June 8, 2016

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Alameda, CA 94502

Email: mark.detterman@acgov.org

Subject: Alameda County Environmental Health Case Number RO0003175
Geotracker Global ID Number T10000007707
500 Grand Ave, Oakland, CA

Dear Mr. Detterman:

As per your June 3, 2016 letter we have completed the attached *Site Management Plan* for 500 Grand Avenue, Oakland, CA (Site). The Report includes:

- Presentation of the location and concentrations of the residual petroleum hydrocarbons.
- Review of the specific human health risk analysis as it relates to future Site occupants and construction workers.
- Discussion of methods and approach to manage and mitigate potential soil and groundwater exposure risks to construction workers during redevelopment of the Site.
- Soil and groundwater management.
- Contingency approach for encountering unknown and unidentified contaminants.
- Site specific health and safety plan.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Sincerely,

Patrick Ellwood
Owner
Ellwood Commercial Real Estate

SITE MANAGEMENT PLAN

500 Grand Avenue
Oakland, California 94610

Alameda County Environmental Health Case Number: RO0003175

Geotracker Global ID Number: T10000007707

01-ECR-001

Prepared For:
Ellwood Commercial Real Estate
Oakland, California

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June 8, 2016

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1.0 INTRODUCTION

On behalf of Ellwood Commercial Real Estate (ECR), The Source Group, Inc. (SGI) has prepared this Site Management Plan (SMP) for the 500 Grand Avenue, Oakland, California (**Figure 1**; Site).

1.1 Site Location and Description

The site is located on the northeast corner of Euclid Avenue and Grand Avenue in Oakland, California. Property address is 500 Grand Avenue (Site Location Map, **Figure 2-1**). An adjacent parcel to the north is being incorporated into the planned development. That parcel's previous address was 401 through 403 Burk Street. The site is within an urbanized environment approximately 200 feet north of Lake Merritt. The surrounding properties are a mixture of commercial and residential (both single and multi-family housing). Topography slopes gently toward Lake Merritt. Surface drainage is intercepted by street curbing and collected into the municipal storm water system.

Since 1992 the property has been covered with asphalt pavement and serves as a commercial parking lot. Current redevelopment plans include a first floor commercial establishment and residential occupation for upper stories. The proposed Site development plans consist of multi-unit mixed use residential housing complex, with street front commercial retail and parking garage on the lower floor, and landscaping around the perimeter.

1.2 Purpose and Objectives

The purpose of this SMP is to provide a plan to prevent or minimize human exposure to soil, groundwater, and soil vapor which may contain chemicals of potential concern (COPC) at the Site. This SMP was prepared to govern all future intrusive work at the Site such as soil grading, excavation, recompaction, trenching and backfilling activities that may be associated with the development depicted in the May 2, 2016 Kava Massih architectural drawings.

2.0 BACKGROUND

This section provides information about subsurface conditions at the Site. Subsurface investigations at the Site were initiated in 1998.

2.1 Previous Site Investigations

The property was an active commercial service station from at least 1946 until closure in 1991. The service station was demolished in 1992 and remaining underground petroleum storage tanks (USTs), piping, and fuel dispensers, etc. were removed at that time. A significant portion of the property was over excavated after demolition to remove impacted soils. Prior reports (Conestoga – Rovers, 2009) indicate the excavation was approximately 7 to 9 feet deep. Preliminary environmental investigations and remedial actions were initiated in 1988 and continued intermittently through 2011, when site "closure" was approved by Alameda County Environmental Health (ACEH). Terms of the closure approval limited future land use to commercial development and required future excavation and construction in potentially impacted areas activities be implemented by the developing party with "appropriate health and safety procedures." A copy of the closure finding by ACEH "Closure Transmittal, Fuel Leak Case No. RO0000391, 500 Grand Avenue, Oakland" dated September 21, 2011 is attached as **Appendix A**.

Figure 2-2 shows the locations of the previous service station related infrastructure that was previously removed and boundaries of previous soil excavations. **Figure 2-3** shows locations of planned lower floor structure layout and the locations of residual hydrocarbons identified in soils during the current Supplemental Data- Gap Investigation.

2.2 Hydrogeologic Setting

Much of the Site shallow soils are compacted backfill ranging in depth 3.5 to 12 feet below ground surface (bgs). There is also a discontinuous deposit of pea gravel underlying a portion of the sand/gravel backfill on the northern half of the Site. Native soils consist of quaternary alluvial sands and clays, with the upper strata being predominantly composed of silts and clays. **Figures 2-3**, **2-4** and **2-5** provide cross sectional interpretations based on the recent drilling logs. Cross section orientations are shown on **Figure 2-2**.

Groundwater was determined to be partially confined at the Site, as it stabilized at a shallower depth bgs than first encountered in the soil borings. All groundwater monitoring wells at the site were abandoned prior to 2012, so static water levels are not available. Prior studies indicate the gradient to be toward the southeast and water levels have been observed to fluctuate 2.5 to 3 feet (Harding Lawson, 1990).

2.3 Summary of Current Environmental Conditions

As described above multiple environmental investigations have been conducted at the Site including soil, groundwater, and soil vapor sampling, with associated laboratory analysis. However, the

majority of investigation activities occurred prior to remediation of the Site. As discussed in the SGI May 2016, *Supplemental Site Investigation* Report and shown in **Figure 2-6**, 73% of the site was excavated. The remediation of the site by over-excavation was successful in removing residual petroleum hydrocarbon concentrations to less than the California Regional Water Quality Control Board (CRWQCB) commercial environmental screening levels (ESLs) with the exception of the area identified in **Figure 2-2** and associated cross sections (**Figures 2-3** and **2-4**). The human health risk assessment (HHRA) completed as part of the SGI May 2016, *Supplemental Site Investigation Report* indicated that the residuals petroleum hydrocarbons present in soil (adjacent to Grand Avenue) and in the groundwater (adjacent to Grand Avenue and the southeast corner of the Site) present no risks to future occupants associated with the planned project. Risks are limited to construction worker exposure during foundation excavation activities. The subsequent sections of this SMP establishes the location(s), concentrations, and methods to manage the residual petroleum hydrocarbons, that may be encountered during the construction phase of the planned project, in a manner that is protective of human health and the environment.

2.3.1 Distribution of the COPCs

Based on the May 2016, SGI *Supplemental Investigation Report*, residual petroleum hydrocarbon contamination, in soil, above CRWQCB ESLs is limited to the unexcavated edge of the property adjacent to Grand Avenue (see **Figure 2-2**). Contaminants identified in the borehole SGI-SB-01 and SGI-SB-02 include petroleum hydrocarbons (characterized as TPHd) above commercial ESLs in one sample and naphthalene (above residential ESLs in three boreholes (including two samples collected in 2015 by Allwest, 2015). Other low level TPH, volatile organic compounds and semi-volatile organic compounds were reported in several other samples (see **Table 2-1** for summary of laboratory analytical results for soil samples).

Grab water samples collected from ten of the DPT borings indicate relatively low levels hydrocarbons in groundwater underlying the site and concentrations above commercial ESLs for benzene and ethylbenzene in samples collected from SGI-SB-02 and SGI-SB-03**. Table 2-2** provides a summary of laboratory analytical results for groundwater samples. Groundwater was first encountered in SGI-SB-02 and SGI-SB-03 at 8-feet and 14.5-feet below ground surface, respectively.

2.3.2 Soil Boring Logging and Observations

Interpretation of the subsurface geology by DPT is based on continuous core samples that were retrieved as the rods were advanced to final depth. The SGI field geologist recorded observations for the individual samples on the DPT logs (**Appendix B**).

Figures 2-3, **2-4**, and **2-5** provide interpreted cross sections showing the depth and extent of the previous excavation, backfill material, and extent of the residual petroleum hydrocarbon soil and groundwater impacts present on the Site. The Figures also show the proposed foundation and floor

elevation for the new development and summaries of the analytical results from the soil samples collected. **Figure 2-6** provides orientations of each cross section and the locations of the soil borings.

Soil borings confirmed the lateral extent of previous over-excavation and backfill (**Figures 2-3** through **2-6)**. Backfill ranged from 2.5 feet bgs near the north end of the 500 Grand Avenue parcel to 12 feet bgs within the southeast quadrant (in the vicinity of the removed USTs). Underlying native soils were generally clays, with interbedded silts and sands.

2.3.3 Geotechnical Analysis

Geotechnical analysis of soil samples SGI-SB-6-4 and SGI-SB-10-10 were performed to determine physical properties in accordance with Cal EPA and DTSC indoor air modeling guidance. SB-10-10 was selected as representative of native soils near the localized residual petroleum hydrocarbon impacted soils adjacent to Grand Avenue. SB-6-4 was selected as representative of the backfill material and is located within the planned elevator shaft and internal stairwell for the planned development. A copy of the geotechnical laboratory report is provided in **Appendix C**. Based on grain size distribution the native (SB-10-10) soils were classified as silt and the backfill (SB-6-4) was classified as coarse sand.

2.3.4 Soil Vapor Analytical Results

Shallow groundwater present in soil vapor monitoring wells and tight native soils prevented collection of viable soil vapor data. All soil vapor risks were calculated from grab groundwater sample data collected during the SGI *Supplemental Site Investigation* (May 2016).

2.3.5 Groundwater Analytical Results

Groundwater samples were collected from 10 separate locations (SGI-SB-1 through though SB-10) on in April, 2016. Sample results are included in **Table 2-2** and are summarized below:

- Benzene and ethylbenzene in concentrations above commercial/Industrial ESLs was encountered in one water sample (GW-02) collected within the residual contamination adjacent to Grand Avenue and one sample (GW-03) collected within the southeast corner within the vicinity of the planned stairwell at that location. Benzene concentrations for these two samples ranged from 55 µg/L to 740 µg/L and ethylbenzene ranged from 130 µg/L to 710 µg/L.
- Other contaminants above residential ESLs were only encountered in the same two water samples as listed above (GW-02 and GW-03) and consisted of xylenes and naphthalene.
- Low levels of MTBE (ranging from 0.6 µg/L to 5.9 µg/L) was encountered six of the 10 grab samples scattered throughout the site. The leak-check compound (1,1-difluoroethane) was not detected in any of the samples analyzed.

- Low levels of TPHg (highest concentration 15,000 µg/L), THPd (highest concentration 3,000 µg/L), and TPHmo (highest concentration 4,400 µg/L) were also reported in multiple groundwater samples.

2.3.6 Soil Analytical Results

Soil sample analytical results are provided in **Table 2-1** and summarized below:

- Only one sample, located at SGI-SB-3, yielded concentrations exceeding commercial/industrial ESLs for TPH diesel (**Figure 2-2** at three feet below ground surface within the unexcavated soils adjacent to Grand Avenue).
- Recent samples exceeding residential ESLs are also limited to the area described above. Soil boring SGI-SB-01, SGI-SB-02, AW-SB-2, and AW-SB-5 (**Figure 2-6**) contained either diesel or naphthalene exceedances within the upper five feet.
- Soil samples collected from within the backfill material placed after excavation of USTs and other impacted confirm the backfill is free of contaminants above residential ESLs.

2.3.7 Soil Risk Results

Based on a comparison of Site data and the CRWQCB ESLs, COPCs were identified in soil at the Site. **Table 2-1** provides a summary of laboratory analytical results for soil samples and applicable screening levels. No TPH, volatile organic compounds (VOC), or semi volatile organic compounds (SVOC) were detected at concentrations above the soil ESL for construction land use. Based on proposed development plans, the Site is expected to be capped by a building and concrete/asphalt paving, which would preclude any direct contact with soil for residential or commercial/industrial receptors. As summarized below, only TPH as diesel (TPHd) and naphthalene were detected at concentration above the soil ESL for residential or commercial/industrial land use. These exceedances were limited to the soil adjacent to Grand Avenue.

2.3.7.1 Total Petroleum Hydrocarbons Risk Results

TPH as gasoline (TPHg) and TPH as motor oil (TPHmo) were not detected above the soil ESL for residential or commercial/industrial land use. TPH as diesel (TPHd) was detected in 20 of 21 soil samples. The following table summarizes the detected concentrations that are above the soil ESLs.

Sample	Date Sampled	Depth (feet bgs)	Chemical	Concentration (mg/kg)	Soil ESL Residential (mg/kg)	Soil ESL Commercial (mg/kg)
SGI-SB-01-3	04-16-16	3	TPHd	2,100	***230***	***1,100***
SGI-SB-02-2	04-16-16	2	TPHd	610	***230***	1,100

2.3.7.2 Volatile Organic Compounds and Semi-Volatile Organic Compounds Risk Results

No VOCs or SVOCs were detected above the soil ESLs for commercial/industrial land use. Naphthalene was the only VOC detected above the soil ESL for residential land use. Naphthalene

was detected in 6 of 21 soil samples. The following table summarizes the detected concentrations that are above the soil ESLs.

Sample	Date Sampled	Depth (feet bgs)	Chemical	Concentration (mg/kg)	Soil ESL Residential (mg/kg)	Soil ESL Commercial (mg/kg)
SGI-SB-02-2	04-16-16	2	Naphthalene (by 8260)	3,600	***3,300***	14,000
			Naphthalene (by 8270)	1,100	3,300	14,000
SGI-SB-02-5	04-16-16	5	Naphthalene (by 8260)	3,900	***3,300***	14,000
			Naphthalene (by 8270)	3,200	3,300	14,000

As shown in the above table, the VOC analysis by USEPA Method 8260 indicated higher concentrations of naphthalene which only slightly exceeded the soil ESL for residential land use. The SVOC analysis by USEPA Method 8270 indicated lower concentrations of naphthalene, which did not exceed the soil ESLs for residential land use.

TPHd and naphthalene concentrations in a few soil samples slightly exceed the residential soil ESLs. These isolated residential soil ESLs are not a concern as the proposed development, the proposed multi-story building will cover the entire Site, which precludes any direct contact with soil. Only under a redevelopment/construction worker exposure scenario will direct contact with soil be a complete exposure pathway. As mentioned previously, TPH, VOCs, and SVOCs were not detected at concentrations exceeding the soil ESLs for construction land use. Therefore, soil does not pose a human health risk to potential onsite construction worker receptors. During redevelopment of the Site, site activities will be managed consistent with the SMP.

2.3.8 Groundwater

For groundwater, the only potential complete exposure pathway is inhalation of vapors volatilizing from groundwater into indoor air or direct contact/ingestion/inhalation during construction. However, as dicussed in subsequent Sections 2.3.8.1 and 2.3.8.2 they do not pose a threat to future residents of the proposed development. **Table 2-2** provides a summary of laboratory analytical results for grab groundwater samples from the Site and applicable screening levels. As summarized below, only benzene, ethylbenzene, total xylenes, and naphthalene were detected at concentrations above the groundwater vapor intrusion ESLs for commercial/industrial land use. **Table 2-3** summarizes off-Site groundwater sampling data.

2.3.8.1 Total Petroleum Hydrocarbons Risk Results

TPHg, TPHd, and TPHmo were detected in several of the grab groundwater samples. No groundwater ESLS for vapor intrusion from shallow groundwater were available for TPH. Therefore, vapor intrusion impacts associated with TPH mixtures is evaluated based on the more toxic components of TPH (i.e., benzene, toluene, ethylbenzene, total xylenes [BTEX], methyl tert-butyl ether [MTBE], and polyaromatic hydrocarbons [PAHs]) by analysis of VOCs and SVOCs.

2.3.8.2 Volatile Organic Compounds and Semi-Volatile Organic Compounds Risk Results

Benzene and ethylbenzene were detected above the groundwater vapor intrusion ESLs for commercial/industrial land use. Benzene was detected in 2 of 11 grab groundwater samples. Ethylbenzene was detected in 3 of 11 grab groundwater samples. The following table summarizes the detected concentrations that are above the groundwater ESLs for vapor intrusion from shallow groundwater. These two samples represent residual petroleum hydrocarbon concentration exceedances in groundwater that were discussed in Section 2.3.7 for soil. Groundwater was first encountered in SGI-SB-02 and SGI-SB-03 at 8-feet and 14.5-feet below ground surface, respectively. Based on the proposed development plans for the Site, excavation activities are not anticipated to encounter groundwater within these areas.

SGI-GW-03 was collected in the area of the proposed external open air stairwell and exceeds the commercial ESL standard for benzene and ethylbenzene. Since this is an open air stairway there is no complete pathway to the upper residential floors. Therefore, groundwater does not pose a human health risk to potential onsite resident receptors in this area. However, the potential for construction workers to come into contact with soil vapor from impacted groundwater does exist and is addressed by standard mitigation measures in Section 3.6.

Sample	**Date Sampled**	**Depth** (feet bgs)	**Chemical**	**Concentration** (ug/L)	**Groundwater ESL Commercial** (ug/L)
SGI-GW-02	04-16-16	5.5	Benzene	55	***9.7***
			Ethylbenzene	130	***110***
SGI-GW-03	04-21-16	>13	Benzene	740	***9.7***
			Ethylbenzene	710	***110***

3.0 SITE MANAGEMENT ACTIVITIES

3.1 Soil Management

Soil management during construction addresses precautions that will be taken to mitigate risks to human health and the environment from identified chemicals during future redevelopment and/or intrusive activities at the Site such as soil grading, excavation, recompaction, trenching and backfilling activities and utility repair. These precautions will include the following:

- Implementation of construction impact mitigation measures, including control of dust generation at the Site, decontamination of equipment, and prevention of storm water runoff; and
- Establishment of procedures to: (1) manage soil and groundwater on the Site during construction and (2) characterize soil if it is found to contain concentrations of TPH or VOCs in excess of ESLs for commercial land use consistent with the planned development defined by the May 2, 2016 Kava Massih architectural drawings.

Section 3.1.1 discusses mitigation of known residual petroleum hydrocarbon concentrations that exceed commercial ESLs. Subsequent sections present general methodologies and approaches that will be used to manage all aspects of subsurface disturbance associated with planned development.

3.1.1 Mitigation of Known Residual Petroleum Hydrocarbon Soil Impacts

As discussed in Section 2.3 there is one localized area defined by SGI-SB-01 (at 3-feet below ground surface) that exceeds commercial ESLs for the planned project. The residual petroleum hydrocarbons impacts are within the planned excavation of the foundation and are expected to be removed during construction of the foundation.

3.1.2 Removal of Residual Petroleum Hydrocarbon Impacts Adjacent to Grand Avenue within the Foundation Excavation

The lateral and horizontal extent of residual petroleum hydrocarbon impacts in soil adjacent to Grand Avenue are shown on **Figures 2-2** and **2-3**. During the excavation of the footer foundations in this area (50-feet long x 2.5-feet wide x 5-feet deep) the developer's contractor will remove approximately 23 cubic yards of soil s that exceed the commercial ESLs. Depth of excavations are measured from the current ground surface. Based on the most recent soil investigation data for this area, excavation to 5-feet below ground surface will remove all soils that exceed commercial ESLs within and below the foundation footer. Soils will be field screened, sampled, and submitted for laboratory analysis (as described in Section 3.1.4) for confirmation that remaining soils beneath the foundation footer are less than commercial ESLs.

3.1.3 Removal of Residual Petroleum Hydrocarbon Impacts Adjacent to Grand Avenue beneath Foundation

There are additional soils adjacent to the area referenced in Section 3.1.2 that also exceed the commercial ESLs. These soils are located between the edge of the prior dispenser island excavation and the edge of the proposed foundation footer (**Figures 2-2 and 2-3**). An estimated 51 cubic yards (in place) of residual petroleum impacted soil that exceed commercial ESLs are present in this area (50-feet long x 5.5-feet wide x 5-feet deep) and will be removed during foundation excavation activities. Depth of the respective excavations are measured from the current ground surface. Soils will be field screened, sampled, and submitted for laboratory analysis (as described in Section 3.1.4) for confirmation that remaining soils beneath the foundation footer are less than commercial ESLs. Removing this soil will effectively eliminate all soils exceeding the commercial ESLs within the footprint of the proposed redevelopment of the Site.

3.1.4 Foundation Excavation Confirmation Soil Sampling

Soil samples will be screened in the field for VOCs using an organic vapor monitor (OVM) equipped with a photo-ionization (10.9 eV bulb) detector. Approximately 20 grams of soil at a 5-foot lateral spacing along the bottom of the proposed trench excavations will be placed in a self-sealing plastic bag to allow the pore space to volatilize. The headspace in the plastic bag will then be monitored for VOCs with the OVM. Based on soil boring data and corresponding OVM field screening data collected during the SGI April 2016, *Supplemental Site Investigation* excavations will be deepened in areas where OVM readings exceed 100 ppm. OVM readings less than 100 ppm yielded corresponding analytical laboratory data that was less than commercial ESLs. Two composite soil samples from the bottom of each 50-foot excavation will be analyzed for VOCs using EPA Method 8260B.

Samples will be collected in laboratory provided containers appropriate for the analysis to be performed. The containers will be capped with Teflon™ septa, labeled, and placed on ice for transport to the analytical laboratory. All non-disposable sampling equipment will be cleaned with a non-phosphate detergent solution, rinsed with tap water, and rinsed a third time with deionized water prior to use.

A chain-of-custody record will be initiated in the field to accompany the samples to the laboratory. The soil and groundwater samples will be analyzed for VOCs using EPA Method 8260B. Should confirmation samples indicate concentrations in excess of the commercial ESLs, the excavation will be deepened and resampled. All excavated soil will be managed in accordance with methods discussed in subsequent sections. Appropriate trench safety protocols will be used to excavate at depth.

3.2 Site Specific Health and Safety Plans

During all activities involving disturbance of the subsurface, those workers that may directly contact soil containing constituents of concern (petroleum hydrocarbons) will perform these activities in

accordance with a site-specific health and safety plan (HASP). The plan will be consistent with State and Federal Occupational Safety and Health Administration ("OSHA") standards for hazardous waste operations (CCR, Title 8, Section 5192 and 29 Code of Federal Regulations 1910.120, respectively). The site-specific HASP is included as **Appendix D**. The HASP will be updated to include task specific hazards. Among other things, the HASP will include a description of health and safety training requirements for onsite construction workers, a description of the level of personal protective equipment to be used, if any, air quality monitoring plans, and any other applicable precautions to be undertaken. The HASP shall include procedures for handling soil and/or groundwater contaminated with residual petroleum hydrocarbons.

