Prepared for
Department of Toxic Substances Control
Chatsworth, California

On behalf of
Rosecrans Place, LLC
Gardena, California

Prepared By
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FINAL RESPONSE PLAN

2101 AND 2129 WEST ROSECRANS AVENUE GARDENA, CALIFORNIA

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1. INTRODUCTION

1.1 Objective

Ramboll US Corporation (Ramboll) has prepared this Response Plan (or "RP") on behalf of Rosecrans Place, LLC (Rosecrans Place), for the property located at 2101 and 2129 West Rosecrans Avenue in Gardena, California (herein referred to as the "facility," or the "Site"; see Figure 1). The Site is the proposed location of a mixed commercial/residual development known as Rosecrans Place.

The extent of contaminant impacts to soil, soil vapor and groundwater at the Site has been characterized by multiple rounds of recent and historical subsurface investigations, which are summarized in the Site Assessment Report (SAR Report, Ramboll 2019b), the Supplemental Site Investigation Report (SSI Report, Ramboll 2019d) and the Amended Supplemental Site Investigation Report (Amended SSI Report, Ramboll 2020) that were provided to the California Department of Toxic Substances Control (DTSC) for review.

The purpose of this Response Plan is to set forth in detail the comprehensive plan for addressing the presence of contaminants in soil, soil vapor and groundwater at the Site. Rosecrans Place neither caused nor contributed to the underlying contamination but seeks to perform the Response Plan in order to redevelop the Site and return it to productive use for the benefit of the City of Gardena and the local communities.

This Response Plan has been prepared pursuant to the California Land Reuse and Revitalization Act (CLRRA) and the CLRRA Agreement in place with DTSC. It is Ramboll's understanding that the United Stated Environmental Protection Agency (EPA) will oversee the remediation of polychlorinated biphenyls (PCBs) at the Site, which are under federal jurisdiction, but that DTSC will oversee all non-PCB contaminant issues.

Ramboll submitted a draft Response Plan to the DTSC and USEPA in December of 2019. The Human and Ecological Risk Office (HERO) of DTSC provided comments on the draft Response Plan on January 25, 2020. Geologic services unit (GSU) of DTSC provided comments on the Response Plan on March 20, 2020. USEPA provided comments on the draft Response Plan on March 12, 2020. Accordingly, this Final Response Plan was prepared to address DTSC and USEPA comments. DTSC held a public comment period from March 30, 2020 to April 29, 2020. DTSC evaluated the comments received during the public comment period and determined that revisions to the Response Plan and the California Environmental Quality Act (CEQA) Notice of Exemption (NOE) were not required. The Final Response Plan was approved by the DTSC on May 21st, 2020. The CEQA NOE is included in Appendix F.

In accordance with the CLRRA Agreement between Rosecrans Place and DTSC, Rosecrans Place is presumed not to be responsible for those impacts to groundwater that are sourced off-Site and migrating onto the Site from an unknown hydrologically upgradient source or sources located north of the Site.

This Response Plan presents a remedial and human health risk mitigation approach that has been developed to be protective of both human health and the environment. Key components of this Response Plan, including the development of target levels for soil and characterization methodologies for on-Site impacted soil during implementation of the development plan, have been discussed and/or reviewed by DTSC prior to submittal of this RP.

1.2 Description of Project and Context

Rosecrans Place proposes to redevelop the Site and construct a residential mixed-use development on the 5.46-acres of the Site, which consists of two parcels. The proposed project will include one 5,080 square foot (sf) free-standing commercial building and 105 residential dwelling units, which are further broken down as follows: 50 residential three-story townhomes (1690 sf, 1755 sf, 1761 sf, 1803 sf), 14 live/work units (1610 sf, 1759 sf, 1792 sf), and 41 three-story single family dwelling units (1800 sf, 1755 sf, 1761 sf, 1803 sf). The development plan is provided in Figure 11A.

For purposes of the risk management discussion set forth later in this RP, the following key components of the project should be highlighted:

- The project involves complete over-excavation and re-compaction of soils to a depth of 5 feet below ground surface (bgs). Impacted soils encountered as part of grading shall be managed in accordance with the procedures outlined in the DTSC approved Soil Management Plan (SMP). Therefore, the SMP is considered a companion document to this RP.
- All residential dwelling units shall have concrete back yards and side yards where no concrete removal shall be permitted (thereby avoiding any disturbance of or exposure to soil beneath the hardscapes).
- All on-Site structures, including residential and commercial buildings, shall be designed and built to include vapor intrusion mitigations systems (VIMS).
- A land use covenant (LUC) will recorded with the Los Angeles County Assessor that restricts certain activities at the Site (*e.g.*, installation of drinking water wells, use of the Site as a day care, *etc*.) and that records the location and extent of any impacted soils left "in place" that have concentrations of contaminants at levels exceeding agreed-upon regulatory thresholds.
- Greenspace areas shall be completed with a 2-foot layer of clean imported fill material, following removal of any impacted soils in accordance with the soil target levels presented in this RP.
- A groundwater monitoring program will be implemented.
- A soil vapor monitoring well network will be installed following completion of the project build-out.

1.3 Report Organization

This Response Plan Report is comprised of the following sections:

- Section 1 – Introduction;
- Section 2 – Background;
- Section 3 – Remedial Action Objections;
- Section 4 – Soil Target Levels and Soil Vapor/Groundwater Evaluation Thresholds
- Section 5 – Application for Risk Based PCB Clean-up;
- Section 6 – Screening and Selection of Clean-up Alternatives;

- Section 7 – Selected Clean-up Alternatives;
- Section 8 – Soil Remedial Activities;
- Section 9 – Vapor Intrusion Mitigation Systems;
- Section 10 – Groundwater Monitoring Program;
- Section 11 – Activity and Use Limitations;
- Section 12 – Remedial Action Completion Report;
- Section 13 – Implementation Schedule;
- Section 14 – Public Participation;
- Section 15 – Administrative Record;
- Section 16 – Report Limitations; and
- Section 17 – References.

Tables, figures, and appendices follow the text.

2. BACKGROUND

2.1 Site Description

The approximately 5.6-acres of the Site was improved with two on-Site buildings, including an approximately 11,500-square foot office building ("the office building") and an approximately 25,500-square foot "L-shaped" automotive repair service building ("the repair shop"). Additionally, a small approximately 5,400-square foot building was attached to the northern edge of the office building (Figure 2). The one-story office building formerly housed administrative activities conducted by Administrative Services Co-op (ASC) associated with the Citizen Automotive repair shop. With the exception of the building slabs, all structures at the Site were demolished in February and March of 2020.

Automotive repair activities were located within the one-story repair shop building and previously included brake services, oil changes, engine repair, paint services, and dent repair, in addition to general automotive maintenance activities. The buildings were located along the western and northern portions of the Site (refer to Figure 2). Surrounding properties are depicted on Figure 3.

The Megdal Trust, among multiple other ownership entities, formerly owned and leased out the office, parking lot and automotive repair shop space at the Site (Figure 2). The Site was recently acquired by Rosecrans Place LLC, and is currently vacant. The Site has two addresses: 2129 and 2101 North Rosecrans Avenue, with Assessor Parcel Numbers 4061-028-049 and 4061-028-018. The 4061-028-018 parcel is listed in the Los Angeles County Assessor's Office as vacant land with no address available. For purposes of this report, both parcels will be referred to as the "Site."

The Site is accessed *via* an asphalt-paved entrance along North Rosecrans Avenue located at the southwestern Site boundary. The asphalt-paved Site entrance leads to a narrow parking area along the southwestern portion of the Site and then onto a larger parking area located in the center portion of the Site. Approximately 1.6 acres of the southeastern portion of the Site consists of undeveloped land. There are no landscaped areas or on-Site surface water bodies.

The Site is located in a mixed commercial and light industrial land use area. The nearest residential areas are located to the south of the Site, across North Rosecrans Avenue.

Rosecrans Place anticipates commencing with demolition of the building slabs/hardscape and grading activities in early May 2020 (unless an earlier start time becomes feasible).

2.2 Site History

In the 1960s and 1970s, the western portion of the Site was used for automobile storage and automobile parts salvage, while the eastern portion of the Site was used for metal salvage. Metal salvage appeared Site-wide by the late 1970s and early 1980s. The office building was constructed by 1976. The remaining on-Site building and attached building appeared in 1988 and 1989. The Site use changed from automobile parts salvage to taxi services in the late 1980s and early 1990s. The Site appears in its present-day configuration by 1989.

Historical aerial photographs indicate the Site was part of a larger area used for agricultural purposes from the 1920s to the early 1950s. By the early 1970s, the vicinity of the Site appears to have been largely developed for industrial uses.

2.3 Geology and Hydrogeology

The following sections describe the regional and local geology and hydrogeology.

2.3.1 Regional Geology and Hydrogeology

The information discussed in the following sections on regional geology and hydrogeology is based primarily on the California Department of Water Resources (DWR) Bulletin 104 Appendix A dated June 1961 (DWR 1961) and the USGS Water Resources Investigations Report 03-4065 (USGS 2003).

The Site is located within the Los Angeles Basin. The Los Angeles Basin is a structural basin formed in the mid-Miocene epoch as a result of tectonic processes. The Los Angeles Basin consists of a thick sequence of unconsolidated sediments that contain substantial volumes of usable groundwater. The Los Angeles Basin has been divided into numerous groundwater basins that are generally defined by geographic features or geologic structures.

The Site is located within the West Coast Basin. The West Coast Basin is bordered to the east by the Newport-Inglewood fault system/Central Basin, to the north by the Santa Monica Basin, and to the west/south by the Pacific Ocean. The West Coast Basin consists of a thick sequence of middle Miocene to Holocene-age sediments that are approximately 13,000 feet thick. Beneath the unconsolidated sediments is igneous and metamorphic bedrock.

2.3.2 Local Geology and Hydrogeology

The local geology/hydrogeology presented in the SAR was updated using information collected as part of the recently-completed SSI investigation conducted by Ramboll in September of 2019. Geologic cross-sections, boring logs and a more detailed description of the lithologic units are provided in the Amended SSI Report (Amended SSI Report, Ramboll 2020).

In the northern half of the Site, primarily silty sand, clayey sand, sandy clay and clay was encountered from the ground surface to approximately 0 to 8 feet bgs. Sediment consisting primarily of silty sand and sand was documented from approximately 8 to 15 feet bgs. From approximately 15 to 23 feet bgs, a fine-grained unit consisting of primarily clay, clayey sand, silty clay and sandy clay was encountered. From approximately 23 feet bgs to the total depth drilled and observed by Ramboll (approximately 35 feet bgs), the lithology consisted primarily of silty sand and sand with some minor fine-grained discontinuous layers. According to boring logs obtained from Albus Keefe and Associates, from approximately 35 feet bgs to the total depth drilled (approximately 50 feet bgs), the lithology consisted primarily of silty sand and sand with some minor fine-grained discontinuous layers.

