pose a risk. Until such time as these CSL values are established, DTSC recommends that the DTSC PEA Guidance Manual or an equivalent process be referenced. This guidance may include the Regional Water Quality Control Board's (RWQCB) guidelines for reuse of non-hazardous petroleum hydrocarbon contaminated soil as applied to Total Petroleum Hydrocarbons (TPH) only. The RWQCB guidelines should not be used for volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCS). In addition, a standard laboratory data package, including a summary of the QA/QC (Quality Assurance/Quality Control) sample results should also accompany all analytical reports.

When possible, representative samples should be collected at the borrow area while the potential fill material is still in place, and analyzed prior to removal from the borrow area. In addition to performing the appropriate analyses of the fill material, an appropriate number of samples should also be determined based on the approximate volume or area of soil to be used as fill material. The table above can be used as a guide to determine the number of samples needed to adequately characterize the fill material when sampled at the borrow site.

Alternative Sampling

A Phase I or PEA may be conducted prior to sampling to determine whether the borrow area may have been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with DTSC or appropriate regulatory agency. However, if it is not possible to analyze the fill material at the borrow area or determine that it is appropriate for use via a Phase I or PEA, it is recommended that one (1) sample per truckload be collected and analyzed for all compounds of concern to ensure that the imported soil is uncontaminated and acceptable. (See chart on Potential Contaminants Based on the Fill Source Area for appropriate analyses). This sampling frequency may be modified upon consultation with the DTSC or appropriate regulatory agency if all of the fill material is derived from a common borrow area. However, fill material that is not characterized at the borrow area will need to be stockpiled either on or off-site until the analyses have been completed. In addition, should contaminants exceeding acceptance criteria be identified in the stockpiled fill material, that material will be deemed unacceptable and new fill material will need to be obtained, sampled and analyzed. Therefore, the DTSC recommends that all sampling and analyses should be completed prior to delivery to the site to ensure the soil is free of contamination, and to eliminate unnecessary transportation charges for unacceptable fill material.

Composite sampling for fill material characterization may or may not be appropriate, depending on quality and homogeneity of source/borrow area, and compounds of concern. Compositing samples for volatile and semivolatile constituents is not acceptable. Composite sampling for heavy metals, pesticides, herbicides or PAH's from unanalyzed stockpiled soil is also unacceptable, unless it is stockpiled at the borrow area and originates from the same source area. In addition, if samples are composited, they should be from the same soil layer, and not from different soil layers.

When very large volumes of fill material are anticipated, or when larger areas are being considered as borrow areas, the DTSC recommends that a Phase I or PEA be conducted on the area to ensure that the borrow area has not been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with the DTSC.

For further information, call Richard Coffman, Ph.D., R.G., at (818) 551-2175.

APPENDIX C

PROJECT SAFETY, HEALTH AND ENVIRONMENTAL PLAN

Exide Technologies – Off-Site Remediations and Restorations

Project Safety, Health, and Environmental Plan

November 2015

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Workers' Compensation Medical Providers List

Prepared for:

Parsons
2700 South Indiana St
Vernon, CA

EMPLOYEE NOTICE

ALL ACCIDENTS MUST BE REPORTED TO YOUR SUPERVISOR **IMMEDIATELY!**

FOR **WORK RELATED INJURIES**, MEDICAL SERVICES MAY BE OBTAINED FROM ONE OF THE MEDICAL FACILITIES LISTED BELOW:

If you require emergency medical treatment, go to the nearest hospital emergency room or urgent care facility.

Medical Providers

US HealthWorks Medical Group PC
Occupational/Industrial Medicine
Urgent Care Center/Walk-In
3851 S Soto St
Vernon, CA 90058
323-585-7162

Hospitals

White Memorial Medical Center
Hospital - General
1720 E Cesar E Chavez Ave
Los Angeles, CA 90033
323-268-5000

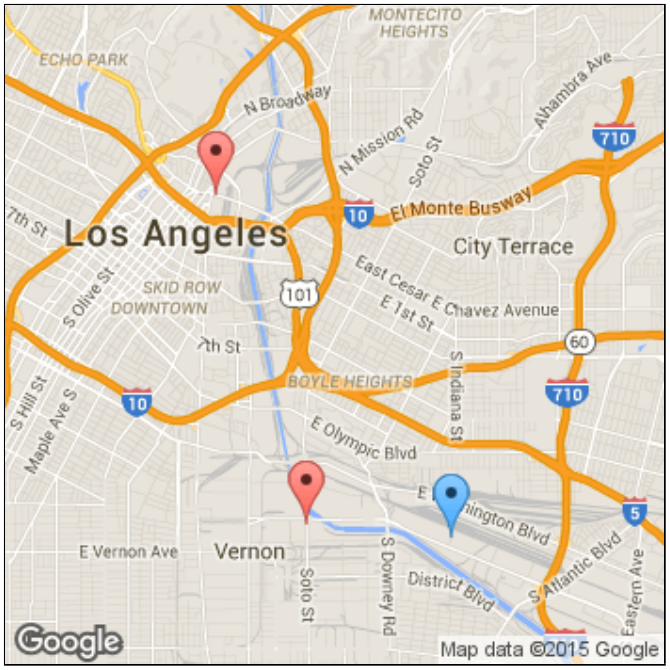
Pharmacies

AIG Claims, Inc. preferred Pharmacy PPO is TMESYS (Tim-a-sis). Please ask your Pharmacist to submit your prescription online.

Amc Pharmacy	Food City Pharmacy	Fred Meyer Pharmacy	Gemmel San Antonio Pharmacy	K-Mart Pharmacy
Longs Drug	Ncs Healthcare of California	Price Less Pharmacy	Raleys	Rite Aid Pharmacy
Safeway Pharmacy	Vons Pharmacy	Whittier Intercommunity Phcy	Walgreen Drug Store	

If you come across any inaccuracies in the provider listing, please report them to us by contacting pic_ng@aig.com.

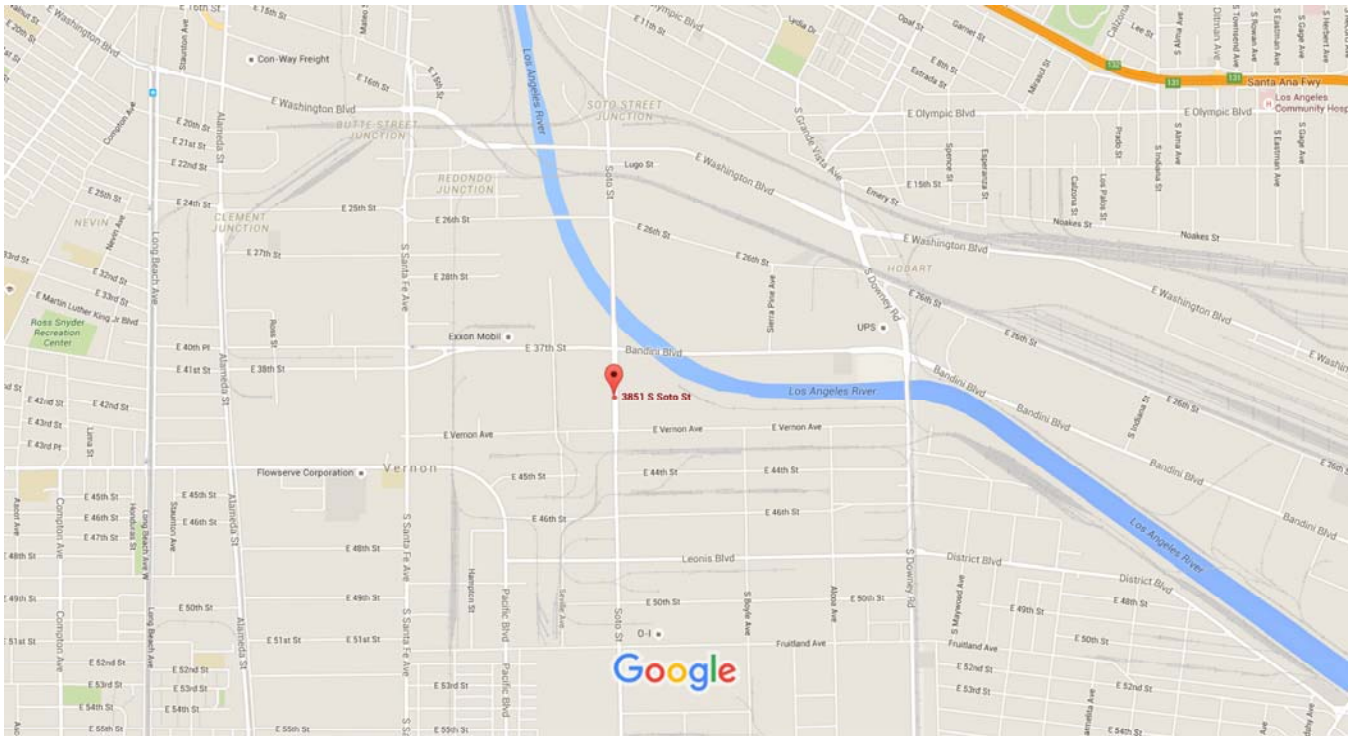
Parsons
2700 South Indiana St
Vernon, CA



Google Maps

3851 S Soto St

US Health Works – Occupational/Industial Medicine
Urgent Care Center/Walk-In
323-585-7162



Map data ©2015 Google 1000 ft

3851 S Soto St

Vernon, CA 90058

At this location

Anile Paul a Do
Doctor · S Soto St

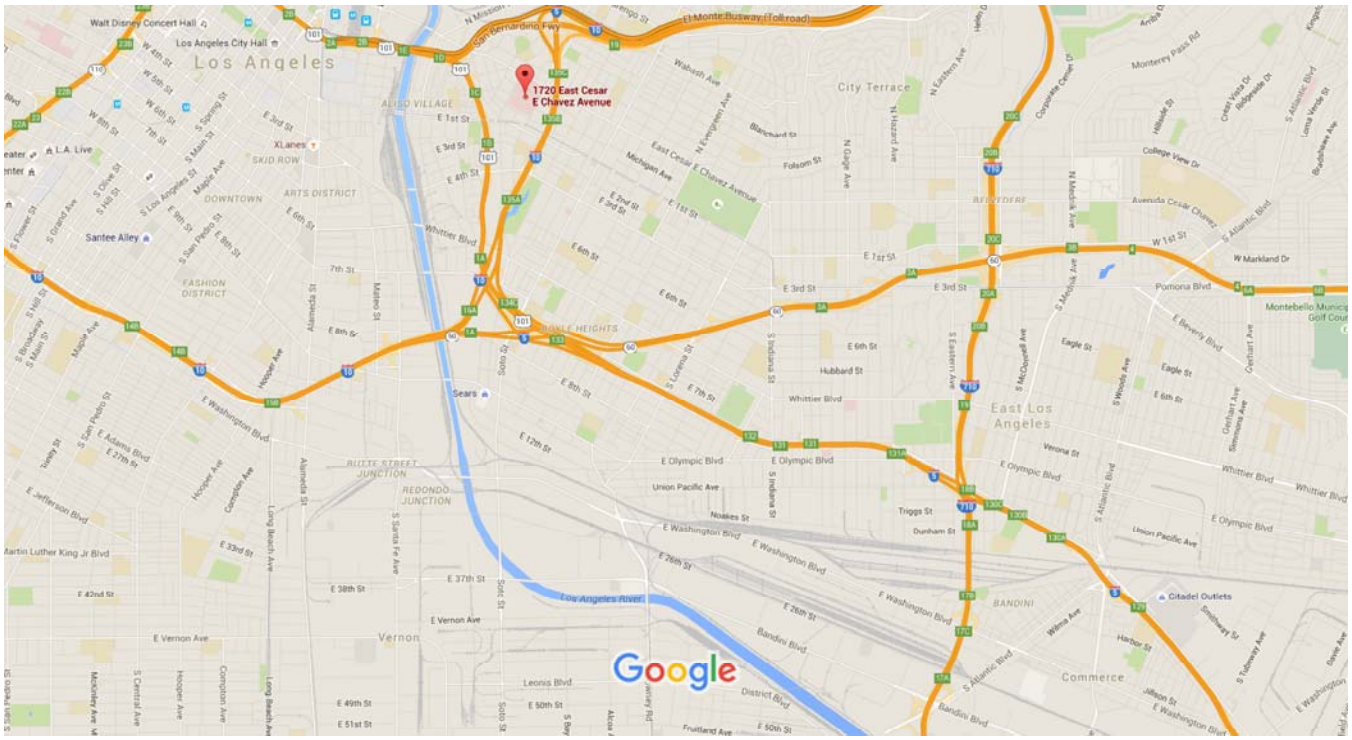
Dr. A Al-Pachachi, MD
Doctor · S Soto St

Dr. Michael C. Chiang, MD

Google Maps

1720 East Cesar E Chavez Avenue

White Memorial Medical Center – Hospital General
323-268-5000



Map data ©2015 Google 2000 ft

1720 East Cesar E Chavez Avenue
Los Angeles, CA 90033

INSERT THE INFORMATION BELOW ON THE BACK OF THE COVER PAGE

All incidents/near misses	*Enter into IndustrySafe within 4 hours*
Worker injury or illness	*Project SH&E Manager (xxx-xxx-xxxx)*
Environmental spill/release	*Enter into IndustrySafe within 4 hours*
Medical (non-emergencies)	*WorkCare (888-449-7787)*
Site security (if applicable)	*(xxx-xxx-xxxx)*

Project Key Personnel

Company Executive responsible for Project	**Contact Information**
Anie Deister	Direct Line: (530) 863-0750 Cell Phone: (310) 612-3393 Email: Ane.Deister@parsons.com
Project Manager	**Contact Information.**
Shala Craig	Direct Line: (626) 440-6161 Cell Phone: (310) 612-3393 Email: Shala.craig@parsons.com
Field Team Leader	**Contact Information.**
Tom Blaney	Direct Line: (626)440-6067 Cell Phone: (626)533-3740 Email: Tom.Blaney@parsons.com
Project SH&E Representative	**Contact Information**
Greg Ertel	Direct Line: (585) 353-2574 Cell Phone: (585) 353-2574 Email: Greg.Ertel@parsons.com
Client Project Management POC	**Contact Information**
Peter Ruttan, P.E.	Direct Line: (916) 255-3630 Cell Phone: Email: pruttan@dtsc.ca.gov

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SECTION 1 – INTRODUCTION

1.1 PARSONS SAFETY, HEALTH & ENVIRONMENT POLICY

Exhibit P-1 – Parsons Corporate SH&E Policy

PARSONS

Corporate Safety, Health & Environment Policy Statement

As an industry-leading engineering, construction, and technical services firm, Parsons is firmly committed to maintaining a safe, healthy, and environmentally compliant workplace at all its offices and project facilities, guided by the following tenets:

- Safety, Health and Environment (SH&E) is a core value.
- Executive management will lead the SH&E process.
- SH&E will be a responsibility shared by all.
- SH&E performance will be a key business performance indicator.
- SH&E performance will be communicated openly.
- Employees will be given the knowledge and skills necessary to perform their jobs in a high-performance SH&E manner.
- We will extend our SH&E efforts beyond the workplace to include travel, homes, and communities.
- We will continually strive to improve our SH&E processes.

To meet our SH&E objectives, all employees are expected to be actively engaged with regard to SH&E issues. This requires the combined efforts of a concerned management, responsible and knowledgeable supervision, and conscientious, well-trained employees.

Executive Management shall lead and monitor and improve the performance of the organization's Safety, Health and Environmental Management System, at regular intervals, to ensure its continuing suitability, adequacy, and effectiveness.

Parsons will meet or exceed the applicable SH&E legal and other requirements and will continuously monitor and improve operations, procedures, technologies, and programs that are conducive to maintaining a safe, healthy, and environmentally compliant workplace.

Charles L. Harrington

Chairman and Chief Executive Officer

January 2012

1.2 THE PROJECT SAFETY, HEALTH, AND ENVIRONMENTAL PLAN (PSHEP)

Parsons goal is zero incidents using control measures designed to minimize or eliminate hazards to personnel, processes, equipment, the general public and the environment. This PSHEP outlines safety, health, and environment (SH&E) requirements and guidelines developed by Parsons for client-specific work. When implemented, these requirements will help protect site personnel, visitors, the public, and the environment from incidents caused due to SH&E hazards. Parsons employees should never perform a task that may endanger their own safety and health, the safety and health of coworkers or the public, or damage the environment.

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This plan should be updated as conditions change or situations change, usually by addenda to the PSHEP. All Parsons and subcontractor personnel must understand and implement the PSHEP and any addenda. Parsons documents this process by having employees sign an acknowledgement form stating that they understand the PSHEP and its requirements.

1.3 SUBCONTRACTOR SAFETY, HEALTH, AND ENVIRONMENTAL PLANS (SSHEPS)

Subcontractors must establish their own safety program for their work and employees. Contract specifications require all subcontractors to accept the Parsons' PSHEP and prepare their own subcontractor safety, health, and environment plan (SSHEP) for work activities the subcontractor has responsibility for performing. The subcontractor will present the SSHEP to the Parsons' Project Manager at least 10 days before site mobilization. At a minimum, subcontractor plans must meet the requirements of this PSHEP and provide SH&E equipment and safeguards suitable for the hazards involved. This PSHEP may not cover all potential hazards on every project, and subcontractors must ensure that appropriate SH&E information is available for all of the subcontractor's project tasks.

All PSHEP requirements for Parsons' personnel (e.g., training, substance abuse screening, incident reporting, etc.) also apply to subcontractor personnel, and do not need to be repeated in the SSHEP. Since the SSHEP is part of the PSHEP, subcontractor personnel will be required to receive an Orientation that covers information from both documents, and sign off accepting the PSHEP.

For this project, there will be subcontractors directly hired by Parsons.

1.4 MANAGEMENT OF CHANGE (MOC)

Modifications may be made to this PSHEP document after discussion and approval by the Parsons GBU/Division SH&E Manager. Insert a description of the changes in the table below (insert additional rows as necessary).

PSHEP Section	SH&E Initials	Date	Description/Comments
9.2	FM	11/6/15	Added section on measure for dust monitoring and suppression

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SECTION 2 – SCOPE OF WORK

2.1 SCOPE OF WORK

Parsons, in their contracted role with California Department of Toxic Substances Control is providing site restoration and remediation services for the work as specified in the Contract No. 15-T4041. As part of this contract, Parsons will provide the personnel, services, materials, and equipment necessary to remove lead impacted soil from 35 properties in the vicinity of the Exide Facility in Vernon, California.

Parsons has also been awarded Contract No. 15-T4056, which involves the sampling and analysis of soil and painted surfaces which may be contaminated with lead at 1,000 private properties in the vicinity of the Exide Facility. This contract involves soil samples at up to 15 locations per property, a lead based paint (LBP) screening of structures within each property, screening of both soil samples and LBP surfaces with field instrumentation, field documentation collection, and reporting.

Parsons responsibilities will provide project oversight and coordination, including general project management responsibilities, preparation of documents, attending public relation meetings, oversight of remediation contractors during site cleanups and restorations, collection of soil samples and air monitoring during remediation.

Parsons will hire subcontractors for this project. The following list includes the type of contractor needed for this project and their responsibilities:

- Laboratory (Orange Coast Laboratory) – Samples will be submitted to the laboratory after field events and the laboratory will provide sample analysis and reports.
- Subsurface Utility Locator (Geovision, Inc.) – will provide a scan of project sites to identify any potential utility and mark them on the ground. A report will be requested as part of their scope.
- Land Surveyor (Calvada, Inc.) – will provide survey of excavation areas and sampling locations during the remediation phase.
- Industrial Hygienist (Panacea, Inc.) – will provide sampling and analysis of soils using an XRF unit.
- Remediation Contractor (TBD) – will provide remediation and restoration services. This will include disconnect of any live utilities, demolition (if necessary), excavation, backfill and restoration.

2.2 PROJECT SAFETY, HEALTH, AND ENVIRONMENTAL PLAN APPLICATION

This PSHEP and its referenced documents apply to all locations, facilities, operations, and projects associated with contract work performed by Parsons and its subcontractors. Locations/sites covered under this contract include 35 proposed remediation properties located off-site from the Exide Facility in the city of Vernon, CA. This project also involves 1,000 additional properties proposed for lead screening of lead in soil and painted surfaces.

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SECTION 3 – PROJECT SH&E MANAGEMENT RESPONSIBILITIES AND AUTHORITY

3.1 SH&E RESPONSIBILITY MATRIX

Exhibit 3-1 summarizes the responsibilities of selected roles related to the primary SH&E activities identified in the PSHEP.

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Exhibit 3-1 – Project Responsibility Matrix

Project Responsibility Matrix		Project												GBU							Corporate					
Phases	Work Elements	Project Manager	Safety & Health	Environmental	Construction/Site Management	Engineering	First Line Supervision	Facilities and Maintenance	Training	Contracts/Procurement	Security	Sustainability	Quality	President	Operations/Risk Management	Division Management	Sector Management	Safety, Health & Environment	Quality	Business Development	CEO	Operations/Risk Management	Safety, Health & Environment	Security	Workers' Compensation	Insurance
Introduction to ESHARP for Project	1. ESHARP Project Management	R	D	D	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P
Business Development	2. Business Development	R	P	P	P	P				P				P	P	A	P	P	P	D	P	P	P	P		P
Startup	3. Initial Hazard Analysis and Planning	A	R	D	P	P					D							P					P	P		
	4. Project Safety Health, and Environmental Plan (PSHEP)	A	D	D	P										P	P	P	R					P	P		
	5. Stakeholder PSHEP Alignment Meeting	A	D	D	P													R								
Construction and/or Field	6. Preconstruction Safety, Health & Environment Activities	A	D	D	P		P						P				P	R	P					P		
	7. Project/Site Orientation, Training, and Recurring Field SH&E Meetings	A	D	D	P		P	P	P									R						P		
	8. SH&E Committee	A	D	D	P		P	P			P							R						P		
	9. Meet Building Trades, Safety, Health, Environmental Regulatory Agencies, & Others	A	D	D	P													R						P	P	
	10. Review Contractor/Subcontractor SH&E Programs	A	D	D	P					P								R						P		
	11. Subcontractor Premobilization Meeting	A	D	D	P	P				P	P							R						P		
	12. Risk Mitigation Planning (2-week look ahead)	A	D	D	R													D						P		
	13. Activity Hazards Analysis	A	D	D	P	P	P	P										R						P		
	14. Project Management Site Safety, Health, & Environmental Inspections	A	D	D	P											P	P	R	P					P		
	15. Audits, Inspections, and Recordkeeping	A	D	D	P		P						P			P	P	R	P					P		
	16. Incident Management Process	A	D	D	P		P						P		P	P	P	R	P					P		P
Testing, Commissioning, Operations, and Decommissioning	17. Management Systems and Transition	A	R	R	D	P	P	P	P		P	P	P	P	P	P	P	P	P		P	P	P	P		P
	18. Equipment and Systems Integrity	A	P	P	R	P	P	D	P				P					P	P				P			
	19. Operations Training and Education	A	D	D	P	P	P	P	P		P		P					R					P			
	20. Assessments and Corrective Action	A	D	D	P	P	P	P	P		P		P					R					P			
	21. Operations Emergency Management	A	P	P	P	P	P	P	P	P	D		P					R					P	P		
	22. Safe and Environmentally Compliant Work Practices	A	D	D	P	R	R	P	P									P					P			
Closeout	23. Lessons Learned and Final SH&E Report	A	D	D	P											P	P	R	P				P			
	24. Records Retention	A	P	P					P		D		P					R	P				P			

R – Responsible and accountable for ensuring the project develops and implements the work element.
D – Develops the plan, tool, training, document, or other item needed for the work element.
P – Participates by providing advice, assisting in the implementation or development, reviewing and providing comments, or otherwise supporting the development or implementation effort.
A – Approval at the management level with responsibility for the project; establishes requirements for the project or serves as sponsor for the item.