3.3 Soil Management Protocols

Soil management protocols described in this section provide guidance for excavating and handling soil at the Site. The specific protocols to be followed when managing soil on the Site are summarized below:

- If soil is to be disposed offsite then sampling frequencies and test methods employed to characterize the soil will be determined by the disposal facility accepting the soil;
- If soil is to remain at the Site, it must be tested to determine if residual petroleum hydrocarbons are less than the appropriate screening levels for reuse; and
- Testing of soil for reuse will be performed during excavation by sampling excavated soil as stockpiles are being formed.

3.3.1 Soil Testing and Analytical Protocol

Soil intended for reuse will be sampled at an appropriate frequency in accordance with the RWQCB guidance for Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil as Inert Waste (RWQCB 2006[1]).

Following excavation activities, samples will be collected based on the volume of soil and a minimum number of discrete samples to be collected in accordance RWQCB guidance as follows:

- Stockpiles less than 500 cubic yards: One sample for every 25 cubic yards (e.g., 20 samples for a 500 cubic yard stockpile).
- Stockpiles from 500 to 1,000 cubic yards: Twenty (20) samples plus one sample for every 100 cubic yards in excess of the initial 500 cubic yards (e.g., 25 samples for a 1000 cubic yard stockpile).

A sampling grid of stockpiled soil will be established and samples will be collected uniformly and/ or biased toward hotspot areas. Soil samples will be collected in brass or stainless steel tubes or glass sampling jars. Each sample container will be labeled, sealed, and placed on ice in a cooler. Samples will be transmitted under chain-of-custody procedures to a State of California certified

[1] RWQCB, 2006. Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil as Inert Waste. October 20.

laboratory. Soil samples will be analyzed for analytes as required by the disposal facility, which may include TPH, VOCs, and metals using EPA Methods 8015M, 8260B, and 6010. Soil samples that exceed the RWQCB Soil Concentration Limits or No-To-Exceed Limits specified in the RWQCB guidance will be separated and analyzed using the waste extraction test (WET) to further assess applicability of on-site re-use of off-site disposal (RWQCB, 2006). The results from the WET analysis will be compared to RWQCB Leachate Concentration Limits (RWQCB 2006).

3.3.2 Handling Procedures for Contaminated Soil

The following handling procedures shall be followed during excavation activities.

- Any stockpiled soil shall be covered with plastic sheeting or tarps and will not be stockpiled in or near storm drains.
- Access to excavated areas shall be controlled to prevent unauthorized persons accessing exposed soil.
- Soil determined to be hazardous waste shall be disposed of offsite. Soil shall be transported under applicable U.S. and California Department of Transportation regulations. Current federal and state requirements should be reviewed prior to disposal of soil.

3.4 Minimizing Soil and Groundwater Contact by Construction Workers

There are potential health and safety risks associated with residual petroleum hydrocarbons detected in Site soils and groundwater. There is the potential for contact by construction workers with residual chemicals in soil and groundwater at the Site. The routes of potential exposure to the residual petroleum hydrocarbons in soil are: dermal (skin) contact with the soil; (2) inhalation of dust and vapor; and (3) ingestion of the soil.

Groundwater occurs on-Site at a depth of two feet bgs on the northern end of the Site (immediately adjacent to the retaining wall) and averages five feet bgs on the southern end. If dewatering is required, there is the potential for contact by construction workers with residual petroleum hydrocarbons in groundwater at the Site. The routes of potential exposure to the petroleum hydrocarbons and VOCs in groundwater are: (1) dermal (skin) contact with groundwater; and (2) inhalation of emissions from exposed water.

The above-mentioned health risks to on-site construction workers will be minimized by developing and implementing a site-specific HASP. The Site Environmental Manager or representative overseeing removal actions will be responsible for establishing and maintaining proper health and safety procedures to minimize construction worker exposure to Site contaminants. At minimum, the site-specific HASP will include: (1) health and safety training requirements for on-Site personnel; (2) personal hygiene and monitoring equipment to be used during construction to protect and verify the health and safety of the construction workers; (3) additional precautions to be undertaken to minimize direct contact with hazardous substances, including implementation of dust control measures; and (4) a description of the procedures to mitigate any potential health risk to bystanders during subsurface activities.

A Site health and safety officer (HSO) or designee will be on-Site during excavation activities to ensure that all health and safety measures are maintained. The HSO will have the authority to direct and, if necessary, stop all construction activities in order to ensure compliance with the site-specific health and safety plan.

3.5 Groundwater and Dewatering Activity Management

Any project-related dewatering activities shall either discharge into the sanitary sewer, under a local agency permit, or comply with the NPDES permit regulations and/or an associated SWPPP as applicable regarding discharge into storm drains. Such permit requirements typically include on-site treatment to remove any potential pollutants prior to discharge. Low levels of dissolved phase petroleum hydrocarbons may be present in the groundwater beneath the site. Groundwater should be sampled from any areas requiring dewatering to determine if treatment is required prior to discharge under permit. Alternatively, the water shall be temporarily stored onsite in holding tanks, pending off-site disposal at an approved disposal facility.

3.6 Site Control

Access to the work zones where soil will be disturbed shall be controlled using caution tape, cones, fencing, steel plates, or other measures to clearly designate the active work area and to prevent access by the public. To minimize the migration of contaminated soils from the Site to uncontaminated areas, excavated soil shall be covered and secured by temporary fences or other means to prevent unauthorized access.

3.7 Vapor Monitoring

Vapor monitoring will be conducted during intrusive activities at the Site to minimize the potential inhalation of petroleum-related compounds in soil vapor. Intrusive activities include soil grading, excavation, recompaction, trenching and backfilling activities and utility repair. As described in section 2.3 above, subsurface investigations conducted at the Site revealed the presence of residual petroleum hydrocarbon impacts in groundwater above the commercial ESLs.

Task-specific vapor monitoring activities will be presented in the site-specific HASP and will include trigger (action) levels for halting work and implementing mitigation measures. Continuous vapor monitoring will be conducted adjacent to the work area with hand-held photo-ionization detector (PID). The PID instruments will be calibrated daily in accordance with the manufacturer's instruction. The field personnel will notify earthwork contractors if readings exceed trigger levels and will request that vapor mitigation measures be implemented. The vapor mitigation measures will consisted of: (1) short term cessation of the work being performed to allow vapor to dissipate, and\or (2) relocation to another work area.

3.8 Dust Control Measures

Dust control measures will be implemented during construction activities at the Site to minimize the generation of dust. Dust generation that will be mitigated includes that associated with excavation activities, truck traffic, ambient wind traversing soil stockpiles, and loading of transportation vehicles.

Dust generation will be minimized using appropriate measures. These measures include but are not limited to the following:

- Mist or spray water while performing excavation activities and loading transportation vehicles;
- Limit vehicle speeds on the property to 5 miles per hour;
- Control excavation activities to minimize the generation of dust;
- Minimize drop heights while loading transportation vehicles; and
- Cover soil stockpiles, if present, with visqueen or tarps.

3.9 Decontamination

Decontamination procedures shall be developed by contractors to minimize the equipment contamination during excavation activities. The procedures should include removing loose soil from the vehicle exterior using dry methods, such as brushing, scraping or vacuuming. Soil not removed by dry methods, should be cleaned by pressure washing or steam cleaning. Water collected from the cleaning process should be sampled prior to disposal.

3.10 Storm Water Control

Storm water pollution controls shall be implemented by construction contractors to minimize sediment runoff in storm water, which could include soil containing contaminants of concern. Prior to the initiation of the work, the contractors must follow the requirements of the local governing bodies. Storm water pollution controls implemented at the Site will be based on best management practices.

Procedures to prevent erosion and sediment runoff from the Site shall include grading the Site, installing storm water control devices such as temporary earth berms and straw bale barriers or sediment traps to protect storm drains.

3.11 Reporting

After earthwork activities are complete, a brief summary report will be prepared to document the relocation and final disposition of soil reused or disposed of offsite. At a minimum, the report will include the dimensions of the excavation and confirmation sample locations (as appropriate). The analytical data will be provided in tables and a Site plan showing sampling locations and limits of excavation and grading will be presented. If applicable, copies of receipts pertaining to the disposition of the soil will be appended to the report.

4.0 CONTINGENCY PLAN

The following contingency plan shall be implemented to address unknown contamination during intrusive activities conducted at the Site such as soil grading, excavation, recompaction, trenching and backfilling activities and utility repair.

- All grading, trench excavation and filling operations, and dewatering operations shall be observed for the presence of free-phase petroleum products, chemicals, or contaminated soil/groundwater. Discolored soil or suspected contaminated soil shall be segregated from clean soil. In the event unexpected, contaminated soil or groundwater is encountered during construction, the contractor shall notify Site Environmental Manager. The Site Environmental Manager shall confirm the presence of the suspect material and direct the contractor to remove, stockpile or contain, and characterize the suspect material(s) identified within the boundaries of the construction area. Continued work at a contaminated site shall require the approval of the Site Environmental Manager.
- A photoionization detector (or other organic vapor detecting device) shall be present during grading and excavation through suspected chemically impacted soil.
- Excavation of VOC-impacted soil will require obtaining and complying with a Bay Area Air Quality Management District Rule 40 permit.
- The extent of removal actions shall be determined on a site-specific basis. At a minimum, the chemically impacted area(s) within the boundary of the construction area and/or trench shall be remediated to the satisfaction of the lead regulatory agency (California Regional Water Quality Control Board [CRWQCB]) for the Site. The Site Environmental Manager or representative overseeing removal actions shall inform the contractor when the removal action is complete.
- In the event that contaminated soil is encountered, all on-site personnel handling or working in the vicinity of the contaminated material shall be trained in accordance with OSHA regulations for hazardous waste operations. These regulations are based on CFR 1910.120 (e) and 8 CCR 5192, which states that “general site workers” shall receive a minimum of 40 hours of classroom training and a minimum of three days of field training. This training provides precautions and protective measures to reduce or eliminate hazardous materials/waste hazards at the work place.
- All excavations shall be filled with structurally suitable fill material, which contains non-hazardous contaminant concentrations (if any) that do not exceed ESLs.
- Any project-related dewatering activities shall either discharge into the sanitary sewer, under appropriate permit, or comply with the NPDES permit regulations and an associated SWPPP as applicable regarding discharge into storm drains. Such permit requirements typically include on-site treatment to remove pollutants prior to discharge. Alternatively, the water shall be temporarily stored onsite in holding tanks, pending off-site disposal at an approved disposal facility.

- The Site Environmental Manager shall confirm the presence of the suspect contaminated soil and direct the contractor to remove, stockpile, or contain the suspect material identified within the boundaries of the construction area. Contaminated soil shall either be treated on-site or trucked off-site for disposal at a California licensed facility approved for disposal of such waste.
- After earthwork activities are complete, a report will be prepared to document the relocation and final disposition of soil reused or disposed of offsite. At a minimum, the report will include the dimensions of the excavation and confirmation sample locations. The analytical data will be provided in tables and a Site plan showing sampling locations and limits of excavation and grading will be presented. If applicable, copies of receipts pertaining to the disposition of the soil will be appended to the report.

5.0 IMPLEMENTATION OF SITE MANAGEMENT PLAN

The Site owner shall oversee implementation of this SMP at the Site. A copy of this SMP shall be included in all contracts signed with contractors and third party contractors working in the subsurface at the Site. It is the responsibility of the contractor to adhere to this SMP, project specifications, and site safety. The contractor is also responsible for providing a copy of this SMP to its subcontractors.

This SMP was developed based on the current conditions at the Site and applicable regulations. It may be necessary to modify this SMP from time to time for any of several reasons, including the following.

- Change in property use (e.g., addition of buildings to the site);
- Any change in legal requirements;
- Change in environmental conditions;
- Intrusive activity that is not addressed by this SMP; and
- New chemical toxicity information for chemicals present at the Site.

6.0 LIMITATIONS

This SMP was prepared to address current known site conditions including the presence of VOCs and TPH in the soil, groundwater, and soil vapor in the subsurface at the Site. This SMP does not address issues related to other chemicals or future site conditions that may be encountered during construction projects, including but not limited to, demolition and construction debris, asphalt, concrete, and asbestos-containing materials. If such materials are encountered during a construction project, contractors and workers are responsible for complying with all applicable laws pertaining to the handling and disposal of these materials.

The Site-related activities may be subject to federal, state, and local laws and regulations, including those published by U.S. Environmental Protection Agency (USEPA), the BAAQMD, California Environmental Protection Agency (Cal-EPA), Alameda County, and the City of Oakland. These regulations address issues such as health and safety, hazardous waste, dust generation, storm water, and community right-to-know. It is the responsibility of the parties involved to ensure that all construction and maintenance activities abide by current applicable laws and regulations.

SGI disclaims any responsibility for any unauthorized use of this SMP. It is understood that while this SMP is intended to provide guidance and establish a framework for the management of residual product in the subsurface in soil to protect human health and the environment, this SMP shall not create any warranties or obligations to the City of Oakland/Alameda County as to implementation, adequacy, or success of protective measures under this SMP.

FIGURES

TABLES

APPENDIX A

ACEH *CLOSURE TRANSMITTAL, FUEL LEAK CASE NO: RO000391*

APPENDIX B

DPT SOIL BORING LOGS

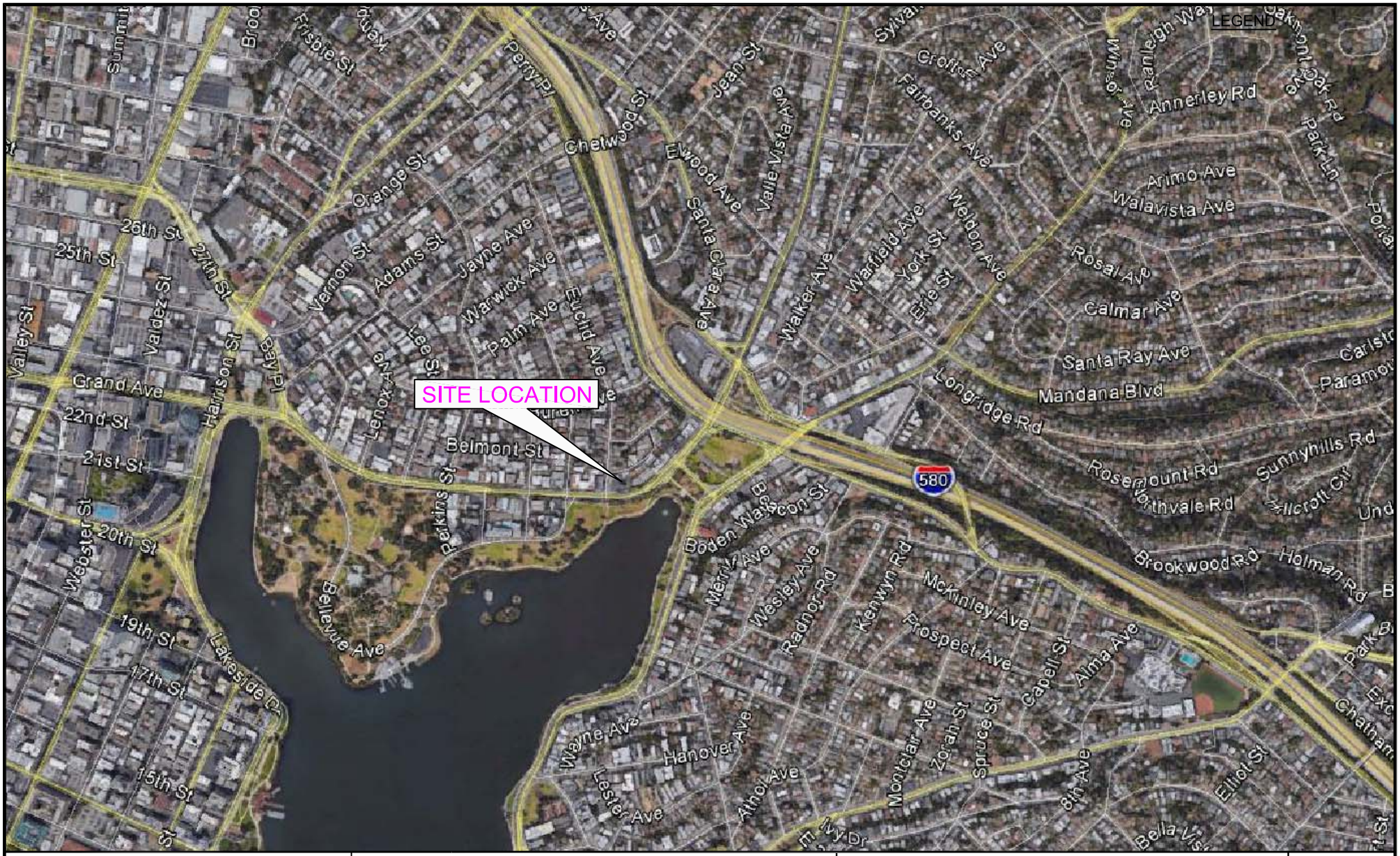
APPENDIX C

GEOTECHNICAL LABORATORY REPORTS

APPENDIX D

SITE-SPECIFIC HEALTH AND SAFETY PLAN

FIGURES



SGI environmental
THE SOURCE GROUP, INC.
3478 BUSKIRK AVENUE, SUITE 100
PLEASANT HILL, CA 94523

500 GRAND AVENUE
OAKLAND, CA

SITE LOCATION MAP

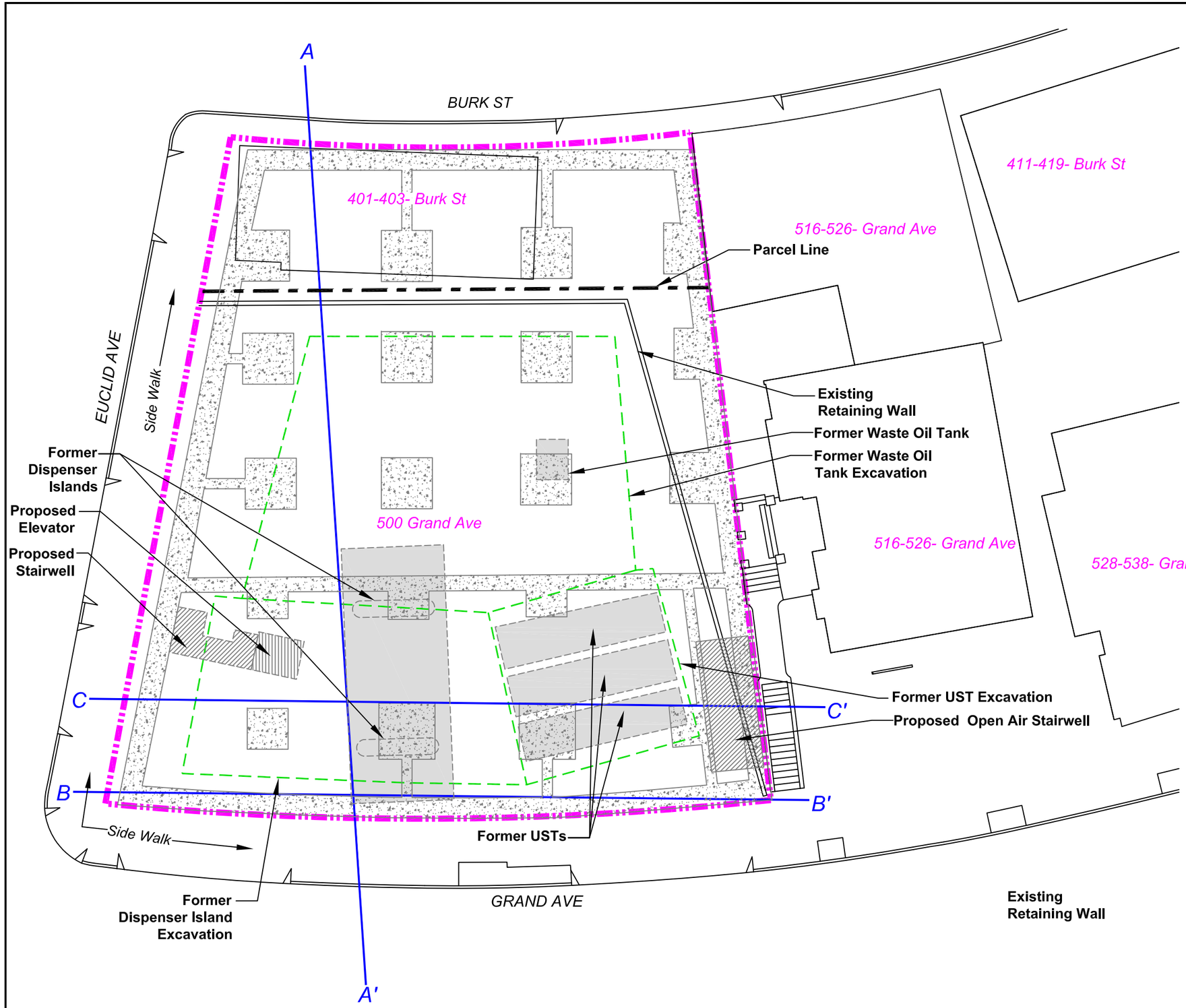
PROJECT NO.	DATE	DR.BY:	APP. BY:
01-WSR-001	05/16/16	ZA	GS

0 1000 1000
APPROXIMATE HORIZONTAL SCALE IN FEET

N

FIGURE 1-1

S:\Clients A - F\Ellwood Commercial Real Estate\Soil Management Plan\Figures\Fig.1-1-Site Location Map.dwg



LEGEND

- Property Line
- Base of UST, Dispenser, and Waste Oil Tank Over-Excavation
- Cement Footers
- A——A' Cross Section location