In the southern half of the Site, a silty sand layer was encountered at the ground surface. The thickness of the silty sand layer varies, but it is typically encountered at depths ranging from 0 to 10 feet bgs and is interbedded with some minor clay and gravel layers. Beneath the silty sand layer, a fine-grained unit consisting of primarily silty clay, sandy clay and clayey sand was encountered. The thickness of the fine-grained layer varies. Beneath the fine-grained layer (from approximately 15 to 35 feet bgs) the lithology transitions to primarily silty sand and sand with some minor fine-grained discontinuous layers.

Fill material and minor amounts of debris were encountered at varying depths and locations at the Site. The fill material and debris distribution is irregular. According to Albus Keefe and Associates, the depth of fill material extends to approximately 7 feet bgs in the northern

portion of the Site, and decreases to approximately 2 feet bgs in the southern portion of the Site. In the central portion of the Site, the depth of fill material was reported to be approximately 5 feet bgs. In addition, detailed Site stratigraphy is provided in the Amended SSI Report.

The site-specific groundwater flow direction was previously established using temporary groundwater monitoring wells, as documented in the SAR. The groundwater flow direction was determined to be to the south-southeast. The flow direction is consistent with the long-standing, established groundwater flow at the adjacent ChromAlloy facility property, located immediately to the northeast of the Site, for which extensive groundwater monitoring data has been generated.

At the request of the DTSC, Ramboll installed a groundwater monitoring well network at the Site to verify the groundwater flow direction. Five groundwater monitoring wells (RMW-1 through RMW-5) were installed at the Site by Ramboll in September 2019. Details regarding the well installation activities are included in the Amended SSI Report. Upon completion of well installation/development, Ramboll conducted a groundwater sampling event in October 2019. The groundwater sampling event consisted of measuring the depth to water at each of the newly installed monitoring wells RMW-1 through RMW-5.

Based on the data obtained during Ramboll's groundwater sampling event, depth to groundwater at the Site ranges from approximately 22 to 24 feet bgs. Based on the data obtained during the groundwater sampling event conducted in October 2019, the permanent groundwater monitoring network confirms the previously-determined groundwater flow direction presented in the SAR, toward the southeast. The flow direction is also consistent with the long-standing established groundwater flow at the adjacent ChromAlloy facility.

2.4 Summary of PAOCs and Site-wide Issues of Concern

Multiple subsurface investigations have been completed at the Site by Ramboll, Fulcrum Resources Environmental (Fulcrum), and Leighton & Associates (Leighton), as documented in the SAR and Amended SSI Report. In the SAR, Ramboll identified five Potential Areas of Concern (PAOCs) and also identified Site-wide issues of concern related to historical salvage operations.

Upon further review and based on discussion with the DTSC regarding the data gaps, the former car wash area was identified as PAOC-6 in the SSI. A Site exploration plan and the PAOCs are depicted on Figure 4.

This section presents a summary of the historical subsurface investigation results for each of the PAOCs as well as the Site-wide issues of concern. The historical results presented in this section were compared to USEPA/DTSC regulatory screening levels to provide a baseline to consider whether additional investigation or evaluation was warranted. The screening levels discussed in this section are not intended as clean-up or remedial levels. Target levels have been developed for soil, and evaluation thresholds have been developed for soil vapor and groundwater at the Site, and are further discussed in Section 4 of this report.

Groundwater sampling results are summarized in Table 2 (TPH and volatile chemicals [VOCs]) and Table 3 (metals). VOC soil vapor sampling results are summarized in Tables 4 and 5. Soil sampling results are summarized in Table 6 (TPH/PCBs), Table 7 (metals), Table 8 (lead), and Table 9 (VOCs).

2.4.1 PAOC-1: Former Parts Wash Station

The former "parts wash" station area was reported to have been located along the northwestern portion of the Site (Figure 4). A vapor well (SB/SV14) was historically installed by Fulcrum near the parts wash station at a depth of approximately 5 feet bgs. No VOCs were detected above laboratory RLs in soil vapor in SV14. In addition, three soil borings (SB 53, SB-54 and SB-55) were advanced in the parts wash station by Ramboll in March 2019. Soil samples were collected at 1 foot bgs in each of the soil borings and analyzed for VOCs in accordance with USEPA methods 5030A/8260B. VOCs were not detected above laboratory RLs in any of the soil samples collected from SB-53, SB-54 and SB-55 within the parts wash area.

Based on the soil and soil vapor sampling conducted at this location, Ramboll concluded in the SAR that the former parts wash station was not a source of VOCs at the Site. However, DTSC believed data gaps remained with regard to the soil characterization in this area, particularly with regard to the soil collection method. As a result, as part of this SSI, Ramboll installed an additional dual-nested soil vapor probe (SV 25) within the parts wash area in October 2019 with probes installed at depths of approximately 4.5 and 15 feet bgs.

No VOCs were detected above applicable DTSC/USEPA screening levels in the soil vapor sample collected from 4.5 feet bgs. In the 15 foot soil vapor sample, ethylbenzene, benzene, PCE, TCE and vinyl chloride were detected at concentrations exceeding their respective applicable DTSC/USEPA screening levels. Ethylbenzene, benzene, PCE, TCE and vinyl chloride were detected at concentrations of 3.14 µg/L, 0.26 µg/L, 0.828 µg/L, 0.81 µg/L, and 0.851 µg/L, respectively. Based on the results of the soil vapor sampling, vertically, the soil vapor concentrations increase with depth. The VOC concentrations in soil vapor are likely the result of off-gassing from impacted groundwater flowing onto the Site from off-Site properties located to the north.

During vapor probe SV-25 advancement, soil samples were also collected at 2, 5, 10, 12 and 15 feet bgs and analyzed for VOCs in accordance with USEPA Method 5035/8260B. No VOCs were detected above applicable screening levels in any of the soil samples collected from SV-25.

The results of the sampling conducted as part of the SSI further support Ramboll's prior conclusion that the parts wash station did not result in PCE impacts to the subsurface, and this area is not considered to be a PCE source area. However, as noted by the DTSC, several VOCs detected at the shallow (4.5 feet bgs) soil vapor sample location (e.g., 1,2,4 trimethylbenzene, 1,3,5-trimethylbenzene, and xylenes) were not detected in the deeper sample collected at 15 feet bgs. None of these VOCs have been detected in groundwater at the Site. In addition, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and xylene have not been detected above applicable USEPA/DTSC screening levels in soil or soil vapor at the Site.

The data strongly suggests any potential impacts associated with 1,2,4 trimethylbenzene, 1,3,5-trimethylbenzene and xylenes is minor, limited to shallow depths, dwarfed in comparison to the PCE impacts at the Site, and is not a significant source zone. This area will be screened during implementation of the RP and/or SMP, and Ramboll will collect additional soil samples at the parts wash station during RP/SMP implementation, as specified by the DTSC (See Section 8.3). Although VOCs were detected in the soil vapor at PAOC-1, the vapor intrusion exposure pathway will be incomplete with the installation of VIMS. The VIMs

will mitigate any potential threat or risk to future receptors with proper VIMS installation and maintenance.

2.4.2 PAOC-2 – Former USTs

PAOC-2 is summarized in the SAR and is associated with historical USTs at the Site. The nature of the USTs are identified in Figure 4. Ramboll prepared a memorandum titled "Clarification of Records related to USTs" which was submitted to the DTSC under separate cover in November 2019. The objective of the memorandum was to summarize the removal status, closure, location, and other known UST information. In addition, Ramboll proposed to conduct a geophysical survey west of the existing commercial building to supplement existing information, and to further evaluate this portion of PAOC-2. On March 18, 2020, Ramboll submitted a technical memorandum to the DTSC that summarizes the proposed geophysical survey.

There are no known impacted soil areas associated with the historical USTs, therefore, any risk of encountering any unknown, residual impacts at or near PAOC-2 will be addressed through implementation of the SMP. In addition, the vapor intrusion exposure pathway will be incomplete at PAOC-2 with the installation of VIMS. The VIMs will mitigate any potential threat or risk to future receptors with proper VIMS installation and maintenance.

2.4.3 PAOC-3: Former Excavation Area\Central Portion of the Site

PAOC-3 is comprised of the area containing two former excavation areas. The two large areas (approximately 200 feet by 50 feet and 200 feet by 75 feet to approximately 4 feet below grade surface) are located in the northern/central portion of the Site. Approximately 1,430 tons of metal impacted soil was removed from the Site for disposal under the Los Angeles County Fire Department (LACoFD) Hazardous Waste Control Program.

Multiple subsurface investigations have been conducted by Ramboll and others in this area of the Site. Residual levels of elevated PCBs, metals and TPH remain in shallow soil and are attributed to historical Site operations that have included auto storage and auto/metal salvage.

Soil sampling results indicate elevated levels of PCBs located primarily in the eastern portion of PAOC-3, centralized around sample SB-16-3. Aroclor 1254 was detected in SB-14, SB-16, SB-18, SB-40, SB-41 and SB-42 at 3 feet bgs at concentrations ranging from 630 µg/kg in SB-14 to 40,000 µg/kg in SB-16. However, no PCBs were detected above applicable screening levels in deeper soil from this area. Therefore, PCB impacts appear to be primarily vertically-limited to soil shallower than 5 feet bgs near SB-16-3.

Soil sampling results indicate elevated levels of TPH, primarily diesel range organics, throughout PAOC-3. TPH impacts appear to be primarily vertically-limited to soil shallower than approximately 5 feet bgs. Isolated locations of deeper impacts are present primarily in the northwestern portion of PAOC-3, however.

Metal impacts consist primarily of lead. The lead impacts are irregularly-distributed throughout PAOC-3, and appear to be primarily vertically-limited to soil shallower than 5 feet bgs.

As described in the SAR, a closure letter was issued for the Site for satisfactory mitigation under current commercial/industrial use. A "Deed Notification" was issued for the Site in September 1992 and signed by Herman J. Megdal, Jerome J. Megdal and Rose Megdal. The

purpose of the Deed Restriction was to notify future owners of the mitigation performed at the Site to address soil impacts, and the document noted that a more sensitive population use of the Site would necessitate additional remediation or investigation.

Based on the planned Site redevelopment activities, which include a residential setting, the known metals, PCBs, and TPH impacts in this area will require remediation. While complete delineation of chemical of potential concern (COPCs) in certain areas has not yet been achieved, extensive excavation, delineation, soil screening, and additional soil sampling activities will be conducted as part of the SMP/RP implementation, which will serve to meet this objective.

Based on its review of the SAR, the DTSC requested additional investigation to further evaluate the distribution of VOCs within the central portion of the Site, specifically elevated levels of vinyl chloride in soil vapor near LA-SB-1 and LA-SB-3/SB-5. To accomplish this, specifically near elevated levels of vinyl chloride in soil vapor near LA-SB-1 and LA-SB-3/SB-5, Ramboll installed 5 dual-nested soil vapor probes (SV-20 through SV-24) (Figure 4). During the advancement of the vapor probes, soil samples were collected/analyzed for VOCs in accordance with USEPA Method 5035/8260B at 2, 5, 10, 12 and 15 feet bgs. No VOCs were detected above applicable screening levels in any of the soil samples collected. Dual-nested soil vapor probes were installed at depths of approximately 5 and 15 feet bgs in each vapor probe. Due to no flow conditions, soil vapor samples could not be collected at SV-21 (15 feet bgs), SV-22 (15 feet bgs), and SV-23 (6 feet bgs), seemingly due to the fine-grained layer encountered at the Site.