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SECTION 4 – ADMINISTRATIVE PHASE

4.1 PROJECT SAFETY, HEALTH & ENVIRONMENT (SH&E) COMMITTEE

If a project has less than five (5) Parsons employees or a total of 25 Parsons and subcontractors, then the project staff will utilize information from the Parsons' office responsible for the project as a resource for SH&E committee information. The Project SH&E Representative will be responsible for obtaining and communicating information from the Parsons' Office SH&E Committee meeting minutes, with the project personnel on a monthly basis.

For this project, there not be a Project SH&E Committee.

Charter of the SH&E Committee: The SH&E Committee represents the mutual interests of all project participants in completing the work with zero injuries. The Committee meets monthly to consider incentive programs, recent near misses or injuries, potential unsafe conditions, training programs, safety awareness, audit results, and related issues. The Committee advises the Project Manager, who retains sole decision-making authority.

The Committee consists of equal numbers of exempt and nonexempt employees: the Project Manager appoints the exempt members while project staff members vote to elect nonexempt members. Committee members serve for one year and may serve two consecutive terms.

The Chairperson schedules monthly meetings, develops the agenda, and displays meeting minutes on the safety bulletin board. Employees may submit suggestions and topics for discussion to the Chairperson at any time.

4.2 EMPLOYEE ORIENTATION

All new employees on a project, including new hires and transfers, must attend the site orientation program on their first day and sign an acknowledgment form indicating they attended and understood the orientation. Any employee who is unsure of any information presented in the orientation must request clarification. Employees who do not participate in the orientation or refuse to sign the acknowledgment cannot work on site. Site-specific safety procedures and training requirements are covered in Section 7.

4.3 AWARENESS CAMPAIGN

If a project is less than 3 months in duration or has less than five (5) Parsons employees, then the project will fall under the Parsons' office responsible for the project as a resource for SH&E awareness. The Project Manager may also provide training, presentations, or informational materials as part of the awareness campaign. For this project, the duration more than 3 months in duration, and has less than five (5) Parsons employees.

SH&E bulletin boards maintained by the Project Manager are primary information points for the project awareness campaign. Bulletin boards are located at Parsons Pasadena office A3.

4.4 STAKEHOLDER PSHEP ALIGNMENT MEETING

A stakeholder alignment meeting should be held before beginning any field work. The following representatives should attend the meeting:

1. Client – Peter Ruttan (Project Manager)
2. Parsons – Shala Craig (Program Manager)
3. Subcontractor – Hsin Chou (Panacea), Mark Riches (Geovision), Hirad Emadi (ICS), Saul Melgarejo (Calvada)
4. Client contractor – NA

Parsons should present the PSHEP and obtain stakeholders concurrence with the approach outlined in the both documents. The meeting should include a review of stakeholder roles and responsibilities and elements of control appropriate to project risks.

4.5 TRAINING

The project has a comprehensive SH&E training program tailored to the client requirements and scope of work. All office-based employees or field employees who spend a significant portion of their time in an office or trailer must receive specialized office training consisting of proper lifting techniques, ergonomics, housekeeping, common office hazards, waste management and office emergencies. All projects should be associated with a Parsons office, and the Office SHE Plan should be reviewed for additional information.

All personnel shall be listed in the PSHEP Training-Medical Records spreadsheet (see Appendix), which will identify the training requirements and expiration dates for applicable certifications. Safety training for project personnel will be based primarily on their work activities and corresponding exposure to hazardous substances and health hazards. The Parsons Corporate Safety and Health Manual (CSHM) and applicable sections will be used as a reference for determining the minimum training requirements based on the project scope of work.

Applicable	Corporate Safety and Health Manual Section/Topic
Yes **No**	CSHM-1 Medical Qualification and Surveillance
Yes **No**	CSHM-2 First Aid - list all site personnel in the PSHEP Training-Medical spreadsheet that will be a first responder due to the insufficient response time of EMS personnel. See Section 6.9 of the PSHEP for additional information on first responders.
Yes **No**	CSHM-3 Ergonomics
Yes **No**	CSHM-4 Concrete and Masonry Construction
Yes No	CSHM-5 Field and Office Facilities
Yes No	CSHM-6 Personal Protective Equipment
Yes **No**	CSHM-7 Hearing Conservation – list all site personnel in the PSHEP Training-Medical spreadsheet that will be exposed to noise at levels greater than 85 decibels over an 8 hour time period, which require annual training and audiograms. Include the work activities generating the noise in Section 4.11.6 of this PSHEP.
Yes **No**	CSHM-8 Respiratory Protection – list all site personnel in the PSHEP Training-Medical spreadsheet that will have a theoretical potential exposure to contaminants above a permissible exposure limit (PEL) based on known soil or water analysis results, or when there is known contamination with no exposure data. Personnel are required to have annual training, medical clearance and a fit test in order to wear a respirator.
Yes **No**	CSHM-9 Air Monitoring – complete Exhibit 6-1 that identifies chemicals of concern, air monitoring equipment, action levels (based on OSHA PELs) and corresponding PPE/Action Taken.

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Yes **No** CSHM-10 Hazard Communication

Yes **No** CSHM-11 Emergency Procedures

Yes No CSHM-12 Fire Protection

Yes No CSHM-13 Hazardous Waste Operations – list all site personnel in the PSHEP Training-Medical spreadsheet that will be engaged in hazardous substance removal or other activities that expose or potentially expose them to hazardous substances or health hazards (such as entering an exclusion zone), which are required to receive appropriate training as required by 29 CFR 1910.120, including, but not limited to, initial 40-hour, 8-hour Supervisor and annual 8-hour refresher training.

Yes **No** CSHM-14 Process Safety Management

Yes **No** CSHM-15 Confined Space - list all site personnel in the PSHEP Training-Medical spreadsheet that will be involved with confined spaces, which will require proof of training.

Yes No CSHM-16 Signs, Barricades and Traffic Control

Yes **No** CSHM-17 Hazardous Materials Handling, Transportation, Storage and Disposal – list all site personnel in the PSHEP Training-Medical spreadsheet that will be involved with handling or preparing (i.e. package, label, sign shipping papers, etc.) or packaging (i.e. soil and water samples, compressed gases or chemicals) materials listed in the DOT Hazardous Materials Table (49 CFR 172.101), which are required to receive DOT training every three years in accordance with HM126F, or annual RCRA training in accordance with 40 CFR 265.16 (small or large quantity generators of hazardous waste). **NOTE:** Samples being sent for analysis to determine whether they are hazardous are considered non-hazardous, but classified as "Other Regulated Material" in the Hazardous Materials Table.

Yes No CSHM-18 Walking/Working Surfaces

Yes **No** CSHM-19 Ladders

Yes **No** CSHM-20 Scaffolds - list all site personnel in the PSHEP Training-Medical spreadsheet that will be involved with erecting, moving, dismantling, or altering scaffolds, which are required to show a scaffold competent person certification.

Yes **No** CSHM-21 Aerial Lifts - list all site personnel in the PSHEP Training-Medical spreadsheet that will be involved with operating an aerial lift, which will require proof of training and competency.

Yes **No** CSHM-22 Fall Protection - list all site personnel in the PSHEP Training-Medical spreadsheet that will be involved with activities at heights greater than six feet, which will require proof of training.

Yes **No** CSHM-23 Lockout/Tagout (LOTO) - list all site personnel in the PSHEP Training-Medical spreadsheet that will be involved with operating or performing maintenance on equipment that has stored, pneumatic, hydraulic or electrical energy, which will require proof of training and competency.

Yes **No** CSHM-24 Electrical

Yes No CSHM-25 Motor Vehicles and Equipment – list all Parsons site personnel in the PSHEP Training-Medical spreadsheet that will operate a Parsons company vehicle, which are required to complete the online ParsonsU "Hazard Perception" module and review the Fleet Driver policy.

Yes **No** CSHM-26 Cranes, Hoists, and Lifts

Yes **No** CSHM-27 Pressure Vessels

Yes **No** CSHM-28 Welding, Cutting and Brazing

Yes No CSHM-29 Tools

Yes **No** CSHM-30 Underground Construction

Yes **No** CSHM-31 Blasting

Yes No CSHM-32 Demolition

Yes No CSHM-33 Excavations - list all site personnel in the PSHEP Training-Medical spreadsheet that will be involved daily inspections of excavations greater than 4 feet in depth, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions.

Yes **No** CSHM-34 Steel Erection

Yes **No** CSHM-35 Asbestos and Lead - list all site personnel in the PSHEP Training-Medical spreadsheet that will be involved

Yes No CSHM-36 Temperature Extremes – see Section 9.2 for mandatory information on all projects in California that must be reviewed prior to starting work

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Yes **No** CSHM-37 Ventilation
Yes **No** CSHM-38 Substance Abuse
Yes No CSHM-39 Bloodborne Pathogens - see Section 6.9 for additional information
Yes No CSHM-40 Recordkeeping

Field-based employees and office employees who spend a significant portion of their time in the field also receive field training as described in Section 7 of this PSHEP.

For this project, the client does not require specific training for site personnel.

4.6 AUDITS AND INSPECTIONS

The Project Manager must implement an audit and inspection program in conjunction with the GBU and Corporate SH&E and Quality Assurance Departments. The Project Manager conducts weekly site inspections. If the Project Manager is not on—site, the most senior person onsite person will conduct the inspection. A weekly inspection report will be complete and saved in the project files. Office work areas (including field trailers) are audited according to the corporate office audit checklist posted on ParShare (Home > Office Safety) – see Appendix.

For this project, there not be a field trailer.

Additional information on audits and inspections is provided in Section 6.5 of this PSHEP.

4.7 SH&E MEETINGS

All project meetings that include five or more people must begin with a SH&E moment. The meeting chairperson may present the SH&E topic or ask for a volunteer to open the discussion. In general, these "SH&E moments" are brief, perhaps a minute or two, and should be directly relevant to the work of the day or applicable to most employees (e.g., nonwork-related injuries, waste management procedures, effects of stormwater discharges, home exposure to hazardous materials).

During weekly progress meetings, all Parsons Field Team Leaders/Supervisors or subcontractors submit written summaries of upcoming work tasks and associated risks and control measures to the Project Manager. Progress meetings discuss the risks of the upcoming work tasks and the planned mitigation measures. The weekly summaries identify upcoming mobilization or demobilization tasks, audits and inspections, competent person changes, and training requirements. Subcontractors add activities to these summaries at least two weeks in advance of the work. The Risk Mitigation Two-Week Look-Ahead Form in the Appendix should be used to plan mitigation strategies at weekly progress meetings.

Monthly all hands SH&E meetings are held to review critical safety procedures, discuss safety incidents, and celebrate safety milestones. The Project Manager announces the time and schedule of these meetings at least one week in advance.

4.8 REWARDS AND RECOGNITION

4.8.1 Rewards and Recognition Program

Each project with a duration of at least 6 months must follow the Rewards and Recognition Procedure for developing a "Rewards and Recognition" program to foster continuous improvement in SH&E performance. If a project is less than 6 months in duration, then the project can choose to fall under the "Rewards and Recognition" Program for the Parsons' office responsible for the project.

The "Rewards and Recognition" program for this project will be office based.

4.8.1.1 Rewards and Recognition Corporate Policy Procedure

Parsons Corporate Safety Rewards and Recognition Policy recognizes Parsons employees and project teams who make a performance contribution to Parsons SH&E. This policy recognizes achievements or accomplishments that contribute to the overall SH&E objectives of the company.

This policy outlines acceptable methods of rewards and recognition and provides sample plans that focus on leading indicators rather than lagging indicators. Projects and programs are encouraged to reward their teams and individual employees with items from the Parsons Online Safety Products Store and are encouraged to base incentives on leading SH&E indicators.

4.8.1.2 Examples of Leading Indicators

Examples of leading indicators or actions to reward and recognize are as follows:

- Participating in or leading a safety meeting.
- Providing suggestions for improving workplace SH&E.
- Serving on a SH&E committee.
- Creating or revising an activity hazard analysis (AHA) worksheet.

Celebrations of achievements at a project or office level are still important. Project luncheons at milestone achievements are encouraged and are the appropriate place to recognize the collective achievements of working without incident.

4.9 WORK-RELATED INJURIES, MEASUREMENT AND REPORTING

4.9.1 Work-related Injury Procedures

4.9.1.1 Emergencies

Call 911.

4.9.1.2 Non-Emergencies

For work-related injuries or illnesses that may require physician direction on appropriate treatment, Parsons employees should then promptly contact WorkCare, ideally before seeking medical care, as this will provide the greatest opportunity for appropriate intervention.

WorkCare's Incident Intervention is available 24 hours a day, 7 days a week (24/7), and 365 days per year. The contact number is 1-888-449-7787.

If an injured employee requires medical care for a work related injury/illness, the Order for Treatment of Work-Related Injury/Illness Form MUST be sent with the injured worker and/or faxed to the occupational medicine clinic at the time of the initial evaluation.

For U.S. facilities, here is the link to the document on ParShare: Order for Treatment of Work-Related Injury or Illness. NOTE: The Workers Compensation carrier and Policy number for each State may be different.

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For Canadian facilities, here is the link to the document on ParShare: Order for Work-Related Injury/Illness Eval/Treatment (Canada). NOTE: The Workers Compensation carrier for each Province will be different.

When contacting WorkCare, be prepared to provide the following:

- Injured employee's name and Parsons ID number
- Injured employee's contact number
- Injured employee's location (at a minimum include the city and state)
- Employee's GBU and client/project name
- Functional manager's name

If the WorkCare physician or nurse determines that an employee should be evaluated by a local physician, then an occupational clinic will be used whenever possible (i.e. during normal business hours). A secondary facility must be able to provide treatment during all hours of operations (i.e. hospital). The facilities are listed below:

- *Primary – **US Health Works – Occupational/Industrial Medicine Urgent Care Center/Walk-In** (3851 S Soto St., Vernon, CA 90058, 323-585-7162)*
- *Secondary – **White Memorial Medical Center – Hospital General** (1720 E. Cesar Chavez Ave, Los Angeles, CA, 90033, 323-268-5000)*

NOTE: Transportation of an injured worker to a medical facility for non-emergency treatment must be done by at least two (2) individuals (i.e. driver and observer). If a driver is not available, then a cab service is acceptable as long as an observer is present.

4.9.2 Measurement and Compliance

To accurately measure performance and comply with corporate and regulatory requirements, Parsons and its subcontractors have an emergency communications system to contact the following onsite offices for the events listed below:

All incidents	Shala Craig
Worker injury or exposure	Shala Craig
Environmental release	Shala Craig
Fires/explosions	911
Medical emergencies	911
Site/industrial security	Shala Craig

The Project Manager establishes a measurement system to provide indicators of SH&E performance, including the following metrics:

4.9.3 Incident Reporting

Employees involved in or witnessing an injury, worker exposure, environmental incident, or near miss must immediately report it to the responsible supervisor or foreman, who in turn immediately relays the report to Parsons Project Manager, Shala Craig (310) 440-6161, or Project SH&E Representative, Greg Ertel (585) 3535-2574. No supervisor may decline to accept or relay a report of SH&E incident or significant near miss from a subordinate.

Each Project Manager must ensure that all SH&E incidents are reported to the GBU SH&E Director and other management personnel (as required) within four hours using the IndustrySafe Online SH&E Reporting System. The online SH&E reporting system includes an Incident Investigation Form, which can only be viewed by system administrators, designated managers, and the assigned investigator. The GBU SH&E Director serves as the default investigator and may assign that role on a case-by-case basis.

Incident investigation link folder on ParShare is as follows: Incident Investigation.

Procedures for investigating workplace accidents and hazardous exposures include the following:

- Emergency Response Team responds to the accident scene as soon as possible.
- Report all injuries to the Parsons Workers' Compensation Claims Analyst.
- Report on PWeb using the online IndustrySafe Reporting System.
- Report to appropriate client point of contact in accordance with contractual requirements.
- Interview injured workers and witnesses.
- Have employee complete the Employee Accident Report and the Individual Statement Report within 24 hours. If the employee is unable to complete the statement, the functional manager must complete the form. (Note: The Individual Statement Report is also known as the Narrative Statement form.)
- Report to the Division or Project SH&E Manager (or Parsons Project Manager) immediately.
- Examine the workplace for factors associated with the accident/exposure.
- Determine the cause of the accident/exposure.
- Take corrective action to prevent the accident/exposure from recurring.
- Record the findings and corrective actions taken.

The Division or Project SH&E Manager must notify the local OSHA office and/or regional, municipal and/or local regulations office in writing within 8 hours if an accident involves the death of an employee or hospitalization of *three or more* workers. In addition, spills/releases of reportable quantities and other reporting required by environmental regulation are the responsibility of the Project Manager. A spill response and contingency plan is found in the project Transportation Plan found in Appendix D of the Interim Remedial Measure Workplan, and in

Subcontractors must submit a monthly report of exposure hours (hours worked on the project, paid or unpaid) to the Parsons Project Manager within four (4) days after the end of each month, or as specified by the contract. The Project Manager compiles the figures and submits them via the online safety reporting system. If necessary, estimated figures are acceptable, but the reports must be filed.

4.10 INCIDENT INVESTIGATIONS

All accidents, worker over exposures, environmental incidents and significant near misses are investigated by an individual or team with training in incident investigation and root cause analysis. Subcontractors must investigate incidents involving their employees or activities and submit an investigation report to the Parsons Project Manager within 48 hours of an incident.

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In Parsons, the GBU SH&E Director investigates or assigns an investigator to each significant incident. The investigator submits a final investigation report using the online safety reporting system within 72 hours of the incident. Each Project Manager maintains the investigation file.

4.11 Responsibility/Identification of Key Line Personnel

For project responsibility and identification of key personnel

Project Key Personnel

Company Executive responsible for Project	Contact Information
Annie Deister	Direct Line: (530) 863-0750 Cell Phone: (310) 612-3393 Email: Ane.Deister@parsons.com
Project Manager	Contact Information.
Shala Craig	Direct Line: (626) 440-6161 Cell Phone: (310) 612-3393 Email: Shala.craig@parsons.com
Field Team Leader	Contact Information.
Tom Blaney	Direct Line: (626)440-6067 Cell Phone: (626)533-3740 Email: Tom.Blaney@parsons.com
Project SH&E Representative	Contact Information
Greg Ertel	Direct Line: (585) 353-2574 Cell Phone: (585) 353-2574 Email: Greg.Ertel@parsons.com
Client Project Management POC	Contact Information
Peter Ruttan, P.E.	Direct Line: **(916) 255-3630** Cell Phone: Email: **pruttan@dtsc.ca.gov**

This information should be placed on the back of the front cover of the PSHEP, and provided to workers on posters placed in the workplace or on individual wallet cards distributed to workers.

The personnel listed above have the authority and responsibility for implementing the provisions of this PSHEP.

4.12 Medical Requirements and Workers' Compensation

In accordance with corporate requirements the Project SH&E Manager *(or the GBU SH&E Director)* has established and implemented the following medical requirements for the project:

4.12.1 Functional Capacity Evaluations (FCEs)

FCEs not applicable for Parsons personnel working on this project.

4.12.2 Substance Abuse Tests

The Talent Management Department administers required substance abuse tests. For this project, the client does not require drug and/or alcohol testing.

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4.12.3 Workers Compensation Program

This project does NOT participate in an Owner's Controlled Insurance Program (OCIP) or project-specific insurance program. The workers' compensation policy covering Parsons employees on this project is as follows:

Workers' compensation carrier – AIG

Workers compensation insurer: Insurance Company of the State of Pennsylvania
Policy effective date 1/1/14-1/1/15
CA specific wc policy: WC015656169
P.O. Box 25977
Shawnee Mission, KS 66225
(800) 736-6671

4.12.4 Medical Monitoring

All personnel engaged in activities that results in the exposure to chemicals at or above the OSHA Permissible Exposure Limit (PEL) or wear a respirator for more than 30 days in a year, must comply with 29 CFR 1910.120(f) – Medical Surveillance. All personnel who wear a respirator must be medically qualified by a physician, trained and fit-tested on an annual basis, even if they are not required to participate in a medical surveillance program under 29 CFR 1910.120(f).

Based on the scope of work listed in Section 2.1, the following hazards or activities are associated with this project, which may result in an exposure that requires an employee to participate in a medical surveillance program.

Work Activity	Hazard	Medical Surveillance/Training
None	Noise	If noise exposures exceed 85 decibels over an 8-hour time weighted average, an employee must participate in a Hearing Conservation Program.
Soil Sampling	Chemical exposures – Lead and Arsenic	For respirator use, medical qualification, training and fit-testing must be received on an annual basis. If an individual is exposed at or above the PEL or wears a respirator more than 30 days per year, then participation in a Medical Surveillance Program is required.

- The Division or Program SH&E Manager administers the medical surveillance program.

SECTION 5 – PRE-FIELD WORK

5.1 RISK ANALYSIS AND SAFETY SPECIFICATION DEVELOPMENT

The Project Manager has led an analysis using the prebid risk analysis checklist to document existing exposures that may impact the work, surrounding facilities, equipment, workers, or the public at large. The checklist is included in the Appendix.

5.2 SUBCONTRACTOR PREQUALIFICATION REVIEW

For this project, there will be any subcontractors directly hired by Parsons.

The subcontractors directly hired by Parsons that will be working on the project are included in Exhibit 5-1.

Exhibit 5-1 – Hired Subcontractors

SUBCONTRACTOR	WORK ACTIVITIES	DATE OF EVALUATION
Panacea	Analysis of Soil Samples using an XRF	January 21, 2015
Calvada	Land Surveyor	NA*
Geovision	Subsurface Utility Clearance	NA*
ICS	Remediation and Restoration	January 28, 2015

*CSE not required for surveyors

5.3 PRE-FIELD WORK MEETING

A copy of the Pre-Field Work SH&E Meeting and Site-Specific SH&E Review Checklist is part of the Appendix and will be reviewed by all project personnel before work begins. The meeting includes the Parsons Project Manager and subcontractor representatives, including safety.