PROPOSED REDEVELOPMENT FOOTPRINT WITH FOOTERS

500 GRAND AVENUE
OAKLAND, CA

PROJECT NO.	DATE	DRAWN BY:	APP. BY:
01-ECR-001	03/21/16	ZA	GS

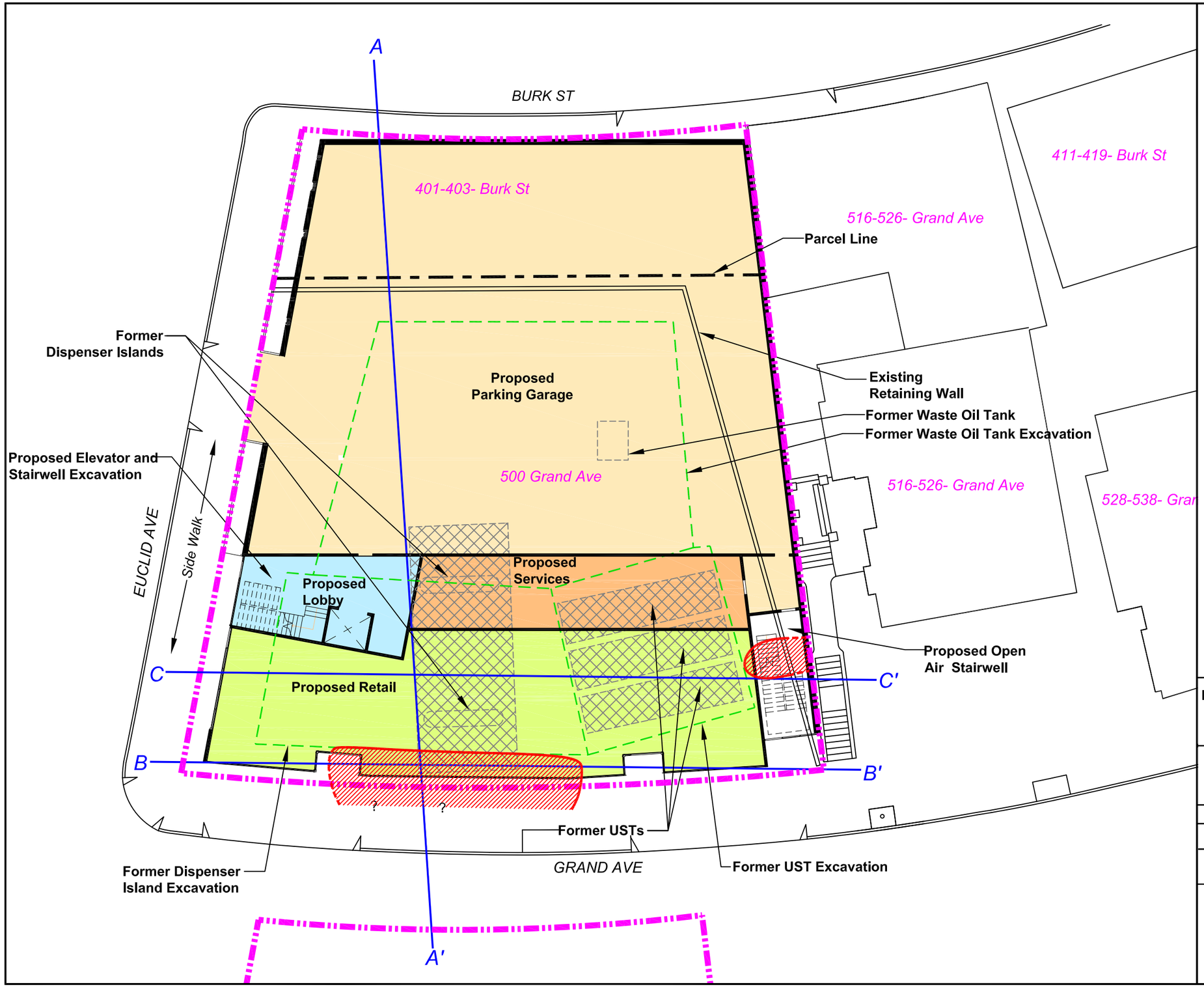
0 20 40
HORIZONTAL SCALE IN FEET

SGI environmental THE SOURCE GROUP, INC.
3478 BUSKIRK AVENUE, SUITE 100
PLEASANT HILL, CA 94523

N

FIGURE 2-1

S:\Clients A - F\Ellwood Commercial Real Estate\Soil Management Plan\Figures\Fig 2-1-Proposed Redevelment Footprint.dwg



LEGEND

- Property Line
- Base of UST, Dispenser, and Waste Oil Tank Over-Excavation
- A——A′ Cross Section location
- Aerial Extent of Residual Petroleum Hydrocarbons in Soil and Groundwater >Commercial Exceedance

PROPOSED REDEVELOPMENT FOOTPRINT WITH GROUND FLOOR LAYOUT AND RESIDUAL PETROLEUM HYDROCARBON IMPACTS

500 GRAND AVENUE
OAKLAND, CA

PROJECT NO.	DATE	DRAWN BY:	APP. BY:
01-ECR-001	03/21/16	ZA	GS

0 20 40
HORIZONTAL SCALE IN FEET

SGI environmental
THE SOURCE GROUP, INC.
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PLEASANT HILL, CA 94523

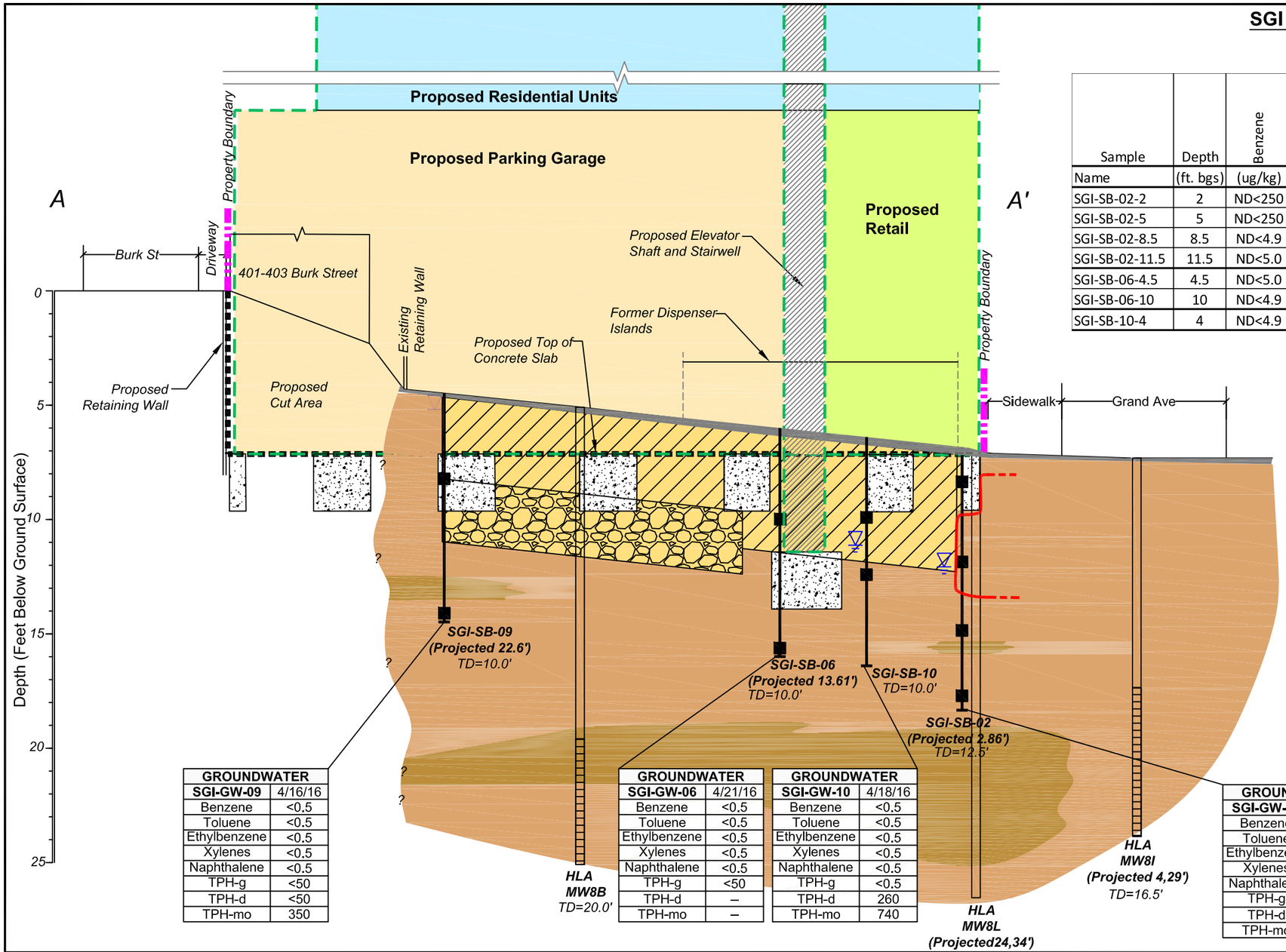
N

FIGURE 2-2

S:\Clients A - F\Ellwood Commercial Real Estate\Soil Management Plan\Figures\Fig.2-2-Proposed Redevelment Footprint with Ground Floor Layout & Residual Petroleum Hidrocarbon Impacts.dwg

SGI SOIL ANALYTICAL SUMMARY
APRIL 2016

Sample	Depth	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	TPHg	TPHd	TPHmo
Name	(ft. bgs)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SGI-SB-02-2	2	ND<250	ND<250	410	310	**3600**	510	610	77
SGI-SB-02-5	5	ND<250	ND<250	4300	5900	**3900**	550	150	ND<5.0
SGI-SB-02-8.5	8.5	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	3.2	6.1	ND<5.0
SGI-SB-02-11.5	11.5	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<0.98	ND<1.0	ND<5.0
SGI-SB-06-4.5	4.5	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<0.97	34	91
SGI-SB-06-10	10	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<0.96	2.3	ND<5.0
SGI-SB-10-4	4	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<1.1	11	88



GROUNDWATER	
SGI-GW-09	4/16/16
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
Xylenes	<0.5
Naphthalene	<0.5
TPH-g	<50
TPH-d	<50
TPH-mo	350

GROUNDWATER	
SGI-GW-06	4/21/16
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
Xylenes	<0.5
Naphthalene	<0.5
TPH-g	<50
TPH-d	–
TPH-mo	–

GROUNDWATER	
SGI-GW-10	4/18/16
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
Xylenes	<0.5
Naphthalene	<0.5
TPH-g	<0.5
TPH-d	260
TPH-mo	740

GROUNDWATER	
SGI-GW-02	4/16/16
Benzene	**55**
Toluene	4.5
Ethylbenzene	**130**
Xylenes	141.3
Naphthalene	**72**
TPH-g	6,100
TPH-d	3,000
TPH-mo	<300

Notes:
1. Sample concentration in micrograms per liter (µg/L).
2. TPHg = Total petroleum hydrocarbons as gasoline.
3. TPHd = Total petroleum hydrocarbons as diesel.
4. TPHmo = Total petroleum hydrocarbons as motor oil.
5. Bold values exceed residential ESLs.
6. Bold and highlighted values exceed commercial ESLs.

LEGEND

- Backfill
- Pea Gravel
- Asphalt
- Sand / Gravels
- Sands
- Silt / Clay
- Groundwater Level (First Encounter)
- Depth to Groundwater (Hi/Lo Range)
- Proposed Top Of Concrete Slab
- Proposed Building Envelope
- Cement Footers
- Approximate Extent of Soil Impacts >Commercial ESLs
- Soil Sample Location
- Screened Interval

1"=5'
1"=20'

500 GRAND AVENUE
OAKLAND, CA

PROJECT NO.	DATE	DRAWN BY:	APP. BY:
01-ECR-001	04/01/16	ZA	GS

GROUNDWATER CROSS SECTION A-A'
(CURRENT SITE CONDITIONS)
(Looking East From Euclid Ave.)

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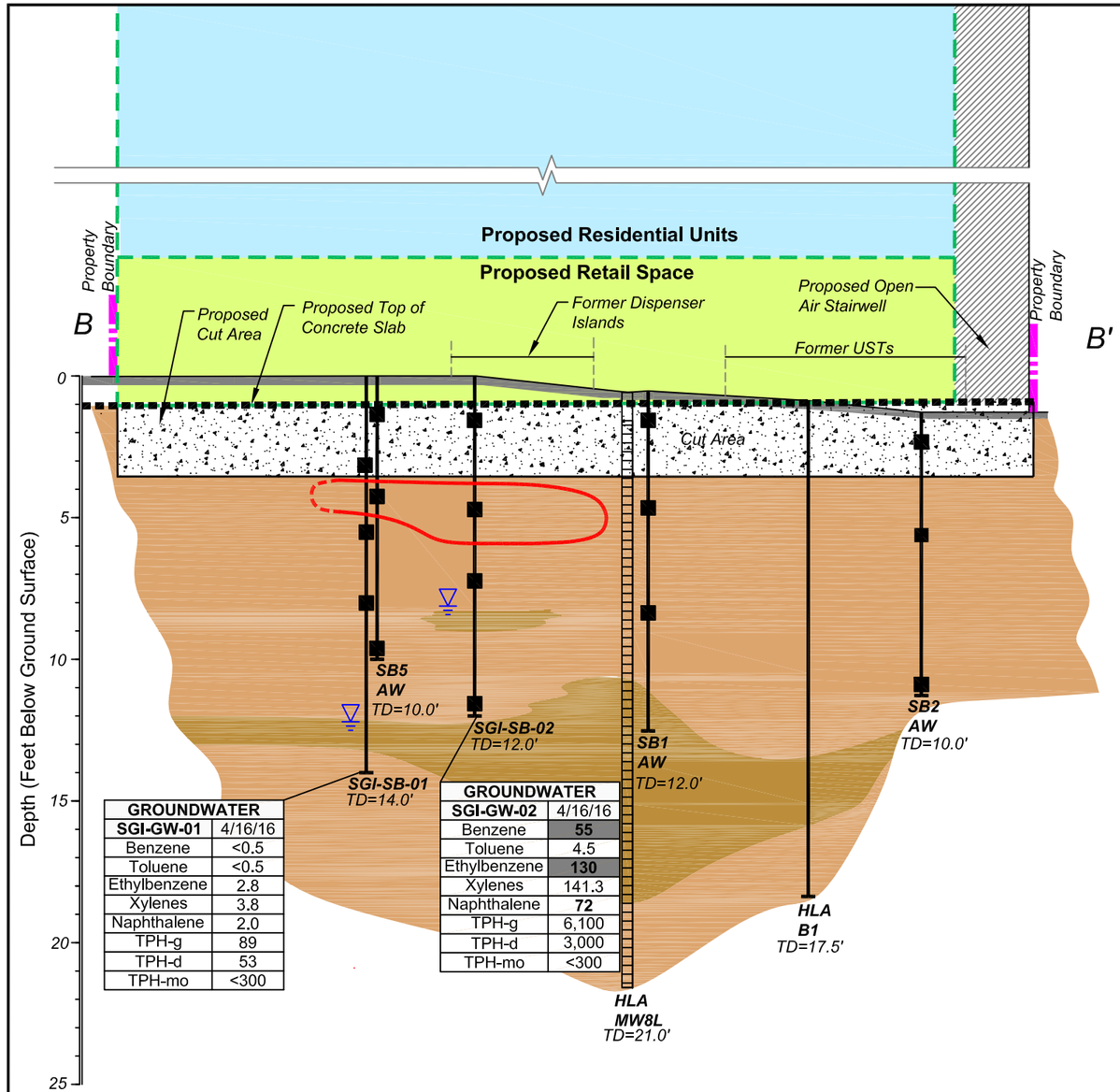
N

FIGURE 2-3

S:\Clients A - F\Ellwood Commercial Real Estate\Soil Management Plan\Figures\Fig.2-3-Cross Section A-A'.dwg



SGI AND ALL WESTSOIL ANALYTICAL SUMMARY
APRIL 16, 2016 & NOVEMBER 23, 2015

Sample	Depth	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	TPHg	TPHd	TPHmo
Name	(ft. bgs)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SGI-SB-01-3	3	ND<250	ND<250	ND<250	ND<250	2600	590	**2100**	ND<50
SGI-SB-01-5.5	5.5	ND<250	ND<250	2300	5710	1800	230	60	ND<5.0
SGI-SB-01-8.5	8.5	ND<5.0	ND<5.0	ND<5.0	ND<5.0	6.6	1.4	1.1	ND<5.0
SGI-SB-01-10	10	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<0.94	2.0	ND<5.0
SGI-SB-02-2	2	ND<250	ND<250	410	310	3600	510	610	77
SGI-SB-02-5	5	ND<250	ND<250	4300	5900	3900	550	150	ND<5.0
SGI-SB-02-8.5	8.5	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	3.2	6.1	ND<5.0
SGI-SB-02-11.5	11.5	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<0.98	ND<1.0	ND<5.0
AW SB-1	1.5	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	ND<0.25	ND<1.0	ND<5.0
AW SB-1	8.5	ND<5.0	ND<5.0	ND<5.0	ND<5.0	3.7	2.5	16	390
AW SB-2	1.5	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	110	30	5.4
AW SB-2	10	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	ND<0.25	ND<1.0	ND<5.0
AW SB-5	1.5	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	ND<0.25	1.5	36
AW SB-5	4.5	ND<5.0	ND<5.0	3	6.6	6.5	200	170	230

Notes:
1. Sample concentration in micrograms per liter (µg/L).
2. TPHg = Total petroleum hydrocarbons as gasoline.
3. TPHd = Total petroleum hydrocarbons as diesel.
4. TPHmo = Total petroleum hydrocarbons as motor oil.
5. Bold values exceed residential ESLs.
6. Bold am highlighted values exceed commercial ESLs.

LEGEND

- Backfill
- Pea Gravel
- Asphalt
- Sand / Gravels
- Sands
- Silt / Clay
- Groundwater Level (First Encounter)
- Depth to Groundwater (Hi/Lo Range)
- Proposed Top Of Concrete Slab
- Proposed Building Envelope
- Cement Footers
- Approximate Extent of Soil Impacts >Commercial ESLs
- Soil Sample Location
- Screened Interval

1"=5'
1"=20'

500 GRAND AVENUE
OAKLAND, CA

PROJECT NO.	DATE	DRAWN BY:	APP. BY:
01-ECR-001	04/01/16	ZA	GS

CROSS SECTION B-B'
(WITH PROPOSED FOOTERS AND FOUNDATION)

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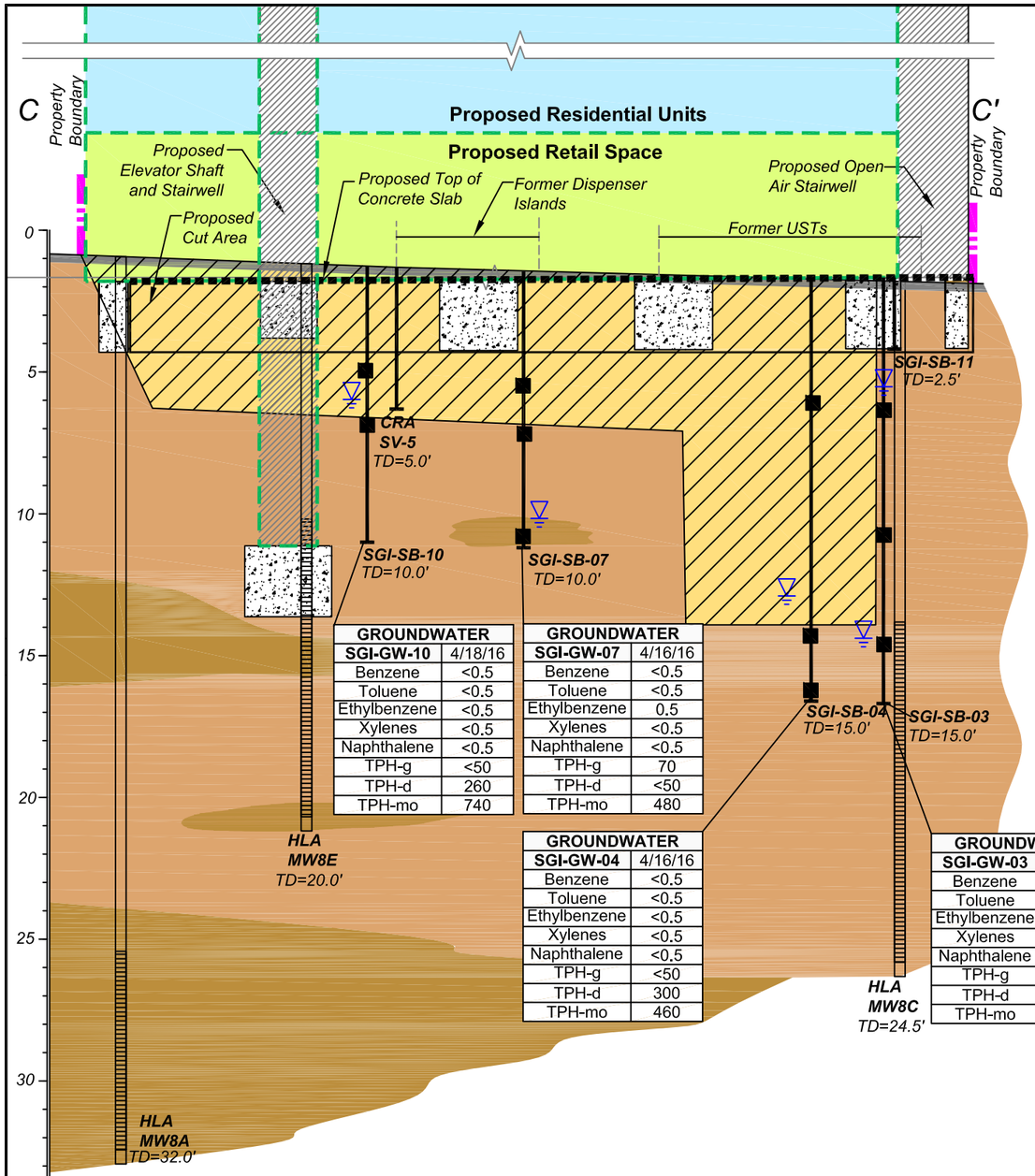
THE SOURCE GROUP, INC.
3478 BUSKIRK AVENUE, SUITE 100
PLEASANT HILL, CA 94523

N

FIGURE 2-4

S:\Clients A - F\Ellwood Commercial Real Estate\Soil Management Plan\Figures\Fig.2-4-Cross Section B-B'.dwg



SGI SOIL ANALYTICAL SUMMARY
APRIL 16, 2016

Sample	Depth	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	TPHg	TPHd	TPHmo
Name	(ft. bgs)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SGI-SB-03-5	5	ND<4.7	ND<4.7	ND<4.7	ND<4.7	4.8	ND<1.1	2.7	ND<5.0
SGI-SB-03-13	13	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<0.97	1.8	ND<5.0
SGI-SB-04-4.5	4.5	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<1.0	23	71
SGI-SB-04-4.5D	4.5	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<1.1	31	100
SGI-SB-04-12.5	12.5	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<1.1	2.3	ND<5.0
SGI-SB-07-4.5	4.5	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<1.1	24	86
SGI-SB-10-4	4	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<1.1	11	88
SGI-SB-11-2.5	2.5	ND<10	ND<10	ND<10	ND<10	ND<10	27	30	32

Notes:
1. Sample concentration in micrograms per liter (µg/L).
2. TPHg = Total petroleum hydrocarbons as gasoline.
3. TPHd = Total petroleum hydrocarbons as diesel.
4. TPHmo = Total petroleum hydrocarbons as motor oil.
5. Bold values exceed residential ESLs.
6. Bold am highlighted values exceed commercial ESLs.