The most frequently detected VOCs at elevated levels in SV-20 through SV-24 were 1,1-DCA, PCE, TCE, and vinyl chloride. The sampling results are consistent with historical soil vapor sampling results for the central portion of the Site. Vertically, almost all the PCE and corresponding breakdown products TCE and vinyl chloride increase with increasing depth. The elevated levels of PCE, TCE and vinyl chloride in soil vapor at depth, in combination with the lack of any detections of VOCs in the soil samples analyzed, do not indicate a surface release of these constituents. The results of the SSI support Ramboll's SAR conclusion that these constituents in soil vapor in this portion of the Site are predominantly the result of off-gassing from PCE impacted groundwater flowing onto the Site from the north.

1,1-DCA was detected in five soil vapor samples at concentrations exceeding its respective screening thresholds in the central portion of the Site. The exceedances ranged from 3.63 µg/L in SB5-SV to 27.3 µg/L in SV21-5. Based on the elevated soil vapor levels of 1,1-DCA in the central portion of the Site, and the 1,1-DCA impacted groundwater downgradient in the southeastern portion of the Site, the central portion of the Site may be a potential 1,1-DCA source area. As documented in the Amended SSI Report, low levels of 1,4-dioxane were detected in groundwater in the central portion of the Site. Based on the 1,4-dioxane impacted groundwater, the central portion of the Site may be a potential 1,4-dioxane source area. However, the 1,1-DCA and 1,4-dioxane impacts are localized, and much lower in comparison to the PCE associated impacts from off-Site upgradient contamination sources. The 1,1-DCA and 1,4-dioxane appears to be contained within the in-migrating PCE plume. Therefore, any 1,1-DCA and 1,4-dioxane impacts in groundwater would be addressed as part of any future remedy to address PCE impacts to groundwater. During SMP implementation at the Site, Ramboll will monitor the soil and, if evidence of VOCs is identified, Ramboll will collect additional soil samples to characterize the potential

impacts. In addition, the vapor intrusion exposure pathway will be incomplete at PAOC-3 with the installation of VIMS. The VIMs will mitigate any potential threat or risk to future receptors with proper VIMS installation and maintenance.

2.4.4 PAOC-4 Clarifiers

PAOC-4 is separated into two areas. The first area is located in the northwestern portion of the Site and the second area is located in the central portion of the Site. Both areas are associated with clarifiers.

Two soil borings/vapor probes (SB-1/SV-1 and SB-2/SV-2) were advanced adjacent to the clarifier in the central portion of the Site. Soil samples were collected at 10 feet bgs in each boring and analyzed for TPH, metals and VOCs. No compounds were detected above applicable screening levels in any of the soil samples collected. Soil vapor samples were collected at 5 feet bgs in each boring and analyzed for VOCs. No VOCs were detected above laboratory RLs in any of the soil vapor samples collected.

Two soil borings/vapor probes (SB-12/SV-12 and SB-13/SV-13) were advanced adjacent to the clarifier in the northwestern portion of the Site. Soil samples were collected at 10 feet bgs in each boring and analyzed for TPH, metals and VOCs. No compounds were detected above applicable screening levels in any of the soil samples collected. Soil vapor samples were collected at 5 feet bgs in each boring and analyzed for VOCs. No VOCs were detected above laboratory RLs in any of the soil vapor samples collected.

The two clarifiers were removed from the Site in February 2020 under oversight of the Los Angeles County Department of Public Works and the City of Gardena. The DTSC provided additional oversight during decommissioning activities by observing field activities. Ramboll conducted soil sampling in connection with both clarifiers during decommissioning activities. Excavation bottom and sidewall samples were collected and tested for PCBs, TPH, metals, and VOCs in accordance with DTSC sampling requirements. No compounds were detected above soil target levels. The results of the soil sampling support Ramboll's conclusion that the clarifiers have not impacted the subsurface. The clarifier closure report was submitted to Los Angeles County Department of Public Works in March 2020. The clarifier closure report was also sent to DTSC under separate cover on March 18, 2020.

2.4.5 PAOC-5: Former Bailing Shaft

PAOC-5 is an area that includes a feature identified in previous reports as a former "bailing shaft". PAOC-5 is located in the southern portion of the Site (Figure 4).

During the SAR investigation, four soil borings (LA-SB7, SB-12, SB24 and SB37) were advanced adjacent to the former bailing shaft. Soil samples were collected at depths ranging from 1 to 25 feet bgs and selectively analyzed for TPH, metals, PCBs and VOCs.

Hexavalent chromium and lead were the only metal compounds detected above applicable USEPA/DTSC screening levels in any of the soil samples collected from PAOC-5. Fortunately, the lead and hexavalent chromium impacts appear to be primarily vertically-limited to soil shallower than 5 feet bgs. TPH and PCBs were detected above applicable USEPA/DTSC screening levels within PAOC-5. However, similar to metals, the TPH and PCB impacts appear to be primarily vertically-limited to soil shallower than 5 feet bgs.

No VOCs were detected above applicable screening levels in any of the soil samples collected from within PAOC-5. Low levels of TCE were detected in LA-SB7 at depths ranging from 5 to

25 feet bgs. PCE, cis-1,2-DCE, and 1,1-DCA were also detected at select depths in soil at LA-SB7.

Three soil vapor probes (SV-12, SB24-SV, and SB37-SV) were advanced adjacent to the former bailing shaft. Soil vapor samples were collected from 5 and 15 feet bgs at SV-12, at 5 feet bgs from SB24-SV, and from 5, 15, and 22 feet bgs in SB37-SV. Soil vapor samples were analyzed for VOCs. TCE was detected above applicable screening levels in all of the soil vapor samples collected from PAOC-5, and was the only compound detected above screening levels.

One grab groundwater sample was collected from LA-SB7 and analyzed for VOCs and TPH. PCE, TCE, cis-1,2-DCE, and 1,1-DCA were detected above their respective MCLs. PCE, TCE, cis-1,2-DCE, and 1,1-DCA were detected at concentrations of 87 µg/L, 43 µg/L, 33 µg/L and 28 µg/L in grab groundwater sample LA-SB-7. DRO were detected at a concentration of 610 µg/L in grab groundwater sample LA-SB-7.

Based on the results of the sampling conducted within PAOC-5, it appears that historical operations associated with the former bailing shaft may have impacted the shallow subsurface soil at the Site. This area will require remediation. Ramboll indicated in the SAR that the shallow metals, PCBs, and TPH impacts at this portion of the Site have been sufficiently vertically and laterally characterized for purposes of developing this RP, which describes the proposed remedy for soil within this PAOC at the Site (i.e., excavation) as part of Site development activities.

However, DTSC requested that additional investigation be conducted to further evaluate the elevated soil vapor levels of TCE near/within the bailing shaft area, including further evaluation of TCE in groundwater in this PAOC. Therefore, as part of the SSI, Ramboll installed a dual-nested soil vapor probe (SV-28) within the bailing shaft area in October of 2019 to further evaluate the vertical distribution of VOCs in soil and soil vapor. During SV-28 advancement, soil samples were collected/analyzed for VOCs in accordance with USEPA Method 5035/8260B at 2, 5, 10, 12 and 15 feet bgs. No VOCs, including TCE, were detected above applicable screening levels in any of the soil samples collected from SV-28.

Dual-nested soil vapor probes were installed at depths of approximately 5 and 15 feet bgs in SV-28. TCE was the only VOC detected in soil vapor above applicable screening levels. TCE was detected at concentrations of 43 µg/L (5 feet bgs) and 124 µg/L (15 feet bgs) in SV-28. The concentrations of TCE in SV-28 are elevated, but consistent with historical sampling results.

Based on the elevated soil vapor levels of TCE near/within the bailing shaft area, and the TCE impacted groundwater downgradient in the southeastern portion of the Site, the former bailing shaft area has been identified as a potential TCE source area and will be addressed *via* remedial excavation as discussed in Section 8.

2.4.6 PAOC-6: Northern Site Boundary and Car Wash

PAOC-6 is an area that includes a feature identified as the existing car wash (Figure 4). PAOC-6 is located in the north/northeastern portion of the Site.

Ramboll advanced one boring SB-4, near the car wash. Soil samples were collected at depths ranging from 1 to 10 feet bgs and analyzed for TPH, metals, and PCBs. TPH was the only compound detected above applicable screening levels in SB-4. The TPH impacts are likely

associated with Site-wide historical on-Site car dismantling operations, and are not specific to the car wash feature. The TPH impacts at this portion of the Site have been sufficiently vertically and laterally characterized, for purposes of developing this RP, which describes the proposed remedy for soil at the Site.

Ramboll installed one dual-nested vapor probe SV-4, near the car wash in January of 2019. Dual-nested soil vapor probes were installed at depths of approximately 5 and 15 feet bgs in both SV-4. Due to no flow conditions, soil vapor samples were not able to be collected at SV 4 at 15 feet bgs, likely as a result of the fine-grained soil at the Site. No VOCs were detected in soil vapor above applicable screening levels in SV-4 at 5 feet bgs.

Based on the soil vapor sampling conducted at this location, Ramboll concluded that the former car wash area was not a source of VOCs at the Site. However, DTSC believed data gaps remained in regard to VOCs near the car wash. Accordingly, to further evaluate VOCs in the northern Site boundary and near the car wash, Ramboll installed 5 dual-nested soil vapor probes (SV-15 through SV-19) in this portion of the Site (Figure 4) as part of the SSI. During the advancement of vapor probes SV-15 through SV-19, soil samples were collected/analyzed for VOCs in accordance with USEPA Method 5035/8260B at 2, 5, 10, 12 and 15 feet bgs. No VOCs were detected above applicable screening levels in any of the soil samples collected.

Dual-nested soil vapor probes were installed at depths of approximately 5 and 15 feet bgs in each of the boreholes. Soil vapor samples were not able to be collected at SV-17 (15 feet bgs), SV-18 (5 and 15 feet bgs) and SV-19 (5 feet bgs), due to no flow conditions that are likely associated with the fine-grained layer encountered at the Site.

One vapor well (SV-17) was installed near the car wash. No VOCs were detected above laboratory RLs in soil vapor in SV-17 collected from 5 feet bgs. Three vapor wells (SV-15, SV-16 and SV-19) were installed along the northern Site boundary. Benzene, PCE, TCE and vinyl chloride were the only VOCs detected in soil vapor at concentrations exceeding their respective applicable DTSC/USEPA screening levels in SV-15, SV-16 and SV-19.

In SV-15 and SV-16 (the only vapor probes sampled at both depths), vertically, the soil vapor concentrations increase with increasing depth. The results of the soil vapor sampling do not indicate a surface release, and detectable VOCs can be attributed to off-gassing from PCE impacted groundwater flowing onto the Site from the north. Based on the results of the soil and soil vapor sampling, no potential VOC source areas were identified near the northern Site boundary or at the car wash area.