5.4 COMPETENT PERSON SUBMISSION REVIEW

Copies of signed Competent Person forms for subcontractor personnel is part of the Appendix. Exhibit 9-1 represents regional, municipal, provincial, local, and/or OSHA regulations, owner, and Parsons corporate regulations and requirements applicable to the project.)

5.5 SUBCONTRACTOR SAFETY PLAN SUBMISSION REVIEW

The subcontractor SH&E plan (SSHEP) has been posted on ParShare (PE&I Safety > Project Safety Plans > Environmental Division > CA Dept of Toxic Substancex Control (DTSC) > Exide Technologies – Off Site Remediation and Restorations). The Parsons Project Manager has reviewed the SSHEP for adequacy in accordance with the Subcontractor SHE Plan Review form posted on ParShare.

5.6 MOBILIZATION/KICKOFF SH&E MEETING

Project Managers conduct the Mobilization/Kickoff SH&E Meeting on or before the first day of subcontractor mobilization in the field at each work site. The meeting includes a review of the prebid

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site/area risk analysis and a walk through of the work area to locate items on the prebid risk analysis checklist.

SECTION 6 – CONSTRUCTION/SITE INVESTIGATION PHASE

6.1 SITE RISK ANALYSIS

Below is a list of potential hazards on the project.

- Chemical exposures – for this project chemical exposure to lead in soil is anticipated to be of low risk. During the sampling phase of the project, there is no dust generation. As such exposure due to inhalation is not of concern. Exposure due to ingestion may pose a risk, which can be easily mitigated by proper use of Level D PPE. Hands and shoes may come in direct contact with potentially contaminated soil. Therefore, workers will be required to wear steel toed work boots, latex gloves, high visibility vests, and hard hats as part of their Level D PPE. Handling of soil, soil samples, and sampling equipment is only allowed while wearing latex gloves, or work gloves over latex gloves. After an activity is completed, the latex gloves will be discarded and hand washing will be required. Additionally, boots will be decontaminated by brushing off any loose soil and washing the boots with water. These PPE requirements will also be implemented during the remediation activities. Since air monitoring will be conducted during remediation activities, if air monitoring data indicates the need for Level C respiratory protection, then action levels (based on OSHA PELs) and corrective action(s) must be provided. Use the Action Level Table in the Appendix for entering Action Levels and PPE/Action Taken in Table 6-1. NOTE: A respirator cartridge changeout schedule must be developed and included - use the Wood Math Model Table based on the anticipated levels of chemical exposure.
- Environmental – cold/heat related illnesses, animals, insects, poisonous plants/vegetation. See Section 9.2 for information related to Environmental hazards.
- Excavations and trenches – Shallow excavations up to 18 inches deep conducted to remediate soil impacted with lead and arsenic
- Lightning - personnel shall follow the 30/30 rule - stop field activities and seek shelter when the time between seeing the lightning and hearing the thunder is less than 30 seconds. When the lightning has subsided for 30 minutes, work activities can resume.
- Noise – reference CSHM-7
- Underground utilities or obstructions - if subsurface soil disturbance more than 6” below grade surface will occur, then the Parsons Subsurface Soil Disturbance Protocol must be followed (included in the Appendix).
- Public Safety – Work location is in neighborhoods which have a history of high crime. All personnel should keep a low profile, call 911 in case of an emergency, avoid confrontations. If public concerns arise over field operations, provide the client public relations contact information.
- Traffic – Traffic is a recognized hazard during the remediation activities when moving equipment between properties. Traffic control plans and no parking zone permits are likely necessary at each property. Traffic is also a hazard during sampling activities, when taking equipment in and out of vehicles, and/or crossing street to access job location from parking location.

Table 6-1 – Chemicals of Concern

Chemical of Concern	*Soil (mg/kg) or ground water (g/ml) concentrations*	*Monitoring Equipment*	*Action Levels*	*PPE/Action Taken*
Lead	>1,000 mg/kg in soil	XRF unit	80 mg/kg	Latex gloves, long sleeve shirts, level D PPE to prevent dermal exposure during sampling

6.2 CONTROL MEASURES

Site hazards and hazards resulting from investigation and remediation activities are controlled using one or more of the control measures listed below. The order of precedence is as follows:

Engineer/design to eliminate or minimize hazards.

A major component of the remediation and restoration phase is to select appropriate safety features to eliminate a hazard and render it fail-safe or provide redundancy using backup components.

Guard the hazard.
Hazards that cannot be eliminated by design must be reduced to inacceptable risk level by safety guards or isolation devices that render them inactive.

Provide warnings.

Hazards that cannot be totally eliminated by design or guarding are controlled through using a warning or alarm device. This project will require decontamination procedures for personnel and/or equipment.

In order to minimize tracking soil off of the Site into public roadways, trucks removing soil from the exclusion zone will drive over plastic while getting filled with excavated soil. Water will not be used on the tires as this could increase the retention of dirt tracked off-site; heavy-duty brushes will be used to scrape tires clean instead. The exclusion zone will be that which immediately surrounds the work area and open excavation. The contamination reduction zone will be the area where oversight will be conducted to ensure soils are removed safely and according to prescribed workplans and/or standard operating procedures. The support zone will be the area outside of the work zone, limited to those who do not have the training, authorization, or PPE to safely enter the other two zones.

Provide special procedures or training.
When design, guarding, or warnings cannot eliminate hazards, subcontractors must develop procedures, training, and audits to ensure safe completion of work. Training cannot be a substitute for hazard elimination when life-threatening hazards are present. This project will not bring or use chemicals on site, including chemicals used for personnel or equipment decontamination.

Provide personal protective equipment.

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To protect workers from injury, the last method in the order of precedence is the use of personal protective equipment, such as hard hats, gloves, eye protection, life jackets, and other protective equipment with the understanding that bulky, cumbersome, and heavy personal protective equipment is often discarded or not used, rendering this method ineffective without proper controls.

This project will not use respirators.

6.3 ACTIVITY HAZARDS ANALYSIS

Below is a list of Activity Hazards Analyses (AHAs) for the hazards identified in Section 6.1, and all aspects of the work.

Field Activities. Many different types of activities occur in the field from excavations, demolition, restoration, subsurface utility surveys, soil sampling, and monitoring. A variety of hazards could be incurred with each activity such as biological, slip/trips/falls, lightning and lacerations. An activity hazard analysis is required for each different field activity to identify the hazards and controls. Personnel shall stop field activities and seek shelter when lightning is present. When the lightning has subsided for 20 minutes, work activities can resume.

Field Visit. When a field visit occurs, it may be before any field activities are taking place. However, there may still be hazards present such as walking or driving in fields with uneven terrain, poisonous vegetation, etc. Although personal protective equipment such as a hard hat and safety glasses may not be needed, sturdy work boots, long pants, long sleeve shirts and sunscreen may be necessary.

Heavy Equipment Operation. Parsons subcontractors will be operating heavy equipment. Subcontractors' safety plans will address and evaluate the use of heavy equipment in operations such as site clearing, grading, excavation or lifting. Controls should include equipment alarms, use of qualified operators, equipment inspections, and any specific OSHA regulatory requirements.

Decontamination of Equipment. Decontamination procedures are necessary for the removal action at conducted at each property. As a result, these procedures are summarized below:

- Prior to loading excavated materials into trucks, plastic sheeting will be placed on the ground or asphalt such that any spilled material will be prevented from contacting the ground surface. Upon completion of loading, any debris will be placed in the appropriate container for proper disposal and the plastic sheeting will be folded and disposed of daily.
- All equipment wheels/tires will be cleaned over plastic sheeting by means of shovels and stiff-bristled brooms or brushes until they are fully cleaned. Upon completion of cleaning, any debris will be placed in the appropriate container for proper disposal and the plastic sheeting will be folded and disposed.
- HEPA hardscape areas where residual impacts may be present after removal actions have been implemented.
- Personal Protective Equipment, such as gloves, will be removed and discarded in the contamination reduction zone. In order to decontaminate reusable items such as work boots, a two-stage decontamination process will be used during remediation. This process will include washing in a detergent solution with a stiff-bristled brush and rinsing with clean water. The rinsate water will be distributed over contaminated soil (to be exported) for dust control purposes. Due to the low disturbance nature during soil sampling activities, boots decontamination stations are not anticipated during soil sampling.

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- Decontamination of sampling equipment will be conducted using 5 gallon buckets. One wash bucket with a dianized water and alconox solution, and one rinse bucket with dianized water. Sampling equipment will be dried after decontamination and prior to use.

The decontamination containers will be clearly marked, identifying the wash and rinse containers to be used. Rinse water will be applied to materials that will be off-loaded for disposal only and will not be applied to any of the open excavations to avoid potential cross-contamination.

Material Handling. Consider the size and weight of loads, the equipment to be used, how the equipment is set up and protected, and safety and maintenance inspections of material handling and rigging equipment. Also consider employee training in the use of the equipment or personal body mechanics when engaged in manual material handling activities.

Material Storage. Consider where materials and equipment will be stored on site. Implement measures to protect against chemical spills/releases, fire, vandalism and theft of tools, equipment, or materials. Also consider the hazards that may exist for workers when they are storing or retrieving those materials.

Mobilization/Demobilization. Conduct an initial site inspection for pre-job planning. The inspection should cover potential exposures such as the location of electrical lines, underground utilities, nearby structures, traffic conditions, site security needs, public exposures general liability, and other potential exposures.

Portable Hand and Power Tools. Evaluate the tools to be used and the ways that workers are protected from the hazards associated with the use of tools. Consider tool maintenance requirements; electrical requirements; the use of ground fault circuit interrupters, grounding, extension cords, and tool inspection procedures; and employee training and PPE requirements.

Traffic Controls. Control measures include warning signs, flagmen, traffic stoppage and control, and unloading procedures. Internal traffic control plans should include ways to restrict the number of vehicles on site, the flow of vehicles accessing the site and driving through the site, haul roads, speed controls, subcontractor employee parking areas, merging of site traffic with local vehicle traffic, pedestrian controls in traffic zones, access by emergency and rescue vehicles and operator controls.

Vehicle traffic around the excavation and sampling properties is expected to be moderate. Extreme caution will be exercised while staging the vehicles, and/or entering and exiting the work area to ensure safe and uninterrupted traffic flow. During soil hauling periods, traffic into and out of the area will be planned to minimize impact to traffic flow. Entrance into and departure from the work sites by trucks will be facilitated by flagmen (as necessary), with due consideration for the traffic hazards associated with nearby businesses and pedestrian traffic in the remediation area.

Excavated material will be transported via surface streets (following the DTSC-approved Transportation Plan) directly to the off-site disposal facility. Backfill will be transported directly to the residential property, also following the Transportation Plan provided in the Workplan.

Construction vehicular traffic will be controlled to make sure activities are performed safely and efficiently. Site workers will remain cognizant of the nature of this work within residential neighborhoods and perform work in a safe manner. Speed limits will be established and implemented by signs and flagmen, as necessary, to minimize dust generation and maintain a safe environment for workers and local residents, including children. All trucks hauling excavated or backfill soil will be tarped during transportation.

Vehicle Operation. Although driving a vehicle may be second nature to many individuals, there are many hazards and controls that need to be identified. Fatigue and distractions are two hazards that many individuals do not think about on a regular basis.

6.4 Safety Systems Audit Protocol

GBU SH&E Directors use the Safety Systems Audit Protocol for field staff and subcontractors whose work on a project site will be more than six (6) months.

This project will be more than six (6) months in duration.

6.5 Site Inspection

Each Inspection Category below will be assigned the following employees

Inspection Category [a]	Parsons Corporate Safety & Health Manual	Title of Assigned Employee	Minimum Frequency
Comprehensive Audit			Annual
Compliance			Weekly
Focused			Weekly
Fire Extinguishers	12		Monthly
Hazardous Material Storage	17		Weekly
Ladders	19		Monthly
Motor Vehicles and Equipment	25		Each Shift
			Monthly
Excavations	33		Daily

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6.6 WEEKLY SH&E SITE INSPECTIONS

The Project Manager or most senior onsite person conducts a weekly site walk to identify problem areas using the Weekly SH&E Inspection Checklist (see Appendix). Items found to be out of compliance must be assigned corrective action and tracked to completion.

6.7 SH&E ENFORCEMENT

Parsons and its subcontractors enforce all applicable SH&E requirements of regional, federal, municipal, state, local, and all other regulations; and where applicable OSHA 1910 and 1926 and Engineering Manual (EM) 385.1, where applicable. Subcontractors must also comply with and enforce Parsons Site requirements.

Parsons and its subcontractors must have written progressive disciplinary systems available for review in their Human Resources departments.

6.8 NOTICE OF VIOLATION OF SAFETY AND HEALTH REGULATIONS

A Notice of Subcontractor Violation of SH&E Regulations form (see Appendix) will be used document immediately dangerous to life and health (IDLH) situation, respiratory airborne hazards (RDLH), and/or when the subcontractor repeatedly fails to comply with SH&E requirements.

The Notice of Subcontractors Noncompliance to SH&E Regulations form (see Appendix) documents poor performance and requires a response from subcontractor senior management. The notice contains five distinct levels of discipline, from submission of a recovery plan to contract termination.

6.9 COMPETENT FIRST AID PERSON

The response time for Emergency Medical Services (EMS) when dialing *323-267-0477* has been determined to be five minutes. Based on the activities provided in the Scope of Work (Section 2.1) and the list of Activity Hazard Analysis (AHA) included in Section 6.3, the project does not expect to have an accident involving suffocation, severe bleeding, or other life threatening or permanently disabling injury or illness.

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SECTION 7 – SAFETY TRAINING

7.1 PROJECT SAFETY ORIENTATION

The Parsons Project Manager, Field Engineer, or Project SH&E Representative will conduct an orientation for all new Parsons staff and subcontractor management personnel using the completed HASP Orientation.

All visitors must receive a brief orientation on emergency procedures, and be escorted by the Project Manager, Project Engineer, Project SH&E Representative or a designee familiar with the potential hazards on the project, and who has received a full safety orientation.

7.2 PARSONSU MODULES AND START TRAINING – ZERO INCIDENT TECHNIQUES

The following project personnel are current in the completion of safety modules on ParsonsU.

- Fabrizio Mascioni
- Tom Blaney
- Peter Sheir
- Mehdi Bettahar

The following Project Manager and supervisors have completed START training.

- Shala Craig

7.3 DAILY HUDDLE

Daily Planners such as Daily SH&E Planner or the Take 5 Card enable supervisors and employees to formally document SH&E huddle participation as well as the day's activities, associated risks, and relevant control measures. The daily safety huddle must be documented using either one of these forms, or an alternate means of documentation to be determined by the Project Manager.

7.4 WEEKLY TOOLBOX SH&E MEETINGS

The Field Team Leader documents toolbox SH&E meetings and attendance and retains all records. Subcontractors shall lead the portion of the meeting that involves their scope of work. Meetings shall be documented and signed by all individuals accessing the site using a Toolbox Safety Meeting form (Safety Meeting Sign-In Sheet).

7.5 ACTIVITY HAZARDS ANALYSIS TRAINING

When the Activity Hazards Analysis (AHA) is complete, the Parsons supervisor or subcontractor conducts a training session with all individuals involved with the task. Individuals should be given an opportunity to provide input regarding task steps, hazards identified, and appropriate control measures.

7.6 Regulatory Training Programs

Regional, municipal, provincial, local, and OSHA regulations require specific training in certain circumstances. Based on the scope of work and meetings with regulatory officials, the following training topics are provided on the project:

Yes **No** Hazard Communication – as per 29 CFR 1910.1200

Yes No HAZWOPER – all workers engaged in activities which are potentially exposed to hazardous substances and health hazards must be trained to meet 1910.120(e)(1). Annual 8-hour refresher training as per 29 CFR 1910.120(e)(3) is required for workers and supervisors must be trained to meet 29 CFR 1910.120(e)(4).

Yes **No** AED/CPR/First aid/Bloodborne Pathogens – provided to personnel based on project activities identified in the Scope of Work (i.e. life threatening) and EMS response time (i.e. less than 15 minutes). See Section 6.9.

Yes **No** Emergency response – only applicable to workers engaged in emergency response as per 29 CFR 1910.120(q).

Yes **No** Respiratory protection – as per 29 CFR 1910.134. Medical qualification by a physician is required to wear a respirator. Annual fit testing and training is also required.

Yes **No** Signaling

Yes **No** Process safety management – as per 29 CFR 1910.119.

Yes **No** Power-operated hand tools

Yes **No** Gas welding and cutting

Yes **No** Confined space entry – Supervisor must be trained to meet 29 CFR 1926.651(j).

Yes **No** Lockout/tagout – as per 29 CFR 1910.147.

Yes **No** Asbestos abatement – as per 29 CFR 1926.1101.

Yes **No** Scaffold use – as per 29 CFR 1926.451.

Yes No Excavation/Trenching – as per 29 CFR 1926.651.

7.7 Outreach Programs

The project will use qualified instructors and online courses to conduct regional, municipal, provincial and local training, as well as OSHA 10-/30-hour construction safety training.

7.8 Specialized Training and Orientations

Personnel receive specialized training on client rules and requirements as well as the unique tools, equipment, and procedures used to perform the work. The Program budget includes funding for the following training:

Description	Attendees	Schedule
NA		

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SECTION 8 – RECORDKEEPING AND POSTING

Parsons and its subcontractors must comply with the recordkeeping requirements of the regional, municipal, local, and/or OSHA regulations, Owner, Parsons Corporation, and this PSHEP, including:

- OSHA 300 and/or applicable regional, municipal, and local regulation logs
- Medical treatment and follow-up
- Cranes
- Heavy equipment inspection logs
- Fall protection
- Training
- Inspections
- Audits
- Others, as required

Parsons Talent Management and the Division or Program SH&E Manager are the official recordkeepers for files relating to Parsons employees. Each subcontractor maintains its own files.

For this project, safety bulletin boards used for displaying regional, municipal, provincial, local and/or OSHA posters in conspicuous places will be located at the Parsons Pasadena Office (A3)

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SECTION 9 – SAFETY AND HEALTH REQUIREMENTS

9.1 COMPETENT PERSON AND ACTIVITY HAZARDS ANALYSIS

Parsons and its subcontractors are individually responsible for training their respective employees and for complying with all project requirements. Failure to comply could lead to disciplinary actions against Parsons employees and subcontractors or their employees. Further guidance is available in the Parsons Corporate Safety and Health Manual; ParShare link is as follows: Corporate Safety and Health Manual.

Competent Person forms will be submitted for subcontractor personnel for applicable Safety and Health Requirements in Exhibit 9-1.

Exhibit 9-1 – Competent Person and Activity Hazards Analysis Requirements

Safety and Health Requirement	Parsons Safety, Health, and Environmental Manual	OSHA Regulation	EM 385-1-1 Regulation	Competent/ Qualified Person	Training Required	Written Plan and AHA Required
General Safety and Health		1926.20	01.A	*Yes*	*Yes*	*Yes*
Safety Training		1926.21	01.B.01	*Yes*	*Yes*	*Yes*
Housekeeping	4	1926.25	14.C	*N/A*	*N/A*	*N/A*
Personal Protective Equipment	6	1926.28, 95-98, 100-107	05.A	*Yes*	*Yes*	*Yes*
Acceptable Certifications		1926.29		*Yes*	*Yes*	*Yes*
Incorporation by Reference		1926.31	Preamble	*N/A*	*N/A*	*N/A*
Emergency Employee Action Plans	11	1926.35	01.E	*Recommended*	*Yes*	*Yes*
Noise Exposure	7	1926.52	05.C	*Yes*	*Yes*	*Yes*
Gases, Vapors, Dusts and Mists	9	1926.1926.55		*Yes*	*Yes*	*Yes*

Exhibit 9-1 – Competent Person and Activity Hazards Analysis Requirements (Contd)

Safety and Health Requirement	Parsons Safety, Health, and Environmental Manual	OSHA Regulation	EM 385-1-1 Regulation	Competent/ Qualified Person	Training Required	Written Plan and AHA Required
Hazardous Waste Operations and Emergency Response	13	1926.65 1910.120	28.A	*Yes*	*Yes*	*Yes*
Accident Prevention Signs and Tags	16	1926.200	08.A	*N/A*	*N/A*	*N/A*
Material Storage	17	1926.250	14.B	*N/A*	*Yes*	*Yes*
Waste Disposal		1926.252	14.D	*Yes*	*Yes*	*Yes*
Tools	29	1926.300-307	13.A	*N/A*	*N/A*	*Yes*
Motor Vehicles, Mechanized Equipment	25	1926.600-603	18.A	*Yes*	*Yes*	*Yes*
Site Clearing	32	1926.604	31.A	*N/A*	*Yes*	*Yes*
Excavations	33	1926.650-652	25.A	*Yes*	*Yes*	*Yes*
Excavation Permit	33	N/A	N/A	*Yes*	*Yes*	*Yes*

Exhibit 9-1 – Competent Person and Activity Hazards Analysis Requirements (Contd)

Safety and Health Requirement	Parsons Safety, Health, and Environmental Manual	OSHA Regulation	EM 385-1-1 Regulation	Competent/ Qualified Person	Training Required	Written Plan and AHA Required
Demolition	32	1926.850-860 inclusive	23.A	*Yes*	*Yes*	*Yes*

9.2 ENVIRONMENTAL HAZARDS

9.2.1 Heat Related Illness

Project activities may take place during time periods where exposure to temperature extremes could occur. In order to minimize exposure to temperature extremes, project personnel shall be familiar with the health effects of exposure to temperature extremes and the control measures that can minimize exposure. Personnel wearing impermeable protective clothing when ambient temperatures exceed 70F will be subject to a heat stress monitoring program (see Appendix).

For this project, personnel will not be required to wear impermeable protective clothing or respirators when ambient temperatures exceed 70F.

Training shall be provided to all employees to recognize heat illness hazards before starting to work outdoors.

Any employee experiencing or witnessing signs and/or symptoms of a heat related illness shall report the findings to their supervisor immediately.

Supervisors shall understand the procedures to follow when an employee exhibits symptoms consistent with heat illness, including emergency response.

Definitions

Acclimatization - a temporary adaption of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within 4-14 days of regular work for at least 2 hours per day in the heat.

Environmental Risk Factors - working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

Heat Illness - a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

Heat Wave - a sudden and temporary rise of temperature above the seasonal average for a particular region, which lasts for a prolonged period of time. A heat wave can greatly increase the risk of heat related illnesses.

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Personal Risk Factors - an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

Preventive Recovery Period - a period of time to recover from the heat in order to prevent heat illness.

Shade - blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

Signs and Symptoms of Heat Illnesses

Heat Rash – or prickly heat, occurs in hot and humid environments where sweat is not removed from the skin. Usually disappears when worker returns to cool environment.