LEGEND
- Backfill
- Pea Gravel
- Asphalt
- Sand / Gravels
- Sands
- Silt / Clay
- Groundwater Level (First Encounter)
- Depth to Groundwater (Hi/Lo Range)
- Proposed Top Of Concrete Slab
- Proposed Building Envelope
- Cement Footers
- Approximate Extent of Soil Impacts >Commercial ESLs
- Soil Sample Location
- Screened Interval

1"=5'
1"=20'

500 GRAND AVENUE
OAKLAND, CA

PROJECT NO.	DATE	DRAWN BY:	APP. BY:
01-ECR-001	04/01/16	ZA	GS

CROSS SECTION C-C'
(WITH PROPOSED FOOTERS AND FOUNDATION)

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PLEASANT HILL, CA 94523

N

FIGURE 2-5

S:\Clients A - F\Ellwood Commercial Real Estate\Soil Management Plan\Figures\Fig.2-5-Cross Section C-C'.dwg

Residual Petroleum Hydrocarbon Concentrations > Commercial ESLs

Company ID	Boring/ Sample ID	Sample Depth (ft bgs)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd	Napthalene
AW	SB-2	1-1.5	11/23/2015	<0.005	<0.005	<0.005	<0.005	110	30	**3.7**
AW	SB-5	4-4.5	11/23/2015	<0.005	<0.005	3	6.6	200	170	**6.5**
HLA	MW-8J	5.5	1/9/1990	<0.05	<0.05	**25**	9.2	**2,100**	--	--
CRA	S-2	4	11/20/2006	**0.41**	17	**36**	170	**3,800**	580	--
CRA	SV-7	5	3/18/2008	0.11	0.059	**15**	19	**1,400**	--	--
CEW	WS-2	5	5/5/1992	**1.1**	3.1	2.2	9.7	72	--	--
CEW	WS-4	5	5/5/1992	**22**	28	**30**	100	**1,000**	--	--
CEW	WS-5	5	5/5/1992	**11**	23	**9.9**	42	480	--	--
SGI	SB-01	3	4/16/2016	ND < 0.25	ND < 0.25	ND < 0.25	ND < 0.25	590	**2100**	**2.6**
SGI	SB-02	2	4/16/2016	ND < 0.25	ND < 0.25	0.41	0.31	510	610	**3.6**
SGI	SB-02	5	4/16/2016	ND < 0.25	ND < 0.25	4.3	5.9	550	150	**3.9**
ESL	**Residential**	**<10 ft bgs**		**0.23**	**970**	**5.1**	**560**	**740**	**230**	**1.8**
ESL	**Comm/Ind**	**<10 ft bgs**		**1**	**4600**	**22**	**2400**	**3900**	**1100**	**7.9**
ESL	Construction	<10 ft bgs		24	3900	480	2300	2700	850	76

Notes:
Total petroleum hydrocarbons as diesel (TPHd) and gasoline (TPHg) by EPA Method 8015
Benzene, toluene, ethylbenzens and xylenes (BTEX) by EPA Method 8020 or 8260B
<1.0 = Not detected at or above stated laboratory reporting limits
All data and ESLs expressed as mg/Kg
ESL = San Francisco Regional Water Quality Control Board Environmental Screening Levels
-- = Not Analyzed
Bold at or above Residential ESLs
Bold & Shaded at or above Commercial ESLs

BURK ST
401-403- Burk St
EUCLID AVE
Side Walk
Parcel Line
Former Dispenser Islands
Proposed Elevator
Proposed Stairwell
500 Grand Ave
516-526- Grand Ave
528-538- Grand Ave
GRAND AVE
Existing Retaining Wall
Former Waste Oil Tank
Proposed Open Air Stairwell
Former UST
A
A'
B
B'
C
C'
SGI-SB-01
SGI-SB-02
SGI-SB-03
SGI-SB-04
SGI-SB-05
SGI-SB-06
SGI-SB-07
SGI-SB-08
SGI-SB-09
SGI-SB-10
SGI-SB-11
HLA MW8A
HLA MW8B
HLA MW8C
HLA MW8D
HLA MW8E
HLA MW8F
HLA MW8G
HLA MW8H
HLA MW8I
HLA MW8J
HLA MW8K
HLA B5
HLA B10
HLA B1
CEW SW1
CEW SW2
CEW SW3
CEW SW4
CEW SW5
CEW SB6
CEW SB7
B1 CEW
B2 CEW
B3 CEW
B4 CEW
B5 CEW
B6 CEW
B7 CEW
B8 CEW
B9 CEW
B10 CEW
BE1 CEW
BE2 CEW
BE4 CEW
BE5 CEW
BE6 CEW
BE7 CEW
BE8 CEW
BE9 CEW
BE10 CEW
WS1 CEW
WS2 CEW
WS3 CEW
WS4 CEW
WS5 CEW
SS1 CEW
SS2 CEW
SS4 CEW
SS5 CEW
SS6 CEW
SS9 CEW
AW SB4
SB1 AW
SB2 AW
SB3 AW
SV-5 CRA
SV-7 CRA
SV-8 CRA
S-1 CRA
S-2 CRA
S-3 CRA

LEGEND

- Property Line
- Limit of Depth of Excavation
- B7 HLA — HLA (Harding Lawson & Associates) Soil Boring Locations
- B7 CEW — CEW (Converse Environment West) Soil Boring Locations
- B7 AW — AW (All West) Soil Boring Locations
- SV-5 CRA — CRA (Connestoga Rovers Associates) Soil Boring Location
- HLA MW8D — HLA (Harding Lawson & Associates) Monitoring Well Location
- HLA MW8B — Destroyed Monitoring Well
- 10' — Sample Depth in Ft BGS (Feet Below Ground Surface)
- SGI-SB-01 — SGI Soil Boring Locations
- Residuals Petroleum Hydrocarbon Commercial ESL Exceedance
- Groundwater Hotspot Pre-over-excavation
- Aerial Extent of Residual Petroleum Hydrocarbons in Soil and Groundwater
- Proposed Cement Footers
- A——A' Cross Section location

Note:
Sampling event - SGI-SB1÷SB11-April 2016
AW-SB1÷SB5-2015
CRA-S1÷SV8-2006
CEW-SW÷SW7-1993
CEW-B1÷B10-1993
CEW-BE1÷BE10-1992
CEW-WS2÷WS5-1992
CEW-SS1÷SS9-1992
HLA-MW8A÷MW8L-1989

SUPPLEMENTAL INVESTIGATION SAMPLE LOCATIONS

500 GRAND AVENUE
OAKLAND, CA

PROJECT NO.	DATE	DRAWN BY:	APP. BY:
01-ECR-001	03/21/16	ZA	GS

0 20 40
HORIZONTAL SCALE IN FEET

SGI environmental
THE SOURCE GROUP, INC.
3478 BUSKIRK AVENUE, SUITE 100
PLEASANT HILL, CA 94523

N

FIGURE 2-6

S:\Clients A - F\Ellwood Commercial Real Estate\Soil Management Plan\Figures\Fig.2-6-Supplemental Investigation(Proposed Sample Locations).dwg

TABLES

Table 2-1
Summary of Recent Soil Data
Ellwood Commercial Real Estate
500 Grand Avenue, Oakland, California

			Total Petroleum Hydrocarbons			Volatile Organic Compounds																		Semi-Volatile Organic Compounds		
Sample			TPHg	TPHd	TPHmo	Acetone	MTBE	2-Butanone	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	m,p-xylenes	o-xylenes	Total Xylenes	Isopropylbenzene[4]	Propylbenzene[4]	1,3,5-Trimethylbenzene[4]	1,2,4-Trimethylbenzene[4]	sec-butylbenzene[4]	para-isopropyl toluene	n-bubtylbenzene[4]	Naphthalene	Naphthalene	2-Methylnaphthalene	Phenanthrene
Name	Date	Depth	(mg/kg)	(mg/kg)	(mg/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
CRWQCB Direct Exposure Shallow Soil ESLs[1] Residential			**7.4E+02**	**2.3E+02**	**1.1E+04**	**5.9E+07**	**4.2E+04**	**--**	**3.7E+02**	**2.3E+02**	**9.7E+05**	**5.1E+03**	**--**	**--**	**5.6E+05**	**1.9E+06**	**3.8E+06**	**7.8E+05**	**5.8E+04**	**7.8E+06**	**--**	**3.9E+06**	**3.3E+03**	**3.3E+03**	**2.4E+05**	**--**
CRWQCB Direct Exposure Shallow Soil ESLs[2] Commercial/Industrial			**3.9E+03**	**1.1E+03**	**1.4E+05**	**6.3E+08**	**1.8E+05**	**--**	**1.6E+03**	**1.0E+03**	**4.6E+06**	**2.2E+04**	**--**	**--**	**2.4E+06**	**9.9E+06**	**2.4E+07**	**1.2E+07**	**2.4E+05**	**1.2E+08**	**--**	**5.8E+07**	**1.4E+04**	**1.4E+04**	**3.0E+06**	**--**
CRWQCB Direct Exposure Shallow Soil ESLs[3] Construction			**7.4E+03**	**3.8E+03**	**3.2E+04**	**3.2E+05**	**3.7E+03**	**--**	**3.7E+01**	**2.4E+01**	**2.8E+04**	**4.8E+02**	**--**	**--**	**6.5+04**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**3.5E+02**	**3.5E+02**	**6.7E+02**	**--**
SGI-SB-01-3	4/16/2016	3	590	**2100**	ND<50	ND<1000	ND<250	ND<500	ND<250	ND<250	ND<250	ND<250	ND<250	ND<250	ND<250	660	3600	ND<250	ND<250	980	300	4800	2600	2300	5500	760
SGI-SB-01-5.5	4/16/2016	5.5	230	60	ND<5.0	ND<1000	ND<250	ND<500	ND<250	ND<250	ND<250	2300	5300	410	5710	290	1300	2300	7500	ND<250	ND<250	810	1800	1500	1200	ND<66
SGI-SB-01-8.5	4/16/2016	8.5	1.4	1.1	ND<5.0	36	ND<5.0	ND<9.9	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	6.9	ND<5.0	ND<5.0	ND<5.0	6.6	ND<66	ND<66	ND<66
SGI-SB-01-10	4/16/2016	10	ND<0.94	2.0	ND<5.0	ND<18	ND<4.4	ND<8.8	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<67	ND<67	ND<67
SGI-SB-02-2	4/16/2016	2	510	**610**	77	ND<1000	ND<250	ND<500	ND<250	ND<250	ND<250	410	310	ND<250	310	520	2400	ND<250	ND<250	670	ND<250	4200	**3600**	1100	1300	ND<66
SGI-SB-02-5	4/16/2016	5	550	150	ND<5.0	ND<1000	ND<250	ND<500	ND<250	ND<250	ND<250	4300	5900	ND<250	5900	700 J	2000 J	3700	15000	620 J	1100	2100	**3900**	3200	1300	ND<660
SGI-SB-02-8.5	4/16/2016	8.5	3.2	6.1	ND<5.0	31	ND<4.9	ND<9.8	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<67	ND<67	ND<67
SGI-SB-02-11.5	4/16/2016	11.5	ND<0.98	ND<1.0	ND<5.0	ND<20	ND<5.0	ND<10	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<66	ND<66	ND<66
SGI-SB-03-5	4/16/2016	5	ND<1.1	2.7	ND<5.0	83	ND<4.7	37	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	4.8	100	100	ND<66
SGI-SB-03-13	4/16/2016	13	ND<0.97	1.8	ND<5.0	ND<19	ND<4.8	ND<9.6	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<67	ND<67	ND<67
SGI-SB-04-4.5	4/16/2016	4.5	ND<1.0	23	71	ND<19	ND<4.9	ND<9.7	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--
SGI-SB-04-4.5D	4/16/2016	4.5	ND<1.1	31	100	ND<19	ND<4.6	ND<9.3	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	--	--	--
SGI-SB-04-12.5	4/16/2016	12.5	ND<1.1	2.3	ND<5.0	ND<19	ND<4.9	ND<9.7	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--
SGI-SB-05-4	4/16/2016	4	ND<1.0	16	51	ND<20	ND<4.9	ND<9.8	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--
SGI-SB-06-4.5	4/16/2016	4.5	ND<0.97	34	91	ND<20	ND<5.0	ND<9.9	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--
SGI-SB-06-10	4/16/2016	10	ND<0.96	2.3	ND<5.0	ND<20	ND<4.9	ND<9.8	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--
SGI-SB-07-4.5	4/16/2016	4.5	ND<1.1	24	86	ND<19	ND<4.9	ND<9.7	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--
SGI-SB-08-3	4/16/2016	3	ND<0.94	2.7	26	ND<20	ND<4.9	ND<9.8	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<66	ND<66	ND<66
SGI-SB-08-7	4/16/2016	7	ND<0.99	31	130	ND<18	ND<4.6	ND<9.2	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<67	ND<67	ND<67
SGI-SB-10-4	4/16/2016	4	ND<1.1	11	88	ND<20	ND<4.9	ND<9.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--
SGI-SB-11-2.5	4/22/2016	2.5	27	30	32	ND<41	ND<10	ND<20	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<130	230	ND<130
AW SB-1	11/23/2015	1.5	ND<0.25	ND<1.0	ND<5.0	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	--	--	--	--	--	--	--	--
AW SB-1	11/23/2015	8.5	2.5	16	390	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	--	--	--	--	--	--	--	--
AW SB-2	11/23/2015	1.5	110	30	5.4	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	--	--	--	--	**3700**	**3700**	--	--
AW SB-2	11/23/2015	10	ND<0.25	ND<1.0	ND<5.0	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	--	--	--	--	--	--	--	--
AW SB-3	11/23/2015	1.5	ND<0.25	ND<1.0	11	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	--	--	--	--	--	--	--	--
AW SB-3	11/23/2015	10	ND<0.25	ND<1.0	ND<5.0	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	--	--	--	--	--	--	--	--
AW SB-4	11/23/2015	1.5	ND<0.25	1.1	5.5	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	--	--	--	--	--	--	--	--
AW SB-5	11/23/2015	1.5	ND<0.25	1.5	36	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	--	--	--	--	--	--	--	--
AW SB-5	11/23/2015	4.5	200	170	230	--	--	--	--	ND<5	ND<5	3000	--	--	6600	--	--	--	--	--	--	--	**6500**	**6500**	--	--

Notes:

Bold font indicates value exceeds soil ESL for residential land use.

Bold font and shaded cell indicates value exceeds soil ESL for commercial/industrial land use.

J = Estimated Value

"--" = Not analyzed

[1] Shallow Soil Screening Levels (<3m bgs), Residential - groundwater is not a current or potential drinking water resource (CRWQCB, 2016)

[2] Shallow Soil Screening Levels (<3m bgs), Commercial/Industrial - groundwater is not a current or potential drinking water resource (CRWQCB, 2016)

[3] Shallow Soil Screening Levels (<3m bgs),Construction - groundwater is not a current or potential drinking water resource (CRWQCB, 2016)

[4] CRWQCB ESL was not available; therefore, the USEPA RSL was used (USEPA, 2015).

Table 2-2
Summary of Recent Grab Groundwater Data
Ellwood Commercial Real Estate
500 Grand Avenue, Oakland, California

Sample			Total Petroleum Hydrocarbons			Volatile Organic Compounds																	Semi-Volatile Organic Compounds	
			TPHg	TPHd	TPHmo	Acetone	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	m,p-xylenes	o-xylenes	Total Xylenes	Isopropylbenzene	Propylbenzene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	sec-butylbenzene	para-isopropyl toluene	n-bubtylbenzene	Naphthalene	Naphthalene	2-Methylnaphthalene
Name	Date	First Water (ft. bgs)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
CRWQCB Vapor Intrusion Shallow Groundwater ESLs[1] Residential Land Use			--	--	--	**3.4E+07**	**1.2E+03**	**6.1E+00**	**1.1E+00**	**3.6E+03**	**1.3E+01**	--	--	**1.3E+03**	--	--	--	--	--	--	--	**2.0E+01**	**2.0E+01**	--
CRWQCB Vapor Intrusion Shallow Groundwater ESLs[2] Commercial/Industrial Land Use			--	--	--	**2.9E+08**	**1.1E+04**	**5.3E+01**	**9.7E+00**	**3.0E+04**	**1.1E+02**	--	--	**1.1E+04**	--	--	--	--	--	--	--	**1.7E+02**	**1.7E+02**	--
SGI-GW-01	4/16/2016	12.5	89	53	ND<300	ND<10	1.8	ND<0.5	ND<0.5	ND<0.5	2.8	3.8	ND<0.5	3.8	ND<0.5	0.8	0.8	3.5	ND<0.5	ND<0.5	0.7	2.0	ND<9.4	ND<9.4
SGI-GW-02	4/16/2016	5.5	6100	3000	ND<300	ND<20	ND<1.0	ND<1.0	**55**	4.5	**130**	140	1.3	141.3	18	30	41	170	5.8	10	8.4	**72**	**67**	ND<47
SGI-GW-03	4/21/2016	> 13	15000	--	--	240	ND<10	ND<10	**740**	110	**710**	1500	220	**1720**	28	86	160	560	ND<10	ND<10	42	**150**	--	--
SGI-GW-04	4/16/2016	11.5	ND<50	300	460	ND<10	0.6	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--
SGI-GW-05	4/16/2016	> 14	76	700	440	ND<10	0.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--
SGI-GW-06	4/21/2016	> 10	ND<50	--	--	ND<10	2.1	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--
SGI-GW-07	4/16/2016	9	70	ND<50	480	ND<10	5.9	ND<0.5	ND<0.5	ND<0.5	0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--
SGI-GW-08	4/16/2016	6.5	ND<50	ND<50	ND<300	ND<10	1.7	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<9.4	ND<9.4
SGI-GW-09	4/16/2016	1	ND<50	ND<50	350	ND<10	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--
SGI-GW-09 Dup	4/16/2016	1	ND<50	66	800	ND<10	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--
SGI-GW-10	4/18/2016	5	ND<50	260	740	ND<10	1.1	3.1	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--
AW SB-4	11/23/2015	> 4	ND<50	200	4400	--	--	--	ND<0.5	ND<0.5	ND<0.5	--	--	ND<0.5	--	--	--	--	--	--	--	--	--	--

Notes:
Bold font indicates value exceeds groundwater ESL for residential land use.
Bold font and shaded cell indicates value exceeds groundwater ESL for commercial/industrial land use.
"--" = Not analyzed
[1] Shallow Groundwater Screening Levels (<3m bgs), Sand Scenario, Residential Land Use (CRWQCB, 2016)
[2] Shallow Soil Screening Levels (<3m bgs), Sand Scenario, Commercial/Industrial Land Use (CRWQCB, 2016)

Table 2-3
Summary of Offsite Groundwater Data - June and October 2009
Ellwood Commercial Real Estate
500 Grand Avenue, Oakland, California

Sample			Total Petroleum Hydrocarbons		Volatile Organic Compounds					
Name	Date	Depth to Water (ft. bgs)	TPHg (ug/L)	TPHd (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Methyl tert Butyl Ether (by 8020) (ug/L)	Methyl tert Butyl Ether (by 8260) (ug/L)
SFBRWQCB Vapor Intrusion Shallow Groundwater ESLs[1] Aquatic Habitat Goal, Freshwater			**4.4E+02**	**6.4E+02**	**4.6E+01**	**1.3E+02**	**2.9E+02**	**--**	**6.6E+04**	**6.6E+04**
SFBRWQCB Vapor Intrusion Shallow Groundwater ESLs[2] Aquatic Habitat Goal,Saltwater			**3.7E+03**	**6.4E+02**	**3.5E+02**	**2.5E+03**	**4.3E+01**	**1.0E+02**	**8.0E+02**	**8.0E+02**
MW-8H	6/10/2009	3.66	<50	78	<0.5	<0.5	<0.5	<0.5	--	0.7
	10/1/2009	4.04	<50	640[a]	<0.5	<0.5	<0.5	<0.5	--	1
MW-8I	6/10/2009	6.31	420	360	23	<0.5	<0.5	<0.5	--	5
	10/1/2009	6.41	53	92[a]	2	<0.5	<0.5	<0.5	--	4
MW-8J	6/10/2009	6.41	<50	400	<0.5	<0.5	<0.5	<0.5	--	10
	10/1/2009	6.78	<50	<50[a]	<0.5	<0.5	<0.5	<0.5	--	<0.5
MW-8F	6/10/2009	12.41	<50	300	<0.5	<0.5	<0.5	<0.5	--	<0.5
	10/1/2009	10.40	<50	81[a]	<0.5	<0.5	<0.5	<0.5	--	<0.5
MW-8G	6/10/2009	12.35	<50	140	<0.5	<0.5	<0.5	<0.5	--	<0.5
	10/1/2009	11.94	<50	55[a]	<0.5	<0.5	<0.5	<0.5	--	<0.5

Notes:

[a] TPH-DRO with Silica Gel Cleanup

"--" = Not analyzed

[1] Groundwater Screening Levels, Aquatic Habitat Goal, Freshwater (CRWQCB, 2016)

[2] Groundwater Screening Levels, Aquatic Habitat Goal, Saltwater (CRWQCB, 2016)

APPENDIX A

ACEH *CLOSURE TRANSMITTAL, FUEL LEAK CASE NO: RO000391*

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

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September 21, 2011

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(sent via electronic mail to
BHoward@howardtours.net)

Subject: Closure Transmittal; Fuel Leak Case No. RO0000391 (Global ID #T0600101355), Chevron #21-1137, 500 Grand, Oakland, CA 94611

Dear Ms.Skance, Mr. Brown, Ms. Sedlachek, and Mr. Howard:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Residual petroleum hydrocarbon pollution in soil, groundwater, and soil vapor remains in place at this site. The extent of removal excavations was limited to south by sidewalk and utilities, and to east by the foundation of the retaining wall; residually contaminated soil with elevated concentrations remains in place along those perimeters (in soil up to 3,800 mg/kg TPHg, up to 580 mg/kg TPHd, and up to 22 mg/kg benzene remain). The extent of elevated concentrations in soil extends at least to the location of well MW-8J in Grand Avenue. Residual concentrations do not appear to significantly impact groundwater; however, elevated soil vapor is present but does not appear to have a receptor as currently developed. Upon redevelopment this data and current conclusions are to be revisited.