2.4.7 Site-wide Issues of Concern

Results of subsurface investigations conducted at the Site by Ramboll and by other consultants revealed the presence of elevated PCBs, metals and TPH in shallow soil (primarily shallower than 5 feet bgs) at concentrations exceeding applicable USEPA/DTSC screening levels under residential and commercial land use scenarios. The presence of impacted soil at the Site is attributed to the historical operational activities associated with auto storage and auto/metal salvage. In the 1960s and 1970s, the western portion of the Site was reportedly used for automobile storage and automobile parts salvage, while the eastern portion of the Site was used for metal salvage. Metal salvage appeared Site-wide by the late 1970s and early 1980s. The Site use changed from automobile parts salvage to a taxi dispatch and service business in the late 1980s and early 1990s.

The generally Site-wide and shallow distribution of impacted soil at the Site is consistent with sporadic and incidental releases over time and not defined large episodic spills or ongoing leaks. Much of the shallow impacted soil at the Site is not associated with a specific source or sources, but is consistent with the locations of the historical operation footprint of the salvage operations. The presence of TPH, PCBs and metals in soil at the Site has been sufficiently vertically and laterally characterized for purposes of developing this RP. Additional soil sampling based on field screening, during remedial activities (confirmation sampling during excavations), and at designated areas requested by the USEPA/DTSC will occur during SMP/RP implementation. The proposed remedy for soil at the Site (excavation and off-Site disposal) is further detailed in Section 7.

2.5 Regulatory Context

The Site is under the regulatory jurisdiction of the Cal/EPA DTSC as part of a voluntary clean-up program that is was entered into between Rosecrans Place and DTSC, pursuant to the CLRRA of 2004.

Ramboll also engaged with the USEPA Region 9 office for regulatory oversight with regard to remediation of the low levels of PCB impacted soils that exist at the Site.

Based on the lack of potential sources of impacts to groundwater in the northern portion of the Site, the site-specific groundwater flow direction to the southeast, and the distribution of VOCs in groundwater, the source of the PCE in groundwater is clearly located off-Site and hydrologically upgradient and to the north of the Site. Accordingly, Rosecrans Place is presumed not to be responsible for remediation of PCE impacted groundwater flowing onto the Site from off-Site contamination sources. However, as discussed and confirmed with DTSC (via email from DTSC dated August 16, 2019), Rosecrans Place will be responsible for groundwater monitoring in connection with localized sources of TCE, 1,4-dioxane, and 1,1-DCA. As such, this Response Plan covers the remedial actions associated with soil and mitigation actions associated with soil vapor impacts, but also includes groundwater monitoring obligations as discussed below. Ramboll will conduct an additional round of soil gas sampling at the Site after grading and soil remediation activities have been completed to establish pre-occupancy baseline conditions.

Ramboll will continue to monitor groundwater at the Site, on a post construction/ redevelopment basis, for a period of approximately 8 quarters (2 years) to confirm TCE, 1,4-dioxane and 1,1-DCA concentrations in groundwater are stable or decreasing. A long-term soil vapor monitoring program will be implemented to demonstrate the effectiveness of the VIMS.

A LUC shall be recorded with the Los Angeles County Assessor's Office to document (a) any residual impacted soils left "in place" beneath the depth of grading or 5 feet bgs, whichever is greater; and (b) restrictions of land use, such as the use of groundwater beneath the Site for drinking water purposes or use of any portion of the Site for day care facilities or other sensitive uses.

Chemical specific potentially applicable or relevant and appropriate requirements (ARARs) are presented in Table 1.

A financial assurance mechanism will also be put in place by Rosecrans Place, LLC. This may take the form of any of the following with sufficient funds to pay for operation and maintenance in the event of a default of the responsible entity or entities.

1. A letter of credit;
2. An insurance policy; or
3. An escrow account.

2.6 Demolition Activities and Mass Grading Plans

The most recent Grading and Demolition Plans are included in Appendix B. Demolition of all on-Site buildings, and structures was completed in February/March 2020. Concrete and asphalt removal is planned to commence in May 2020. The maximum depth of grading will be 5 feet bgs. The development calls for the over-excavation and re-compaction of the top 5 feet of soil for geotechnical purposes. All hazardous building materials, including asbestos, lead-based paint and universal wastes, will be abated in accordance with South Coast Air Quality Management District (AQMD) rules and regulations prior to building demolition. Specific facilities that require permit close-outs (i.e., the paint booth) and/or permitting for removal (i.e., sumps and clarifiers), will be abandoned and closed out per Los Angeles County Department of Public Works and/or City of Gardena requirements. Hardscape sampling will occur prior to slab demolition/removal at the Site. Ramboll will conduct hardscape sampling at the Site in accordance with the memorandum prepared by Ramboll titled "management of and reuse of hardscape during demolition" submitted to the DTSC on February 26, 2020, and approved on March 19, 2020.

2.7 Development Schedule

Demolition of all on-Site buildings, and structures was completed in February/March 2020. Concrete and asphalt removal is planned to commence in May 2020. Grading activities on-Site may commence immediately following concrete/asphalt removal. However, no grading activities will be conducted within the known impacted soil areas. During such grading activities, Ramboll will implement the DTSC approved SMP to ensure that any impacted soils encountered are properly managed.

3. REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) have been developed for the Site based on investigations that have been completed to date. RAOs are statements that identify the media and the actions that will be implemented, to be protective of human health and the environment. RAOs have been developed to be protective of human health by eliminating or minimizing exposure of on-Site workers, residents and nearby receptors to potential chemicals of concern (PCOC). For the purposes of this document, it is assumed the Site will be developed into a mixed commercial/residual development. The following RAOs have been developed:

1. Remediation of the impacted soil to the extent economically and technically practicable;
2. Mitigation of elevated soil vapor concentrations which may be present beneath future residential and/or commercial structures to be protective of human health;
3. Groundwater monitoring to evaluate the groundwater flow direction and the distribution of chemicals in groundwater; and
4. Soil vapor monitoring to evaluate the distribution of chemicals in soil vapor following implementation of the RP.

4. TARGET LEVELS AND EVALUATION THRESHOLDS

4.1 Context

This section presents target levels and evaluation thresholds for the Site. Target levels were developed for soil, and evaluation thresholds were developed for soil vapor and groundwater. Areas containing soil samples that exceeded the target levels are targeted for remediation via soil excavation. In addition, confirmation soil samples that will be collected during the implementation of the Response Plan will be compared to the target levels, to determine if additional excavation is required. Evaluation thresholds were developed to further evaluate chemicals detected in soil vapor and groundwater at the Site. However, as further discussed below, evaluation thresholds are not intended as clean-up or remedial goals. Section 4.1 below summarizes the context regarding the target levels and evaluation thresholds.

4.1.1 Evaluation Thresholds for Groundwater and Soil Vapor

Groundwater evaluation thresholds were developed for all volatile chemicals detected in groundwater at the Site. As discussed above in Section 2.5, Rosecrans Place, LLC is presumed not to be responsible for remediation of PCE impacted groundwater flowing onto the Site. Rosecrans Place is proposing to monitor impacted groundwater in connection with localized sources of TCE, 1,4-dioxane and 1,1-DCA. The groundwater evaluation thresholds presented in this section are not intended as clean-up or remedial goals. However, as discussed further in Section 10, a groundwater monitoring program has been developed for the Site.

Soil vapor evaluation thresholds were developed for all chemicals detected in soil vapor at the Site. As discussed above in Section 2.5, Rosecrans Place, LLC is presumed not to be responsible for remediation of impacted soil vapors that are primarily the result of off-gassing from the PCE impacted groundwater flowing onto the Site from off-Site contamination sources to the north. As such, the soil vapor evaluation thresholds presented in this section are not intended as clean-up or remedial goals. However, as discussed further in Section 9, based on the elevated VOC levels in soil vapor, VIMS will be installed at the Site to reduce the potential for future vapor intrusion. In addition, as discussed further in Section 9.4.1, a vapor monitoring network has been developed for the Site.

4.1.2 Target Levels for Soil

Target levels have been developed for soil from the ground surface to approximately 5 feet below ground surface (bgs). The project involves complete over-excavation and re-compaction of soils to a depth of 5 feet bgs, hence providing the rationale supporting the target level depth interval (See Section 2.6). The soil target levels presented in the section will be used determine if the RAOs have been achieved through implementation of this RP. Ramboll is proposing to excavate the impacted soil, collect and analyze confirmation samples, and continue to excavate until the results of confirmation sampling are below the target levels for soil provided in Table 10. As discussed with DTSC, in the event that impacted soils above the target levels are encountered at depths of five feet bgs or below, Rosecrans may elect to leave such impacted soils in place under a LUC.

4.2 Development of Soil Target Levels and Soil Vapor/Groundwater Evaluation Thresholds

This section presents the criteria that will be used to evaluate chemicals detected in groundwater, soil vapor and soil during the implementation of the RP. Chemicals detected at least once in groundwater samples, soil vapor samples (up to 22 feet bgs) and soil samples (up to 25 feet bgs) collected in 2017-2019 on-Site are shown in Appendix A, Table A-1. Evaluation thresholds were developed for all volatile chemicals detected in soil vapor and groundwater and target levels were developed for all chemicals detected in soil.

Three categories of criteria were considered: Risk Based Target Concentrations (RBTCs), regulatory screening levels (Regulatory SLs), and alternative screening levels (Alternative SLs). RBTCs were developed in general accordance with the following Cal/EPA and USEPA risk assessment guidance documents:

- Cal/EPA. 2019. HERO Human Health Risk Assessment (HHRA) Note Number 1, Issue: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. April.
- Cal/EPA. 2019. HERO HHRA Note Number 3, Issue: DTSC-Modified Screening Levels (DTSC-SLs). April.
- CalEPA. 2019. HERO HHRA Note Number 4, Issue: Guidance for Screening Level Human Health Risk Assessments. May.
- USEPA. 1989. Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part A). Interim Final. EPA/540/1-89/002. Office of Emergency and Remedial Response. Washington, D.C. December.
- USEPA. 2004. Risk Assessment Guidance (RAGs) (Part E Supplemental Guidance for Dermal Risk Assessment). Final. EPA/540/R/99/005: Office of Emergency and Remedial Response. Washington, D.C.
- USEPA. 2009. Risk Assessment Guidance (RAGs) (Part F, Supplemental Guidance for Inhalation Risk Assessment). Final. January.
- USEPA. 2019. Regional Screening Levels for Chemical Contaminants at Superfund Sites. November.

Target Levels for soil are listed in Table 10. Evaluation Thresholds for soil vapor and groundwater are listed in Appendix A.

4.2.1 Conceptual Site Model

A Conceptual Site Model (CSM) was developed for the Site to describe the relationships among chemical sources, exposure pathways, and potentially exposed populations and is presented on Figure 5. Based on the planned future use of the Site, the CSM identified three potential future on-Site populations (residents, commercial/industrial composite workers, and construction trench workers) and associated potential exposure routes.

As reflected on Figure 5, groundwater exposure through groundwater dermal contact and ingestion is incomplete because the use of groundwater as drinking water will be precluded by a deed restriction. Soil direct contact pathways for residents is incomplete because the Site will be covered with clean fill or hardscape (concrete or asphalt) (see Figure 11B).