Heat Cramps – muscle contractions from the loss of fluids /electrolytes due to sweating. Occurs when workers perform hard physical labor in a hot environment. Most common in the arms and legs. Cramping can occur after work has stopped.

Heat Exhaustion – inadequate blood circulation from stress due to constant heat. The whole body, especially the circulatory system, is extremely stressed. Possible symptoms include: pale, flushed face and neck; clammy skin; heavy sweating; fatigue; shortness of breath; headache; dizziness or fainting; nausea and vomiting; and rapid heartbeat and breathing.

Heat Stroke – body's failure to regulate its' temperature. The most serious stage of heat illness. Symptoms include: dizziness and confusion, red, hot, dry skin; nausea and vomiting; very little sweating; rapid pulse; high body temperature, 105° F or higher; convulsions, and fainting.

Heat Illness Prevention

Prevention of heat related illness in extreme temperature project personnel shall consider implement a Physiological monitoring program, include monitoring with a WBGT and implementing work rest regiments. The field team shall be encouraged to drink plenty of liquids to replenish electrolytes. The field team shall also, construct a shaded rest area for workers to take breaks.

Prevention of heat related illness may call for establishing work teams to rotate to minimize heat related illnesses.

Heat Illness Treatment

Heat Cramps - take water every 15 to 20 minutes. Drinking an electrolyte replacement (like Gatorade) may help.

Heat exhaustion - Get medical help. Don't leave the person alone. While waiting, remove worker to cool place to rest; remove as much clothing as possible; give water and electrolytes; and don't allow person to get chilled.

Heat Stroke – Call 911 immediately. While awaiting medical help, get victim into cool area, fan vigorously, apply cool water to clothing or skin, and apply ice packs under arms and to the groin area.

Heat Waves

Heat illness prevention during heat waves means taking extra measures.

More vigilance - supervisors/employees watch others very closely and provide more frequent feedback during work activities. Site workers shall avoid working alone and utilize the "Buddy System", watch each other and closely monitor/report an employees' condition. Personnel shall be accounted for their whereabouts throughout the work shift and at the end of the day.

More water - employees should drink small quantities of water more frequently before, during and after work. There should be extra supplies of water for replenishment, encourage employees to consult with their doctor on salt/mineral replacement.

More cooling - use other cooling measures in addition to shade, spraying body with water/wiping with wet towels and taking additional/longer breaks in the shade.

Change schedule - work activities may be started earlier on later in the evening, split-up work shifts and avoid working during the hotter parts of the day. Work shifts can be cut short or stop work.

Change meals - encourage employees to eat smaller/or more frequent meals (less body heat during digestion than with big meals), choose foods with higher water content (for example, fruits, vegetables and salads).

Acclimatization warning - personnel should allow the body time to adjust to sudden, abnormally high temperatures or other extreme conditions. Even employees previously fully acclimatized are at risk for heat illness.

Environmental and Physiological Factors

- Average ambient air temperature 96ºF (75-116ºF)
- Average humidity 29% (12% - 55%)
- Average wind speed 7 mph
- Average core body temperature 104ºF (98 -108ºF)

Provision of Water

Sufficient amounts of cool water shall be available and replenished at all times w/at least one quart per employee per hour for the entire shift.

Easy access to clean and cool water shall be available to encourage frequent drinking.

Access to Shade

A Preventative Recovery Period (PRP) is necessary if an employee is suffering from heat illness or believes that a rest break is needed to recover from the heat.

Access to shade shall be permitted at all times. Employees shall have access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than 5 minutes.

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Measurement

Portable heat stress meters or monitors are used to measure heat conditions. These instruments can calculate both the indoor and outdoor WBGT Index according to established ACGIH Threshold Limit Value equations. With this information and information on the type of work being performed, heat stress meters can determine how long a person can safely work or remain in a particular hot environment.

Additional Guidance

Cal/OSHA - http://www.dir.ca.gov/DOSH/HeatIllnessInfo.html

NIOSH - http://www.cdc.gov/niosh/topics/heatstress

9.2.1 Dust

The largest potential source of dust and emissions during the work will be the excavation and handling of material during soil removal. As discussed in the IRMW, dry decontamination techniques will be used on transport trucks with HEPA vacuuming as needed. Excavation equipment will be stored in a manner that does not generate fugitive dust immediately after completion of work. To decontaminate excavation equipment, the equipment will be cleaned by wet wash or a HEPA vacuum equipped with a filter rated by the manufacturer to achieve 99.97% capture efficiency for 0.3 micron particles immediately after completion of the work and prior to exiting the property.

To comply with the South Coast Air Quality Management District (SCAQMD) rules and the HASP, dust control measures will be implemented during remediation activities. The planned excavation areas are expected to require simple control measures to mitigate fugitive dust. Typical dust control measures, including water spray, spray of water amended with environmentally safe additives (such as Simple Green, Envirotech Vapor Suppression, or equivalent), application of chemical foams, or coverage of soil with plastic sheeting, or clean soil may be considered. Further details are provided in the next section.

On-site monitoring of dust levels is planned. Special considerations will be applied during earth moving operations (excavation, contaminated soil loading, and unloading of clean soil). Dust monitoring will be conducted with dust meters (i.e. Dust Trak model 8530 or model 8532 dust meters or equivalent) as a means of documenting concentrations of airborne dust. Dust readings will be recorded on Site specific dust monitoring forms or in the field logbook.

Dust levels will also be monitored during excavation and loading activities at the Site perimeters. If the monitoring data at the Site perimeters indicates that dust levels are beyond the SCAQMD limit of 50 micrograms per cubic meter (ug/m^3) above background, then additional engineering control measures, listed below, will be implemented to reduce the dust level. In the event that stockpiles of contaminated soil or surface excavations are left overnight, the exposed portion will be properly covered with plastic to reduce any dust emission. The equipment proposed for the Site remediation will be maintained properly so that exhaust emissions will be within acceptable standards. If necessary, the tires of soil transport trucks will be washed in order to prevent tracking of soil and increase in fugitive dust levels outside the Site perimeters.

Dust Suppression Techniques

A rule of "no visible dust" will be applied to all aspects of the work that involve impacted soils and fill placement. This will be accomplished by implementing the following procedures to control the possible generation and migration of dust during the excavation and handling of materials:

- Apply water directly to the active excavation prior to soil disturbance. Additionally, water will be applied during the truck loading operations, as appropriate;
- Promptly apply water to excavation, loading or unloading operations upon any observance of dust;
- Control dust during operation of trucks by not allowing material to be dropped from heights above the top rail of the truck body;
- On days where wind speeds exceed 20 mph, cease work and immediately secure or cover excavation areas and soils in a manner that does not generate fugitive lead dust;
- Regularly inspect all rear gate seals and locking mechanisms on material transport vehicles in order to prevent spillage and dust production;
- HEPA vacuum and/or wash the trucks prior to leaving the loading areas to prevent the deposition of material;
- Clean up all spilled soil material within the loading area and work areas. Following each day's construction activities, the Contractor will HEPA vacuum all areas to remove any residual soils from non-excavation areas; and
- All transport vehicles used for off-site transport of materials will be lined with polyethylene sheeting to prevent leaking. Sufficient sheeting material will be placed in the transport vehicle to allow the Contractor to cover and wrap the waste within the vehicle. The Contractor will install secured, strapped-down covers to prevent any fugitive lead dust during transport to the disposal facility.

Air monitoring to ensure compliance with the project performance standards will be conducted as described below.

Air Monitoring Plan

Air monitoring will be performed during soil removal and placement activities to ensure that there is no fugitive dust from the impacted soils or fill materials. Real-time particulate monitors and personal air monitors (PAMs) will be utilized during the operations as detailed below.

Real-Time Particulate Monitors

Three (3) particulate dust monitors will be setup at each property on a daily basis. Particulate dust monitors measure the total dust in the air. A monitor will be placed downwind of the excavation area to monitor the effects of the work activity. A monitor will be placed upwind of the excavation to monitor any dust coming from sources unrelated to the work. The third monitor will be placed at the closest entryway to the home to understand any particulates in proximity to the work. The Contractor will utilize Dust Trak model 8530 or model 8532 which measure total suspended particles (TSP) in the air. These monitors measure aerosol particulates corresponding to particulate matter that is 10 microns (PM10) size fractions.

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Monitors will be placed each day prior to soil disturbance or placement activities and review the levels relative to the area-specific action level on hour intervals during the work. The action level shall be the SCAQMD's standard for PM_{10} which is 50 ug/m^3 above background. This concentration will be above the upwind monitor reading which measures the ambient (i.e. non work related) conditions. If the downwind or entryway monitor shows a level above the action level, the upwind monitor will be checked to see if there is an upwind source for the increased dust level, DTSC will be informed, and the monitor will be checked again in 10 minutes to determine whether the level has dropped below the action level. If it has not, work will be decreased and a corresponding increase in the dust suppression techniques as needed to lower the dust levels below the action level.

Personal Air Monitors

In addition to the three (3) dust monitors described above, during disturbance of lead-impacted soils, a Gilian GilAir-5 model (or comparable) personal air monitor (PAM) will be co-located with a dust monitor at each location during the excavation work. The PAM cassettes will be analyzed for lead content at an off-site laboratory after completion of the excavation work. The findings will be reviewed and documented. The date, start time, end time and air flow will be recorded on the cassette for analysis purposes.

SECTION 10 – APPENDIX

10.1 ATTACHMENTS/FORMS

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10.1.1 PSP Training-Medical Record

10.1.2 Pre-Field Work Safety Meeting

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Pre-Field Work SH&E Meeting
Site-Specific SH&E Review Checklist
(Sheet 1 of 3)

Date:
Subcontractor Representative:
Phone:
Project Location:
Parsons Project Manager:
Phone:
Subcontractor SH&E Representative:
Phone:
Parsons SH&E Representative:
Phone:

This checklist supports the identification of work activities and programs in a pre-field work SH&E meeting. This list also includes items identified through the subcontractor review and high-risk activities identified through the project specification review.

High-risk activities must be followed up during the field work with training, written plans and/or a specific Activity Hazard Analysis (AHA).

This list should be reviewed with prospective bidders during the pre-bid meeting.

NOTE: Use check box and add specifics and details as applicable (next to the callouts)

	SAFETY & HEALTH
☐	Site-Specific Safety, Health and Environmental Plans
☐	Competent/Qualified Person Documentation
☐	SH&E Audits/Inspections
☐	Subcontractor Responsibilities
☐	Site Orientation Requirements
☐	Pre-Field Work SH&E Meeting/Date
☐	Crane Inspection Certification
☐	Personal Protective Equipment (PPE) (Work activities or work site requires hearing protection/using respirators/special protective clothing/other)
☐	Exposure to General Public (Work activities or location requires special precautions to protect the public)
	FIELD WORK SAFETY ISSUES
☐	Excavations/Trenching
☐	Powered Industrial Trucks, Fork Lifts
☐	Crane Work/Heavy Lifts, Rigging
☐	Work involving Hazardous Materials
☐	Electrical Tie-ins/Lockout – Tagout
☐	Aerial Lift Work – Scissor Lifts, Extendable Boom, etc.
☐	Underground, Caissons, Cofferdams
☐	Scaffold Erection/Work
☐	Demolition
☐	Marine Work/Live Boating

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Pre-Field Work SH&E Meeting Form
Site-Specific SH&E Review Checklist
(Sheet 2 of 3)

FIELD WORK SAFETY ISSUES (Contd.)	
☐	Heavy Hauling
☐	Concrete
☐	Diving
☐	Work Adjacent to Production Areas
☐	Site Security/Visitor Control/Public Areas
☐	Permits (Excavations, Scaffolding, Demolition, Traffic, Confined Space, Hot Work, Line Breaking, etc.)
☐	Confined Space (Confined space entry is required)
☐	Welding and cutting (Acetylene/gas cutting, arc welding, soldering and brazing)
☐	Ladders (Portable ladder use is required)
☐	Traffic Control (Work is on or near highways, roads, or mass transit)
MEDICAL	
☐	Substance Abuse Screening
☐	Emergency Procedures
☐	Site Security
☐	Smoking Policy
☐	Medical Services Requirements
☐	Treatment Locations, Addresses, and/or Phone List
ENVIRONMENTAL	
☐	Environmental Hazards
☐	Air Pollution/Emissions and required reporting
☐	Wastewater Discharges
☐	Drinking Water
☐	Management of Hazardous Materials and Hazardous and Solid Wastes
☐	Emergency Response to Spills and Releases Environmental Assessments
☐	Protected Ecological and Cultural Resources
☐	Specific Reports on Toxic or Hazardous Chemicals Usage and Storage (Required by Environmental Regulation)
☐	Materials to be Recycled
☐	Possibility of Buried Items Onsite (cultural artifacts, tanks, wastes, and ordinance) and what to do if encountered
☐	Environmental Regulatory Requirements
☐	Environmental Assets
☐	Resource Conservation/Sustainability

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Pre-Field Work SH&E Meeting Form
Site-Specific SH&E Review Checklist
(Sheet 3 of 3)

Additional Notes/Comments:

ATTENDEES		
Name	Title	Company

10.1.3 Employee/Contractor Training Acknowledgement

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Initial Contractor Employee Training Acknowledgment

Name, title, and employer of trainer: _____

Training subject: _____

Training materials used: _____

Name of contractor employee trained: _____

Date of hire/assignment: _____

I, _____ certify that I have received training as described above in the following areas.

Name of Contractor Employee (Printed)

- The potential occupational hazards in general in the work area and associated with my job assignment.
- General SH&E requirements indicate the safe work conditions, safe work practices, personal protective equipment, and environmental requirements required for my work.
- The hazards of any chemicals to which I may be exposed and my right to information contained on material safety data sheets for those chemicals, and how to understand this information.
- My right to ask questions, or provide any information to the employer on safety, health, or environment either directly or anonymously without any fear of reprisal.
- Disciplinary procedures the employer will use to enforce compliance with general safety requirements.

I understand this training and agree to comply with general safety requirements for my work area.

_____ _____

Contractor Employee Signature Date

10.1.4 Risk Mitigation Two-Week Look-Ahead Form

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Risk Mitigation Two-Week Look-Ahead Form

Safety plan for week ending:	_____	Subcontractor:	_____
Project/ Location:	_____	Meeting date:	_____
Plan Prepared by:	_____	Dated:	_____

Next Two Weeks Scope of Work:

Identified Risks/Exposures/Hazards:

Control Measures:

Additional Activity Hazards Analysis Required:

Subcontractors Mobilizing/Demobilizing:

Audit/Inspections Scheduled:

Competent Person Changes:

Planned Orientation/Training :

Recommendations/Comments/Concerns:

Note: This information should be incorporated into the meeting minutes.

10.1.5 Notice of Noncompliance with Safety and Health Regulations

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Notice of Noncompliance with Safety, Health and Environmental Regulations

Under conditions of this enforcement procedure check all items that apply:

☐	1.	You are being notified of this violation and should take corrective action to prevent a reoccurrence. The corrective action shall be documented to the Parsons Construction Management representative immediately.
☐	2.	You must submit a plan for compliance to your Parsons Construction Management representative and the Construction Safety Manager within two days of receipt of this letter. The compliance plan must include the means or methods of compliance and the date that the requirements for compliance will be completed. Once compliance has been achieved, a follow up letter must be sent to the Parsons Construction Management representative and Construction Safety Manager. Failure to comply will result in disciplinary action against your Company.
☐	3.	You are required to review the stated procedures with your Parsons Construction Management representative. Work may not commence on the site until the review is complete and the Subcontractor responds formally that the procedure is understood and will comply.
☐	4.	You are required to review the stated procedures with your Parsons Construction Management representative. Work may not commence on the site until the review is complete and you must confirm formally the disciplinary action to be taken against the supervisor and employees.
☐	5.	All work on the site will stop until the Parsons Construction Management representative reviews all the facts with the Subcontractor and determines if the contract between the parties will be terminated.

Sincerely,

Parsons Representative

cc:
Issuing Construction Manager Representative
Job File
GBU SH&E Director
Project Manager

Notice of Subcontractor Nonconformance with Safety, Health, and Environmental Regulations

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10.1.6 Notice of Subcontractor Violation of Safety and Health Regulations

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Notice of Subcontractor Violation of Safety, Health, and Environmental Regulations

	Date:	
Contractor Name:		
Address:		
Attention:		

This letter officially notifies you that you have been found to be in violation of the following Safety, Health, and Environmental Regulations: _____
on (date) _____, by _____

Confined Space Entry	☐	Lockout/Tagout	☐	Hot Work	☐	Personal protective equipment
Knowledge of environmental requirements	☐	Awareness of warning alarms	☐	Evacuation routes	☐	Backup alarms
Assembly locations	☐	Fall Protection	☐	Scaffolding	☐	Environmental/hazardous material storage
Trenching	☐	Safe Work Practices	☐	Security Practices	☐	Spill to the environment
Waste storage or disposal	☐	Wastewater discharge	☐	Buried items	☐	Violation of environmental regulation

Other: _____

Environmental:

This/These violations occurred at the following locations: _____

At the following times and dates:

The name of the employee(s) was (were):

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10.1.7 Remediation Safety and Health Inspection Checklist

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Inspection Form: 109914

Basic Information

Category	Safety Inspections
Checklist	Construction Site
GBU	PEI
Division	PEI - PEI-ENVIRON/VIC
Sector	PEI - PEI-ENVIRON/VIC - ENVIRON-CHEM/MANUF
Project	442859 - ROH-OU1 VENTRON/VESICOL SITE
Region	
Conducted By (or Investigator)	GREGORY ERTEL (6601A)
GSS Office Region	
Date	9/24/2015
Time	hh:mm ampm
Length of Audit (not required for ESHARP Audit Self Assessments)	
Manager	Start typing name here
Phone Number	
Detailed Location	
Method Of Verification (Rules Followed)	
Results (not required for ESHARP Audit Self Assessments)	
General Comments	
Interviews	
Reference Criteria	
Status	Open
Number Of Observations/Reviewed Items (# of 1s, 2s, 3s)	0
Number of Discrepancies (# of 2s & 3s)	0
% Compliant	0.00

Asset Information

Inspection Form: 109914

Unit Number Start typing here

Additional Features

Hazards

Corrective Actions

Emails

Inspection Checklist - Construction Site - 44

A. General Safety and Health

Item	Reference	Description	Status	Comments	Corrective Actions
01	OSHA 1926 Subpart C	First Aid adequate?	4 - Not Audited		
02	OSHA 1926 Subpart C	Housekeeping?	4 - Not Audited		
03	OSHA 1926 Subpart C	Toilets?	4 - Not Audited		
04	OSHA 1926 Subpart C	Fire Protection?	4 - Not Audited		
05	OSHA 1926 Subpart C	Emergency Plans?	4 - Not Audited		

B. Occup. Health and Env.

Item	Reference	Description	Status	Comments	Corrective Actions
06	OSHA 1926 Subpart D	Noise hazards?	4 - Not Audited		

07	OSHA 1926 Subpart D	MSDS?	4 - Not Audited		
08	OSHA 1926 Subpart D	Medical Services?	4 - Not Audited		
09	OSHA 1926 Subpart D	Illumination?	4 - Not Audited		

C. PPE

Item	Reference	Description	Status	Comments	Corrective Actions
10	OSHA 1926 Subpart E	PPE Adequate for Task	4 - Not Audited		
11	OSHA 1926 Subpart E	PPE Maintained?	4 - Not Audited		
12	OSHA 1926 Subpart E	PPE Inspected?	4 - Not Audited		
13	OSHA 1926 Subpart E	PPE Properly Stored?	4 - Not Audited		
14	OSHA 1926 Subpart E	PPE Sanitary?	4 - Not Audited		

D. Fire Protection

Item	Reference	Description	Status	Comments	Corrective Actions
15	OSHA 1926 Subpart F	Fire Protection - Fire Extinguishers?	4 - Not Audited		
16	OSHA 1926 Subpart F	Fire Protection - Flammables?	4 - Not Audited		

E. Signs/Signals/Barricades

Item	Reference	Description	Status	Comments	Corrective Actions
17	OSHA 1926 Subpart G	Signs/Signals/Barricades - Erected?	4 - Not Audited		
18	OSHA 1926 Subpart G	Signs/Signals/Barricades - Maintained?	4 - Not Audited		
19	OSHA 1926 Subpart G	Signs/Signals/Barricades - Meets MUTCD?	4 - Not Audited		
20	OSHA 1926 Subpart G	Signs/Signals/Barricades - Defective Equipment tagged out?	4 - Not Audited		

F. Material Handling

Item	Reference	Description	Status	Comments	Corrective Actions
21	OSHA 1926 Subpart H	Material Handling - Adequate Procedures?	4 - Not Audited		
22	OSHA 1926 Subpart H	Material Handling - Proper Ergonomics	4 - Not Audited		
23	OSHA 1926 Subpart H	Material Handling - Rigging Inspected?	4 - Not Audited		

G. Hand & Power Tools

Item	Reference	Description	Status	Comments	Corrective Actions
24	OSHA 1926 Subpart I	Hand & Power Tools - Good Working Order?	4 - Not Audited		
25	OSHA 1926 Subpart I	Hand & Power Tools?	4 - Not Audited		

H. Welding & Cutting

Item	Reference	Description	Status	Comments	Corrective Actions
26	OSHA 1926 Subpart J	Welding & Cutting - Hot work permit?	4 - Not Audited		
27	OSHA 1926 Subpart J	Welding & Cutting - Permit Issues/Posted?	4 - Not Audited		
28	OSHA 1926 Subpart J	Welding & Cutting - Fire Prevention in Place?	4 - Not Audited		
29	OSHA 1926 Subpart J	Welding & Cutting - Fire Watch	4 - Not Audited		

I. Electrical

Item	Reference	Description	Status	Comments	Corrective Actions
30	OSHA 1926 Subpart K	Electrical Cords inspected?	4 - Not Audited		
31	OSHA 1926 Subpart K	Electrical In Good condition?	4 - Not Audited		
32	OSHA 1926 Subpart K	Electrical LO/TO procedures in place?	4 - Not Audited		
33	OSHA 1926 Subpart K	Electrical GFCI's tested?	4 - Not Audited		
34	OSHA 1926 Subpart K	Electrical Qualified Person?	4 - Not Audited		

J. Scaffolds

Item	Reference	Description	Status	Comments	Corrective Actions

35	OSHA 1926 Subpart L	Scaffolds Properly erected?	4 - Not Audited		
36	OSHA 1926 Subpart L	Scaffolds Inspected?	4 - Not Audited		
37	OSHA 1926 Subpart L	Scaffolds Tagged?	4 - Not Audited		
38	OSHA 1926 Subpart L	Scaffolds Competent Person?	4 - Not Audited		
39	OSHA 1926 Subpart L	Scaffolds Safe access?	4 - Not Audited		