- Case closure for this fuel leak site is granted for the commercial land use only. If a change in land use to any residential or other conservative land use scenario occurs at this site, ACEH must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans.

- Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.

- This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.

If you have any questions, please call Mark Detterman at (510) 567-6876. Thank you.

Sincerely,

Donna L. Drogos, P.E.
Division Chief

Enclosures: 1. Remedial Action Completion Certificate
2. Case Closure Summary

cc: Ms. Cherie McCaulou (w/enc.), SF- Regional Water Quality Control Board, 1515 Clay Street, Suite 1400, Oakland, CA 94612, (sent via electronic mail to CMacaulou@waterboards.ca.gov)

Leroy Griffin, Oakland Fire Department 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032 (sent via electronic mail to lgriffin@oaklandnet.com)

Donna Drogos, (sent via electronic mail to donna.drogos@acgov.org)
Mark Detterman (sent via electronic mail to mark.detterman@acgov.org)
Case eFile, GeoTracker

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

ENVIRONMENTAL HEALTH DEPARTMENT
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

September 21, 2011

Ms. Olivia Skance
Chevron Environmental Management
6001 Bollinger Canyon Road
San Ramon, CA 94583-2324
(sent via electronic mail to
Olivia.Skance@chevron.com)

Mr. Denis Brown
Shell Oil Products US
20945 S Wilmington Ave
Carson, CA 90810-1039
(sent via electronic mail to
denis.l.browm@shell.com)

Ms Jennifer Sedlachek
Exxon Mobil
4096 Piedmont Ave #194
Oakland, CA 94611
(sent via electronic mail to
jennifer.c.sedlachek@exxonmobil.com

Mr. Bradford Howard
Bradford Howard et al
516 Grand Avenue
Oakland, CA 94610-3515
(sent via electronic mail to
BHoward@howardtours.net)

REMEDIAL ACTION COMPLETION CERTIFICATE

Subject: Fuel Leak Case No. RO0000391 (Global ID #T0600101355), Chevron #21-1137, 500 Grand, Oakland, CA 94611

Dear Ms. Skance, Mr. Brown, Ms. Sedlachek, and Mr. Howard:

This letter confirms the completion of a site investigation and remedial action for the underground storage tank formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Ariu Levi
Director
Alameda County Environmental Health

Alameda County Environmental Health

CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Date: March 3, 2011

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567- 6876
Responsible Staff Person: Mark Detterman	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Chevron #21-1173 / Exxon #7-0237		
Site Facility Address: 500 Grand Avenue, Oakland, CA 94611		
RB Case No.: 01-1467	Local Case No.: STiD: 1109	LOP Case No.: RO0000391
URF Filing Date: 2/3/1989	Geotracker ID: T0600101355	APN: 10-780-15-8

Responsible Parties	Addresses	Phone Numbers
Ms. Staci Frerichs	Chevron Environmental Management 6001 Bollinger Canyon Road, Rm 3596 PO Box 6012 San Ramon, CA 94583-2324	925.543.2377
Mr. Denis Brown	Shell Oil Products US 20945 S. Wilmington Ave Caron, CA 90810-1039	707.865.0251
Ms. Jennifer Sedlachek	Exxon Mobil 4096 Piedmont Avenue # 194 Oakland, CA 94611	510.547.8196
Mr. Brandford Howard	Branford Howard et al 516 Grand Avenue Oakland, CA 94610-3515	Unknown

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	10,000	Gasoline	Removed	April 14, 1992
2	10,000	Gasoline	Removed	April 14, 1992
3	10,000	Gasoline	Removed	April 14, 1992
4	550	Waste Oil	Removed	September 25, 1990
Piping			Removed	April 14, 1992

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unknown. Waste oil tank reported intact at time of removal by inspector. No notes included in gasoline tank removal report or inspector notes.		
Site characterization complete? Yes	Date Approved By Oversight Agency: ----	
Monitoring wells installed? Yes	Number: 12	Proper screened interval? Yes*
Highest GW Depth Below Ground Surface: At ground surface / 5.43 **	Lowest Depth: 11.38 / 13.32 **	Flow Direction: Southwest
Most Sensitive Current Use: Potential drinking water source.		

* In general onsite wells MW-8K & MW-8L were submerged; offsite wells were generally appropriately screened. Previously decommissioned onsite wells MW-8A to MW-8E were not included in this analysis.

** Onsite well / Offsite well

Summary of Production Wells in Vicinity: There are no water supply wells within ¼-mile of the site. The closest water supply wells are located to the west in a cross- to upgradient direction at an approximate distance of 3,500 feet (0.66 miles). These two wells (1S4W26R3 & 1S4W35A2) are not expected to be receptors for this site.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: Lake Merritt; 200 - 250 feet south
Off-Site Beneficial Use Impacts (Addresses/Locations): None Reported	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health and City of Oakland Fire Department

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	One: 550-gallon (Waste Oil) Three: 10,000-gallon (Gas)	Assumed Disposed; Destination Unreported	Unknown
Piping	Unknown	Assumed Disposed; Destination Unreported	Unknown
Free Product	Used oil; unknown	Disposed with groundwater; batch extraction	Fall 1990
Soil	Used oil UST Removal	Assumed Disposed; Destination unreported	1990
	Gasoline UST Removal	540 cubic yards; pea gravel; BFI Class III Landfill, Livermore, CA	May 1992
	Station Overexcavation: May 1992 January 1993	1,100 cubic yards; Destination unreported 828 cubic yards; Redwood Landfill, Novato	Mid 1992 February 1993
Groundwater	5,000 gallons 5,000 gallons 25,000 gallons 5,000 gallons 6,300 gallons	Destination unreported Destination unreported Destination unreported Destination unreported Gibson Environmental, Redwood City	December 1989 June 1990 April 1992 Mid 1992 January 1993

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments 1 through 6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	3,800[1]	3,800	56,000	53
TPH (Diesel)	580	580	31,000[2]	92
TPH (Motor Oil)	330	ND	100,000[2]	<500
Oil and Grease	6,900	<330	NA	NA
Benzene	7,700	22[1]	20,000	2
Toluene	28	28	6,200	<0.5
Ethylbenzene	30	30	1,100	<0.5
Xylenes	100	100	4,900	<0.5
Heavy Metals (Cd, Cr, Pb, Ni, Zn)	48[3]	48[3]	NA	NA
MTBE (EPA 8260)[4]	<0.0005	<0.0005	4	1
Chlorinated Hydrocarbons (EPA 8010) Semi-Volatile Organics (EPA 8270)	<0.005[5] [6]	<0.005 ND (various)	<1 NA	<1 NA

NA Not analyzed

[1] South sidewall adjacent to sidewalk / street (Grand Avenue)

[2] Pit grab groundwater samples

[3] B-13 @ 2.5 feet feet bgs: <0.05 Cd ppm; 26 ppm Cr; <0.05 Pb ppm; 41 ppm Zn; <0.5 ppm Cd; 48 ppm Cr; 4.4 ppm Pb; 65 ppm Ni; 61 ppm Zn collected on a remedial excavation stockpile.

[4] MTBE only; TBA, TAME, ETBE, DIPE, EtOH, EDB, and EDC all not analyzed.

[5] Exception: TCE 0.06 ppm

[6] B-13 @ 2.5 feet bgs: 0.90 ppm naphthalene; 1.40 ppm 2 Methylnapthalene; 0.260 ppm Bis (2-ethylhexyl) phthalate

Site History and Description of Corrective Actions:

May 1988 Sensitive Receptor Survey: In May 1988, HLA performed a sensitive receptor survey of the site vicinity. The survey indicated there were no public water supply wells within 2,500 feet of the site, no private water supply wells within 1,000 feet of the site, and no schools within 1,000 feet of the site.

June 1988 Well Installations: In June 1988, HLA installed four groundwater monitoring wells (MW-8A through MW-8D) at the site to depths of 15.5, 20, 24.5, and 5 feet below grade surface (bgs), respectively. Well MW-8D was designed to intercept perched water just below the ground surface. An additional boring (B-8A) was also drilled to 32 feet bgs that was supposed to be the location of well MW-8A; however, the boring extended through two water-bearing zones (clayey sand at 12 and 23 feet bgs and thus was decommissioned. Well MW-8A was placed adjacent to boring B-8A and constructed to intercept water in the upper water-bearing zone. A soil sample was collected at approximately 1.3 feet bgs from boring MW-8D and analyzed for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX); TPHg, toluene, and xylenes were detected at concentrations of 10, 0.4, and 0.5 milligrams per kilogram (mg/kg), respectively. The initial groundwater samples collected from wells MW-8A, MW-8B, and MW-8C were analyzed for BTEX; well MW-8D was dry. Benzene (5.3 micrograms per liter [µg/L]) was only detected in well MW-8A. Concentrations of toluene, ethylbenzene, and xylenes (up to 13 µg/L) were detected in wells MW-8A and MW-8C. The results of the investigation were presented in HLA's *Subsurface Investigation* report dated July 20, 1988.

September 1988 Soil Gas Survey: In September 1988, HLA conducted a soil gas survey both on and offsite. A

total of 17 soil gas samples were collected from 16 locations at depths ranging from 2 to 6 feet bgs and analyzed for total hydrocarbons and BTEX using a gas chromatograph equipped with a flame ionization detector (FID). Elevated concentrations of total hydrocarbons (up to 360,000 µg/L) and benzene (up to 86,000 µg/L) were detected in two of the samples (SG-04 and SG-05) collected on the west side of the site. Elevated concentrations of total hydrocarbons (up to 1,400,000 µg/L) and benzene (up to 300,000 µg/L) were also detected in two of the samples (SG-12 and SG-15) collected to the south-southwest of the site. Groundwater samples collected from four observation wells (OB-1 through OB-4) located within the gasoline UST pit were also analyzed for total hydrocarbons and BTEX; total hydrocarbons (up to 32,000 µg/L) and benzene (up to 7,700 µg/L) were detected in all four of the samples. The results of the investigation were presented in HLA's *Quarterly Technical Report-First Quarter of 1989* dated May 31, 1989 and *Environmental Assessment Report* dated September 22, 1989.

October 1988 Subsurface Investigation and Well Installation: In October 1988, HLA drilled four exploratory borings (B-1 through B-4) to depths of 8 to 16.5 feet bgs in the vicinity of the gasoline USTs and dispensers. Well MW-8E was also installed adjacent to boring B-3. One soil sample was collected from borings B-1, B-3, B-4, and MW-8E (depths ranging from 3.5 to 6.5 feet bgs) and analyzed for TPHg and BTEX. TPHg (up to 750 mg/kg) was detected in several of the samples; concentrations of toluene, ethylbenzene, and xylenes (up to 26 mg/kg) were also detected. Benzene was only detected in the soil sample collected at 5.5 feet bgs from boring MW-8E (0.82 mg/kg). The initial groundwater sample collected from well MW-8E contained benzene at 1,400 µg/L. The results of the investigation were presented in HLA's *Quarterly Technical Report-First Quarter of 1989* dated May 31, 1989 and *Environmental Assessment Report* dated September 22, 1989.

March 1989 Subsurface Investigation, Well Destruction and Installations: In March 1989, HLA drilled an additional boring (B-5) on the west side of the site in the area where elevated hydrocarbon concentrations were previously detected in soil gas. Soil samples were collected from the boring at depths of 5.5, 10.5, and 16 feet bgs and analyzed for TPHg and BTEX, which were not detected. Well MW-8D was also decommissioned at this time due to a lack of water. Two offsite monitoring wells (MW-8F and MW-8G) were installed to 16.5 feet bgs across Grand Avenue to the south-southeast of the site. Soil samples were collected from boring MW-8F at 11 feet bgs and from boring MW-8G at 6 feet bgs and analyzed for TPHg and BTEX, which were not detected. BTEX were not detected in the initial groundwater samples collected from the wells. The results of the investigation were presented in HLA's *Quarterly Technical Report-First Quarter of 1989* dated May 31, 1989 and *Environmental Assessment Report* dated September 22, 1989.

Fourth Quarter 1989 Subsurface Investigation and Interim Remediation: During fourth quarter 1989, HLA drilled four additional onsite borings (B-6 through B-9) to depths of 3.5 to 5.5 feet bgs. A total of five soil samples were collected at various depths (ranging from 2 to 4.5 feet bgs) from the borings and analyzed for TPHg, BTEX, and TPH as diesel (TPHd). TPHg (up to 580 mg/kg) was only detected in the soil samples collected from borings B-7, B-8, and B-9; concentrations of one or more BTEX compounds (up to 50 mg/kg) were also detected. TPHd was only detected in the soil sample collected at 2.5 feet bgs from boring B-9 (460 mg/kg). Observation wells OB-3 and OB-4 were also re-sampled and elevated concentrations of TPHg (4,000 µg/L) and benzene (up to 500 µg/L) were detected. In December 1989, approximately 5,000 gallons of groundwater were pumped from the gasoline UST pit and disposed offsite as an interim remedial measure. This work was documented in HLA's *Quarterly Technical Report-Fourth Quarter of 1989* dated March 21, 1990.

First Quarter 1990 Subsurface Investigation and Well Installations: During first quarter 1990, HLA drilled seven additional borings. Four soil bores B-8K [offsite], and B-10 through B-12 [onsite] were installed to depths of 6 to 9.5 feet bgs. A total of 15 soil samples were collected at various depths (ranging from 1 to 8.5 feet bgs) from the borings and analyzed for TPHg, BTEX, and TPHd. Concentrations of TPHg (up to 84 mg/kg) and BTEX (up to 5.4 mg/kg) were detected in several of the soil samples. Elevated concentrations of TPHg were detected in the soil samples collected at 1.5 feet bgs from boring B-11 (2,900 mg/kg) and at 4.5 feet bgs from boring B-12 (1,200 mg/kg). TPHd (up to 94 mg/kg) was only detected in three of the samples. Three offsite monitoring wells (MW-8H, MW-8I, and MW-8J) were also installed. Four soil samples were collected at various depths from each well boring and analyzed for TPHg, BTEX, and TPHd. TPHg (up to 550 mg/kg) was detected in the majority of the soil samples. An elevated concentration of TPHg (2,100 mg/kg) was detected in the sample collected at 5.5 feet bgs from boring MW-8J. Concentrations of benzene and toluene were non-detectable in the sample from 5.5 feet, but ethylbenzene was present at 25 mg/kg in the sample. TPHd (up to 83 mg/kg) was only detected in three of the samples. TPHg was detected in the initial groundwater samples collected from wells MW-8H and MW-8I (460 µg/L and 580 µg/L, respectively). Benzene was detected in wells MW-8H, MW-8I, and MW-8J at 14.8 µg/L, 116 µg/L, and 2.7 µg/L, respectively. TPHd was only detected in well MW-8I (440 µg/L). This work was documented in HLA's *Quarterly Technical Report-First Quarter of 1990* dated June 13, 1990.

Second Quarter 1990 Subsurface Investigation: During second quarter 1990, HLA drilled two additional borings (B-13 and B-14) to depths of 4 and 4.5 feet bgs, respectively. The borings were located near the station building; boring B-14 was located adjacent to the waste oil UST. A total of five soil samples were collected at various depths from the borings and analyzed for TPHg, BTEX, TPHd, and TPH "other" (heavier-end hydrocarbons). The soil sample collected from boring B-13 at 2.5 feet bgs was also analyzed for halogenated volatile organic compounds (HVOCs), semi-VOCs, total oil and grease (TOG), and the metals cadmium, chromium, lead, and zinc. TPHg (up to 130 mg/kg) was detected in the majority of the soil samples. Concentrations of toluene, ethylbenzene, and xylenes (up to 5.4 mg/kg) were detected in a few of the samples. TPHd and benzene were not detected in any of the samples. Heavier-end petroleum hydrocarbons (constituents unknown) were detected in four of the samples at concentrations ranging from 62 to 1,000 mg/kg (B-13 at 2.5 feet bgs). The sample collected from boring B-13 at 2.5 feet bgs also contained the semi-VOCs naphthalene (0.9 mg/kg), 2-methylnaphthalene (1.4 mg/kg), and bis(2-ethylhexyl)phthalate (0.26 mg/kg); HVOCs were not detected with the exception of trichloroethane at 0.06 mg/kg; TOG was detected at 5,600 mg/kg; and the metals chromium and zinc were detected at 36 mg/kg and 41 mg/kg, respectively. In June 1990, during work on the waste oil UST, a layer of light non-aqueous phase liquid (LNAPL) was observed on the water in the backfill surrounding the tank. Exxon reportedly had the fluid in the excavation pumped out several times. This work was documented in HLA's *Quarterly Technical Report-Second Quarter of 1990* dated August 30, 1990.

September-October 1990 Waste Oil-UST Removal and Over-Excavation: In September 1990, the 500-gallon, single-walled fiberglass waste oil UST was removed from the site. No apparent holes or cracks were observed in the tank. The excavation was approximately 7.5 feet by 9.5 feet by 8 feet deep. Approximately 1/8 inch of LNAPL was observed on the water in the excavation. A water sample (WOT #1) was collected prior to pumping the water out of the excavation; the sample contained TPHg at 1,900 µg/L, TPHd at 1,400 µg/L, benzene at 320 µg/L, and TOG at 70 µg/L; HVOCs were not detected. Four soil samples (WO#2 through WO#5) were collected at 1.5 feet bgs from the sidewalls of the excavation and analyzed for TPHg, BTEX, TPHd, TOG, and HVOCs. Concentrations of TPHg (up to 15 mg/kg), TPHd (up to 20 mg/kg), and BTEX (benzene up to 0.054 mg/kg, ethylbenzene up to 0.75 mg/kg, and xylenes up to 1.5 mg/kg) were detected in several of the samples. TOG was detected in all four of the samples at concentrations ranging from 100 to 2,600 mg/kg. HVOCs were not detected in any of the samples.

In October 1990, over-excavation of impacted soil was conducted in the area of the soil sample with the highest TOG concentration (WO#3; western sidewall). The upper 3 feet of this sidewall was excavated laterally to the west an additional 3 feet. Additional soil samples were collected at 1.5 (WO#7) and 2 feet bgs (WO#6) from the new western sidewall, and from the bottom of the original excavation on the south side (WO#8). Samples WO#6 and WO#7 contained TOG at 100 mg/kg and 850 mg/kg, respectively. Sample WO#8 was analyzed for TPHg, BTEX, TPHd, and TOG; which were not detected except toluene at 0.016 mg/kg. Two clay pipes were encountered at approximately 1.5 feet bgs in the northwest and northeast corners of the excavation. The excavation was backfilled several days later. This work was documented in HLA's *Soil and Groundwater Sampling During Waste Oil Tank Removal* dated November 8, 1990.

January 1991 Clay Pipe Excavation: In January 1991, the clay pipes were removed. The excavation trench was located on the western side of the former waste oil UST and was approximately 15 feet long, 2.5 feet wide, and 4.5 feet deep. Two water samples (EP-01 and WP-01) were collected from the trench and analyzed for TPHg, TPHd, BTEX, and TPH as motor oil (TPHmo). TPHg (5,200 µg/L and 3,900 µg/L), TPHd (31,000 µg/L and 13,000 µg/L), benzene (280 µg/L and 320 µg/L), and TPHmo (100,000 µg/L and 17,000 µg/L) were detected in both samples. The water sample collected nearest the former UST contained the higher TPH concentrations. Four soil samples were also collected from the sidewalls and bottom of the trench (depths ranging from 1.5 to 4.5 feet bgs) and analyzed for TPHg, BTEX, TOG, and TPHd; three of the samples were also analyzed for TPHmo and HVOCs. Concentrations of TPHg (up to 100 mg/kg), TPHd (up to 190 mg/kg), and BTEX (up to 0.63 mg/kg) were detected in several of the samples. TOG was detected in all four of the samples at concentrations up to 630 mg/kg. TPHmo was detected in the three soil samples analyzed at concentrations up to 330 mg/kg. HVOCs were not detected in the three soil samples analyzed. A small excavation was also made on the east side of the UST excavation and an additional soil sample was collected at 1.5 feet bgs; this sample contained TPHg (1.1 mg/kg), TPHd (110 mg/kg), and TOG (780 mg/kg); BTEX were not detected. The excavation trench was continued to the door of the first service bay. An unknown volume of water was removed from the trench. This work was documented in HLA's *Results of Pipe Excavation and Recent Groundwater Analyses* dated February 12, 1991.

April - May 1992 Station Demolition, Gasoline UST Removal, and Overexcavation: In April 1992, the station was demolished and three 10,000-gallon, fiberglass gasoline USTs, two dispenser islands, and associated piping were removed from the site. No cracks or holes were observed in any of the tanks. During tank removal activities, approximately 25,000 gallons of impacted groundwater was pumped from the excavation and disposed offsite. Nine confirmation soil samples were collected from the bottom (10 feet bgs) and sidewalls (5 feet bgs) of the UST

excavation and analyzed for TPHg and BTEX. Concentrations of TPHg (up to 130 mg/kg) and BTEX (benzene up to 0.2 mg/kg, ethylbenzene up to 0.17 mg/kg, and xylenes up to 1.4 mg/kg) were detected in several of the samples. Three soil samples were also collected beneath the dispensers and one soil sample was collected beneath the product piping at depths of 5 or 6 feet bgs and analyzed for TPHg, BTEX, and TOG. TPHg and benzene were detected in the four samples at concentrations ranging from 7.8 to 2,100 mg/kg and 0.019 to 11 mg/kg, respectively. TOG was also detected in the four samples at concentrations ranging from 30 to 6,900 mg/kg. Approximately 540 cubic yards of impacted pea gravel was disposed offsite. Clean, imported fill material was then used to backfill the excavation. This work was documented in HLA's *Underground Storage Tank Removal* report dated June 8, 1992.