During redevelopment, construction workers may be exposed to COPCs during excavation activities down to site-specific 5 feet bgs. After redevelopment, commercial/industrial composite workers may be exposed to COPCs via the vapor intrusion pathways from soil vapor and groundwater (i.e., both indoor and outdoor pathways) and direct contact with impacted soil. Residents (typical residential adult and child) may be exposed to COPCs via the vapor intrusion pathways from soil vapor and groundwater.

Target Levels or evaluation thresholds will be developed for each of the three identified environmental media (i.e., soil vapor, groundwater and soil) for corresponding hypothetical exposed population, consistent with the CSM shown on Figure 5. The following sub-sections presents the development of target levels and evaluation thresholds, including development of RBTCs and application of the Regulatory SLs and Alternative SLs. The methodologies of RBTC development are presented in Appendix A.

4.2.2 Soil Vapor Evaluation Thresholds

Soil vapor samples collected on-Site have been selectively analyzed for VOCs and TPHs. The soil vapor RBTCs were developed for all chemicals detected in soil vapor. Given vapor inhalation from soil vapor is the only complete pathway, the air SLs are used for screening volatile chemicals in soil vapor data when used in concert with an appropriate attenuation factor.

For residents and commercial composite workers, only inhalation of VOCs migrating from soil gas to indoor air was evaluated since outdoor air concentrations will be lower than indoor air concentrations due to higher mixing in the ambient environment. The soil vapor RBTCs are calculated based on the Regulatory SLs for residential air or commercial air and default attenuation factor from soil vapor to indoor air, since outdoor air concentrations will be lower than indoor air concentrations due to higher mixing in the ambient environment. For VOCs, the DTSC-modified SLs (Cal/EPA 2019) when available or USEPA Regional Screening Levels (RSLs) (USEPA 2019) for residential and commercial/industrial air are applied as regulatory air SLs. To be consistent with TPH fraction grouping, the Environmental Screening Levels (ESLs) from San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) for residential or commercial air are applied as regulatory air SLs (SFBRWQCB, 2019).

Based on Cal/EPA guidance (2019c), DTSC recommends use of default attenuation factors for preliminary screening evaluations found in Table 2 of DTSC's 2011 Vapor Intrusion Guidance (Cal/EPA, 2011), and also recommends that screening assessments evaluate the default attenuation factor of 0.03 for sub-slab soil gas and "near-source" exterior soil gas, released in 2015 by USEPA (2015). Thus, the soil vapor RBTCs for residents exposed to soil vapor migrating to indoor air through inhalation were calculated based on the Regulatory SLs for residential air, which were divided by a DTSC-recommended default attenuation factor of 0.001 for future residential building from contaminant source (Cal/EPA 2011) or default screening attenuation factor of 0.03 (USEPA, 2015). The soil vapor RBTCs for commercial composite workers exposed to soil vapor migrating to indoor air through inhalation were calculated based on the Regulatory SLs for commercial air, which were divided by a DTSC-recommended default attenuation factor of 0.0005 for future commercial building from contaminant source, a DTSC-recommended default attenuation factor of 0.001 for existing commercial building from contaminant source (Cal/EPA, 2011), or default screening attenuation factor of 0.03 (USEPA, 2015). It should be noted that all on-Site buildings were demolished in January 2020.

For construction trench workers, site-specific trench air RBTCs were developed with exposure parameters for construction trench scenario for volatile chemicals detected in soil vapor. As requested by DTSC during a teleconference on December 9, 2019, the Virginia Unified Risk-Assessment Model (VURAM) developed by Virginia Department of Environmental Quality (VDEP, 2019) was used to develop trench air RBTCs. The soil vapor RBTCs for construction trench workers exposed to soil vapor migrating to trench air through inhalation were calculated based on the site-specific trench air RBTCs SLs, which were divided by calculated trench attenuation factors from VURAM. Details of VURAM model are presented in Appendix A.

Details of RBTC development are presented in Appendix A. The most stringent RBTCs were selected as soil vapor evaluation thresholds.

4.2.3 Groundwater Evaluation Thresholds

Groundwater samples collected on-Site have been selectively analyzed for VOCs, TPHs, and metals. The groundwater RBTCs were developed for all volatile chemicals detected in groundwater. Given vapor inhalation from groundwater is the only complete pathway, the air SLs are used for screening volatile chemicals in groundwater data when used in concert with an appropriate attenuation factor.

For residents and commercial composite workers, only inhalation of VOCs migrating from groundwater to indoor air was evaluated since outdoor air concentrations will be lower than indoor air concentrations due to higher mixing in the ambient environment. The groundwater RBTCs are calculated based on the Regulatory SLs for residential air or commercial air, Henry's Law constant for the chemicals, and default attenuation factor from groundwater vapor to indoor air. For VOCs, the DTSC-modified SLs (Cal/EPA 2019) when available or USEPA RSLs (USEPA 2019) for residential or commercial/industrial air are applied as Regulatory SLs. To be consistent with TPH fraction grouping, the ESLs from SFBRWQCB (2019) for residential or commercial air are applied as regulatory air SLs. The groundwater RBTCs for residents exposed to groundwater migrating to indoor air through inhalation were calculated based on the Regulatory SLs for residential air, which were divided by a DTSC-recommended default attenuation factor of 0.001 for future residential building from contaminant source (Cal/EPA, 2011) and Henry's Law constant for the chemicals.

The groundwater RBTCs for commercial composite workers exposed to groundwater migrating to indoor air through inhalation were calculated based on the Regulatory SLs for commercial air, which were divided by a DTSC-recommended default attenuation factor of 0.0005 for future commercial building from contaminant source or a DTSC-recommended default attenuation factor of 0.001 for existing commercial building from contaminant source (Cal/EPA, 2011) and Henry's Law constant for the chemicals.

For construction trench workers, site-specific trench air RBTCs were developed using VURAM with exposure parameters for construction trench scenario for volatile chemicals detected in groundwater. The groundwater RBTCs for construction trench workers exposed to groundwater migrating to trench air through inhalation were calculated based on the site-specific trench air RBTCs, which were divided by calculated trench attenuation factors from VURAM and Henry's Law constant for the chemicals. Details of VURAM model are presented in Appendix A.

Details of RBTC development are presented in Appendix A. The most stringent RBTCs were selected as groundwater evaluation thresholds.

4.2.4 Soil Target Levels

Soil samples collected on-Site have been selectively analyzed for VOCs, TPHs, PCBs, and metals. Soil and soil vapor samples were both analyzed for VOCs and TPHs. The dominant pathway for volatile chemicals to pose risk to human health is through vapor inhalation. DTSC recommends the use of soil vapor data over soil data for evaluating the vapor inhalation exposure pathway (Cal/EPA 2011). Soil vapor RBTCs are likewise preferable to soil RBTCs for the purpose of establishing evaluation thresholds for the vapor inhalation pathway. Therefore, site-specific soil vapor RBTCs were developed for all chemicals detected in soil vapor to compare with soil vapor data, and Regulatory SLs were used to evaluate soil concentrations for volatile chemicals on-Site.

For commercial composite workers, regulatory commercial soil SLs for all chemicals (except arsenic) detected in soil and Alternative SLs for arsenic were used. The soil screening levels from DTSC-modified SLs (Cal/EPA 2019) and USEPA RSLs (USEPA 2019) for commercial/industrial soil are summarized in Table 10. To be consistent with TPH fraction grouping, the soil direct exposure human health risk levels for commercial soil from SFBRWQCB (2019) for TPHs are applied as target levels and shown in Table 10.

For construction trench workers, site-specific soil RBTCs were developed for PCBs and metals (except arsenic and lead) detected in soil and summarized in Table 10. Construction workers may be exposed to non-volatile chemicals in shallow soil (0-5 feet bgs) by means of direct contact with soil (incidental ingestion and dermal contact) and inhalation (windblown particulates). Lead exposure/toxicity is evaluated by modeling blood lead levels, and therefore RBTCs were not calculated for lead. The details of development of site-specific soil RBTCs for construction trench workers are presented in Appendix A. To be consistent with TPH fraction grouping, the soil direct exposure human health risk levels for construction worker from SFBRWQCB (2019) for TPHs are applied as target levels and shown in Table 10.

For arsenic, DTSC has established an upper-bound ambient soil level for Southern California of 12 mg/kg. The upper-bound ambient soil level of 12 mg/kg was used as the Alternative SL to evaluate the arsenic concentrations in on-Site soil (Chernoff, 2008).

The summary of soil target levels are shown in Table 10.

4.3 Summary of Target Levels and Evaluation Thresholds

The target levels for soil are listed in Table 10. The evaluation thresholds for soil vapor and groundwater are included in Appendix A, Table A-6 and Table A-8, respectively.

4.3.1 Soil Vapor

For soil vapor, RBTCs were developed for all detected chemicals. All three hypothetical future on-Site populations (residential, commercial/industrial composite workers and construction trench workers) may potentially be exposed to VOCs through inhalation of vapors in indoor air, ambient air, or trench air migrating from soil vapor. The most stringent (i.e., lowest and most conservative) RBTCs out of the three RBTCs calculated using DTSC-recommended default attenuation factors and the VURAM-derived attenuation factor were selected as soil vapor evaluation thresholds.

4.3.2 Groundwater

For groundwater, RBTCs were developed for all detected volatile chemicals. All three hypothetical future on-Site populations (residential, commercial/industrial composite workers and construction trench workers) may potentially be exposed to VOCs through inhalation of vapors in indoor air, ambient air, or trench air migrating from groundwater. The most stringent (i.e., lowest and most conservative) RBTCs out of the three RBTCs calculated using DTSC-recommended default attenuation factors and the VURAM-derived attenuation factor were selected as groundwater evaluation thresholds.

4.3.3 Soil

For soil, commercial/industrial composite workers and construction workers may be exposed to chemicals in shallow soil (0-5 feet bgs), by means of direct contact with soil (incidental ingestion and dermal contact) and inhalation (windblown particulates and vapor). Three categories of criteria were considered: RBTCs, regulatory screening levels (Regulatory SLs), and alternative screening levels (Alternative SLs).

For VOCs and lead, the more stringent (*i.e.*, lowest and most conservative) Regulatory SLs from Cal/EPA (2019) and USEPA RSLs (2019) for commercial/industrial soil were selected as target levels for shallow soil (0-5 feet bgs).

For TPHs, the most stringent (*i.e.*, lowest and most conservative) Regulatory SLs from SFBRWQCB (2019) for commercial and construction soil were selected as target levels for shallow soil (0-5 feet bgs).

For arsenic, the upper-bound ambient soil level of 12 mg/kg in Southern California was used as the Alternative SL to evaluate the arsenic concentrations in on-Site soil (Chernoff, 2008).