K. Fall Protection

Item	Reference	Description	Status	Comments	Corrective Actions
40	OSHA 1926 Subpart M	Fall Protection - Leading edges protected?	4 - Not Audited		
41	OSHA 1926 Subpart M	Fall Protection - Holes covered?	4 - Not Audited		
42	OSHA 1926 Subpart M	Fall Protection - Systems adequate?	4 - Not Audited		
43	OSHA 1926 Subpart M	Fall Protection vAnchor points?	4 - Not Audited		
44	OSHA 1926 Subpart M	Fall Protection - Guardrails properly constructed?	4 - Not Audited		
45	OSHA 1926 Subpart M	Fall Protection - Personnel trained?	4 - Not Audited		
46	OSHA 1926 Subpart M	Fall Protection - Competent person?	4 - Not Audited		

L. Cranes

Item	Reference	Description	Status	Comments	Corrective Actions
47	OSHA 1926 Subpart N	Cranes - CCO?	4 - Not Audited		
48	OSHA 1926 Subpart N	Cranes - Inspections current?	4 - Not Audited		
49	OSHA 1926 Subpart N	Cranes - Ground conditions?	4 - Not Audited		
50	OSHA 1926 Subpart N	Cranes - Barricades?	4 - Not Audited		
51	OSHA 1926 Subpart N	Cranes - Rigging Inspected?	4 - Not Audited		
52	OSHA 1926 Subpart N	Cranes - Qualified Riggers?	4 - Not Audited		

M. Motor Vehicles/Equipment

Item	Reference	Description	Status	Comments	Corrective Actions
53	OSHA 1926 Subpart O	Motor Vehicles/Equipment - Trained operators?	4 - Not Audited		
54	OSHA 1926 Subpart O	Motor Vehicles/Equipment - Inspected?	4 - Not Audited		
55	OSHA 1926 Subpart O	Motor Vehicles/Equipment - Safety equipment functional?	4 - Not Audited		
56	OSHA 1926 Subpart O	Motor Vehicles/Equipment - Back up Alarms?	4 - Not Audited		

57	OSHA 1926 Subpart O	Motor Vehicles/Equipment - Spotters?	4 - Not Audited		
58	OSHA 1926 Subpart O	Motor Vehicles/Equipment - Proper access to barges?	4 - Not Audited		

N. Stairs/Ladders

Item	Reference	Description	Status	Comments	Corrective Actions
59	OSHA 1926 Subpart X	Stairs/Ladders - Inspected?	4 - Not Audited		
60	OSHA 1926 Subpart X	Stairs/Ladders - Right ladder for task?	4 - Not Audited		
61	OSHA 1926 Subpart X	Stairs/Ladders - Ladders extend 3 feet	4 - Not Audited		
62	OSHA 1926 Subpart X	Stairs/Ladders - Secured?	4 - Not Audited		
63	OSHA 1926 Subpart X	Stairs/Ladders - Stairs not blocked?	4 - Not Audited		

Attached Files

History

	User	Status	Number of Deficiencies	
Created	GREGORY ERTEL	Open	0	24 Sep 2015, 03:07 PM (EST)

10.1.8 Activity Hazard Analysis Training Record

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Activity Hazards Analysis Training Record

Job Number_____

AHA Number_____

Job Location_____

Date:_____

Name of Trainer:_____

Subjects Covered:_____

_____

_____

_____

Training Aids Used:_____

_____

_____

Attendees (Please sign name legibly):

(Use additional sheets if necessary

Activity Hazard Analysis (AHA)

Activity/Work Task:	Soil and LBP Sampling
Project Location:	DTSC Exide Technologies Off-Site
Project Number:	449646
Date Prepared:	10/28/15
Prepared by (Name/Title):	Fabrizio Mascioni
Reviewed by (Name/Title):	Greg ERtel
Employer/GBU:	PE&I

Notes: (Field Notes, Review Comments, etc.)
Level D: Hard hats, safety glasses, gloves, steel-toed boots (or equivalent), high visibility vest. Gloves, ear plugs/muffs, if necessary.

Overall Risk Assessment Code (RAC) (Use highest code) — Add code and color

Risk Assessment Code (RAC) Matrix

Severity	Probability: Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above).
The RAC is developed after correctly identifying all the hazards and fully implementing all controls.

P "Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

S "Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart
- E = Extremely High Risk
- H = High Risk
- M = Moderate Risk
- L = Low Risk

Job Steps	Hazards	Controls	P	S	RAC
Soil sampling General	Potential exposure to contaminated soil	• Documented Daily Pre-Task Safety Plan review • Ensure all workers know their work assignments • Preplan work layout • Daily site inspections prior to commencement of work • Inspect all sampling tools prior to use. • Minimum PPE – Hardhats, safety glasses, safety-toed boots, long pants and shirts with a minimum of 4" sleeves; depending on task, may be modified to include: work gloves, splash suit, and face shield. • All visitors shall be given a safety/hazard brief • Job site shall be kept clean and orderly, debris shall be stored properly and collection containers shall be emptied at regular intervals or as needed • Establish common paths of travel; keep areas free from accumulation of materials and debris	Seldom	Marginal	L

Job Steps	Hazards	Controls	P	S	RAC
		• Tools, equipment, materials, and supplies will be stored in an orderly manner and decontaminated immediately after use. • Spills, oil and grease will be cleaned up immediately from all walking and working surfaces • Spills and silt shall be prevented from entering storm drainage systems or spilling on the ground. Cover all sampling surfaces with plastic. •			
	Use of hand auger – Struck by and agains, damage of property	• When handling of a hand auger, be aware of your surroundings. Hold hand auger vertical to prevent striking a person of property. • Create a working zone so that no one can be hit by handle while rotating auger. • Take brakes and switch user to prevent strain	Occasional	Marginal	M
	Working near heavy equipment	• Set up work area at a safe distance away from heavy equipment in order to prevent prolonged exposure to loud noises. • Hearing protection shall be required if shouting is needed to hear someone 3 feet away • Wear ear plugs	Occasional	Marginal	M
	Back strain	• Proper lifting techniques, utilize mechanical methods to move heavy objects, no one shall lift more than 50 points without assistance	Seldom	Critical	M
	Encounter Live Utilities During Soil Sampling	• Contact Dig Alert a minimum of 48 hours of any subsurface work and schedule a meet and mark. • Conduct and review the geophysical survey of the proposed work area. Inspect all utility markings prior to subsurface work. • Review as built plans prior to subsurface work. • Intrusive equipment until each sampling location has been cleared to at least 5 ft bgs. • If refusal is encountered during hand auger activity, inspect the hole to identify the cause. Do not use tools to hit the item causing the refusal as it may be a live utility pipe. If necessary,	Seldom	Critical	M

Job Steps	Hazards	Controls	P	S	RAC
		move the proposed sampling location.			
	Heavy metals	• Monitoring using an XRF to determine exposure and Action Levels (See HASP) • Wear proper PPE - latex inner glove and nitrile outer glove must be worn at all times during soil sampling in addition to Level D modified as stated above. • Follow proper decontamination procedures when leaving the "exclusion zone" • Practice good personal hygiene; wash up before eating, eat or drink in designated clean areas • Eyewash bottle or station to treat eye irritation • Wash skin that contacts suspected contaminated soil/water	Seldom	Marginal	L
	Traffic	• Attempt parking on the same side of the street as the project location to minimize the risk of being struck by a moving vehicle while unloading equipment. • If crossing the street is needed, cross at locations with the highest visibility. • Look both ways before crossing. • Avoid crossing the street from between two vehicles as this lower the chances of a driver in a moving vehicles seeing you	Seldom	Critical	M
LBP sampling ~~genreal~~general	Exposutre to Lead	• Use latex gloves when collecting a paint chip sample • Use a hand tool, like a trowel or similar, to scrape the painted surface into a ziplock bag. • Have a decontamination station with facilities to dispose of PPE, decon equipment and wash hands • Do not allow eating or drinking in the exclusion zone, enforce decon procedures	Seldom	Marginal	L
Data Collection using an XRF	Exposure to X-rays	• Use of XRF should not be conducted by Parsons employees. • XRF unit should only be used by trained and certified personnel (Subcontractor). • The XRF unit should be stored in its portable case when not in use. • XRF should not be pointed at any individual when in use.	Seldom	Marginal	L

Job Steps	Hazards	Controls	P	S	RAC
Equipment to be Used	**Training Requirements/Competent or Qualified Personnel**	**Inspection Requirements**			
Hand tools (i.e shovels, other digging tools, split spot sampler, slide hammer, etc.)	*All personnel engaged in hazardous substance removal or other activities that expose or potentially expose them to hazardous substances or health hazards shall receive appropriate training as required by 29 CFR 1910.120(e), including, but not limited to, initial 40-hour, 8-hour Supervisor and annual 8-hour refresher training.*	1. Daily equipment inspection 2. Check PPE for abnormal wear and tear, rips, etc. 3. Look for objects that could pose potential trip hazards 4. Survey work area for overhead hazards, flying debris/particulates or splashes, vehicle traffic or heavy equipment operation, loud noises, etc.			

Activity Hazard Analysis (AHA)

Activity/Work Task:	Site Visit
Project Location:	DTSC Exide Technologies Off-Site
Contract Number:	TBD
Date Prepared:	10/28/15
Prepared by (Name/Title):	Fabrizio Mascioni
Reviewed by (Name/Title):	Greg Ertel
Employer/GBU:	PE&I

Notes: (Field Notes, Review Comments, etc.)
Level D: Hard hats, safety glasses, gloves, steel-toed boots (or equivalent), high visibility vest. Gloves, ear plugs/muffs, if necessary.

Overall Risk Assessment Code (RAC) (Use highest code) — Add code and color

Risk Assessment Code (RAC) Matrix

Severity	Probability: Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above).
The RAC is developed after correctly identifying all the hazards and fully implementing all controls.

P "Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

S "Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

- E = Extremely High Risk
- H = High Risk
- M = Moderate Risk
- L = Low Risk

Job Steps	Hazards	Controls	P	S	RAC
General Site Visit	Change in weather conditions	• Check Weather Forecast	Seldom	Marginal	L
	Rain	• Have proper PPE (i.e. rain gear, footwear) • Be aware of slip, trips, falls hazards.	Occasional	Marginal	M
	Sunshine	• Have sunscreen (SPF > 15) available for ultraviolet protection. Have sufficient drinking water for dehydration during warm weather.	Seldom	Critical	M
	Cold Weather	• Have warm clothes available for cold temperatures.	Seldom	Critical	M
	High winds, dust storm	• Wear googles if dust/debris is visible.	Seldom	Marginal	L
Accessing the work location	Fire	• Do not park vehicles in fields where vegetation could catch on fire from the exhaust system.	Seldom	Marginal	L
	Slips/trips/falls	• Visually determine the approximate location of the desired point of destination and the corresponding path of egress. •	Seldom	Marginal	L
	Pollen	• Take medication (i.e. anti-histamine) tominimize allergic	Seldom	Marginal	**L**

Job Steps	Hazards	Controls	P	S	RAC
		reaction to pollen. Wear dust mask, if necessary.			
	Hidden objects (i.e. Barbwire fencing, irrigation ditch, abandoned utilities – conduit, pipes, etc)	• Use a walking stick or other object to survey the walking area in front of you.	Seldom	Marginal	**L**
	Walking on uneven or wet terrain (i.e. slopes, leaves, covered objects, holes, puddles, etc)	• Wear steel toe rubber boots versus over-the shoe rubber boots when walking long distances. Use a walking stick or other object for additional support/balance and to check for animal burrows/holes in high vegetation.	Seldom	Marginal	**L**
	Insects, rodents, animals, etc.	• Wear light colored clothing and/or Tyvek coveralls for additional skin protection, if necessary. Apply bug repellant spray or lotion to exposed skin. • If dogs are present in the private properties, arrange for dogs to be placed in an area away from working areas.	Seldom	Marginal	**L**
	Electrical	• Some properties may be in a state of disrepair. Inspect all work areas and be aware of any loose wires. If loose electrical wires are identified, do not touch them and inform all site workers of their presence.	Seldom	Critical	**M**
	Vegetation	• Create a clear path or route with mechanical equipment, whenever possible. Wear appropriate PPE for the vegetation (i.e. Tyvek or Carhart coveralls, leather gloves, face shield, etc) for vegetation that could cause cuts/punctures and/or is higher than waist level.	Seldom	Marginal	**L**
	Traffic	• Attempt parking on the same side of the street as the project site location to minimize the number of times one crosses the street	Seldom	Critical	**M**
	Struck by/against	• Wear appropriate personal protective equipment (PPE) based on the surrounding work environment (i.e. hard hat, safety glasses, work boots, traffic safety vest, hearing protection, etc).	Seldom	Marginal	**L**

Equipment to be Used	Training Requirements/Competent or Qualified Personnel	Inspection Requirements
Hand tools (i.e shovels, other digging tools, split spot sampler, slide hammer, etc.)	*All personnel engaged in hazardous substance removal or other activities that expose or potentially expose them to hazardous substances or health hazards shall receive appropriate*	1. Daily equipment inspection 2. Check PPE for abnormal wear and tear, rips, etc. 3. Look for objects that could pose potential trip hazards 4. Survey work area for overhead hazards, flying debris/particulates or splashes, vehicle traffic or heavy equipment operation, loud noises, etc.

Job Steps	Hazards	Controls	P	S	RAC
	training as required by 29 CFR 1910.120(e), including, but not limited to, initial 40-hour, 8-hour Supervisor and annual 8-hour refresher training.				

Activity Hazard Analysis (AHA)

Activity/Work Task: Oversight of Remediation and Restoration Projects	Overall Risk Assessment Code (RAC) (Use highest code) — Add code and color
Project Location: DTSC Exide Technologies Off-Site	Risk Assessment Code (RAC) Matrix
Project Number: 449646	
Date Prepared: 10/28/15	
Prepared by (Name/Title): Fabrizio Mascioni	
Reviewed by (Name/Title): Greg Ertel	
Employer/GBU: PE&I	

Severity	Probability: Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above).
The RAC is developed after correctly identifying all the hazards and fully implementing all controls.

P "Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

S "Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart
- E = Extremely High Risk
- H = High Risk
- M = Moderate Risk
- L = Low Risk

Notes: (Field Notes, Review Comments, etc.)
Level D: Hard hats, safety glasses, gloves, steel-toed boots (or equivalent), high visibility vest. Gloves, ear plugs/muffs, if necessary.

Job Steps	Hazards	Controls	P	S	RAC
Conduct oversight of subcontractors during excavation, demolition, and restoration	Struck by and against	• Do not stand behind heavy equipment and other moving vehicles. Stand within line of sight of the equipment operator. • If you need to approach moving equipment, signal the operator with a hand gesture, and do not approach until the equipment operator has acknowledged you and the equipment is turned off. • Do not stand within the moving path of an excavator. Only stand a safe distance away from excavators and within the line of site of the operator. • Do not stand behind roll-off bins or dump trucks while they are being loaded. • Flying debris may occur during any potential demolition activities (e.g. concrete breaking, cutting of brushes). Stand a safe distance away from these activities and wear safety goggles at all time.	Seldom	Critical	M
	Slips, trips, and falls	• Inspect the job site at the beginning of every day. Conditions	Occasional	Marginal	M

Job Steps	Hazards	Controls	P	S	RAC
		may change throughout the day; therefore inspect all walking surfaces continuously. Address any hazards with the subcontractors on site. • Walking surfaces may become slippery during or after a rain event, or during dust suppression of excavation activities. Inspect all walking surfaces and wear proper footwear.			
	Live utilities	• Conduct a subsurface utility survey at each proposed excavation site. Mark the location of each utility on the ground within the proposed excavation work, and mark the location of utilities on a sketch. Review the survey with the excavation subcontractor. • Call Dig Alert (811) for each property at least 48 hours prior to work and review findings with the subcontractors. • Review as builts (if available). • Consult with property owners for the knowledge of any utilities within the excavation areas. • Identify the location of water, gas, and electrical meters in each property and protect them in place. • Review proper emergency procedures in the event of a live utility damage. Make sure these are addressed in the subcontractor's safety plan.	Occasional	Marginal	M
	Hearing Loss	• Hearing protection shall be required if shouting is needed to hear someone 3 feet away. Wear ear plugs	Seldom	Critical	M
	Back strain	• Proper lifting techniques, utilize mechanical methods to move heavy objects, no one shall lift more than 50 points without assistance	Seldom	Critical	M
	Potential Exposure to contaminated soil	• Documented Daily Pre-Task Safety Plan review • Ensure all workers know their work assignments • Preplan work layout • Daily site inspections prior to commencement of work • Minimum PPE – Hardhats, safety glasses, safety-toed boots, long pants and shirts with a minimum of 4" sleeves; depending on task, may be modified to include: work gloves, splash suit,	Seldom	Marginal	L

Job Steps	Hazards	Controls	P	S	RAC
		and face shield. • All visitors shall be given a safety/hazard brief • Job site shall be kept clean and orderly, debris shall be stored properly and collection containers shall be emptied at regular intervals or as needed • Establish common paths of travel; keep areas free from accumulation of materials and debris • Tools, equipment, materials, and supplies will be stored in an orderly manner and decontaminated immediately after use. • Spills, oil and grease will be cleaned up immediately from all walking and working surfaces • Spills and silt shall be prevented from entering storm drainage systems or spilling on the ground. Cover all sampling surfaces with plastic. • A decontamination station for footwear must be available and used prior to exiting all excavation areas. • Conduct dust monitoring. No visible dust is allowed. Subcontractors must employee proper dust suppression techniques, such as use of a water spray.			
Equipment to be Used	**Training Requirements/Competent or Qualified Personnel**	**Inspection Requirements**			
Hand tools (i.e shovels, other digging tools, split spot sampler, slide hammer, etc.)	*All personnel engaged in hazardous substance removal or other activities that expose or potentially expose them to hazardous substances or health hazards shall receive appropriate training as required by 29 CFR 1910.120(e), including, but not limited to, initial 40-hour, 8-hour Supervisor and annual 8-hour refresher training.*	1. Daily equipment inspection 2. Check PPE for abnormal wear and tear, rips, etc. 3. Look for objects that could pose potential trip hazards 4. Survey work area for overhead hazards, flying debris/particulates or splashes, vehicle traffic or heavy equipment operation, loud noises, etc.			

10.1.9 Mobilization/Kickoff Safety Meeting

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Mobilization/Kickoff SH&E Meeting Form

Date:	Project/Location:
Parsons Representative:	Subcontractor Representative:

The following project site safety, health, security, and environmental requirements, procedures, and hazards have been identified and reviewed with the subcontractor:

Mark with "X"	Item	Mark with "X"	Item	Mark with "X"	Item
☐	Air Pollution and Emissions	☐	Fall Protection, Guardrails, and/or Scaffolding	☐	Personal Protective Equipment
☐	Asbestos			☐	Process Safety Management (PSM)
☐	Buried Items	☐	Fire Protection		
☐	Competent / Qualified Person	☐	Hazardous Materials and Wastes	☐	Protected Ecological and Cultural Resources
☐	Confined Spaces (Permit / Non-Permit)	☐	Hot Work, Welding, and/or Cutting	☐	Resource Conservation and Sustainability
☐	Cranes / Hoists / Annual Inspection Certificate(s)	☐	Ladders	☐	Site Security, Visitor Control, and Public Exposure
☐	Demolition	☐	Lead Paint	☐	Specific Reports (Required by Environmental Regulation) on Toxic or Hazardous Chemicals Usage and Storage
☐	Drinking Water	☐	Lockout / Tagout		
☐	Electrical	☐	Management of Hazardous Materials and Hazardous Solid Wastes		
☐	Emergency Response to Spills and Releases			☐	SSHEP, Emergency Planning and Response Plan
☐	Environmental Assessments	☐	Overhead Power Lines	☐	Wastewater Discharges
☐	Excavations and Trenches	☐	Permits (Excavations, Scaffolding, Demolition, Traffic, Confined Spaces, etc.)	☐	Vehicle and Heavy Equipment
				☐	Other:

Protection of the Public:

Additional Project Concerns:

Attendees:

Name	Title	Company

10.1.10 Subcontractor Competent Person Form

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Subcontractor Competent Person Form

Definition

A competent person is a person having the ability to recognize existing and predictable hazards and having the authority to correct them.

Responsibility

The designated subcontractor competent person is responsible for recognizing and correcting SH&E risks/hazards. This person has the authority to stop work in a potential SH&E concern on the jobsite. This Subcontractor Manager and competent person are considered the contacts for Parsons projects.

This form must be completed by each subcontractor's manager and the subcontractor's designated competent persons. ***Where a subcontractor is responsible for multiple crafts, it will be necessary to maintain additional designated competent persons and forms.*** Each subcontractor on a Parsons project must submit this completed form to the Parsons Construction Manager before beginning work on the project and must update it any time the designated representative(s) changes.

Acknowledgment

I, _____ representing, _____
Subcontractor Manager (Print) **Subcontractor Company Name (Print)**

have assigned _____ to be the competent person in the areas indicated below and acknowledge that this individual has been thoroughly trained and is experienced in hazard recognition and has the authority to stop work and correct hazards in the event of a potential hazardous or imminent danger situation.

I, _____ acknowledge that I have been thoroughly trained and have the experience
Competent Person (Print)

to perform the duties as the _____ competent person in the areas marked below and
Subcontractor Company Name (Print)

I understand that I have the responsibility and authority to correct hazards and to stop work in the event of a potential hazardous or imminent danger situation. (Check appropriate items.)