In May 1992, additional excavation was performed in the area of the former dispenser islands. The excavation was approximately 55 feet wide, 60 feet long, and 7 to 9 feet deep. Nine soil samples (BE-1, BE-2, and BE-4 through BE-10) were collected from the bottom of the excavation at depths of 4.5 to 9 feet bgs and analyzed for TPHg and BTEX. TPHg was only detected in one of the samples (1.1 mg/kg), and toluene, ethylbenzene, and xylenes generally were not detected in any of the samples with the exception of ethylbenzene in one sample (0.058 mg/kg). Concentrations of benzene (up to 0.043 mg/kg) were detected in several of the samples. Four soil samples (WS-2 through WS-5) were also collected at depths of 5 or 7.5 feet bgs from the western and southern sidewalls of the excavation. TPHg and BTEX were not detected in the sample (WS-3) collected from the western sidewall. TPHg (ranging from 72 to 1,000 mg/kg) and BTEX (benzene ranging from 1.1 to 22 mg/kg) were detected in the three samples collected from the southern sidewall. The excavation could not be extended further to the south without undermining the Grand Avenue sidewalk. A small area was also excavated under a former service bay near a former hydraulic hoist and sump. Soil samples were collected from the bottom (BE-3 at 4 feet bgs) and the western sidewall (WS-1 at 3 feet bgs) of this excavation; TPHg and BTEX were not detected in either of the samples. Approximately 1,100 cubic yards of soil were removed and disposed offsite. Clean, imported fill material was then used to backfill the excavations. This work was documented in HLA's *Quarterly Technical Report-Second Quarter of 1992* dated September 10, 1992.

August 1992 Well Destructions: In August 1992, onsite wells MW-8A and MW-8E were decommissioned by over-drilling. This work was documented in a HLA *Well Destruction Reports* letter dated August 14, 1992.

January 1993 Additional Over-Excavation: In January 1993, Converse Environmental West (Converse) supervised the removal of additional soil from the northern portion of the site. Ten soil samples (B-1 through B-10) were collected from the bottom of the excavation, and seven soil samples (SW-1 through SW-7) were collected from the western, northern, and eastern sidewalls of the excavation and analyzed for TPHg and BTEX; which were not detected in any of the soil samples. Approximately 828 cubic yards of impacted soil were removed, and approximately 6,300 gallons of water were pumped from the excavation and disposed offsite during the work. Clean, imported fill was used to backfill the excavation. This work was documented in Converse's *Soil Excavation and Soil Sampling Report* dated March 26, 1993.

April 1993 Well Destructions: In April 1993, onsite wells MW-8B and MW-8C were decommissioned by over-drilling. This work was documented in a letter by Pacific Environmental Group, Inc. (PEG) dated May 6, 1993.

May 1993 Well Installations: In May 1993, PEG installed two wells onsite (MW-8K and MW-8L) to 18 feet bgs. Well MW-8K was installed adjacent to former well MW-8E which historically contained the highest concentrations. No soil samples were collected for laboratory analysis from the well borings; however, organic vapor concentrations greater than 100 parts per million by volume (ppmv) were not observed. This work was documented in PEG's untitled letter report dated July 30, 1993.

1996-2000 Groundwater Oxygenation: In December 1996, socks containing ORC were placed in wells MW-8F, MW-8G, and MW-8I in an attempt to enhance biodegradation of petroleum hydrocarbons in groundwater. The socks were periodically replaced and were permanently removed from the wells in March 2000.

2001 Well Survey: In early 2001, KHM requested information from the Alameda County Public Works Agency (ACPWA) regarding the presence of wells within ½ mile of the site. No wells were identified within the search radius and no visual evidence of wells was observed within 1,000 feet of the site. The two nearest water supply wells identified were irrigation wells located approximately 3,500 feet west (crossgradient) and southwest (crossgradient) of the site.

November 2006 Subsurface Investigation: In November 2006, Cambria Environmental Technology, Inc. (Cambria [now CRA]) advanced borings S-1 through S-3 to approximately 4 feet bgs along the southern edge of the site. Boring S-3 was advanced into the excavation backfill. A soil sample was collected from each boring at 4 feet bgs and analyzed for TPHg, BTEX, TPHd, and TOG. TPHg was detected in the soil samples collected from borings S-1 and S-2 at concentrations of 390 mg/kg and 3,800 mg/kg, respectively. Benzene was only detected in the soil

sample collected from boring S-2 (0.41 mg/kg) immediately adjacent to the Grand Avenue sidewalk. Toluene, ethylbenzene, and xylenes (up to 170 mg/kg) were also detected in the soil samples collected from borings S-1 and S-2. TPHd was detected in the soil samples collected from borings S-1, S-2, and S-3 at 15 mg/kg, 580 mg/kg, and 11 mg/kg, respectively. TOG was not detected in any of the soil samples.

Soil vapor samples (SV-1 and SV-2) were also collected adjacent to the borings and analyzed for TPHg and BTEX. An additional sample (SV-3) was not analyzed due to inadequate sample volume. TPHg was detected in samples SV-1 and SV-2 at concentrations of 60,000 micrograms per cubic meter ($\mu g/m^3$) and 2 x 10^6 $\mu g/m^3$, respectively. Benzene was detected in samples SV-1 and SV-2 at concentrations of 3,400 $\mu g/m^3$ and 34,000 $\mu g/m^3$, respectively. Toluene (330 $\mu g/m^3$ and 160,000 $\mu g/m^3$, respectively), ethylbenzene (2,600 $\mu g/m^3$ and 64,000 $\mu g/m^3$, respectively), and xylenes (380 $\mu g/m^3$ and 280,000 $\mu g/m^3$, respectively) were also detected in samples SV-1 and SV-2. A field duplicate sample collected from SV-2 contained lower concentrations of TPHg (720,000 $\mu g/m^3$), benzene (14,000 $\mu g/m^3$), toluene (69,000 $\mu g/m^3$), ethylbenzene (27,000 $\mu g/m^3$), and xylenes (110,000 $\mu g/m^3$). This work was documented in Cambria's *Subsurface Investigation Report* dated February 28, 2007.

March 2008 Subsurface Investigation: In March 2008, CRA advanced five borings (SV-4 through SV-8) to depths of 3 to 6 feet bgs along the southern and eastern sides of the site. Groundwater was encountered in the borings at depths of 2 to 6 feet bgs. Borings SV-4 through SV-6 were advanced into the excavation backfill. One or two soil samples were collected at depths of 2 or 5 feet bgs from borings SV-5, SV-7, and SV-8 and analyzed for TPHg, BTEX, and methyl tertiary butyl ether (MTBE). TPHg was detected in the soil samples collected at 2 feet bgs (16 mg/kg) and 5 feet bgs (1,400 mg/kg) from boring SV-7; BTEX (benzene up to 0.11 mg/kg, ethylbenzene up to 15, and xylenes up to 19 mg/kg) were also detected in these two samples. MTBE was not detected in any of the soil samples. A grab groundwater sample was also collected from each of the five borings and analyzed for TPHg, BTEX, and MTBE. TPHg (6,200 µg/L) and benzene (200 µg/L) were detected in the groundwater sample collected from boring SV-7 in close proximity to the retaining wall on the east side of the site. Concentrations of MTBE were detected in the groundwater samples collected from borings SV-4 (1 µg/L), SV-7 (0.7 µg/L), and SV-8 (2 µg/L). The borings were intended to be completed as soil vapor wells; however, due to the shallow groundwater encountered, the wells were not installed. This work was documented in CRA's *Subsurface Investigation Report* dated August 14, 2008.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
Site Management Requirements: Case closure for this fuel leak site is granted for the commercial land use only. If a change in land use to any residential or other conservative land use scenario occurs at this site, ACEH must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans. Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities. This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.		
Should corrective action be reviewed if land use changes? Yes		
Was a deed restriction or deed notification filed? No		Date Recorded: ----
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 6
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: None		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

- Disposal destinations for all USTs, piping, soil, limited free phase, and groundwater are not fully reported.
- Residual petroleum hydrocarbon pollution in soil, groundwater, and soil vapor remains in place at this site. The extent of removal excavations was limited to south by sidewalk and utilities, and to east by the foundation of the retaining wall; residually contaminated soil with elevated concentrations remains in place along those perimeters (in soil up to 3,800 mg/kg TPHg, up to 580 mg/kg TPHd, and up to 22 mg/kg benzene remain). The extent of elevated concentrations in soil extends at least to the location of well MW-8J in Grand Avenue. Residual concentrations do not appear to significantly impact groundwater; however, elevated soil vapor is present but does not appear to have a receptor as currently developed. Upon redevelopment this data and current conclusions are to be revisited.
- Only MTBE has been analyzed for at the site; the maximum detected concentration was 4.0 µg/l and reduced to 1.0 µg/l. MTBE was not detected in soil. TBA, TAME, ETBE, DIPE, EtOH, EDB, and EDC all were not analyzed at the site.
- Grab groundwater samples collected at SV-4, SV-5, and SV-6 (non-detectable for TPHg, BTEX, and up to 1.0 µg/l MTBE) were used to confirm and validate non-detectable (for these analytes) groundwater results from generally submerged wells MW-8K and MW-8L.

Conclusion:
Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment under the a commercial land use scenario based upon the information available in our files to date. No further investigation or cleanup for the fuel leak case is necessary unless a change in land use to any residential or other conservative land use scenario; or construction or excavation activities occurs at the site. ACEH staff recommend case closure for this fuel leak site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Mark Detterman	Title: Hazardous Materials Specialist
Signature: Mark E	Date: 3/3/11
Approved by: Donna L. Drogos, P.E.	Title: Division Chief
Signature:	Date: 03/04/11

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
Notification Date: 3/11/11	

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 4/27/11	Date of Well Decommissioning Report: 9/6/11	
All Monitoring Wells Decommissioned: Yes	Number Decommissioned: 6	Number Retained: 0
Reason Wells Retained: None Retained		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: Mark E		Date: 9/21/11

Attachments:
1. Site Vicinity Map (1 pp)
2. Site Plans (4 pp)
3. Soil Analytical Data (7 pp)
4. Grab Groundwater Analytical Data (1 pp)
5. Soil Vapor Analytical Data (2 pp)
6. Groundwater Analytical Data (15 pp)
7. Boring Logs (34 pp)
8. Cross Sections (3 pp)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.

Detterman, Mark, Env. Health

From: Cherie MCcaulou [CMccaulou@waterboards.ca.gov]
Sent: Tuesday, March 29, 2011 10:36 AM
To: Detterman, Mark, Env. Health
Cc: Drogos, Donna, Env. Health
Subject: Re: RO0000391; Closure Summary for Chevron #21-1173

Mark - Thanks for the notification. We have no objection to ACEH's recommendation for case closure of RO0000391, for the UST releases at 500 Grand Avenue, Oakland.

Sincerely,

Cherie McCaulou
Engineering Geologist
San Francisco Bay Regional Water Quality Control Board
cmccaulou@waterboards.ca.gov
510-622-2342

>>> "Detterman, Mark, Env. Health" <Mark.Detterman@acgov.org> 3/11/2011 4:31 PM >>>
Hi Cherie,

Attached is a closure summary for RO0000391; Chevron #21-1173, located at 500 Grand in Oakland, in order to comply with the RWQCB's 30-day review period. If no comments from the RWQCB are received within the 30-day review period, ACEH's will proceed with case closure.

This is an older site with an extensive history. Residual contamination will be left in place and the site will be placed in the Oakland permit tracking system. Twelve wells are installed; well destruction is pending RWQCB concurrence.

Should you have questions, please let me know.
Best,

Mark Detterman
Senior Hazardous Materials Specialist, PG, CEG
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6876
Fax: 510.337.9335
Email: mark.detterman@acgov.org

PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

APPENDIX B

DPT SOIL BORING LOGS

BOREHOLE LOG

BORING / WELL ID: **SB-1**

TOTAL DEPTH: **14'**

PROJECT NAME AND SITE ADDRESS: **500 Grand Avenue, Oakland, California**

BORING LOCATION / DESCRIPTION: **Southern property border, approximately 10 feet west of former SB-5**

PROJECT INFORMATION

PROJECT NO.:	**01-ECR-001:3B**
PERMIT NO.:	**W2016-0266**
LOGGED BY:	**R. Robitaille**
REVIEWED BY:	
SURFACE ELEVATION:	
CASING TOP ELEVATION:	
START DATE (TIME):	**04/16/16 (1320)**
FINISH DATE (TIME):	**04/16/16 (1405)**

DRILLING INFORMATION

SUBCONTRACTOR:	**Cascade Drilling**
EQUIPMENT:	**GeoProbe 8040DT**
SAMPLING METHOD:	**Direct Push 1.85" Core**
MONITORING DEVICE:	**MiniRae 2000 PID**
BORING DIAMETER (IN):	**3.5 inches**
ANNULUS MATERIAL:	**NA**
BORING ANGLE: **Vertical**	CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**	

▽ First Water Encountered ▼ Stabilized Water Level ■ Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
					0		Boring hand cleared to three feet bgs. Asphalt to 0.42 feet bgs.	
	395						Fill - base gravel.	
1330							ML: Sandy silt, dark yellowish brown (10YR 4/6), dry, moderately hard, very poorly sorted, very fine to very coarse grained sand, trace gravel and clay, (0,40,60,0).	
	723				5			
1350							CL: Clayey silt, dark greenish gray (10Y 4/1), dry, moderately hard, strong petroleum odor.	
	642							
	425						6 feet bgs - Grades mottled with dark yellowish brown, moderate petroleum odor.	
1400								
	43.1						8.5 feet bgs - Grades no odor, dark yellowish brown (10YR 4/4).	
1405					10			
	51.3						SW: Sand, dark yellowish brown (10YR 4/4), wet, loose, moderately well sorted, fine to medium grained sand with silt.	
							CL: Clay with silt, very pale brown (10YR 7/3), dry, hard, (0,0,30,70).	

Borehole was backfilled with cement/ bentonite grout.

BOREHOLE LOG

BORING / WELL ID: **SB-2**

TOTAL DEPTH: **12'**

PROJECT NAME AND SITE ADDRESS: **500 Grand Avenue, Oakland, California**

BORING LOCATION / DESCRIPTION: **Centerline of southern property border**

PROJECT INFORMATION

PROJECT NO.:	**01-ECR-001:3B**
PERMIT NO.:	**W2016-0266**
LOGGED BY:	**R. Robitaille**
REVIEWED BY:	
SURFACE ELEVATION:	
CASING TOP ELEVATION:	
START DATE (TIME):	**04/16/16 (1415)**
FINISH DATE (TIME):	**04/16/16 (1445)**

DRILLING INFORMATION

SUBCONTRACTOR:	**Cascade Drilling**
EQUIPMENT:	**GeoProbe 8040DT**
SAMPLING METHOD:	**Direct Push 1.85" Core**
MONITORING DEVICE:	**MiniRae 2000 PID**
BORING DIAMETER (IN):	**3.5 inches**
ANNULUS MATERIAL:	**NA**
BORING ANGLE: **Vertical**	CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**	

▽ First Water Encountered ▼ Stabilized Water Level ■ Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
					0		Boring hand cleared to 0.75 feet bgs. Asphalt to 0.6 feet bgs.	
	52							
1420	180						CL: Clayey silt, yellowish brown (10YR 4/4), dry, moderately hard.	
	1000						CL: Clayey silt, dark gray (10Y 4/1), dry, moderately hard, strong petroleum odor. Grades mottled with yellowish brown (10YR 4/4).	
1425	380				5			
	104							
	1.0							
1430							SM: Silty sand, dark gray (10Y 4/1), wet, loose, strong petroleum odor.	
1440								
					10		SC: Clayey sand, dark grayish brown (10YR 4/2), wet, moderately dense, fine to medium grained sand, (0,70,10,20).	
	0.0						CL: Clay, very pale brown (10YR 8/2), moist, moderately hard, abundant caliche.	
1445								

BOREHOLE LOG

BORING / WELL ID: **SB-3**

TOTAL DEPTH: **13'**

PROJECT NAME AND SITE ADDRESS: **500 Grand Avenue, Oakland, California**

BORING LOCATION / DESCRIPTION: **Southeast corner of former UST pit**

PROJECT INFORMATION

PROJECT NO.:	**01-ECR-001:3B**
PERMIT NO.:	**W2016-0266**
LOGGED BY:	**R. Robitaille**
REVIEWED BY:	
SURFACE ELEVATION:	
CASING TOP ELEVATION:	
START DATE (TIME):	**04/16/16 (1540)**
FINISH DATE (TIME):	**04/16/16 (1610)**

DRILLING INFORMATION

SUBCONTRACTOR:	**Cascade Drilling**
EQUIPMENT:	**GeoProbe 8040DT**
SAMPLING METHOD:	**Direct Push 1.85" Core**
MONITORING DEVICE:	**MiniRae 2000 PID**
BORING DIAMETER (IN):	**3.5 inches**
ANNULUS MATERIAL:	**NA**
BORING ANGLE: **Vertical**	CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**	

▽ First Water Encountered ▼ Stabilized Water Level ■ Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
	60				0		Asphalt to 0.25 feet bgs.	
							Fill - base gravel.	
	340						CL: Silty clay, yellowish brown (10YR 5/6), gray mottled, dry, hard, (0,10,40,50).	
	400							
1545					5			Borehole was backfilled with cement/ bentonite grout.
	175						CL: Clay, very pale brown (10YR 8/2), moist, hard, abundant caliche.	
	125						6.75 feet bgs - Grades mottled yellowish brown.	
1550	175						8.1 feet bgs - Dry, grades with gravel to 0.75" diameter.	
					10		9 feet bgs - No gravel.	
	160							
	53						11 feet bgs - Grades predominately light yellowish brown (10YR 5/4), with pale brown and yellowish brown mottling.	
1610	60							

BOREHOLE LOG

BORING / WELL ID: **SB-4**

TOTAL DEPTH: **15'**

PROJECT NAME AND SITE ADDRESS: **500 Grand Avenue, Oakland, California**

BORING LOCATION / DESCRIPTION: **Former UST pit**

PROJECT INFORMATION

PROJECT NO.:	**01-ECR-001:3B**
PERMIT NO.:	**W2016-0266**
LOGGED BY:	**R. Robitaille**
REVIEWED BY:	
SURFACE ELEVATION:	
CASING TOP ELEVATION:	
START DATE (TIME):	**04/16/16 (1505)**
FINISH DATE (TIME):	**04/16/16 (1530)**

DRILLING INFORMATION

SUBCONTRACTOR:	**Cascade Drilling**
EQUIPMENT:	**GeoProbe 8040DT**
SAMPLING METHOD:	**Direct Push 1.85" Core**
MONITORING DEVICE:	**MiniRae 2000 PID**
BORING DIAMETER (IN):	**3.5 inches**
ANNULUS MATERIAL:	**NA**
BORING ANGLE: **Vertical**	CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**	

▽ First Water Encountered ▼ Stabilized Water Level ■ Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
1510	1.0				0		Asphalt to 0.25 feet bgs.	Borehole was backfilled with cement/ bentonite grout.
							Fill - GM: Silty gravel, very dark grayish brown (10YR 3/2), dry, dense, poorly sorted, gravel to 1" diameter, angular, low plasticity, (50,10,30,10).	
					5			
					10			
1525	2.0							
	2.0						CL: Silty clay, dark yellowish brown (10YR 4/4), gray mottled, moist, moderately hard, low plasticity, trace caliche nodules. Grades with sand, dark grayish brown (2.5Y 4/2).	
1530					15			

BOREHOLE LOG

BORING / WELL ID: **SB-5**

TOTAL DEPTH: **14'**

PROJECT NAME AND SITE ADDRESS: **500 Grand Avenue, Oakland, California**

BORING LOCATION / DESCRIPTION: **Former UST pit**

PROJECT INFORMATION

PROJECT NO.:	**01-ECR-001:3B**
PERMIT NO.:	**W2016-0266**
LOGGED BY:	**R. Robitaille**
REVIEWED BY:	
SURFACE ELEVATION:	
CASING TOP ELEVATION:	
START DATE (TIME):	**04/16/16 (1120)**
FINISH DATE (TIME):	**04/16/16 (1310)**

DRILLING INFORMATION

SUBCONTRACTOR:	**Cascade Drilling**
EQUIPMENT:	**GeoProbe 8040DT**
SAMPLING METHOD:	**Direct Push 1.85" Core**
MONITORING DEVICE:	**MiniRae 2000 PID**
BORING DIAMETER (IN):	**3.5 inches**
ANNULUS MATERIAL:	**NA**
BORING ANGLE: **Vertical**	CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**	

▽ First Water Encountered ▼ Stabilized Water Level ■ Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
1125					0		Asphalt to 0.25 feet bgs.	Borehole was backfilled with cement/ bentonite grout.
							Fill - GM: Silty gravel, very dark grayish brown (10YR 3/2), dry, dense, poorly sorted, gravel to 1" diameter, angular, low plasticity, (50,10,30,10).	
					5			
1130					10			
1310							CL: Clayey silt, dark yellowish brown (10YR 5/4), dry, moderately hard.	