For PCBs and metals (except arsenic and lead), site-specific soil RBTCs were developed for construction workers. Construction workers may be exposed to non-volatile chemicals in shallow soil (0-5 feet bgs) by means of direct contact with soil (incidental ingestion and dermal contact) and inhalation (windblown particulates). For metals, the most stringent (i.e., lowest and most conservative) values out of construction worker RBTCs and Regulatory SLs from Cal/EPA (2019) and USEPA RSLs (2019) for commercial/industrial soil were selected as the target levels for shallow soil (0-5 feet bgs). As discussed below, the USEPA RSLs were used for PCBs. For PCBs, the most stringent (i.e., lowest and most conservative) values out of construction worker RBTCs and Regulatory SLs from USEPA RSLs (2019) for commercial/industrial soil were selected as the target levels for shallow soil (0-5 feet bgs).

5. APPLICATION FOR RISK BASED PCB CLEAN-UP (USEPA)

This Application for Risk Based PCB Clean-up (Application) has been included in the RP at the request of USEPA. The application is made on behalf of Rosecrans Place, LLC and includes the USEPA-required information for implementation of the proposed clean-up plan for soil containing PCBs for the Site.

This Application was prepared pursuant to Title 40 Code of Federal Regulations (CFR) Section 761.62 (c). Written certification in accordance with 761.61(a)(3)(i)(E) is presented in Appendix D and will be signed upon finalization of this RP. The USEPA is providing oversight for clean-up and management of PCBs at the Site. Regulatory oversight at the Site for other chemicals of concern (TPH and metals) will be provided by the DTSC and is addressed separately. Given that much of the PCB impacted soil at the Site is commingled and significantly overlaps other chemicals of concern, the remedial approach set forth provided below also pertains to non-PCB related soil impacts at the Site that are co-located with the PCB impacts.

5.1 PCB Target Levels

Target levels for PCBs in soil are presented in Section 4 and summarized in Table 10. The target levels are intended to be used to evaluate the remedial activities (excavation), as further described below. Site-specific soil RBTCs for PCBs were developed for construction workers. For PCBs, the most stringent (i.e., lowest and most conservative) values out of construction worker RBTCs and Regulatory SLs from USEPA RSLs (2019) for commercial/industrial soil were selected as the target level for shallow soil (0-5 feet bgs). PCBs Aroclor 1248, Aroclor 1254, Aroclor 1260 and Aroclor 1262 were the only PCBs detected above laboratory reporting limits at the Site. The selected target levels for PCBs Aroclor 1248, Aroclor 1254 and Aroclor 1260 are the commercial/industrial USEPA RSLs 940 µg/kg, 970 µg/kg and 990 µg/kg respectively. Commercial/industrial USEPA RSL are not available for Aroclor 1262, therefore the RBTC of 3500 µg/kg was applied as the target level.

5.2 PCB Distribution

Ramboll's evaluation of PCB distribution in soil is based on analysis of approximately 180 subsurface samples collected at various locations around the Site at depths ranging from approximately 1 to 25 feet bgs (Table 6). PCBs have been found in shallow soil at the Site at concentrations exceeding applicable USEPA screening criteria. PCB impacts to soil at the Site are located primarily in shallow soils from depths ranging from approximately 0 to 5 feet bgs. Samples collected beyond 5 feet bgs show a significant decline in concentration when compared to the shallow soil samples collected within or near the same borehole. The lateral distribution of PCBs in shallow soil at the Site is irregular. Additional information regarding PCB distribution is included in the SAR.

A summary of the PCB soil sampling results at the Site compared to the target levels are presented below:

- Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1242 and Aroclor 1268 were not detected above laboratory reporting limits in any soil samples collected at the Site.

- Aroclor 1262 was detected above the laboratory reporting limit in only one sample collected at the Site. Aroclor 1262 was detected in LA-SB1 at 1-foot bgs at a concentration of 160 µg/kg.
- Aroclor 1260 was detected above target levels in 1 soil sample collected at the Site. Aroclor 1260 was detected in SB41-3 at 3,800 µg/kg in SB41 at 3 feet bgs. The target level (commercial/industrial USEPA RSL) for Aroclor 1260 is 990 µg/kg.

Aroclor 1248 and Aroclor 1254 were the most frequently detected PCBs at elevated levels that exceeded their respective target levels. Aroclor 1248 was detected above target levels in 8 soil samples collected at the Site. The exceedances ranged from 1,400 µg/kg in SB20-2 to 22,000 µg/kg in SB52-1. The target level (USEPA commercial/industrial screening level) for Aroclor 1248 is 940 µg/kg. Aroclor 1254 was detected above target levels in 9 soil samples collected at the Site. The exceedances ranged from 1,200 µg/kg in LA-SB5-1 to 40,000 µg/kg in SB16-3. The target level (USEPA commercial/industrial screening level) for Aroclor 1254 is 970 µg/kg.

5.3 Pathways

5.3.1 Concrete and Asphalt Sampling

Hardscape sampling was conducted at the Site in April 2019 and January 2020 by BC2 Environmental (BC2), under the oversight of Ramboll. A total of sixteen (16) hardscape samples were collected, which included seven samples of asphalt (A1 through A7) and nine (9) concrete samples (C1 through C8), including one duplicate sample.

The concrete and asphalt samples were analyzed for PCBs using Soxhlet (EPA SW-846 Method 3540C). Concrete samples were collected at various locations including from inside the former commercial building adjacent to hydraulic lifts. The concrete and asphalt sampling locations were selected in the field based on visual observations such as staining or cracking. After the concrete and asphalt sample was collected, at select locations (C1 through C4, and A1 through A3) the concrete/asphalt was cored using a concrete corer to expose first encountered soil. First encountered soil was also sampled for PCBs using Soxhlet (EPA SW-846 Method 3540C). Sampling locations are depicted on Figure 7. The asphalt, concrete, and soil sampling results from January were presented to the DTSC in a memorandum dated May 22, 2019.

Approximately the top inch of an approximate 10 cm x 10 cm area in the concrete and asphalt was collected using a roto-hammer to produce approximately 100 grams of concrete/asphalt. Asphalt and concrete samples were labeled, sealed in zip-closure bags, stored in a cooler with ice and delivered to Eurofins CalScience (Eurofins) of Garden Grove, California, a fixed-base analytical laboratory under chain-of-custody documentation. PCBs were not detected above laboratory reporting limits in any of the concrete or asphalt samples collected at the Site. PCBs were also not detected above laboratory reporting limits in the first encountered soil under the concrete and asphalt. Based on the results of the concrete and asphalt sampling, the surface material at the Site has not been impacted by PCBs. However, hardscape sampling will occur prior to slab demolition/removal at the Site. Ramboll will conduct additional hardscape sampling at the Site in accordance with the memorandum prepared by Ramboll titled "management of and reuse of hardscape during demolition" submitted to the DTSC on February 26, 2020, and approved on March 19, 2020.

5.3.2 Clarifier, Vault and Storm Drain Sampling

Based on-Site visits conducted by Ramboll and a review of historical reports, Ramboll has identified two clarifiers (the clarifiers and vault have been decommissioned and removed, see Section 2.4), one vault, and one storm drain on-Site. In April 2019, Ramboll opened up the clarifiers, vault and storm drain for inspection. Sediment samples were collected using a hand auger from within the southern clarifier, vault and the storm drain by BC2, under the oversight of Ramboll. In the northern clarifier, sufficient sediment for sample collection was not present, therefore a sample was not collected. The sediment samples were analyzed for PCBs using Soxhlet (EPA SW-846 Method 3540C).

Sediment samples were labeled, sealed in zip-closure bags, stored in a cooler with ice and delivered to Eurofins CalScience (Eurofins) of Garden Grove, California, a fixed-base analytical laboratory under chain-of-custody documentation. PCBs were not detected above laboratory reporting limits in any of the sediment samples collected from the southern clarifier, vault or storm drain at the Site. Sediment sampling results were presented to the DSTC in a memorandum dated May 22, 2019.

5.4 Co-Solvency

The fate and transport of chemicals in subsurface soil is highly dependent on physical and chemical properties. PCBs are not typically mobile in soil because of their chemical properties including low solubility. If PCBs in subsurface soil are commingled with other more mobile chemical compounds, the more mobile compounds may act as cosolvents. Cosolvents may increase the solubility and decrease the interfacial tension of other chemical compounds in soil, therefore potentially increasing PCB mobilization in the subsurface.

5.4.1 VOCs

Ramboll evaluated the potential co-solvency effect of VOCs and PCBs in soil at the Site. Approximately 170 subsurface soil samples analyzed for VOCs have been collected at various locations around the Site at depths ranging from approximately 1 to 15 feet bgs. No VOCs were detected above applicable screening levels in any of the soil samples collected at the Site. Furthermore, in most of the soil samples, VOCs were not detected above laboratory reporting limits. If VOCs were detected above laboratory reporting limits, they were orders of magnitude below applicable screening levels.

Based on the lack of elevated VOCs detected in the subsurface at the Site, Ramboll has concluded that the co-solvency of VOCs is not a significant factor in the fate and transport of PCBs in soil at the Site, and that PCB mobility in soil remains negligible.

5.4.2 TPH

Ramboll evaluated the potential co-solvency effect of TPH and PCBs in soil at the Site. Subsurface investigations conducted at the Site by Ramboll and others have revealed the presence of PCBs and TPH in shallow soil at concentrations exceeding applicable screening criteria. Approximately 170 subsurface soil samples analyzed for TPH have been collected at various locations around the Site at depths ranging from approximately 1 to 25 feet bgs. TPH were only detected above applicable soil target levels in three boring (LA-SB5, LA-SB7 and LA-SB9) and a total of five soils samples. TPH was detected in five samples (approximately 3% of the samples) at a concentration exceeding soil target levels. TPH and PCB impacts to soil at the Site are located primarily in shallow soils from depths ranging from approximately 0 to 5 feet bgs. Samples collected beyond 5 feet bgs show a significant decline in TPH and

PCB concentration when compared to the shallow soil samples collected within or near the same borehole. Because TPH impacts are not widespread (TPH were only detected above applicable soil target levels in three boring), and because PCB and TPH impacts at the Site are primarily located in the upper 5 feet of soil and concentrations significantly decline with depth, Ramboll has concluded that the co-solvency of TPH is not a significant factor in the fate and transport of PCBs in soil at the Site, and that PCB mobility in soil remains negligible.

5.5 Supplemental PCB Soil Sampling

Ramboll will conduct supplemental soil sampling during SMP/RP implementation as follows:

5.5.1 Designated Areas for Additional PCB Sampling

The USEPA has requested additional soil sampling for PCBs at several locations across the Site as shown on Figure 7. As discussed with USEPA, Ramboll will collect soil samples from these areas during SMP/RP implementation.

5.5.2 Verification Sampling Plan for PCBs in Open Space Areas

Based on discussion with the USEPA, Ramboll has developed a verification soil sampling plan for the open space areas at the Site. The open space areas are depicted on Figure 11B. There is approximately 33,000 square feet of proposed open space at the Site. Upon completion of grading and soil remedial activities, Ramboll will conduct verification soil sampling in the open space areas prior to backfilling with clean fill material. The soil samples will be analyzed for PCBs and compared to the soil target levels. Soil containing PCBs at concentrations exceeding the soil target levels in the open space area will be targeted for excavation and removal as described below in Section 5.6. Upon completion of verification sampling and any potential excavation activities, all open space areas will be completed with imported clean fill from the ground surface to at least 2 feet bgs.