☐	Air Pollution and Emissions	☐	Fall Protection	☐	Resource Conservation
☐	Asbestos	☐	Fire Watch	☐	Respiratory Protection
☐	Bolting, Riveting, and Fitting	☐	First Aid and CPR	☐	Rigging
☐	Buried Items	☐	HAZWOPER (initial and annual refresher)	☐	Scaffolding
☐	Concrete, Forms, and Shoring	☐	HAZWOPER Supervisor	☐	Spotter (vehicle backing)
☐	Cranes and Derricks	☐	Hearing Protection	☐	Surveying
☐	Demolition	☐	Ladders	☐	Surveying
☐	Drinking Water	☐	Lead	☐	Traffic Safety (Signage, Flagger)
☐	Electrical	☐	Marine Work and Diving	☐	Tunnels and Shafts
☐	Emergency Response (Spills, etc)	☐	Material and Personnel Hoists	☐	Underground Construction
☐	Environmental Assessments	☐	Mechanical Demolition	☐	Wastewater
☐	Excavations and Trenches	☐	Protected Ecological and Cultural Resources	☐	Welding and Cutting
☐	Other (describe):				
☐	Additional Comments:				

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10.1.11 Safety Performance Evaluation Form

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Field Supervisor Safety Performance Evaluation

1. New Employee Orientation/Training .....10 pts

   Each employee must receive training on site-specific hazards and procedures on the first day of work. For current employees, training should be conducted the first day after this program is established. Training must also include procedures for reporting all incidents and hazards. (*Employees must sign forms stating that they have been trained. 2 points are deducted for every form that is not submitted to the Safety Manager within two days of hire.*)

2. Daily Safety Huddle .....10 pts

   Every shift begins with a huddle of all workers under your supervision. Review the work to be performed during the shift. Identify the hazards involved and ask everyone to stay focused, use their protective equipment and perform all work safely. (*Spot checks are conducted to ensure that the talks occur. 2 points are deducted for each day that huddles are not conducted.*)

3. Weekly Toolbox Talks.....10 pts

   A toolbox talk must be completed once each week. Each employee must sign a sign-in sheet which describes the topic discussed. Topics and sign-in sheets can be provided by the Safety Manager. (S*ign-in sheets must be submitted to the Safety Manager each week. 5 points are deducted for weeks in which no sign-in sheet is received.*)

4. Weekly Safety Inspections.....10 pts

   A weekly inspection is performed using the checklist provided by the Safety Manager. (Signed, completed *checklists are submitted to the Safety Manager weekly. 5 points are deducted for weeks in which no checklist is received.*)

5. Personal Protective Equipment.....10 pts

   Each worker under your supervision must wear the personal protective equipment (PPE) required at all times. (*Spot* checks *are performed to ensure compliance. 1 point is deducted for every violation.*)

6. Housekeeping.....10 pts

   Work areas must be kept tidy and clear of all obstructions, tripping hazards, scrap, etc. (*Spot checks are performed to* ensure *compliance. 1 point is deducted for every violation.*)

7. Safety Enforcement .....10 pts

   Each employee is subject to following Parsons' safety program requirements. A violation notice must be issued to the employee for any violations. (*Spot checks are performed to ensure compliance. 1 point is deducted for every violation.*)

8. Report All Incidents .....10 pts

   All accidents must be reported to the Safety Manager within one hour. (*2 points are deducted for each late report.* Reports *over two days late receive a 5-point deduction.*)

9. Meet Safety Goals .....20 pts

   The work is conducted without injury. (*5 points are deducted for a recordable incident. 20 points are deducted for an* incident *with days away from work.*)

Evaluation Results

Scores are tabulated each month.

- 90-100 pts – Meets expectations
- 80-89 pts – Minor improvements required
- 70-79 pts – Warning/written reprimand
- Below 70 – Unsatisfactory/loss of supervisory duties

10.1.12 Spill Respsone and Contigency Plan

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SPILL RESPONSE AND CONTINGENCY PLAN

This Plan outlines procedures that will be followed in the event of a spill and/or releases, including spill control, containment, and clean-up of releases of hazardous materials and substances. All personnel handling hazardous waste on-site will have the appropriate OSHA Hazardous Waste training and medical clearance as outlined in the Site Specific Health and Safety Plan.

1.1 PROCEDURES FOR SPILL CONTROL/CLEAN-UP AND CONTAINMENT OF RELEASES OF HAZARDOUS SUBSTANCES OR MATERIALS

In the event of a spill or accidental release, the appropriate measures will be taken to confine the spill to the immediate area, and to prevent any migration off-site. Figure 1 provides a general outline for spill response. The following steps will be taken when discovering or encountering chemical release or spills:

- Evacuate the spill area and the site to ensure the safety of all personnel.
- Contain and/or clean up the release/spill. For large spills, contact the local Fire Department (i.e. 911).
- Notify responsible project personnel, including Parsons and DTSC PM, and required agencies.
- Complete Spill Data Worksheet and Parsons Incident Report Form.

Spill or releases requiring the City of Los Angeles (LAFD) is not anticipated during remediation activities. However, if the spill cannot be contained by the Remediation Contractor with on-site resources, then the Site Health and Safety Officer (SHSO) will notify the LAFD immediately. The SHSO will verify with the LAFD the relevant on-site information. The Parsons PM will contact the appropriate project emergency response personnel, including DTSC and agency personnel. The SHSO will have the responsibility of:

- Contacting the Parsons PM;
- Confirming spill information;
- Identifying necessary spill response personnel and resources;
- Obtaining all necessary MSDSs; and
- Completing the Spill Data Worksheet and Parsons Incident Report Form.

1.1.1 On-Site Spills

For on-site spills, it is imperative that the spill be confined to the site, and off-site migration prevented. Spills will be cleaned up immediately using available on-site resources if it is safe to do so. Particular attention will be made to storm sewer locations and other drainage sites. Absorbent material, including booms, absorbent pads, and tools will be used to clean-up small spills. Larger spills of any oil or oil product spill, will be contained and/or recovered using mechanical skimmers, sorbants (booms, pads, sweeps, rolls, pillows) and adsorbents (pom-pom) or collected by vacuum trucks.

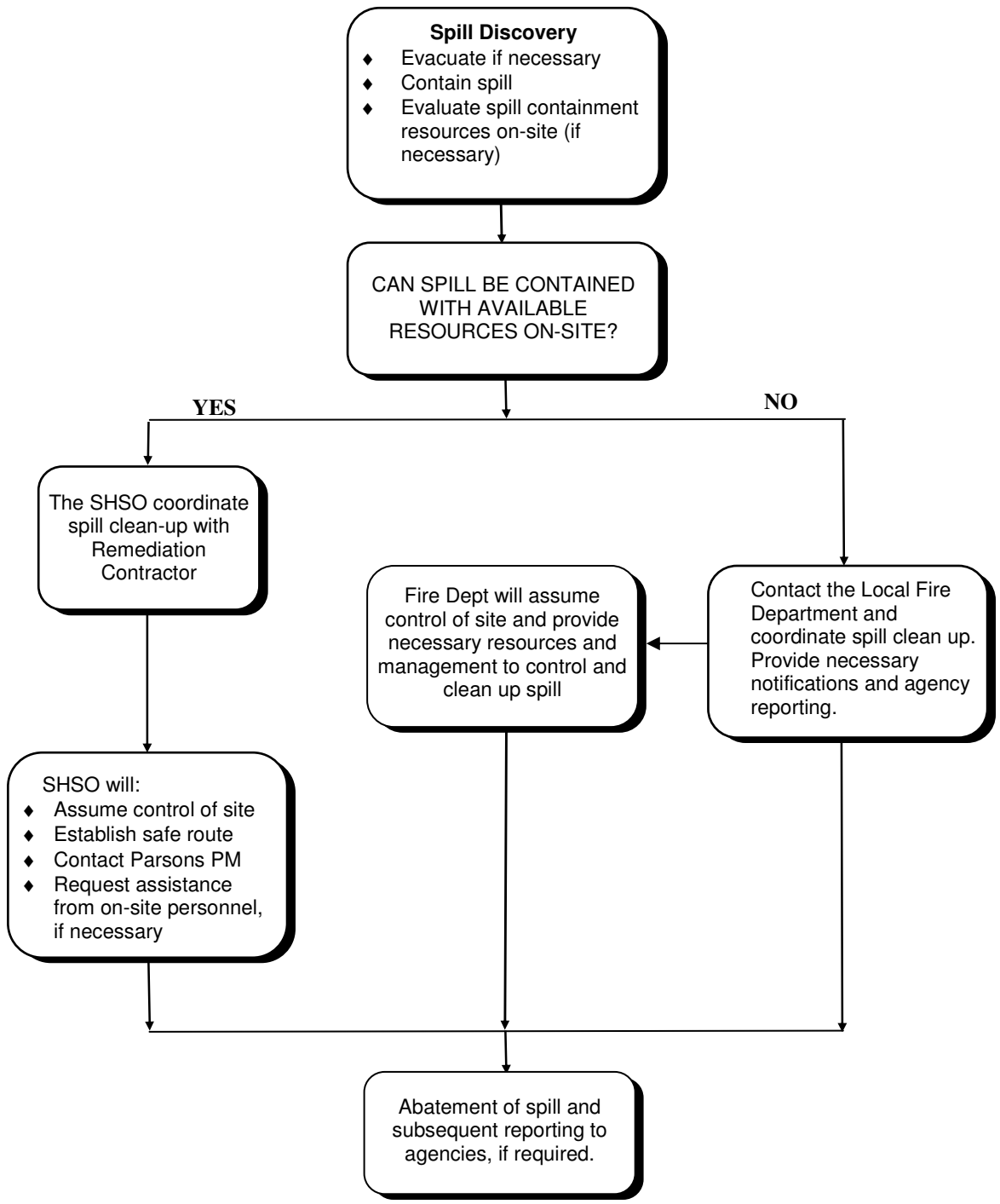

Figure 1
Initial Spill Response Actions
Exide Off-Site Interim Remedial Measure

Table 1 provides a general initial response actions in the event of a discovery of an on-site spill. Once the spill is contained, any contaminated material, including disposable spill equipment (booms, socks, etc.) will be packaged and properly disposed.

1.2 CONTAMINATED/HAZARDOUS SOIL/WATER RELEASES

Trucks which are hauling contaminated soils and/or trucks which may be involved in an accident on roads and public and private properties potentially exposing the public to contaminated soils/water. In the event of an accident, the operator of the truck will notify the CHP and other emergency response agencies, and Parsons PM. Parsons PM will notify DTSC PM and appropriate environmental agencies.

1.3 RUPTURE OF PIPELINES

Undocumented gas and other utility lines may be ruptured/broken during trenching, excavation, and other remedial activities, resulting in emergency response situations. The Remediation Contractor will provide hazardous waste response services to mitigate the situation.

1.4 UNDERGROUND STORAGE TANKS

Underground storage tanks are not anticipated as part of this remediation task, as all the properties proposed for remdial activities are residential.

1.6 SPILL REPORTING

Spill reporting and post-response evaluation procedures must be conducted through formal documentation and follow-up investigation to identify the cause/source of the accident. Response procedures will be reviewed as part of post-response evaluation.

A Spill Data Worksheet and an Incident Report will be prepared by the SHSO following a spill response. The SHSO will submit these reports to Parsons PM. The PM will review and submit it to DTSC PM. The report will contain, at a minimum, the following information:

- Time and date of incident;
- Incident description;
- Material and quantity spilled (for spills incidents);
- Initiation of emergency response;
- Description of the response(s), including a field sketch; and
- Caller notifications (Fire Department, Police, etc.).

1.7 POST-RESPONSE EVALUATION

Following completion of the Incident Report Form, the SHSO will prepare a Lessons Learned Report. The report will contain the following information and data:

- Time and date incident started and ended;
- Description of incident;
- Description of activating emergency response;
- Problems encountered during incident;

- Summary of post-incident activities, including any unusual actions or other events of interest; and
- Remarks and lessons learned.

The Lessons Learned Report will also include comments and input from the Remediation Contractor and DTSC. If necessary, this Plan will be modified or revised based on recommendations from the Lessons Learned Report.

Table 1
On-Site Spill Response Actions

Action	Notes
1. Stop the product flow at the closest container, valve, and/or pump (if it can be accomplished safely). If applicable, activate emergency shut down switches. Determine if available resources are sufficient to control the spill.	Act quickly to secure pumps, close valves, etc. Do not enter any spill site to accomplish the shut down. Stay upwind and upgradient of the spill.
2. Alert personnel within the immediate area, and notify appropriate Parsons, Facility and DTSC personnel If necessary, perform the following tasks: * Have nonessential personnel evacuate to the area <u>upgradient and upwind</u> and report to the designated safe refuge site. * If there are trucks in the loading area or waiting to load, have the drivers remove their vehicles to a safe location outside the loading area, if it is safe to move the vehicles. * Prevent any vehicles (other than emergency support services) from entering the area.	This action is to prevent any inadvertent action from compounding the situation. The SHSO at the safe refuge will account for all persons at the facility (those at the meeting place, those working to control the discharge, and those unaccounted for).
3. The PM will make appropriate notification to the agencies. Expedite notification if the spill may enter any sewer, stormdrain, or waterway.	It is critical that notification be made immediately to ensure the safety of personnel and obtain additional resources as quickly as possible to control and minimize the discharge.
4. Isolate the discharge spill area and shut off ignition sources, if it can be accomplished safely. * For flowing fuel spills, without entering the spill area, build a dike in front of the spill using absorbents, dirt or sand. * For puddled spills, place absorbent pads on top of the spill without entering the spill area. * If fuel has reached a drainage ditch, extend several sorbent booms downstream across the ditch and/or build several dirt dams . * Use sorbent to soak up fuel. * Properly containerize used materials for disposal. For small fires use a fire extinguisher to control/extinguish the fire if it can be accomplished safely. Stand by to assist emergency personnel if requested.	If applicable, control pumps, vehicles and other electrical sources. Ensure that no one is smoking near the discharge/spill site. Do not resume fuel operations until cleared to do so by a Fire Department Official.

SPILL DATA WORKSHEET

Site Name:_____ Date:_____

Name of Person Completing Form:_____

Signature:_____

Provide the following information, with the fullest detail possible. Where estimating information, explain any limitations on the information provided and describe how the information was derived.

1) Date, Time, and Duration of Release/Discovery of Release:

2) Discovered by (Name, Title, and Affiliation):

3) Material(s) Released (Attach MSDS if available):

4) Quantity Released:

5) Source of Release:

6) Medium into Which Release Occurred (e.g., air, soil, solid surface, water) (Describe):

7) Location of Release (both geographic location and boundaries):

8) Circumstances under which spill/release occurred (what happened):

9) Any Injuries or Damage:

10) Response Measures, including Timing (e.g., containment, exposure protection or warnings, cleanup):

11) Weather Conditions (as they may affect spill response):

10.1.13 Safety Meeting Sign-in Sheet

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SAFETY MEETING SIGN-IN SHEET

Safety Meeting Presenter: _____ Date: _____

Current Weather Conditions:

Temperature (^{o}F) = _____ Wind Direction = _____ Wind Speed = _____

Clear - Sunny – Cloudy – Rain - Snow Forecast = _____

Current Site Conditions (circle as appropriate):

Dry - Wet - Muddy - Frozen - Snow Covered - Other (describe) _____

1. Incidents or Injuries to report from Previous Day Activities: No Yes - explain below:

_____

2. Safe and/or At-Risk Observations from Previous Day Activities: _____

_____

_____

3. Activities Taking Place Today: _____

_____

_____

3. Anticipated Hazards: _____

_____

_____

4. Engineering Controls-Work Practices-PPE to Protect Against Hazards: _____

_____

_____

5. Additional Safety Topic or Comments: _____

_____

_____

SAFETY MEETING SIGN-IN SHEET

PRINTED NAME	SIGNATURE	COMPANY	LAST 4 DIGITS OF SS #

10.2 SUBCONTRACTOR SAFETY PLANS (SSPS)

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APPENDIX D

TRANSPORTATION EMERGENCY RESPONSE PLAN

DRAFT TRANSPORTATION PLAN
EXIDE OFFSITE INTERIM REMEDIAL MEASURE
VERNON, CALIFORNIA

Prepared for

Department of Toxic Substances Control
8800 Cal Center Dr
Sacramento, CA 95826

Prepared by:

PARSONS

100 W. WALNUT STREET • PASADENA • CALIFORNIA • 91124

CERTIFICATION

INTERIM REMEDIAL MEASURES WORK PLAN
OFFSITE RESIDENTIAL AREAS ASSOCIATED WITH THE
FORMER EXIDE BATTERY RECYCLING PLANT
VERNON, CALIFORNIA

This Transportation Plan was prepared by Parsons Corporation (Parsons) for California Environmental Protection Agency - Department of Toxic Substances Control (DTSC). This document and interpretations or conclusions presented herein are based upon data collected during Site visits, field sampling and monitoring, and information from published documents that are cited and listed in the references section. This report was prepared in accordance with currently accepted professional practices; no warranty, expressed or implied, is made.

_____ 11/11/15
Fabrizio Mascioni. PG #8986, Project Geologist

Reviewed by:

_____ 11/11/15
Tom P. Blaney, Project Manager

Reviewed by:

_____ 11/11/15
Shala Craig, PE #C-69804 Project Manager

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LIST OF ATTACHMENTS

A Spill Response and Contingency Plan

ACRONYMS AND ABBREVIATIONS

AL	Action Level
Cal-EPA	California Environmental Protection Agency
CCR	California Code of Regulations
CFR	Code of Federal Regulations
COC	chain-of-custody
CDPH	State of California Health and Human Services Agency Department of Public Health
DL	detection limit
DTSC	Department of Toxic Substances Control
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
ft	feet
ft^2	square feet
HASP	Health and Safety Plan
HUD	Department of Housing and Urban Development
IMWP	Interim Measures Workplan
LAC	Los Angeles County
LBP	lead-based paint
mg/kg	milligrams per kilogram
mg/cm^2	milligrams per square centimeter
NIST	National Institute of Standards and Technology
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health Administration
POC	point of contact
QA/QC	Quality Assurance/Quality Control
SI	Site Investigation
SOW	scope of work
SCAQMD	South Coast Air Quality Management District
USA	Underground Services Alert
XRF	X-ray fluorescence

1.0 INTRODUCTION AND BACKGROUND

This Transportation Plan was prepared by Parsons Corporation (Parsons), on behalf of The State of California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC) for the remediation of properties located offsite from the Exide Facility, in Vernon, California.

The DTSC has developed a *site-specific* guidance to aid in preparation of the Interim Remedial Measures Workplan (IRMW). The IRMW (Parsons, 2015) describes the work efforts that should be considered for conducting soil removal at properties with residential exposure in off-site communities surrounding the Exide Technologies. The recommendations presented in the IRMW provide the remediation team with the approach for the successful implementation of remedial activities within affected areas.

1.1 PURPOSE AND OBJECTIVES

This document outlines the approach for the transportation and offsite disposal of materials from the Site to the appropriate disposal facility from the remediation activities to be conducted at the various remedial sites.

The objective of this transportation plan is to minimize potential impacts to the surrounding community and/or the environmental during the remediation, transportation and disposal of impacted materials during the remediation.

1.2 SUMMARY OF REMEDIAL ACTION

The selected removal activities consist of excavation, loading, transport and disposal of impacted materials from properties impacted with lead in the vicinity of the Exide Facility. After the removal action, each property will be restored by the remediation contractor in accordance to the IRMW (Parsons, 2015).

The average property will generate approximately 100 cubic yards of soil for disposal at either La Paz County landfill in Parker, Arizona or the Waste Management Kettleman Hills Facility in Kettleman City, California. Each removal action will include the following tasks, additional details of which are provided in the IRMW:

- Site mobilization
- Site security and access
- Permitting
- General excavation procedures
- Removal of contaminated soil
- Waste characterization/management
- Transportation and disposal
- Environmental controls/monitoring
- Decontamination procedures

- Stormwater management.

1.3 SITE REMEDIAL GOALS

The following DTSC approved soil cleanup criteria have been established as outlined in the IRMW (Parsons, 2015), where for all properties, soil removal will extend to the depth interval where the 95% UCL is less than 80 mg/kg or the yet-to-be-established urban lead level, whichever is greater.

2.0 OFFSITE TRANSPORTATION

This section presents measures and information that will minimize the potential health, safety, and environmental risks associated with the offsite transport of material generated during site remediation. These include:

- Characteristics of material to be transported
- Destination of waste material
- Decontamination methods
- Mode of Transportation
- Route of Transport
- Traffic control and loading procedures
- Recordkeeping

Health and safety and contingency/spill response planning are provided in subsequent sections to this section.

2.1 CHARACTERISTICS OF MATERIAL TO BE TRANSPORTED

Up to 197 cubic yards of soil and debris per property will be generated during site remediation in 2015/2016. The soil may be impacted with some lead. Depending on the material profile from each property, the soil requiring offsite disposal may include a combination of:

- RCRA-regulated, lead-impacted soil
- Non-RCRA hazardous waste lead-impacted soil (i.e., California hazardous)
- Soil impacted with total extractable metals above remedial goals but below hazardous waste disposal criteria

Lead-impacted soils were identified above the Action Level (AL) of 80 mg/kg in all residences which are selected for cleanup. However, based on our analyses provided in the Work Plan (WP), and due to the limited potential for any soil becoming airborne, and exposure to lead in air kept under any dust ambient standards, personal protection requirements will be limited to Level D.

2.2 DESTINATION OF WASTE MATERIAL

Up to 197 cubic yards of soil and debris per property will be removed and disposed at either the Waste Management Kettleman Hills Facility in Kettleman City, California, or La Paz landfill in Arizona.

The removal activities at the Sites will consist of removal of vegetation and soils in the top 18" (maximum), and restoration with clean soil, top soil, and ground cover. The decontamination will consist of the following with additional information provided in Section 2.3:

1) All small vegetation in contact with impacted soil adhered to the substrate will be removed from exposed areas. All asphalt and concrete cap areas will be left in-place and protected, if required. Upon completion of cleanup, any debris and soils will be placed in covered and locked container for proper disposal.

2) Larger trees and shrubs will be protected in place and top 6” soil around the roots of the trees will be excavated and hauled away. These soils will be placed with impacted materials scheduled for off-site transport/disposal. Soil removal may consist of any and all of the following categories:

3) Removal of non-hazardous soil to the a class III local landfill

4) Removal of non-RCRA hazardous soil to the Waste Management Kettleman Hills Facility or La Paz Landfill. This category is expected to comprise the majority of the soils. However, profiling of excavated soils in situ will determine the actual nature and class of the material before this determination is made.

5) Removal of RCRA hazardous soil to the Waste Management Kettleman Hills Facility. These impacts may comprise a minor part of the transportation.//disposal effort.

6) Removal of non-hazardous impacted soil to a Class III local landfill. Encounter of these soils is a remote possibility; however, encounter of excavated soils below hazardous waste action limits is not ruled out, pending soil profiling effort under way.

7) It is anticipated that up to 7 trucks will be necessary to remove hazardous and impacted materials at each property. Most material is targeted for direct excavation and loading in to bins/truck, but, temporary stockpiling and storage of material under controlled environmental conditions may become necessary based on the circumstances of individual residence cleanup.

Contact information for Landfills

La Paz Landfill
26999 Hwy 95, Mile Post 128
Parker, AZ 85344
(929) 916-1256

Waste Management Kettleman Hills Facility
35251 Skyline Road
Kettleman City, CA 93239
(559) 309-7688

2.3 DECONTAMINATION METHODS

In order to prevent transfer of contamination off-site or residual contamination from being left on Site by construction equipment and personnel, decontamination procedures have been developed in the Site-Specific Health and Safety Plan prepared for this removal action. These procedures are summarized below:

- Prior to loading excavated materials into trucks, plastic sheeting will be placed on the ground or asphalt such that any spilled material will be prevented from contacting the

ground surface. Upon completion of loading, any debris will be placed in the appropriate container for proper disposal and the plastic sheeting will be folded and disposed.