BOREHOLE LOG

BORING / WELL ID: **SB-6**

TOTAL DEPTH: **10'**

PROJECT NAME AND SITE ADDRESS: **500 Grand Avenue, Oakland, California**

BORING LOCATION / DESCRIPTION: **Proposed elevator shaft**

PROJECT INFORMATION

PROJECT NO.: **01-ECR-001:3B**

PERMIT NO.: **W2016-0266**

LOGGED BY: **R. Robitaille**

REVIEWED BY:

SURFACE ELEVATION:

CASING TOP ELEVATION:

START DATE (TIME): **04/16/16 (0800)**

FINISH DATE (TIME): **04/16/16 (0845)**

DRILLING INFORMATION

SUBCONTRACTOR: **Cascade Drilling**

EQUIPMENT: **GeoProbe 8040DT**

SAMPLING METHOD: **Direct Push 1.85" Core**

MONITORING DEVICE: **MiniRae 2000 PID**

BORING DIAMETER (IN): **3.5 inches**

ANNULUS MATERIAL: **NA**

BORING ANGLE: **Vertical** CASING DIAMETER: **NA**

SCREEN INTERVAL: **NA**

▽ First Water Encountered ▼ Stabilized Water Level ■ Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
					0		Asphalt to 0.25 feet bgs.	Borehole was backfilled with cement/ bentonite grout.
	0.5						Fill - GM: Silty gravel, very dark grayish brown (10YR 3/2), dry, dense, poorly sorted, gravel to 1" diameter, angular, low plasticity, (50,10,30,10).	
0830	0.1							
0830	0.1				5		CL: Clayey silt, light olive brown (2.5Y 5/4), dry, moderately hard, trace fine grained sand, low plasticity, (0,0,70,30).	
							7.5 feet bgs - Grades increasing clay, moist, dark yellowish brown (10YR 4/4).	
	0.1						8.5 feet bgs - Grades decreasing clay.	
0845					10			

BOREHOLE LOG

BORING / WELL ID: **SB-7**

TOTAL DEPTH: **10'**

PROJECT NAME AND SITE ADDRESS: **500 Grand Avenue, Oakland, California**

BORING LOCATION / DESCRIPTION: **North to south centerline, ~25 feet from southern property line**

PROJECT INFORMATION

PROJECT NO.:	**01-ECR-001:3B**
PERMIT NO.:	**W2016-0266**
LOGGED BY:	**R. Robitaille**
REVIEWED BY:	
SURFACE ELEVATION:	
CASING TOP ELEVATION:	
START DATE (TIME):	**04/16/16 (1050)**
FINISH DATE (TIME):	**04/16/16 (1115)**

DRILLING INFORMATION

SUBCONTRACTOR:	**Cascade Drilling**
EQUIPMENT:	**GeoProbe 8040DT**
SAMPLING METHOD:	**Direct Push 1.85" Core**
MONITORING DEVICE:	**MiniRae 2000 PID**
BORING DIAMETER (IN):	**3.5 inches**
ANNULUS MATERIAL:	**NA**
BORING ANGLE: **Vertical**	CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**	

▽ First Water Encountered ▼ Stabilized Water Level ■ Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
	6.6				0		Asphalt to 0.25 feet bgs.	
	24.1						Fill - GM: Sandy gravel with silt, dark grayish brow (10YR 4/2), moist, dense, very poorly sorted.	
1055							Fill - GM: Silty gravel, very dark grayish brown (10YR 3/2), dry, dense, poorly sorted, gravel to 1" diameter, angular, low plasticity, (50,10,30,10).	Borehole was backfilled with cement/ bentonite grout.
	30.4				5			
1100							CL: Clayey silt, light live brown (2.5Y 5/3), dry, moderately hard, trace fine grained sand, (0,0,70,30). 6.75 feet bgs - Grades dark yellowish brown (10YR 4/4). 8.5 feet bgs - Grades with trace coarse grained sand and fine grained gravel.	
	32.5							
1115					10		SM: Silty sand with gravel, dark yellowish brown (10YR 4/4), wet, dense, very poorly sorted, fine grained gravel, very coarse to fine grained sand, some silt and clay, (20,50,20,10).	

BOREHOLE LOG

BORING / WELL ID: **SB-8**

TOTAL DEPTH: **10'**

PROJECT NAME AND SITE ADDRESS: **500 Grand Avenue, Oakland, California**

BORING LOCATION / DESCRIPTION: **Former waste oil UST**

PROJECT INFORMATION

PROJECT NO.:	**01-ECR-001:3B**
PERMIT NO.:	**W2016-0266**
LOGGED BY:	**R. Robitaille**
REVIEWED BY:	
SURFACE ELEVATION:	
CASING TOP ELEVATION:	
START DATE (TIME):	**04/16/16 (1135)**
FINISH DATE (TIME):	**04/16/16 (1150)**

DRILLING INFORMATION

SUBCONTRACTOR:	**Cascade Drilling**
EQUIPMENT:	**GeoProbe 8040DT**
SAMPLING METHOD:	**Direct Push 1.85" Core**
MONITORING DEVICE:	**MiniRae 2000 PID**
BORING DIAMETER (IN):	**3.5 inches**
ANNULUS MATERIAL:	**NA**
BORING ANGLE: **Vertical**	CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**	

▽ First Water Encountered ▼ Stabilized Water Level ■ Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
					0		Asphalt to 0.25 feet bgs.	
1140	37.1						Fill - GM: Silty gravel, very dark grayish brown (10YR 3/2), dry, dense, poorly sorted, gravel to 1" diameter, angular, low plasticity, (50,10,30,10).	
	14.7				5		Fill - GP: Gravel with sand, wet, loose, fine grained gravel to coarse grained sand.	
1150	17.9						CL: Clayey silt, light olive brown (2.5Y 5/4), wet, moderately hard, low plasticity, (0,0,70,30). 7.8 feet bgs - Grades yellowish brown (10YR 5/4). 8.5 feet bgs - Grades with fine grained sand.	
					10		SM: Silty sand, dark yellowish brown (10YR 4/4), wet, moderately dense, predominately fine to very fine grained sand, trace clay, (0,75,20,5).	

BOREHOLE LOG

BORING / WELL ID: **SB-9**

TOTAL DEPTH: **10'**

PROJECT NAME AND SITE ADDRESS: **500 Grand Avenue, Oakland, California**

BORING LOCATION / DESCRIPTION: **Upgradient - center of north wall**

PROJECT INFORMATION

PROJECT NO.:	**01-ECR-001:3B**
PERMIT NO.:	**W2016-0266**
LOGGED BY:	**R. Robitaille**
REVIEWED BY:	
SURFACE ELEVATION:	
CASING TOP ELEVATION:	
START DATE (TIME):	**04/16/16 (0745)**
FINISH DATE (TIME):	**04/16/16 (0830)**

DRILLING INFORMATION

SUBCONTRACTOR:	**Cascade Drilling**
EQUIPMENT:	**GeoProbe 8040DT**
SAMPLING METHOD:	**Direct Push 1.85" Core**
MONITORING DEVICE:	**MiniRae 2000 PID**
BORING DIAMETER (IN):	**3.5 inches**
ANNULUS MATERIAL:	**NA**
BORING ANGLE: **Vertical**	CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**	

▽ First Water Encountered ▼ Stabilized Water Level ■ Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
0805	0.0				0		Boring hand cleared to 2 feet bgs. Asphalt to 0.25 feet bgs.	Borehole was backfilled with cement/ bentonite grout.
	0.1						Fill - GW-SW: Sandy gravel, dark greenish gray (10Y 4/1), dry to wet, loose, very poorly sorted, gravel to 1" diameter, (50,40,10,0).	
					5		ML: Sandy silt, dark yellowish brown (10YR 4/6), moist, moderately hard, low plasticity, trace clay, very fine grained sand, (0,15,80,5). 4.8 feet bgs - Grades with trace gray mottling, increasing fine grained sand, increasing clay, (0,20,70,10).	
	0.1							
	0.1						SC: Sand with clay, yellowish brown (10YR 5/4), wet, dense, poorly sorted, coarse to very fine grained sand, trace fine grained gravel, grades less clay at base, (5,70,10,15).	
0825	0.1				10		CL: Clayey silt, yellowish brown (10YR 5/4) to very pale brown (10YR 7/4), abundant caliche, moist, hard, low plasticity, (0,5,60,35).	

BOREHOLE LOG

BORING / WELL ID: **SB-10**

TOTAL DEPTH: **10'**

PROJECT NAME AND SITE ADDRESS: **500 Grand Avenue, Oakland, California**

BORING LOCATION / DESCRIPTION: **Near former well MW-8B**

PROJECT INFORMATION

PROJECT NO.: **01-ECR-001:3B**

PERMIT NO.: **W2016-0266**

LOGGED BY: **R. Robitaille**

REVIEWED BY:

SURFACE ELEVATION:

CASING TOP ELEVATION:

START DATE (TIME): **04/16/16 (0920)**

FINISH DATE (TIME): **04/16/16 (0950)**

DRILLING INFORMATION

SUBCONTRACTOR: **Cascade Drilling**

EQUIPMENT: **GeoProbe 8040DT**

SAMPLING METHOD: **Direct Push 1.85" Core**

MONITORING DEVICE: **MiniRae 2000 PID**

BORING DIAMETER (IN): **3.5 inches**

ANNULUS MATERIAL: **NA**

BORING ANGLE: **Vertical** CASING DIAMETER: **NA**

SCREEN INTERVAL: **NA**

▽ First Water Encountered ▼ Stabilized Water Level ■ Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
					0		Boring hand cleared to 2 feet bgs. Asphalt to 0.25 feet bgs.	
0925							Fill - GM: Silty gravel, very dark grayish brown (10YR 3/2), dry, dense, poorly sorted, gravel to 1" diameter, angular, low plasticity, (50,10,30,10). Grades wet at 5 feet bgs.	
					5			
0935							CL: Clayey silt, light olive brown (2.5Y 5/4), drymoderately dense, low plasticity, trace fine grained sand, (0,0,70,30). Grades dark yellowish brown (10YR 4/4).	
0950					10		Found water April 21, 2016, 0720 hours.	

APPENDIX C

GEOTECHNICAL LABORATORY REPORTS

PTS Laboratories, Inc.

8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

May 5, 2016

Glen Smith
The Source Group, Inc.
3478 Buskirk Ave, Ste 100
Pleasant Hill, CA 94523

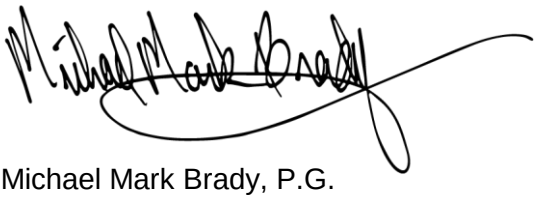
Re: PTS File No: 46250
Physical Properties Data
Ellwood Commercial Real Estate; O1-ECR-001

Dear Mr. Smith:

Please find enclosed report for Physical Properties analyses conducted upon samples received from your Ellwood Commercial Real Estate; O1-ECR-001 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. The samples are currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please give me a call at (562) 347-2502.

Sincerely,
PTS Laboratories, Inc.



Michael Mark Brady, P.G.
Laboratory Director

Encl.

Project Name: **Ellwood Commercial Real Estate** **PTS File No: 46250**
Project Number: **O1-ECR-001** **Client: The Source Group, Inc.**

TEST PROGRAM - 20160420

CORE ID	Depth ft.	Core Recovery ft.	CAL-EPA DTSC Vapor Intrusion						Comments
		Plugs:	Various						
Date Received: 20160420									
SB-6-4'	**4.0**	**0.65**	**X**						
SB-10-10	**10.0**	**0.55**	**X**						
TOTALS:	**2 Cores**	**1.20**	**2**						**2**

Laboratory Test Program Notes
Contaminant identification:
Standard TAT for basic analysis is 15 business days.
CAL-EPA DTSC Vapor Intrusion: Bulk & grain density, total porosity, moisture content, volumetric air & moisture, TOC/foc, and grain size distribution.

PTS Laboratories

PTS File No: 46250
Client: The Source Group, Inc.
Report Date: 05/05/16

PHYSICAL PROPERTIES DATA - CAL-EPA DTSC Vapor Intrusion Package

Project Name: Ellwood Commercial Real Estate
Project No: O1-ECR-001

			METHODS:	API RP40/ASTM D2216		API RP 40		API RP 40		
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	ANALYSIS DATE	MOISTURE CONTENT, % weight	MOISTURE CONTENT, cm^3/cm^3	DENSITY, DRY BULK, g/cm^3	DENSITY, GRAIN, g/cm^3	POROSITY, (2) TOTAL, cm^3/cm^3	POROSITY, (2) AIR-FILLED, cm^3/cm^3	POROSITY, (2) WATER-FILLED, cm^3/cm^3
SB-6-4'	4.35	V	20160429	8.1	0.137	1.69	2.72	0.378	0.241	0.137
SB-10-10	10.5	V	20160429	19.9	0.326	1.63	2.65	0.383	0.057	0.326

(1) Sample Orientation: H = horizontal; V = vertical; R = remold

(2) Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids.

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D422/D4464M)

PROJECT NAME: Ellwood Commercial Real Estate
PROJECT NO: O1-ECR-001

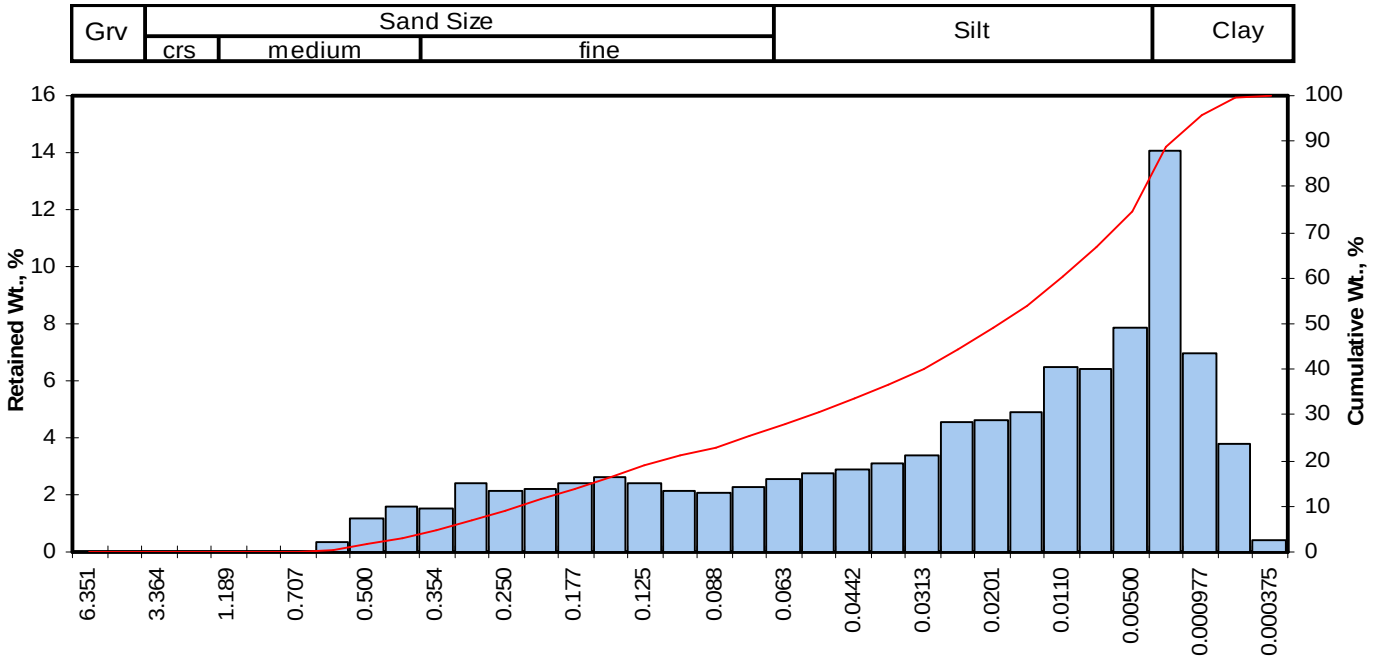
Sample ID	Depth, ft.	Mean Grain Size Description (1)	Median Grain Size mm	Particle Size Distribution, wt. percent						Silt & Clay
				Gravel	Sand Size			Silt	Clay	
					Coarse	Medium	Fine			
SB-10-10	10.5	Silt	0.019	0.00	0.00	3.11	22.20	49.43	25.26	74.69

(1) Based on Mean from Trask

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	The Source Group, Inc.	**PTS File No:**	46250
Project:	Ellwood Commercial Real Estate	**Sample ID:**	SB-10-10
Project No:	O1-ECR-001	**Depth, ft:**	10.5



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.02	0.02	0.02
0.0234	0.595	0.75	30	0.34	0.34	0.36
0.0197	0.500	1.00	35	1.18	1.18	1.54
0.0166	0.420	1.25	40	1.57	1.57	3.11
0.0139	0.354	1.50	45	1.53	1.53	4.64
0.0117	0.297	1.75	50	2.42	2.42	7.06
0.0098	0.250	2.00	60	2.17	2.17	9.23
0.0083	0.210	2.25	70	2.20	2.20	11.43
0.0070	0.177	2.50	80	2.39	2.39	13.82
0.0059	0.149	2.75	100	2.59	2.59	16.41
0.0049	0.125	3.00	120	2.42	2.42	18.83
0.0041	0.105	3.25	140	2.12	2.12	20.95
0.0035	0.088	3.50	170	2.07	2.07	23.02
0.0029	0.074	3.75	200	2.29	2.29	25.31
0.0025	0.063	4.00	230	2.57	2.57	27.88
0.0021	0.053	4.25	270	2.74	2.74	30.62
0.00174	0.0442	4.50	325	2.90	2.90	33.53
0.00146	0.0372	4.75	400	3.10	3.10	36.63
0.00123	0.0313	5.00	450	3.35	3.35	39.98
0.000986	0.0250	5.32	500	4.54	4.54	44.52
0.000790	0.0201	5.64	635	4.60	4.60	49.12
0.000615	0.0156	6.00		4.87	4.87	53.99
0.000435	0.0110	6.50		6.48	6.48	60.47
0.000308	0.00781	7.00		6.38	6.38	66.85
0.000197	0.00500	7.65		7.89	7.89	74.74
0.000077	0.00195	9.00		14.10	14.10	88.85
0.000038	0.000977	10.00		6.93	6.93	95.78
0.000019	0.000488	11.00		3.82	3.82	99.60
0.000015	0.000375	11.38		0.40	0.40	100.00
TOTALS				**100.00**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	1.54	0.0136	0.345
10	2.09	0.0093	0.235
16	2.71	0.0060	0.153
25	3.72	0.0030	0.076
40	5.00	0.0012	0.031
50	5.71	0.0008	0.019
60	6.46	0.0004	0.011
75	7.67	0.0002	0.005
84	8.53	0.0001	0.003
90	9.17	0.0001	0.002
95	9.89	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	5.71	5.71	5.71
Median, in.	0.0008	0.0008	0.0008
Median, mm	0.019	0.019	0.019
Mean, phi	4.63	5.62	5.65
Mean, in.	0.0016	0.0008	0.0008
Mean, mm	0.041	0.020	0.020
Sorting	3.936	2.912	2.721
Skewness	1.009	-0.028	-0.013
Kurtosis	0.152	0.434	0.866
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	3.11
Fine Sand	200	22.20
Silt	>0.005 mm	49.43
Clay	<0.005 mm	25.26
	Total	**100**

The Source Group, Inc.
PTS File No: 46250

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D422M)

PROJECT NAME: Ellwood Commercial Real Estate
PROJECT NO: O1-ECR-001

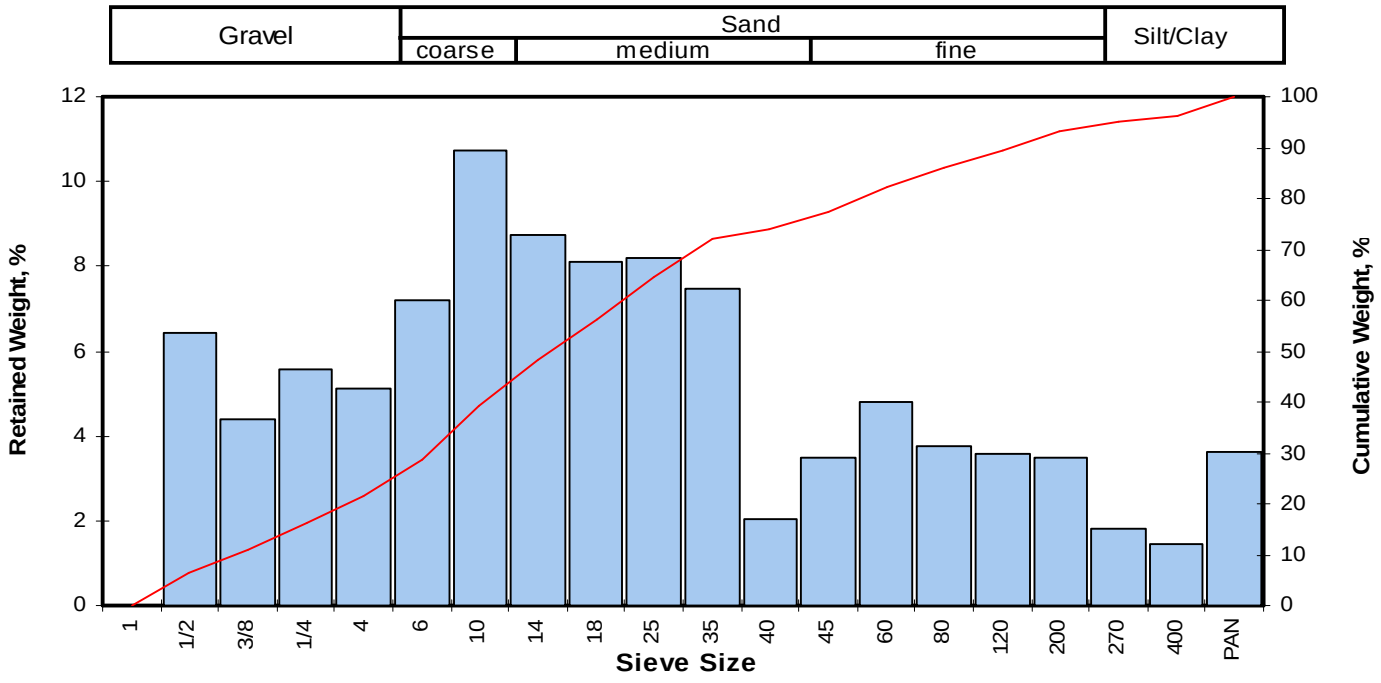
Sample ID	Depth, ft.	Mean Grain Size Description USCS/ASTM (1)	Median Grain Size, mm	Particle Size Distribution, wt. percent				
				Gravel	Sand Size			Silt/Clay
					Coarse	Medium	Fine	
SB-6-4'	4.35	Coarse sand	1.308	21.52	17.90	34.54	19.12	6.92

(1) Based on Mean fromTrask

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D422M

Client:	The Source Group, Inc.	**PTS File No:**	46250
Project:	Ellwood Commercial Real Estate	**Sample ID:**	SB-6-4'
Project No:	O1-ECR-001	**Depth, ft:**	4.35