5.5.3 Verification Sampling for PCBs in Groundwater

While PCBs have been vertically delineated at each location where PCBs were detected, Ramboll will include one round of sampling for PCBs during the next groundwater monitoring event to confirm that groundwater has not been impacted with PCBs. In the event that PCBs are detected at elevated concentrations (i.e., above USEPA screening levels), PCBs would be included in the future groundwater monitoring program.

5.6 Remedial Approach

The remedial approach for PCBs in soil is excavation and off-Site disposal. Soil containing PCBs at concentrations exceeding the target levels in the upper 5 feet of soil at the Site will be targeted for excavation. Confirmation soil sampling and analysis will be conducted to verify that target levels are met at the excavation bottom and sidewalls. In accordance with the grading plan, the maximum depth of impacted soil removal will be approximately 5 feet bgs, unless otherwise determined and discussed with USEPA at the time impacted soils are 5 feet depth are discovered. As previously discussed with USEPA/DTSC, any soils left "in place" above target levels at a depth of 5 feet or below 5 feet will be recorded on a deed restriction.

Given that much of the PCB impacted soil at the Site is commingled and significantly overlaps other chemicals of concern (metals and TPH), the remedial activities for PCBs also pertains to non-PCB related soil impacts at the Site. Therefore, remedial activities for PCBs and TPH/metals are collectively discussed. Section 6 and 7 present the screening and

selection of soil remedial alternatives, and Section 8 present details regarding soil remediation activities (excavation with off-Site disposal).

5.7 Decontamination Procedures

All tools, sampling equipment, and movable equipment will be decontaminated for PCBs in a manner consistent with applicable requirements in § 761.79. Decontamination will be conducted in accordance with the procedures presented in § 761.375(a)(b) (initial wash/rinse) and § 761.375(c)(d) (second wash/rinse). In addition, wastes generated during decontamination activities (wash/rinse water) will be disposed of in a manner that is consistent with applicable requirements in § 761.79. Recordkeeping of decontamination and disposal of decontamination wastes related to PCBs will be conducted in accordance with § 761.79(f) and § 761.79(g).

A combination of dry and wet methods will be used to remove soil residue on equipment and excavator tracks/tires and truck tires. During dry conditions, residual soil will be removed by dry brushing. If dry brushing has not sufficiently removed the residual soil, high-pressure water washing will be used to remove material residues and mud from equipment and tires. Water generated during decontamination activities will be contained for analysis and appropriate disposal/recycling.

5.8 Engineering Controls to Limit Fugitive Dust Emissions

As described in the SMP, the excavation of soil with the potential for release of toxic air contaminants must comply with South Coast Air Quality Management District (SCAQMD) Rule 1466 requirements to minimize the amount of off-Site fugitive dust emissions containing toxic air contaminants. Rule 1466 chemicals potentially at the Site include lead, hexavalent chromium, and PCBs. SCAQMD Rule 1466 applies only if the amount of excavated soil exceeds 50 cubic yards. Given that estimates of lead and PCB impacted soil exceed 50 cubic yards, Rule 1466 requirements must be followed for dust suppression, monitoring, notification, signage, and record keeping. If the amount of excavated soil is less than 500 cubic yards, several exemptions from Rule 1466 apply.

5.9 Logistics and Schedule

See Section 13 for discussion on the logistics and schedule of implementation of remediation activities to address the soil impacted with PCBs.

5.10 Land Use Covenant

It is anticipated that a local or state agency (e.g., DTSC) will prepare a draft restrictive LUC specific to the Site limiting certain uses at the Site. Upon submittal of the Remedial Action Completion Report, a signed LUC will be recorded by the property owner with the Los Angeles County Recorder.

At a minimum, it is anticipated that the LUC will impose the following post-redevelopment requirements:

- All areas within the backyards of residential properties will be covered in concrete and may not be penetrated without approval by DTSC/USEPA; the concrete will serve as a "final cap," as referenced further below.
- The final cap must be inspected, maintained, and repaired in perpetuity;

- Vapor intrusion mitigation systems will be installed at all structures (residential and commercial) at the property and will need to be maintained until such time that DTSC determines they are no longer required;
- Periodic reports documenting the inspection, maintenance, and repair activities must be submitted to DTSC;
- The Site will not be used as a hospital, school for persons under 21 years of age, or a day care center for children;
- The cap shall not be altered except in compliance with the SMP and LUC; and
- Drilling for any water, oil or gas will not be permitted without prior written approval by the DTSC.

6. SCREENING AND SELECTION OF CLEAN-UP ALTERNATIVES

6.1 Screening and Selection of Soil Clean-up Alternatives

A screening evaluation was conducted to assess remedial technologies and process options for remediating the impacted soil and mitigating the impacted soil vapor present at the Site. Based on the target levels for soil presented in Section 4, the following alternatives were identified and developed for the proposed remedial alternative (RA) at the Site. Most of the identified remedial alternatives were considered for application at this Site but were screened out immediately without detailed evaluation. The screen-out decision was made based on professional experience at other similar residential sites and on scientific consideration and engineering judgment that indicated that they would either be ineffective in achieving target levels, inappropriate technologies for remediating the elevated PCOCs, or could not be implemented in a cost-effective manner.

6.1.1 No Action

The "No Action" alternative does not meet the criteria of effectiveness. While the "No Action" alternative was not considered, it was evaluated as a baseline to which the relative benefits of the other alternatives could be compared.

6.1.2 Excavation with Off-Site Disposal

Excavation involves the physical removal of impacted soil. Excavation includes using loaders, backhoes, large diameter augers, and/or other appropriate equipment. Confirmation soil sampling and analysis will be conducted to verify that target levels are met at the excavation bottom and sidewalls. Excavation may require additional areas for soil stockpiling, prior to transporting off-Site for treatment or disposal. Off-Site disposal involves removing impacted soil from the Site and transporting it to an appropriate permitted, off-Site facility for disposal.

Excavation would be an effective means for removing impacted soil from the Site and would be used in conjunction with appropriate disposal options.

6.1.3 Excavation with On-Site Strategic Placement/Encapsulation

Under this alternative, identified impacted soil would be placed within strategically placed soil management cells (engineered containment cells). The engineered containment cell would consist of a cap, consisting of gravel and asphalt/concrete pavement. The cap would be constructed over the burial cells. The cap, as constructed, would provide a physical barrier to mitigate potential exposure to the impacted soils to future Site users. The engineered containment cell would also consist of several low permeability layers, liners, and leachate collection systems.

The capping alternative by itself was considered and determined to be unacceptable due to the anticipated volume of impacted soil that may be encountered and the limited volume available for the containment cell after the engineering considerations and Site constraints were taken into consideration.

6.2 Screening and Selection of Vapor Mitigation Alternatives

A range of building controls technologies were identified to eliminate potentially complete exposure pathways for VOCs to reach indoor air via vapor intrusion. The contaminant source

and concentrations are the key considerations for selection of a building control. The most common building control design and installation are:

- Sealing building leaks;
- Sub-slab depressurization system;
- Sub-membrane depressurization system;
- Passive barrier system;
- Pressurization and ventilation (using heating, ventilation or air conditioning); and
- Indoor air cleaners.

Supplemental building control technologies include:

- Block wall depressurization;
- Drain tile pressurization; and
- Sealing Building Leaks.

Common building locations where leaks and openings can occur include: foundation and basement wall cracks, floor sumps, floor drains, floor or wall slab joints, cinder blocks and mortar joints, and penetrations from piping, wiring, and ducts. If such entry points are identified for the direct entry of vapors into the structure, the entry points should be sealed by:

- Using VOC resistant caulk or expanding foam
- Repairing damaged concrete slabs
- Covering and sealing areas of exposed earth or pits with VOC resistant materials
- Placing airtight sump covers on existing sumps and venting to the exterior of the structure

Though sealing a building is not a stand-alone measure to mitigate a structure, the implementation of these measures have been shown to increase the effectiveness of many mitigation techniques described below. Sealing of leaks can be especially important when considering the use of active sub-slab depressurization systems since building leaks, depending on their location, can reduce their effectiveness. Leaks in building foundations and floor slabs can often be identified during a physical building inspection or by conducting pre-mitigation diagnostic pressure field extension tests.

Sub-Slab Depressurization System

Sub-Slab Depressurization (SSD) systems prevent soil vapor from entering into buildings by lowering the air pressure in the soils directly beneath the building's floor slabs relative to indoor air pressure. The typical residential SSD consists of vertical piping installed into a cavity (known as a suction pit) that is dug below the lower level floor slab. The collected vapors are exhausted to the atmosphere above the building's roof line by using a mechanical means (*i.e.*, a low wattage fan).

SSD is considered among the most effective vapor intrusion mitigation strategies for existing buildings and have been documented to achieve high vapor concentration reductions. The

SSD can be used to mitigate both residential as well as larger commercial/industrial buildings where a concrete slab directly overlies soil. The SSD system can be installed as a passive system and turned active if conditions warrant.

A sub-slab diagnostic test should be conducted prior to installing the SSD on an existing building to document the operational design needed to successfully mitigate the building. The primary purpose of sub-slab diagnostic testing is to simulate a completed SSD to determine the number and location of suction pits required to obtain sufficient pressure field extension beneath the slab.

Sub-Membrane Depressurization System

The Sub-Membrane Depressurization (SMD) system utilizes a membrane as a surrogate for a slab to allow depressurization of the soil. The SMD has been demonstrated to be the most effective mitigation method in existing buildings where earthen floors, such as crawlspaces, provide a vapor entry location. An impermeable membrane covers the exposed dirt surface of a crawlspace while the depressurization system withdraws soil gas from beneath the membrane and prevents its intrusion into the space above. Properly installed SMDs have resulted in vapor concentration reductions similar to SSD.

Like the SSD, the SMD typically requires a continuously-operated fan to vent vapors from beneath the installed membrane to the atmosphere. Due to the difficulties of sealing the openings and potential for tearing and damage to the membrane, permanently sealing the earthen floor or crawlspaces with a more permanent covering may be a better alternative to the SMD. Membranes installed must be well maintained to ensure effectiveness and therefore the SMD may require more long-term maintenance than an SSD.

Building Pressurization and Ventilation using Heating, Ventilation or Air Conditioning

The heating, ventilation, and air conditioning (HVAC) systems in commercial and industrial buildings can help minimize or prevent VI into buildings by providing positive pressure and ventilation. Building pressurization is achieved by having greater air inflow than outflow, resulting in positive pressure differential of the indoor environment relative to the sub-slab environment. This can assist in preventing VI from the subsurface if this pressure differential between indoor air and the sub-slab environment can be established and maintained for interior spaces. Because it is extremely hard to document and verify the effectiveness of positive pressure and is only possible when the HVAC is in operation, sole use of positive building pressure as a mitigation method is not recommended. Modification of any HVAC system to maintain a positive pressure within the structure can be a valuable component to supplement any active or passive mitigation system.