- All equipment wheels/tires will be cleaned over plastic sheeting by means of shovels and stiff-bristled brooms or brushes until they are fully cleaned. Upon completion of cleaning, any debris will be placed in the appropriate container for proper disposal and the plastic sheeting will be folded and disposed.
- Personal Protective Equipment, such as disposable protective gear, if used, will be removed and discarded in the contamination reduction zone. In order to decontaminate reusable items such as work boots, a two-stage decontamination process will be used. This process will include washing in a detergent solution with a stiff-bristled brush and rinsing with clean water. The rinsate water will be distributed over contaminated soil (to be exported) for dust control purposes.

The decontamination containers will be clearly marked, identifying the first (wash), second (rinse) and third (final rinse) containers to be used. Rinse water will be applied to materials that will be off-loaded for disposal only and will not be applied to any of the open excavations to avoid potential cross-contamination.

Transportation equipment will be decontaminated before leaving the site. An equipment decontamination area will be established to support the soil remediation. The equipment decontamination area will be used to rinse adhering soil and dust from heavy equipment before leaving the site. All rinsate from the equipment decontamination will be self-contained within the decontamination area and will not be discharged onto unimpacted areas or off-site. The rinsate from the equipment decontamination area will be characterized for proper handling. Water may be used for dust suppression in remediation areas. A stabilized entrance/exit has been established at the site to prevent tracking soil off-site. The stabilized entrance/exit consists asphalt and/or concrete. Entrance/exit pathways will be routinely inspected and cleaned with a mechanical broom sweeper to remove visibly accumulated sediment.

2.4 MODE OF TRANSPORTATION

All materials transported from the site to either in-State Class I Class II or Class III disposal facility will be transported by 18-cubic-yard (23-ton) end-dump trucks. Trucks will be covered with a well-secured tarp, and the haulers will possess a valid hazardous waste hauler license. All transport vehicles will be inspected prior to entering the Site to ensure that the vehicle is safe for highway travel. In addition, after loading the trucks will be inspected to ensure that they are properly tarped and the appropriate Department of Transportation placard is on the vehicle before leaving the Site.

All hazardous materials will be transported from the Site by a DTSC approved, State of California certified hazardous waste hauler. Contact information for haulers is through the remediation contractor

2.5 ROUTE OF TRANSPORT

Materials transported by truck to an in-state Class I, Class II, or Class III disposal facility will travel over public roads and highways in the greater Los Angeles Region of California. As previously mentioned, non-hazardous materials will be transported to a Class III local landfill. All hazardous materials will be transported to the Waste Management Kettleman Hills Facility in

Kettleman City, CA, or La Paz, Arizona, based on availability and logistics. The route the trucks travel through will be partly residential where trucks are loaded, to light and heavy industrial area at freeway entrances. Traffic routes will be designed to limit impacts to residences in the various cities where remediation is to take place. These are Maywood, Boyle Heights, East Los Angeles, City of Commerce, Bell, and Huntington Park City. Truck routes will be designed so that trucks will not drive past sensitive areas, such as schools and hospitals. Because of the large number of addresses, each remediation site will have its specific route from the residence to the disposal facility. The following are the directions to each of these facilities from the nearest freeway entrance to the remediation sites:

2.5.1 Directions to the Waste Management Kettleman Hills Facility

1. Enter I-710 (North)
2. Enter Interstate-5 (North) toward Sacramento
3. Exit I-5 at CA 41 West
4. Take CA 41 West to Skyline Road
5. Turn right (North) on Skyline Road
6. Arrive at destination (35251 Skyline Road, Kettleman City, CA 93239

2.5.2 Directions to the La Paz Landfill

1. Enter I 710 (North)
2. Follow I-10 E to CA 177 N in Riverside County. Take exit 192 from I-10 E
3. Continue onto CA 62 E
4. Continue onto S. California Ave

The one-way trip from the Site to the Waste Management Kettleman Hills Facility is estimated to take 3-3.5 hours. It is expected that this route will allow each vehicle to make one trip to and from the Site. The one-way trip from the Site to the La Paz is estimated to take 4-4.5 hours. It is expected that this route will allow each vehicle to make one trip to and from the Site. This route will be updated if other facilities are used.

It should be noted that additional landfills may be utilized for disposal if the landfills identified above cannot accept the waste being generated. The following two additional landfills may be utilized as necessary: South Yuma Landfill Facility (non-RCRA waste) and Beatty Landfill (RCRA waste). Directions to these facilities are provided below.

2.5.3 Directions to the South Yuma Landfill Facility

1 Enter 1-710 (South) to CA-60 East

2 Follow CA-60E to 1-10 East

3 I-10E to CA-86 South

4 CA-86 S to CA-78 East

5 CA-78 E to CA-111South

6 CA-111 S to 1-8East

7 1-8 E to Avenue 3 E South

8 Avenue 3 E S to E County 17 Street West

9 E County 17 Street W to Avenue 1E South

10 Arrive at South Yuma Landfill

2.5.4 Directions to the Beatty Landfill

11 Enter I-710 (South) to CA-60 East

12 Follow CA-60E to I-605 North

13 1-605 N to I-210 East

14 1-210 E to I-15 North

15 1-15 N to CA-127 North

16 CA-127 N to NV-373 North

17 NV-373 N to NV-95 North

18 NV-95 N to US Ecology Road (turn left)

19 Arrive at Beatty Landfill

The one-way trip from the Site to the South Yuma Landfill Facility is estimated to take 6 hours (Figure 4). It is expected that this route will allow each vehicle to make one trip to and from the Site. The one-way trip from the Site to the Beatty Landfill is estimated to take 5 hours (Figure 5). It is expected that this route will allow each vehicle to make one trip to and from the Site. This route will be updated if other facilities are used.

2.6 TRAFFIC CONTROL AND LOADING PROCEDURES

No off-site staging is anticipated for this remedial effort as vehicles traveling to the Waste Management Kettleman Hills Facility will be making one way trips to the facility due to its distance from the Site. Due to the limited amount of material to be generated, transport vehicles will be direct loaded to minimize stockpiling of materials. For each individual property, the truck

route will be established via an amendment to the transportation plan, and approved by DTSC prior to the startup of the cleanup process.

It is anticipated that vehicles will enter and exit the individual residence street only through approved routes and will not travel through excluded routes. After loading is complete, the trucks will be tarped, cleaned of any loose debris and inspected for the appropriate placarding. The trucks will exit the Site through approved routes. Flag men will be used to prevent incidents during truck entry and exit. Before leaving the Site, the appropriate manifests will be completed. Special traffic control procedures for traveling over surface streets are not anticipated. Surface streets between the site and the nearest highway (I-710) have adequate signals and signage for safe access. There is little pedestrian traffic on the roads in the area where trucks would be exiting residential streets in to the main road. If required, trucks will be staged on-site during the remediation.

The transporters will be licensed hazardous waste haulers and will provide appropriately trained and experienced drivers. The majority of transport trucks will leave the Site between the hours of 9:00 a.m. and 3:30 p.m., when surface street traffic is light to moderate. No lane closures will be required.

It is anticipated that lead-impacted soil will be transported to a permitted disposal facility as non-RCRA hazardous or RCRA hazardous waste. All transportation activities will be performed in strict compliance with all regulations and ordinances. The hauling contractor(s) used to transport contaminated waste will be fully licensed and permitted by the USEPA and the State of California. All Department of Transportation (DOT) and California Highway Patrol safety regulations will be strictly followed.

Transportation equipment will be chosen to safely transport the expected volumes of soil, taking into consideration the types of roads to be traveled and their loading capacity. Routine truck maintenance and repairs will be performed at the contractor's premises prior to picking up waste materials from the Site. The contractor will be required to cleanup, to the satisfaction of the regulatory agencies involved, any spills resulting from maintenance of the trucks or due to road accidents during the operation of this project. Trucks used to transport materials to and from the Site will be inspected by the remediation oversight (Parsons) with oversight by the remediation contractor to ensure that the proper placarding in compliance with local, state, and federal requirements.

Trucks used for the off-site transportation of contaminated soil and debris will remain on clean areas, to the extent possible, to minimize the need to decontaminate the truck tires. During loading, dust and odor emissions will be monitored and mitigated as necessary. The hauling trucks will be equipped to fully cover all soil and debris during transportation. At a minimum, the soil and debris will be tightly covered by a heavy tarp.

Disposal facilities are easily located near freeways and roadways. If needed, the hauling contractor will provide flagmen or signs to warn drivers of slow trucks entering the street from the various remediation sites. Appropriate signage will be utilized to warn the public of work operations.

2.7 RECORDKEEPING

For material transported by truck to an in-State Class I or Class II disposal facility, the driver will carry a Hazardous Waste Manifest to the disposal facility. Parsons will also maintain copies of

manifests as well as a log listing the date and time of truck loading, type of material, weight of load, and vehicle identification for each load of material transported by truck. Drivers will operate their vehicles and respond to emergencies in accordance with the licensed waste hauler's Transportation Safety Plan and/or the attached spill response plan.

For material transported by truck to an in-State Class III disposal facility, the driver will carry a Non-Hazardous Waste Manifest or Bill of Lading to the disposal facility. Parsons will maintain copies of the manifests/bills of lading as well as a log listing the date and time of truck loading, type of material, weight of load, and vehicle identification for each load of material transported by truck. Drivers will operate their vehicles and respond to emergencies in accordance with the licensed waste hauler's Transportation Safety Plan and/or the attached spill response plan.

3.0 HEALTH AND SAFETY

The Site-Specific Health and Safety Plan being utilized for this project is presented in Appendix C of the IRMW (Parsons, 2015). The Health and Safety Plan will be used to establish minimum on- and off-Site safety requirements, policies and procedures adequate to protect Site workers, the public, and the environment from the predicted hazards. All remediation contractors involved in removal, transport, and handling of impacted material will be required to abide by these minimum requirements and to develop site-specific subcontractor safety plans to address potential hazards associated with these tasks. As indicated in the Health and Safety Plan, in the event that unanticipated conditions occur at the Site, the plan will be modified accordingly.

Level D will be required for project activities unless health and safety monitoring shows otherwise. Then engineering controls or personal protective equipment may be necessary to protect workers, residences and the surrounding community.

During soil removal and any future intrusive work, air monitoring will initially be conducted to establish background levels. Once remedial or intrusive activities begin, monitoring will continue daily during work hours as detailed in the IRMW (Parsons, 2015).

Personnel on-Site will have access to respirators with the appropriate cartridges for dust. Cartridges will be P-100 cartridges as required by OSHA. Note that respiratory protection will only be implemented after engineering controls have proven ineffective in reducing the potential risk to life and health. These measures can include additional water spray, plastic sheeting, etc.

4.0 CONTINGENCY/SPILL RESPONSE PLAN

In the event of a spill, the remediation contractor will be prepared to respond in a safe and efficient manner, specific to the particular spill situation. Procedures established in the Spill Response Plan (Attachment A) will be used for handling of spills, whether they are on-site spills or spills occurring during transportation. The Spill Response Plan in Attachment A addresses handling of on-site spills. Because safety and protection of the public and the environment are of major concern, the first consideration is that of public safety and environmental protection. The provisions of the Spill Response Plan will be strictly adhered to, in order to ensure continued protection of the public safety and the environment.

Table 1 provides a listing of the local, state and federal environmental health agencies and emergency response agencies along the transportation haul route.

For contaminated material spilled onto the ground surface along a transportation route, cleanup would probably consist of excavation and disposal of the contaminated soil at a disposal facility. All cleanup work will be done in accordance with a site-specific health and safety plan and in cooperation with interested state and local agencies. For accidental releases of contaminated material in or near a stream, river, or lake, the same general response procedures will apply, with particular emphasis on preventing the release of the spilled waste material into the water body. In the event of an actual release of contaminated material into a body of water, all work will be coordinated with state and local agencies to select practical and appropriate cleanup methods based on specific circumstances of the release.

5.0 REFERENCES

Parsons, 2015. *Off-Site Interim Remedial Measures Workplan (IRMW), November 2015*.

TABLE

Table 1
Environmental Health Agencies and Emergency Response Agencies for Truck Transportation

To: La Paz Landfill Facility

From: Various Sites Located in the Vicinity of the Exide Facility, Vernon, California

National
National Response Center: (800) 424 - 8802

State of California
California Emergency
Management Agency: (800) 852 - 7550 (within California)
(916) 845 - 8911 (outside California)

California Counties

Los Angeles County Environmental Health
(888)700-9995

San Bernardino County Environmental Health Services
(760) 243-8141

Riverside County Environmental Health Services
(951) 358-5316

Arizona Counties

La Paz County Environmental Health Department
(928) 669-1100

Local Emergency
Fire, Police, and Ambulance 911

Table 1 (Cont'd)
Environmental Health Agencies and Emergency Response Agencies for Truck Transportation

To: Waste Management Kettleman Hills Facility

From: Various Sites Located in the Vicinity of the Exide Facility, Vernon, California

National
National Response Center: (800) 424 - 8802

State of California
California Emergency
Management Agency: (800) 852 - 7550 (within California)
(916) 845 - 8911 (outside California)

California Counties

Los Angeles County Environmental Health
(888)700-9995

Kern County Environmental Health Division
(661) 862-8740

Kings County Environmental Health Services
(559) -584-1411

Local Emergency
Fire, Police, and Ambulance 911

Table 1 (Cont'd)
Environmental Health Agencies and Emergency Response Agencies for Truck Transportation

To: South Yuma Landfill Facility

From: Various Sites Located in the Vicinity of the Exide Facility, Vernon, California

National
National Response Center: (800) 424 - 8802

State of California
California Emergency
Management Agency: (800) 852 - 7550 (within California)
(916) 845 - 8911 (outside California)

California Counties

Los Angeles County Environmental Health
(888)700-9995

San Bernardino County Environmental Health Services
(760) 243-8141

Riverside County Environmental Health Services
(951) 358-5316

Arizona Counties

Yuma County Environmental Health Services Division
(928) 317-4584

Local Emergency
Fire, Police, and Ambulance 911

Table 1 (Cont'd)
Environmental Health Agencies and Emergency Response Agencies for Truck Transportation

To: Beatty Landfill Facility

From: Various Sites Located in the Vicinity of the Exide Facility, Vernon, California

National
National Response Center: (800) 424 - 8802

State of California
California Emergency
Management Agency: (800) 852 - 7550 (within California)
(916) 845 - 8911 (outside California)

California Counties

Los Angeles County Environmental Health
(888)700-9995

San Bernardino County Environmental Health Services
(760) 243-8141

Nevada Counties

Nye County Department of Emergency Management
(775) 751-4278

Local Emergency
Fire, Police, and Ambulance 911

FIGURES

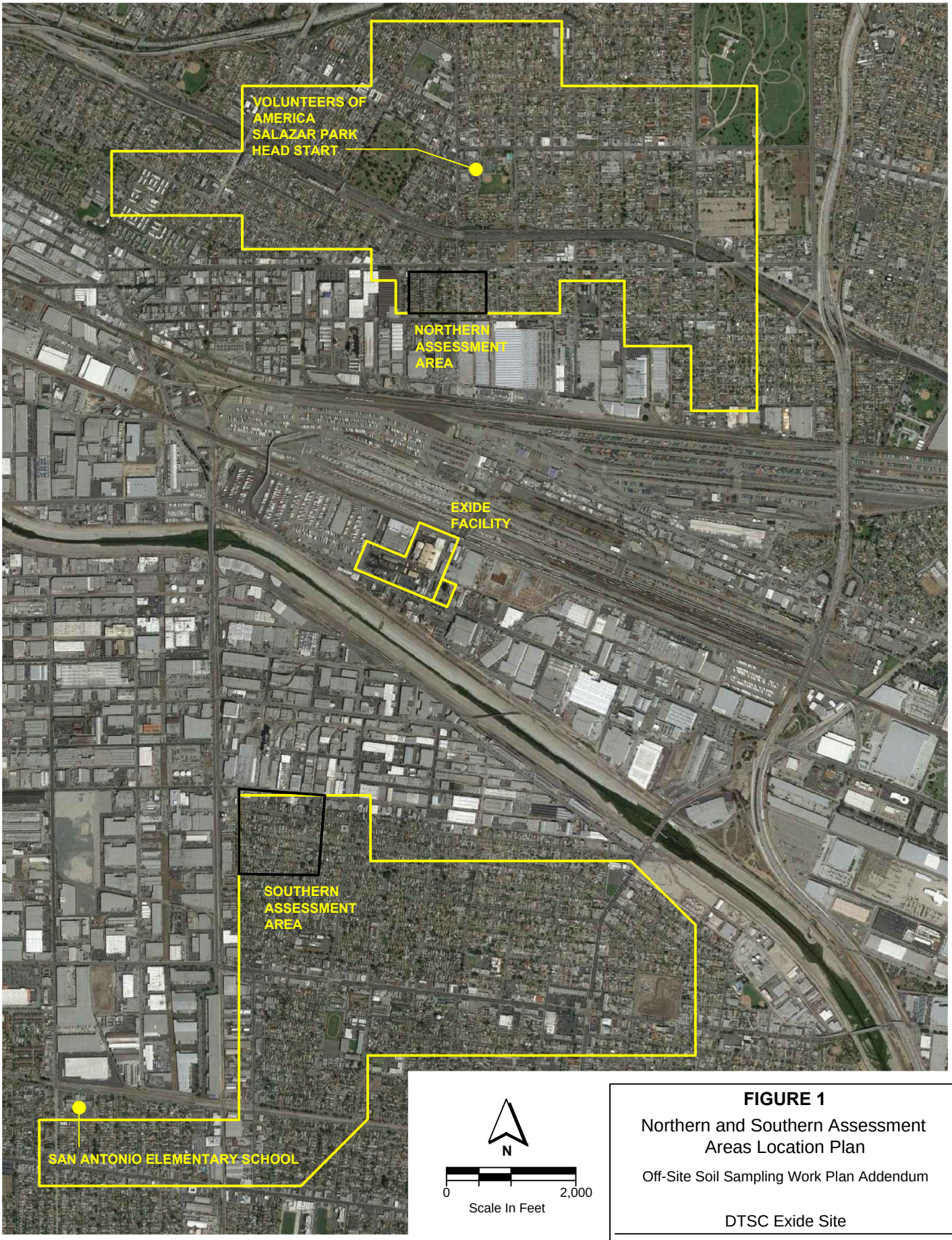


FIGURE 1

Northern and Southern Assessment Areas Location Plan

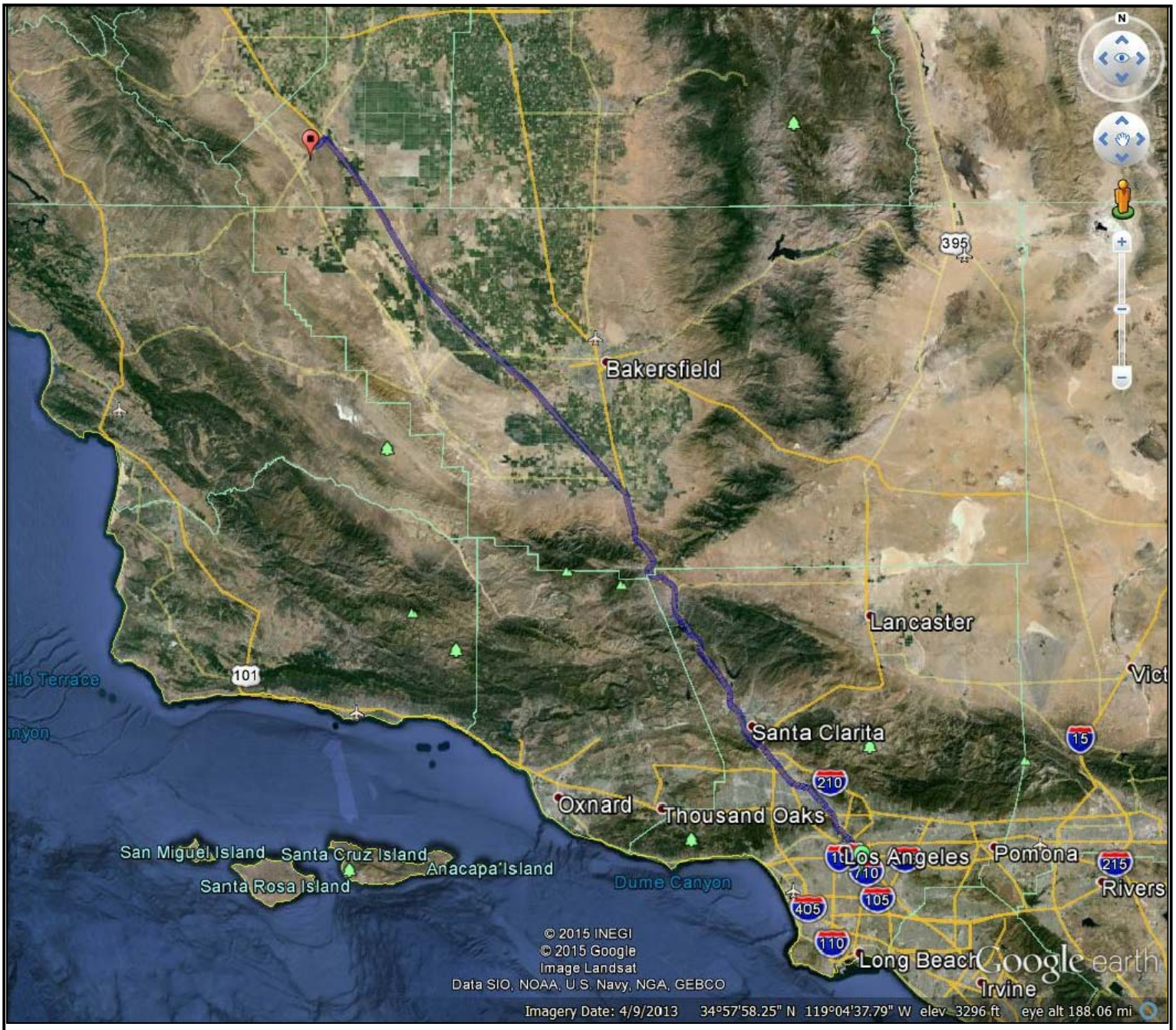
Off-Site Soil Sampling Work Plan Addendum

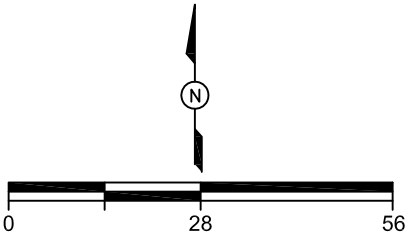
DTSC Exide Site

PARSONS

Pasadena, CA

K:\Depts\Dept42b\DTSC\Orphan Sites MSA\Exide\03 Offsite sampling Workplan – 1000 homes\Figure 1 – Northern & Southern Assessment Areas.dwg





WM KETTLEMAN HILLS FACILITY

1. Enter I-710 (North)
2. Enter Interstate 5 (North) toward Sacramento
3. Exit I-5 at CA 41 West
4. Take CA 41 West to Skyline Road
5. Take a Right (North) on Skyline Road
6. Arrive at destination:
   (35251 Skyline Road, Kettleman City, CA 93239)