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.9844	25.002	-4.64	1	0.00	0.00	0.00
0.4922	12.501	-3.64	1/2	8.29	6.41	6.41
0.3740	9.500	-3.25	3/8	5.69	4.40	10.82
0.2500	6.351	-2.67	1/4	7.20	5.57	16.39
0.1873	4.757	-2.25	4	6.63	5.13	21.52
0.1324	3.364	-1.75	6	9.28	7.18	28.70
0.0787	2.000	-1.00	10	13.85	10.72	39.42
0.0557	1.414	-0.50	14	11.30	8.74	48.16
0.0394	1.000	0.00	18	10.50	8.13	56.29
0.0278	0.707	0.50	25	10.57	8.18	64.47
0.0197	0.500	1.00	35	9.65	7.47	71.93
0.0166	0.420	1.25	40	2.62	2.03	73.96
0.0139	0.354	1.50	45	4.49	3.47	77.44
0.0098	0.250	2.00	60	6.21	4.81	82.24
0.0070	0.177	2.50	80	4.85	3.75	85.99
0.0049	0.125	3.00	120	4.65	3.60	89.59
0.0029	0.074	3.75	200	4.51	3.49	93.08
0.0021	0.053	4.25	270	2.37	1.83	94.92
0.0015	0.037	4.75	400	1.89	1.46	96.38
			PAN	4.68	3.62	100.00
TOTALS				129.23	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	-3.86	0.5735	14.566
10	-3.32	0.3936	9.997
16	-2.71	0.2572	6.532
25	-2.01	0.1583	4.021
40	-0.97	0.0769	1.954
50	-0.39	0.0515	1.308
60	0.23	0.0336	0.854
75	1.32	0.0157	0.399
84	2.23	0.0084	0.213
90	3.09	0.0046	0.118
95	4.28	0.0020	0.052

Measure	Trask	Inman	Folk-Ward
Median, phi	-0.39	-0.39	-0.39
Median, in.	0.0515	0.0515	0.0515
Median, mm	1.308	1.308	1.308
Mean, phi	-1.14	-0.24	-0.29
Mean, in.	0.0870	0.0464	0.0480
Mean, mm	2.210	1.178	1.220
Sorting	3.174	2.471	2.469
Skewness	0.969	0.061	0.103
Kurtosis	0.183	0.648	1.001

Grain Size Description (ASTM-USCS Scale)	Coarse sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	21.52
Coarse Sand	10	17.90
Medium Sand	40	34.54
Fine Sand	200	19.12
Silt/Clay	<200	6.92
	Total	100

Phone: (562) 907-3607
Fax: (562) 907-3610

PTS Laboratories

PTS File No: 46250
Client: The Source Group, Inc.
Report Date: 05/05/16

ORGANIC CARBON DATA - TOC (foc)

(Methodology: Walkley-Black)

Project Name: Ellwood Commercial Real Estate
Project No: O1-ECR-001

SAMPLE ID.	DEPTH, ft.	ANALYSIS DATE	ANALYSIS TIME	SAMPLE MATRIX	TOTAL ORGANIC CARBON, mg/kg	FRACTION ORGANIC CARBON, g/g
SB-6-4'	4.55	20160504	0930	SOIL	3800	3.80E-03
SB-10-10	10.5	20160504	0930	SOIL	3850	3.85E-03
Blank	N/A	20160504	0930	BLANK	ND	ND
SRM D089-542	N/A	20160504	0930	SRM	5754	5.75E-03
				Reporting Limit:	100	1.00E-04

QC DATA

SRM ID/Lot No.	REC (%)	Control Limits	Certified Concentration mg/kg	QC Performance Acceptance Limits, mg/kg Lower	Upper
SRM D089-542	103	75-125	5610	4208	7013

ND = Not Detected

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

COMPANY: SGI-Apex

ADDRESS: 3478 Buskirk Ave, Ste 100 CITY: Pleasant Hill ZIP CODE: 94523

PROJECT MANAGER: Glen Smith (925) 951-6402 PHONE NUMBER

PROJECT NAME: Ellwood Commercial Real Estate FAX NUMBER

PROJECT NUMBER: 01-ECR-001

SITE LOCATION: 500 Grand Ave, Oakland, CA

SAMPLER SIGNATURE:

PO#

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☒
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT ____ ON ICE ____

PTS QUOTE NO.

PTS FILE: 46250

ANALYSIS REQUEST

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Cal EPA DTSC Vapor Intrusion Pkg				COMMENTS
SB-6-4'	16 Apr 16	0830	4'																		X				
SB-10-10	16 Apr 16	0950	10'																		X				

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
COMPANY: SGI-Apex	COMPANY: PTS Labs. Inc	COMPANY	COMPANY
DATE: 19 Apr 16 TIME: 14:50	DATE: 4/20/16 TIME: 1126	DATE TIME	DATE TIME

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 907-3610

APPENDIX D

SITE-SPECIFIC HEALTH AND SAFETY PLAN

This Level 2 HASP is intended to provide health and safety guidelines for project field work meeting the following criteria:

- **"Buddy System" in use (or communication plan implemented for "lone worker"**
- **Some likelihood of chemical and/or physical hazard exposure**
- **No supplied-air respirator use**

The Project Manager should review this Health and Safety Plan with all Apex project personnel. A copy of the HASP must be kept in the field with the project team as well as maintained in project files.

<table>
<tr><td rowspan="6">Administrative Information

This document is valid for a maximum time period of one year after initial completion and must be re-evaluated by the project team at that time.

A minimum of two persons with appropriate training must be onsite or an appropriate communication plan must be implemented. A mix of Apex and other personnel can satisfy this requirement.</td><td colspan="2">Site Name and Location
Ellwood Commercial Real Estate, 500 Grand Avenue, Oakland, CA</td></tr>
<tr><td colspan="2">Client Contact and Phone
Patrick Ellwood - 1345 Grand Avenue, Suite 101, Oakland, CA 94610</td></tr>
<tr><td colspan="2">Project Name
500 Grand Avenue</td></tr>
<tr><td>Health & Safety Plan Date
TBD</td><td>Revision Number and Date
00</td></tr>
<tr><td>Field Work Start Date
TBD</td><td>Anticipated Field Work End Date
TBD</td></tr>
<tr><td>Project Manager (responsible for implementing the site health and safety program on this project)
TBD</td><td>Site Safety Officer (SSO) (responsible for overall site health and safety performance on this project).
TBD</td></tr>
</table>

Project Background and Scope of Work

Include numbered list of tasks to be completed by Apex personnel during this project, and a separate list of tasks to be completed by any subcontractors at the site.

JSAs are to be prepared for each task listed. Subcontractors are responsible for preparing JSAs for their activities.

Apex Scope of Work: Mark utilities, oversight of intrusive work associated with foundation excavation, utility corridor excavation, air monitoring during soil disturbance, collection of post excavation soil samples from impacted areas, and oversight of sampling of dewatering system (if applicable).

Subcontractor Scope of Work: Completion of intrusive foundation excavation and groundwate dewatering (if needed).

Site/Project General Information

An asterisk (*) indicates that additional checklists or permits are required and must be completed and attached to this document.

A double asterisk (**) indicates that a Risk Review performed by a member of the Corporate Safety Committee must take place prior to beginning fieldwork on the project.

Site Type (check all applicable boxes)

☐ Active Facility	☐ Remote Facility	☒ Inactive Facility	☐ Residential
☐ Mine	☐ Railroad	☐ Industrial	☐ Secured
☐ Uncontrolled	☐ Other (specify)		

Main Site Hazards (check all applicable boxes)

☒ Slip/Trip/Fall	☐ Cold Stress	☐ Heat Stress	☐ Extreme Weather
☐ Biological	☒ Organic/Inorganic Chemicals	☒ High Noise	☒ Construction Traffic
☒ Vehicular Traffic	☐ Respirable Particles	☒ Excavations	☒ Buried/Overhead Utilities
☐ Non-Ionizing Radiation	☐ Security	☐ ASTs/USTs	☐ Manlift/Cherry Picker Use
☐ Work Over 6' High*	☐ Hand/Portable Power Tools	☐ Oxygen Deficiency	☒ Construction
☐ Blasting Agents	☐ Confined Spaces	☐ Welding or Hot Work	☐ Chemical Mixing**
☐ Lockout/Tagout	☐ Forklift Use	☐ Other (*specify*)	
☐ Scaffold Use	☐ Portable Ladders	☐ Other (*specify*)	

Chemical Products Apex will Use or Store Onsite

For each chemical product identified, an SDS must be attached to this HASP

☐ Alconox or Liquinox	☐ Calibration gas (Methane)	☐ Isopropyl Alcohol
☒ Hydrochloric acid (HCl)*	☒ Calibration gas (Isobutylene)	☐ Household bleach (NaOCl)*
☐ Nitric acid (HNO_3)*	☐ Calibration gas (Pentane)	☐ Sulfuric acid (H_2SO_4)*
☐ Sodium hydroxide (NaOH)*	☐ Calibration gas (4-gas mixture)	☐ Hexane
☐ Other (specify)	☐ Other (specify)	☐ Other (specify)

***NOTE: Eyewash solution shall be readily available on ALL projects where corrosive materials are used or stored, including sample preservatives.**

Safe Work Practices

Place a checkmark by applicable SWPs and attach to this document

For hazards not covered by SWPs listed in this section, ensure the hazard is addressed in the JSA for that task. Otherwise, the JSA may reference the SWP for that hazard.

SWPs Applicable To This Project (check all applicable boxes)

☒ Hazard Communication	☒ Medical Services and First Aid	☒ Airborne Contaminants	☐ Heat Stress
☐ Cold Stress	☐ Natural Hazards	☒ Personal Protective Equipment	☒ Respiratory Protection
☐ Confined Space Entry	☐ Drum Handling	☒ Excavation	☐ Fall Protection and Prevention
☐ Forklift and Truck Operations	☐ Hand/Power Tool Use	☐ Heavy and Material Handling Equipment	☐ Ladder Safety
☐ Wet Utilities – Maintenance, Inspection, Repair	☐ **Other Task (specify)**	☐ **Other Task (specify)**	☐ **Other Task (specify)**
☐ **Other Task (specify)**	☐ **Other Task (specify)**	☐ **Other Task (specify)**	☐ **Other Task (specify)**

Levels of Protection Required for each Task

Signature of the SSO on page 1 of this document signifies certification of PPE Hazard Assessment

Task Description	Level			
	A	B	C	D
Mark excavation areas for utility locate.	☐	☐	☐	☒
Intrusive excavation oversight	☐	☐	☐	☒
Soil sampling	☐	☐	☐	☒
Dewatering system sampling	☐	☐	☐	☒
	☐	☐	☐	☐

Personal Protective Equipment	Equipment	Req	Rec	NA	Equipment	Req	Rec	NA
Req=Required Rec=Recommended An asterisk (*) indicates that employees must be a participant in the respiratory program, including, annual training and fit testing.	Steel Toe Boots	☒	☐	☐	Tyvek Suit	☐	☐	☒
	Safety Glasses Shields	☒	☐	☐	Outer Disposable Boots	☐	☐	☒
	Hi Vis Vest (Specify Class 2/3)	☒	☐	☐	Indirect Vented Goggles	☐	☐	☒
	Hi Vis Shirt	☐	☐	☒	Poly-Coated Tyvek	☐	☐	☒
	Hard Hat	☒	☐	☐	Dust Mask*	☐	☐	☒
	Fire Resistant Clothing (FRC)	☐	☐	☒	Full-Face Respirator*	☐	☐	☒
	Hearing Protection	☒	☐	☐	Half-Face Respirator*	☐	☒	☐
	Work Gloves – Type:	☐	☒	☐	Inner Chemical Gloves	☐	☐	☒
	Outer Chemical Gloves	☒	☐	☐	Other (specify)	☐	☐	☐
Training and Medical Surveillance Req=Required Rec=Recommended	**Training**	**Req**	**Rec**	**NA**	**Medical Surveillance**	**Req**	**Rec**	**NA**
	40 Hour HAZWOPER	☒	☐	☐	Medical Clearance (fit for duty)	☒	☐	☐
	Current 8 Hour HAZWOPER	☒	☐	☐	Respirator Clearance	☒	☐	☐
	8 Hour HAZWOPER Supervisor	☒	☐	☐	Blood Lead and ZPP	☐	☐	☐
	24Hour HAZWOPER	☐	☐	☐	Other (specify)	☐	☐	☐
	Current CPR and First Aid	☒	☐	☐	Other (specify)	☐	☐	☐
	10 Hour Construction	☐	☐	☐	Other (specify)	☐	☐	☐
	Other (specify)	☐	☐	☐	Other (specify)	☐	☐	☐
	Other (specify)	☐	☐	☐	Other (specify)	☐	☐	☐
	Other (specify)	☐	☐	☐	Other (specify)	☐	☐	☐
Safety Supplies Req=Required Rec=Recommended	**Supplies**	**Req**	**Rec**	**NA**	**Supplies**	**Req**	**Rec**	**NA**
	First Aid Kit	☒	☐	☐	Fire Extinguisher	☐	☐	☐
	Eyewash Solution	☒	☐	☐	Water/Sports Drink	☐	☐	☐
	Air Horn	☐	☐	☐	Oral Thermometer (heat monitoring)	☐	☐	☐
	Noise Meter (Dosimeter)	☐	☐	☐	Decontamination Supplies	☒	☐	☐

Work Zones **If exclusion zones are necessary because of chemical OR equipment hazards, describe the plan**	Exclusion Zone: Active excavation area.
	Contamination Reduction Zone: TBD pending excavation area.
	Support Zone: Construction office.

Site Access/Control **How do we limit unauthorized entry to the site itself?**	Access Control Procedures: Project site is currently a public parking lot. Site is fenced with two ingress/egress points. Work areas will be cordoned off with delineators during work. Anticipate during redevelopment Site will be fenced off from general public access.
DECON Procedures	Decontamination Procedures: Decon will be performed in a cordoned off area away from ingress/egress points.

Communication Plan **In the event work must be completed alone by an Apex employee or work is performed in a rural area with limited communication, this Communication Plan must be completed.**	The purpose of the communication plan is to provide a "What to Do" if the project manager/supervisor cannot contact field personnel. The field team and PM must coordinate a call in time daily. The check-in intervals will depend on the project setting and hazards. More importantly, if the field team does not check in, what is the requirement or actions of the PM.			
	Daily Check in Time	Responsible Person	Daily Check In Time	Responsible person
	Plan of Action (in the event of no communication):			

Chemicals of Concern

In the section to the right, check any chemicals present onsite in any media (air, soil water).

In the table below, list chemicals suspected or confirmed to be onsite, and provide requested information.

- ☐ Friable Asbestos
- ☐ RCRA Metals
- ☐ Lead
- ☒ Benzene
- ☐ Trichloroethylene (TCE)
- ☐ Tetrachloroethylene (PCE)
- ☒ Other Naphthalene
- ☒ Other TPH
- ☐ Other
- ☐ Vinyl chloride
- ☐ Inorganic Arsenic
- ☐ Cadmium
- ☐ Formaldehyde
- ☐ Fuel Oils
- ☐ Methylene chloride
- ☐ Other
- ☐ Other
- ☐ Other
- ☐ Toluene
- ☐ Ethylbenzene
- ☐ Xylene
- ☐ Polyaromatic hydrocarbons (PAHs)
- ☐ Polychlorinated biphenyl (PCBs)
- ☐ Chromium (VI)
- ☐ Other
- ☐ Other
- ☐ Other

Materials Present or Suspected at Site	Highest Reported Concentration (specify units and sample medium)	Exposure Limit (specify ppm or mg/m³)	IDLH Level (specify ppm or mg/m³)	Primary Hazards of the Material (explosive, flammable, corrosive, toxic, volatile, radioactive, biohazard, oxidizer, or other)	Symptoms and Effects of Acute Exposure	Ionization Potential (eV)
			No Apex exposure to these			
Benzene	Soil <250 ug/Kg GW 740 ug/L	PEL = 1 ppm ST 5ppm) REL = 0.1 ppm TLV = 0.5 ppm Skin Hazard ☒		Toxic, flamable	Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact Symptoms irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen] Target Organs Eyes, skin, respiratory system, blood, central nervous system, bone marrow	9.24 eV
Ethylbenzene	Soil 4,300 ug/Kg GW 710 ug/L	PEL = 100 ppm REL = 100 ppm TLV = 20 ppm Skin Hazard ☒		Toxic, flamable	Irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma	9.24 eV
Napthalene	Soil 6,500 ug/Kg GW 710 ug/L	PEL = 10 ppm REL = 10 ppm TLV = 10 ppm Skin Hazard ☒		Toxic, flamable		9.24 eV
TPH-gasoline	Soil 590 mg/Kg GW 15,000 ug/L	PEL = 300 ppm REL = 300 ppm TLV = 300 ppm Skin Hazard ☒		Toxic, flamable	Irritation to eyes, skin, mucous membrane; dermatitis; headache; nausea; fatigue; dizziness; blurred vision; slurred speech; mental confusion; convulsion; if aspirated, chemical pneumonitis and pulmonary edema	9.24 eV

PEL = OSHA Permissible Exposure Limit
REL = NIOSH Recommended Exposure Limit
TLV = ACGIH Threshold Limit Value
IDLH = Immediately Dangerous to Life or Health

Monitoring Equipment: All monitoring equipment on site must be calibrated before and after each use and results recorded.				
Instrument (Check all required)	**Task**	**Instrument Reading**	**Action Guideline**	**Comments**
☐ Combustible gas indicator model:	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	0 to 10% LEL	Monitor; evacuate if confined space	
		10 to 25% LEL	Potential explosion hazard	
		>25% LEL	Explosion hazard; interrupt task; evacuate site	
☐ Oxygen meter model:	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	>23.5% Oxygen	Potential fire hazard; evacuate site	
		23.5 to 19.5% Oxygen	Oxygen level normal	
		<19.5% Oxygen	Oxygen deficiency; interrupt task; evacuate site	
☐ Radiation survey meter model:	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	Normal background	Proceed	
		Two to three times background	Notify SSO	
		>Three times background	Radiological hazard; interrupt task; evacuate site	
☒ Photoionization detector model: ☐ 11.7 eV ☐ 10.6 eV ☒ 10.2 eV ☐ 9.8 eV ☐ _____ eV	☐ 1 ☒ 2 ☐ 3 ☐ 4 ☐ 5	Any response above background to 1 ppm above background	Level D is acceptable	Action levels must be determined based on the COCs and concentrations identified in the media sampled. If no COC conentrations are known, then use 5 ppm sustained within the breathing zone as your action level until the contaminants are identified.
		>1 ppm above background	Level C (not anticipated)	
		10 ppm above background	Discontinue work	
☐ Flame ionization detector model:	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	Any response above background to ppm above background	Level C is acceptable Level B is recommended	
		ppm above background	Level B	
		above background	Level A	
☐ Detector tube models:	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	Specify:	Specify:	
☐ Other (specify):	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	Specify:	Specify:	

Emergency Response Planning	
In the pre-work briefing and Daily Tailgate Safety meetings, all onsite employees will be trained in the provisions of emergency response planning, site communication systems, and site evacuation routes. **Signal a site emergency or medical emergency with three blasts of a loud horn (car horn, fog horn, or similar device).** **To complete this section, attach a hospital route map to the HASP.**	**All work-related incidents must be reported. For all medical emergencies, call 911 or the local emergency number. For non-emergency incidents, you must:** • Give appropriate first aid care to the injured or ill individual and secure the scene. • Immediately call **WorkCare at (888) 449-7787** (available 24 hours/7 days per week) if the injured person is an Apex employee. • Notify the Project Manager and/or SSO after calling WorkCare. • Enter the safety incident into the Apex Incident Report and submit to incidents@apexcos.com within 24 hours. **In the event of an emergency that necessitates evacuation of the work task area or the site as a whole, the following procedures shall occur:** • The Apex site supervisor or Project Manager will contact all nearby personnel using the onsite communications system to advise of the emergency. • Personnel will proceed along site roads to a safe distance upwind from the hazard source to a pre-determined assembly area. • Call 911 • Personnel will remain in that area until the site supervisor or Project Manager or other authorized individual provides further instruction. **In the event of a severe spill or leak, site personnel will follow the procedures listed below:** • **STOP WORK** • Evacuate the affected area and relocate personnel to an upwind, pre-determined assembly area. • Inform the Apex site supervisor or Project Manager, an Apex office, and a site representative immediately. • Locate the source of the spill or leak, and stop the source if it is safe to do so until appropriately trained personnel are onsite to do so. Begin containment and recovery of spilled or leaked materials. • Notify appropriate local, state, and federal agencies after obtaining client consent to do so. **In the event of severe weather, site personnel will follow the procedures listed below:** • Site work shall not be conducted during severe weather, including high winds and lightning. • In the event of severe weather, stop work, lower any equipment (drill rigs), and evacuate the affected area. • Monitor internet or other sources for sever weather alerts before resuming work. • In the event of lightning, outdoor work must be halted for a minimum of **30 minutes** from the last lightening observation.

Emergency Contacts	Name	Location	Phone	Cell Phone
Hospital (attach map)	Highland Hospital	1411 E 31st St, Oakland, CA	(510) 437-4800	
Police	Oakland Police Department		(510) 777-3333 or 911	
Fire	Oakland Fire Department		911 or (510) 238-4030	
Project Manager	TBD			
Field Manager (if not PM)	TBD			
Site Safety Officer (if not PM)				
Division H&S Contact	TBD			
Corporate H&S Contact	Joe Schmids	Malvern, PA	610-722-9050	484-467-9333
Incident Intervention	WorkCare	NA	888-449-7787	
Subcontractor Safety Contact				
Subcontractor Safety Contact				

Acknowledgement	***I have read, understood, and agree with the information set forth in this Health & Safety Plan, and will follow guidance in the plan and in the Apex Corporate Health and Safety Manual. I understand the training and medical monitoring requirements for conducting activities covered by this HASP and have met these requirements.*** ***Apex has prepared this plan solely for the purpose of protecting the health and safety of Apex employees. Subcontractors, visitors, and others at the site are required to follow provisions in this document at a minimum, but must refer to their organization's health and safety program for their protection.***		
Printed Name	Signature	Organization	Date

Approval Signatures

Signatures in this section indicate the signing employee will comply with and enforce this HASP, as well as procedures and guidelines established in the Apex Corporate H&S Manual. Signatures in this section also indicate that any subcontractors performing work under contract to Apex agree to comply with this HASP.