Truck Route Map - Directions to the WM Kettleman Hills Facility	
CLIENT: Department of Toxic Substances Control	
LOCATION: Former Exide Technologies Offsite Areas	
PARSONS	*FIGURE:* 2

N

0 30 60

APPROXIMATE SCALE IN MILES

Truck Route Map - Directions to the La Paz Landfill

CLIENT: Department of Toxic Substances Control

LOCATION: Former Exide Technologies Offsite Areas

PARSONS

FIGURE: 3

LA PAZ LANDFILL FACILITY

1. Enter I-710 (North) to I-10 East
2. Follow I-10 E to CA-177 North
3. CA-177 onto CA-62 East
4. Continue onto CA-62 E
5. Continue onto S. California
6. Arrive at Landfill Road and S. California

N

0 35 70

APPROXIMATE SCALE IN MILES

Truck Route Map - Directions to the South Yuma Landfill

CLIENT: Department of Toxic Substances Control

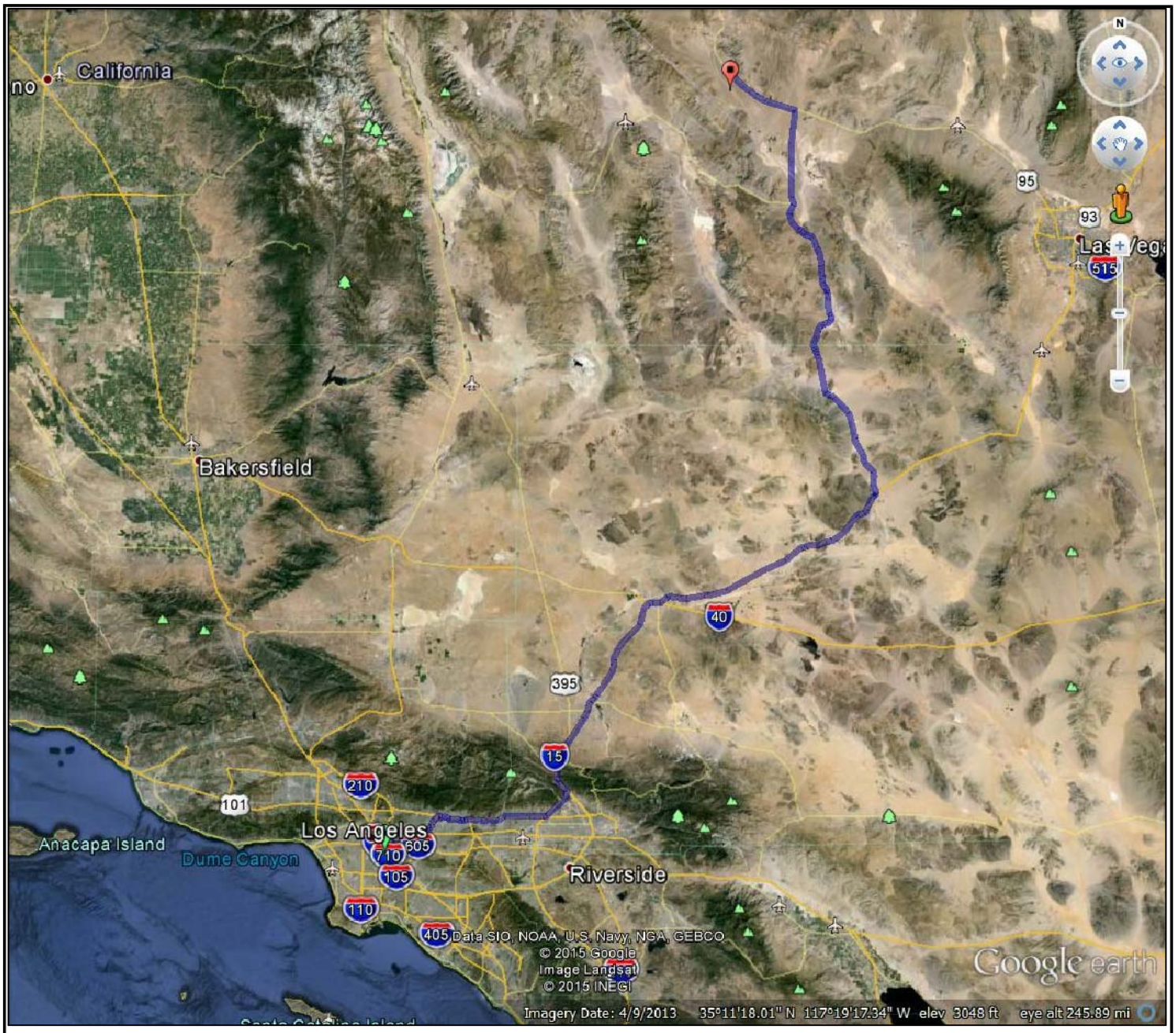
LOCATION: Former Exide Technologies Offsite Areas

PARSONS

FIGURE: 4

SOUTH YUMA LANDFILL FACILITY

1. Enter I-710 (South) to CA-60 East
2. Follow CA-60E to I-10 East
3. I-10 E to CA-86 South
4. CA-86 S to CA-78 East
5. CA-78 E to CA-111 South
6. CA-111 S to I-8 East
7. I-8 E to Avenue 3 E South
8. Avenue 3 E S to E County 17 Street West
9. E County 17 Street W to Avenue 1 E South
10. Arrive at South Yuma Landfill



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APPROXIMATE SCALE IN MILES

Truck Route Map - Directions to the Beatty Landfill

CLIENT: Department of Toxic Substances Control

LOCATION: Former Exide Technologies Offsite Areas

PARSONS

FIGURE: 5

BEATTY LANDFILL FACILITY

1. Enter I-710 (South) to CA-60 East
2. Follow CA-60E to I-605 North
3. I-605 N to I-210 East
4. I-210 E to I-15 North
5. I-15 N to CA-127 North
6. CA-127 N to NV-373 North
7. NV-373 N to NV-95 North
8. NV-95 N to US Ecology Road (turn left)
9. Arrive at Beatty Landfill

ATTACHMENT A

SPILL RESPONSE AND CONTINGENCY PLAN

SPILL RESPONSE PLAN

This Plan outlines procedures that will be followed in the event of a spill and/or releases, including spill control, containment, and clean-up of releases of hazardous materials and substances. All personnel handling hazardous waste on-site will have the appropriate OSHA Hazardous Waste training and medical clearance as outlined in the Site Specific Health and Safety Plan.

1.1 PROCEDURES FOR SPILL CONTROL/CLEAN-UP AND CONTAINMENT OF RELEASES OF HAZARDOUS SUBSTANCES OR MATERIALS

In the event of a spill or accidental release, the appropriate measures will be taken to confine the spill to the immediate area, and to prevent any migration off-site. Figure 1 provides a general outline for spill response. The following steps will be taken when discovering or encountering chemical release or spills:

- Evacuate the spill area and the site to ensure the safety of all personnel.
- Contain and/or clean up the release/spill. For large spills within the City of Los Angeles, contact the Los Angeles Fire Department (LAFD); or Los Angeles County Fire Department (LACFD) for areas outside the City of Los Angeles.
- Notify responsible project personnel, including Parsons and DTSC PM, and required agencies.
- Complete Spill Data Worksheet and Parsons Incident Report Form.

Because remedial measures are to take place in various cities, the appropriate Fire Department responsible for each individual residence cannot be identified in the plan. The appropriate Fire Department will be identified along with other pertinent information such as the lead analyses results, areas requiring excavation, and transportation routes in the work plan amendment for each property. Spill or releases requiring the LAFD or LACFD are not anticipated during remediation activities. However, if the spill cannot be contained by the Remediation Contractor with on-site resources, then the Site Health and Safety Officer (SHSO) will notify the appropriate LAFD or LACFD immediately. The SHSO will verify with the LAFD or LACFD the relevant on-site information. The Parsons PM will contact the appropriate project emergency response personnel, including DTSC and agency personnel. The SHSO will have the responsibility of
:

- Contacting the Parsons PM;
- Confirming spill information;
- Identifying necessary spill response personnel and resources;
- Obtaining all necessary MSDSs; and
- Completing the Spill Data Worksheet and Parsons Incident Report Form.

1.1.1 On-Site Spills

For on-site spills, it is imperative that the spill be confined to the site, and to prevent migration off-site. Spills will be cleaned up immediately using available on-site resources if it is safe to do so. Particular attention will be made to storm sewer locations and other drainage sites. Absorbent material, including booms, absorbent pads, and tools will be used to clean-up small spills. Larger spills of any oil or oil product spill, will be contained and/or recovered using mechanical skimmers, sorbants (booms, pads, sweeps, rolls, pillows) and adsorbents (pom-pom) or collected by vacuum trucks.

Table 1 provides a general initial response actions in the event of a discovery of an on-site spill. Once the spill is contained, any contaminated material, including disposable spill equipment (booms, socks, etc.) will be packaged and properly disposed.

1.2 CONTAMINATED/HAZARDOUS SOIL/WATER RELEASES

Trucks hauling contaminated soils and/or may be involved in an accident on roads and public and private properties potentially expose the public to contaminated soils/water. In the event of an accident, the operator of the truck will notify the CHP and other emergency response agencies, and Parsons PM. Parsons PM will notify DTSC PM and appropriate environmental agencies.

1.3 RUPTURE OF PIPELINES

Undocumented gas, oil, and other utility lines may be ruptured/broken during trenching, excavation, and other remedial activities, resulting in emergency response situations. The Remediation Contractor will provide hazardous waste response services to mitigate the situation.

1.4 UNDERGROUND STORAGE TANKS

Underground storage tanks (USTs) or cisterns may be found during excavation, and other remedial activities. If an undocumented UST is encountered, appropriate project personnel, including DTSC personnel will be notified. USTs will be removed by the Remediation Contractor in accordance with regulatory requirements upon receipt of approval from DTSC PM and agency notification. The following activities will occur upon the encounter of a UST:

- On-site personnel will immediately stop work and notify Parsons PM;
- Parsons PM will notify DTSC's PM and any required regulatory agencies;
- If removal is required, Parsons PM will notify the lead regulatory agency (contact the Los Angeles County Environmental Health Department (EHD)). A representative

from the Los Angeles County EHD will inspect the site. The Parsons PM will do the following:

- Contact the EHD (**888-700-9995**) and give them the site address so they can determine if the site is registered with the Los Angeles County EHD. ,
- Complete the UST Closure Authorization Form (http://www.ladpw.org/general/forms/download/268.pdf) and pay the fee to obtain UST removal permit, at this time, EHD will provide a list of agencies which they need to contact, such as the local fire department; and
- Call the EHD field inspector to schedule UST removal (must be notified at least 48 hours prior to scheduled removal). For UST removal, the Los Angeles County EHD will be involved.
- Parsons and the DTSC PM, the Remediation Contractor, and the inspector from the leading regulatory agency will determine the appropriate course of action;
- DTSC will request the services of the Remediation Contractor to perform the tank removal work; and
- Parsons will notify the Executive Officer or designee at the Los Angeles County Air Pollution Control District at least 24 hours prior to commencing excavation of UST or transfer piping which have stored or transferred VOC, name of the company performing the excavation, and the application number listed in this mitigation plan.

The Remediation Contractor will be responsible for the following tasks:

- Acquisition of all necessary permits from leading regulatory agency, APCD, and CAL/OSHA. These permits will include the UST Removal Permit from the Los Angeles County, Department of Public Works, the De-gassing Permit from the APCD (if needed), and an Excavation Permit from CAL/OSHA;
- Follow up site-specific health and safety plan requirements for management of the UST;
- Accessing the tank(s) which includes excavation and uncovering of the UST;
- Monitoring of combustible gasses and oxygen content using a combustible gas detector and a photo ionization detector;
- Removal and disposal of any residual liquid or sludge in the tank(s) at an appropriate regulated facility;
- Removal of any VOC-affected soil, and decontamination and degassing of the tank(s) and associated pipe work (cleaning);

- Disconnecting, dismantling, and removing the tank and associated pipe work from the excavation site (for tank abandonment by removal);
- Backfilling of the tank(s) with an inert solid such as cement or grout, if the tank is to be abandoned in-place;
- Disposal of the rinse water and sludge generated from cleaning of the tank (s) and associated piping at an appropriate regulated facility;
- Arrangement for the proper disposal of the tank(s) contents and affected soil; and
- Backfilling the tank excavation(s), if necessary.

VOC-affected soils generated during removal activities will be handled in accordance with all local, state and federal requirements.

The Remediation Contractor will provide all necessary information for the UST closure report to Parsons as soon as possible, but no more than 3 days after the tank closure work is completed. This information must include the site name and address, the number of UST removed, the volume of UST, the content of the tank, a scaled site plan showing the tank and soil sample locations, and brief description of site activities. Any laboratory analytical reports, chain of custody forms, and waste manifests must also be submitted to Parsons. Parsons will prepare and submit a closure report to the leading UST removal agency (Los Angeles County EHD). The Los Angeles County Fire Department may require a copy of the closure report as part of their records.

Following completion of the work, on the final day of the tank removal, the Remediation Contractor shall provide Parsons with the tank cleaning certification and certificate of disposal form for each UST. The tank cleaning certification form(s) will be submitted to the leading UST removal agency as part of the closure report.

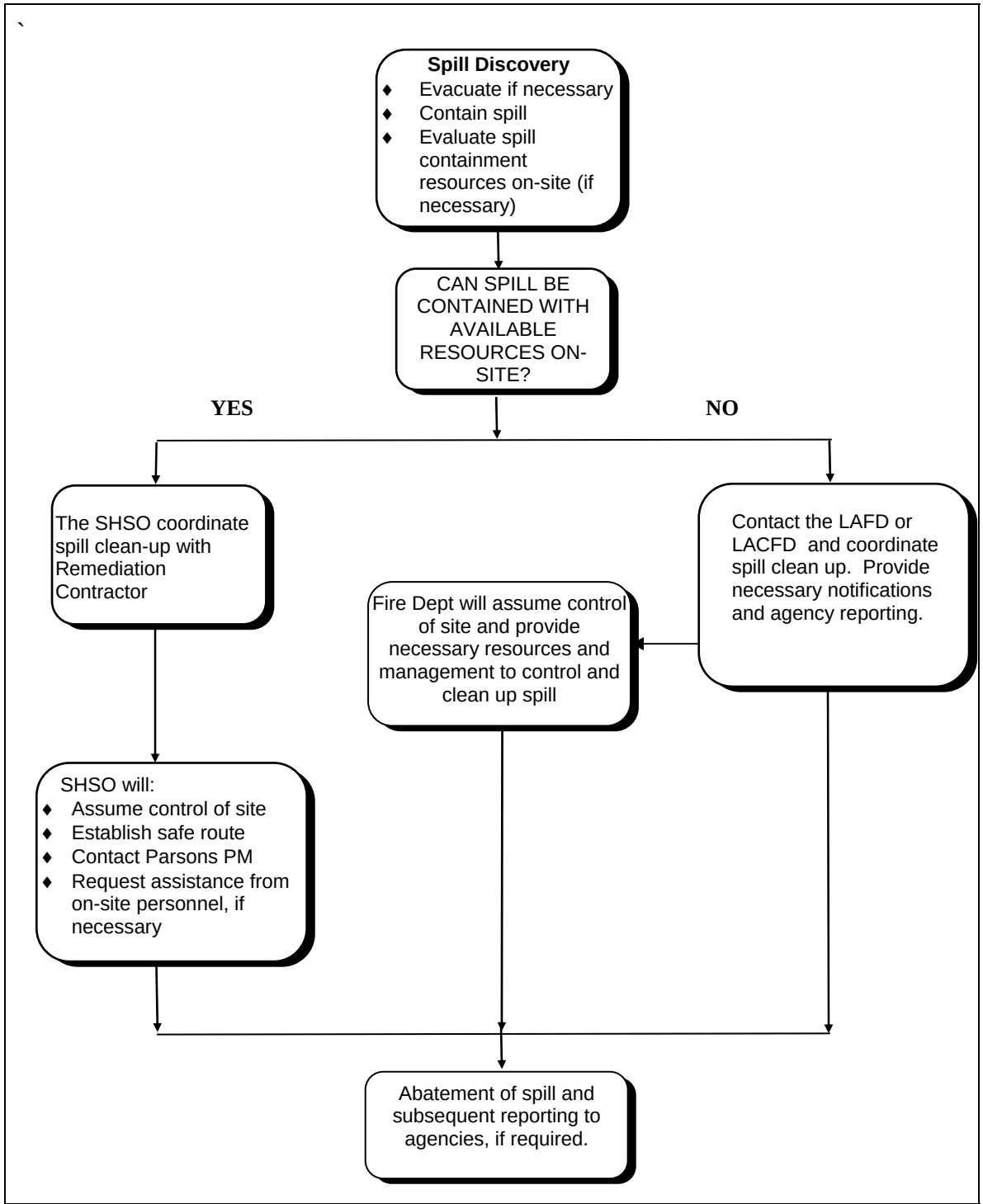

Figure 1
Initial Spill Response Actions
Multiple residences impacted by Exide operations

Table 1
On-Site Spill Response Actions

Action	Notes
1. Stop the product flow at the closest container, valve, and/or pump (if it can be accomplished safely.). If applicable, activate emergency shut down switches. Determine if available resources are sufficient to control the spill.	Act quickly to secure pumps, close valves, etc. Do not enter any spill site to accomplish the shut down. Stay upwind and upgradient of the spill.
2. Alert personnel within the immediate area, and notify appropriate Parsons, Facility and DTSC personnel If necessary, perform the following tasks: ♦ Have nonessential personnel evacuate to the area upgradient and upwind and report to the designated safe refuge site. ♦ If there are trucks in the loading area or waiting to load, have the drivers remove their vehicles to a safe location outside the loading area, if it is safe to move the vehicles. ♦ Prevent any vehicles (other than emergency support services) from entering the area.	This action is to prevent any inadvertent action from compounding the situation. The SHSO at the safe refuge will account for all persons at the facility (those at the meeting place, those working to control the discharge, and those unaccounted for).
3. The PM will make appropriate notification to the agencies. Expedite notification if the spill may enter any sewer, stormdrain, or waterway.	It is critical that notification be made immediately to ensure the safety of personnel and obtain additional resources as quickly as possible to control and minimize the discharge.
4. Isolate the discharge spill area and shut off ignition sources, if it can be accomplished safely. ♦ For flowing fuel spills, without entering the spill area, build a dike in front of the spill using absorbents, dirt or sand. ♦ For puddled spills, place absorbent pads on top of the spill without entering the spill area. ♦ If fuel has reached a drainage ditch, extend several sorbent booms downstream across the ditch and/or build several dirt dams . ♦ Use sorbent to soak up fuel. ♦ Properly containerize used materials for disposal. For small fires use a fire extinguisher to control/extinguish the fire if it can be accomplished safely. Stand by to assist emergency personnel if requested.	If applicable, control pumps, vehicles and other electrical sources. Ensure that no one is smoking near the discharge/spill site. Do not resume fuel operations until cleared to do so by a Fire Department Official.

1.6 SPILL REPORTING

Spill reporting and post-response evaluation procedures must be conducted through formal documentation and follow-up investigation to identify the cause/source of the accident. Response procedures will be reviewed as part of post-response evaluation.

A Spill Data Worksheet and an Incident Report will be prepared by the SHSO following a spill response. The SHSO will submit these reports to Parsons PM. The PM will review and submit it to DTSC PM. The report will contain, at a minimum, the following information:

- Time and date of incident;
- Incident description;
- Material and quantity spilled (for spills incidents);
- Initiation of emergency response;
- Description of the response(s), including a field sketch; and
- Caller notifications (Fire Department, Police, etc.).

1.7 POST-RESPONSE EVALUATION

Following completion of the Incident Report Form, the SHSO will prepare a Lessons Learned Report. The report will contain the following information and data:

- Time and date incident started and ended;
- Description of incident;
- Description of activating emergency response;
- Problems encountered during incident;
- Summary of post-incident activities, including any unusual actions or other events of interest; and
- Remarks and lessons learned.

The Lessons Learned Report will also include comments and input from the Remediation Contractor and DTSC. If necessary, this Plan will be modified or revised based on recommendations from the Lessons Learned Report.

SPILL DATA WORKSHEET

Site Name:_____Date:_____

Name of Person Completing Form:_____

Signature:_____

Provide the following information, with the fullest detail possible. Where estimating information, explain any limitations on the information provided and describe how the information was derived.

1) Date, Time, and Duration of Release/Discovery of Release:

2) Discovered by (Name, Title, and Affiliation):

3) Material(s) Released (Attach MSDS if available):

4) Quantity Released:

5) Source of Release:

6) Medium into Which Release Occurred (e.g., air, soil, solid surface, water) (Describe):

7) Location of Release (both geographic location and boundaries):

8) Circumstances under which spill/release occurred (what happened):

9) Any Injuries or Damage:

10) Response Measures, including Timing (e.g., containment, exposure protection or warnings, cleanup):

11) Weather Conditions (as they may affect spill response):

APPENDIX E
PROPERTY CLOSEOUT CHECKLIST

PARSONS

PROJECT DTSC EXIDE OFF-SITE REMEDIATION PROJECT NO. 449646

CONTRACTOR INNOVATIVE CONSTRUCTION SOLUTIONS (ICS) CONTRACT NO. _____

EXPANDED AREA IDENTIFICATION (ENA OR ESA) _____ DATE _____

PROJECT CLOSEOUT CHECKLIST

Field Supervisor/Inspector of Record will complete this form (as applicable) and transmit to the Property Owner with his/her recommendation to accept and sign as a Notice of Completion.

Item	Verification	
	Date	Initials
1. Access Agreement Obtained/Approved		
2. Initial Communication with Property Owner		
3. Received Guidance on Final Surface Completion (sod, mulch, etc.)		
4. Description of Remedial Activities to Owner		
5. Geophysical Clearance of Property		
6. Photo Documentation		
7. Implementation of Remedial Activities		
8. Description of Remediation Activities Conducted		
9. Confirmation Data Communicated		
10. Site Restoration Approved by Property Owner		
11. Landscaping Approved by Property Owner		
12. Watering Systems (hoses, timers, etc.) Provided to Owner		
13. Manuals for Timers Provided to Owner		
14. Final HVAC Cleaning of Hardscape		
15. Lead Based Paint Stabilization (if Required)		
16. Compensation for Landscape, Relocation, etc. Provided		
17. Other Requirements Punch List Items from Owner (Specify)		
_____		
_____		
_____		

_____
Field Project Supervisor Printed Name

_____ _____
Date Transmitted Field Project Supervisor Signature

_____
Property Owner's Printed Name

_____ _____
Date Transmitted Property Owner's Signature