Indoor Air Cleaners

Indoor air can also be directed to air pollution control equipment (e.g., activated carbon treatment systems) to remove air contaminants from the building interior. It can be an effective interim response action to address immediate risks that have been identified until a longer more permanent measure can be designed and employed. This technique is dependent on the treatment system's uninterrupted performance to protect receptors. During the use of these short- term interim systems, there must be an indoor air sampling program to confirm the effectiveness of the operation.

Activated carbon filters are able to remove the VOCs in the indoor air to below detection limits; however, a carbon filter alone may not be effective. Other factors that need to be considered are proper operation and maintenance, inadequate airflow, unit size relative to the size of the room being treated, contaminant concentrations, and contaminant distribution. In addition, capital costs, annual operating expenses, and waste disposal concerns can be a drawback to using this technology. Nevertheless, there may be circumstances in which this type of mitigation can be useful, i.e., high water and wet soils.

Supplemental Building Controls for Mitigation: Block wall and Drain Tile Depressurization

Block wall depressurization is a mitigation technique that mechanically depressurizes the void network within a block wall foundation by drawing air from inside the wall. It uses an electric fan and vents the collected vapors to the outside. As with other depressurization systems, diagnostic testing should be conducted to ensure uniform depressurization can be achieved.

Drain tile depressurization is a mitigation technique that can be used at a building that has perforated drain tile installed along the inside or outside of its foundation. If the drain piping discharges to a sump pit, the negative pressure field should be applied to the sealed sump pit. Alternatively, if the drain piping discharges to an outdoor location, the negative pressure field should be applied to the terminal end.

Passive Barrier System

A passive barrier system is a combination of one or more synthetic membranes coupled with a passive or active venting system beneath the liner. This system prevents the migration of subsurface vapors into the building by providing a vapor resistant material to prevent the upward migration. The venting system is designed to allow pressure relief and venting of contaminant vapors collected beneath the liner to the atmosphere above the roof line.

Fluid-applied membranes are spray-applied directly to substrates, fabric layers, and building penetrations. These membranes can result in a well adhered and seamless membrane when installed properly by a contractor who has been trained and approved by the membrane provider. Sheet membrane comes in rolls of varying materials and sizes. However, sheet membranes are rarely employed due to the difficulty in sealing penetrations from subsurface utilities.

Care must be taken during installation of a passive barrier system as damage will render the barrier ineffective. Small tears, punctures, gaps, or defects in a membrane can create a pathway for vapor entry into buildings and they must be properly sealed. Penetrations through the membrane for utility conduits piping, etc. must also be properly sealed. When evaluating the performance and effectiveness of various vapor barrier products, the following factors need to be considered: the membrane’s ability to inhibit diffusion or vapor permeation, puncturing and tearing, and the chemical resistance of the membrane.

Appropriate testing methods must be incorporated as part of the project’s quality control procedures. The use of a smoke test on a synthetic membrane is an effective method to test for the presence of leaks. A smoke test involves the use of a generator or blower to introduce an inert, nontoxic smoke with sufficient pressure beneath a membrane to visually identify leaks.

7. SELECTED CLEAN-UP ALTERNATIVES

The selected clean-up alternative for soil at the Site is excavation with off-Site disposal, in conjunction with a LUC to address impacted soils left in place at the Site as well as activity and use limitations that prevent future residents from exposure to soil concentrations that may be present above residential screening levels. Under this alternative, impacted soils identified as exceeding the target levels in Table 10, within PAOCs or other areas identified during implementation of the SMP will be temporarily stockpiled, profiled and transported to a licensed disposal facility (See Section 8.7.3 and 8.7.4). Procedures for identification, segregating and profiling of soils for off-Site disposal are provided in the DTSC approved SMP.

The selected mitigation alternative for soil vapor at the Site is a VIMS consisting of a passive SSD coupled with a vapor barrier system. The VIMS will be installed under the proposed residences (including garage areas) and the retail building on-Site. The SSD system can be made active if conditions warrant (See section 9.4).

8. SOIL REMEDIAL ACTIVITIES

8.1 General Overview

As presented in Section 7, the selected clean-up alternative for soil at the Site is excavation with off-Site disposal. This section presents the scope and methodology for implementing the soil remediation activities through excavation of the known impacted soil areas.

All remedial field activities will be conducted under the supervision of a California-registered Professional Geologist and/or Engineer, and in accordance with applicable Cal/EPA and DTSC regulations and guidance.

8.2 Pre-Field Activities

8.2.1 Health and Safety Plan

The existing site-specific Health and Safety Plan (HASP) will be updated to inform all Ramboll personnel of known or reasonably anticipated potential hazards and safety concerns associated with the remedial action implementations. All Ramboll personnel will follow the guidelines, rules, and procedures contained in the site-specific HASP during all on-Site and off-Site activities.

At a minimum, the HASP will include identification of key personnel, an evaluation of hazards and associated controls, personnel training requirements, medical surveillance and recordkeeping requirements, personal protective equipment (PPE) requirements, air monitoring/sampling procedures, spill response procedures, decontamination requirements, and an emergency response plan (ERP). Ramboll will submit a copy of the HASP to the DTSC prior to commencement of any Site activities. Copies of the HASP will be kept on-Site for review and reference during all Site activities.

In addition, Ramboll subcontractors will each be responsible for preparing their own Site-specific HASP to protect the health and safety of their employees.

8.2.2 QAPP

A revised quality assurance project plan (QAPP) was submitted to the DTSC on February 4, 2019 to address quality assurance (QA) and quality control (QC) policies associated with the collection of environmental data during implementation of the SMP/RP. The revised QAPP was conditionally approved by the DTSC on February 27, 2019.

8.2.3 Underground Utilities

Soil excavation activities will only commence following all Site demolition activities. Ramboll will confirm with the property owner that all utilities in connection with the Site have been disconnected and confirmed "dead". Ramboll will contact Underground Service Alert of Southern California or Dig Alert prior to any excavation activities to mark utilities at the Site boundary. Dig Alert and ALTA Survey information will be reviewed to confirm no on-Site easements for private or public utilities are present on-Site.

8.2.4 Permitting

The permitting requirements to be satisfied prior to performing the excavation activities outlined herein are detailed in the SMP, provided under separate cover. These include permitting requirements under the SCAQMD for Rule 1166 (VOC emissions) and Rule 1466 (toxic air contaminants). Additionally, detailed procedures applying to the management of

excavated soil, including fugitive dust emissions and compliance with these rules, are provided in the SMP.

8.3 SMP Implementation

A SMP was issued for DTSC review in December 2019 and approved on January 22, 2019. The DTSC-approved SMP will be implemented during demolition and grading activities, as well as the removal of the known impacted soil areas. Therefore, the SMP is intended as a companion document to this Response Plan since it outlines the procedures for identification, screening and handling of impacted soils or suspected impacted soils encountered. The procedures also include the profiling of soil stockpiles and arrangement for disposal of impacted soil.

8.3.1 Soil Sampling Beneath\Near Former Building Footprints and Former Parts Wash Station

The DTSC has expressed concern regarding the area beneath the footprints of the two former main structures, mainly the office building previously located in the southwest corner of the Site and the commercial building previously located in the northwest corner of the Site. More specifically, the DTSC has expressed concern regarding the former paint booth, former steam cleaning bay, former body shop, former waste oil tank, AST, and compressor located adjacent to, and west of the former commercial building. The DTSC has also expressed concern regarding the former parts wash location.

During SMP implementation, Ramboll is proposing to collect an additional 9 soil samples from beneath the building footprints and 1 additional soil sample from the former waste oil tank, AST, and compressor area. The soil samples will be analyzed for VOCs, metals, PCBs and TPH. Ramboll is also proposing to collect 1 soil sample from beneath the former parts wash station and analyze the soil sample for metals, PCBs and TPH. The sampling locations are depicted on Figures 6, 7 and 8. Sampling locations will be adjusted in the field based on field observations (e.g. soil staining or elevated PID readings).

8.4 Volume of Impacted Soil

Approximately 1,600 cubic yards of known impacted soil have been identified at the Site for off-Site removal, based on comparison to target levels (Figure 10). The primary contaminants of concern in soil at the Site consist of lead, PCBs, and TPH. The lead, PCBs, and TPH soil impacts are commingled, and significantly overlap each other. Therefore, the total estimated volume of known impacted soil reflects the commingled nature of the soil impacts. Ramboll would like to note that the estimate provided above is for the known amount of impacted soil that has been identified to date (as shown on Figure 10). However, the final extent of the excavations shown on Figure 10 will be determined based on a combination of field screening results and confirmation soil sampling. Therefore, the extent of the excavations will vary depending on the confirmation soil sampling results.

It should also be noted that additional excavations may be performed in response to newly identified impacted soil areas that may be encountered during grading activities as part of the SMP/RP implementation.

8.5 Excavation Activities

The areal limits of excavation of the known impacted soil areas were delineated based on the data collected from the Site to date as presented in the SSI. The areas to be excavated shall

be called the "excavation areas" and they will be marked in the field by the contractor with stakes and/or high visibility paint (as the exclusion zones). The actual lateral and vertical limits of the excavations may be larger or smaller than the estimated areas indicated below and will be determined based on a combination of field screening results and confirmation soil sampling. Additional excavation in each area may be required based on field screening of soils and/or receipt of confirmation soil sampling results in each of the areas. It should also be noted that additional excavations may be performed in response to new impacted soil areas that may be encountered during grading activities as part of the SMP implementation (Section 7.3).

In accordance with the grading plan, the maximum depth of impacted soil removal will be 5 feet bgs, unless otherwise determined and discussed with DTSC at the time impacted soils are 5 feet depth are discovered. As previously discussed with DTSC, any soils left "in place" above target levels at a depth of 5 feet or below 5 feet will be recorded on a deed restriction. If significantly elevated concentrations of VOCs are detected in soil (i.e., indicative of source material) in the vicinity of the bailing shaft (PAOC 5) or other portions of the Site, Rosecrans Place will consult with DTSC to determine whether additional source removal (i.e., below 5 feet bgs) is warranted.

Ramboll proposes to initiate the excavations at the approximate impacted boundaries depicted in Figure 10, collect and analyze confirmation samples, and continue to excavate until the results of confirmation sampling are below the target levels for soil provided in Table 10. The locations of the proposed excavations for TPH, PCBs, lead, and other metals are illustrated in Figures 6 through 9, respectively. A summary of the proposed excavations is provided in Figure 10. Table 11 presents a summary of the excavation areas and a rationale for the confirmation sampling.

Excavation EX-1

Proposed Excavation Area EX-1 is located in the northern portion of the Site. EX-1 will target PCB impacted soil at SB31. The initial dimensions of EX-1 are estimated at approximately 25 feet by 25 feet. The vertical extent of EX-1 is 2.5 feet bgs based on the soil samples collected from SB31. Confirmation sampling will be conducted to verify the lateral distribution of EX-1.

Excavation EX-2

Proposed Excavation Area EX-2 is located in the northern portion of the Site. EX-2 will target PCB impacted soil in SB33. The initial dimension of EX-2 are estimated at approximately 25 feet by 25 feet. The vertical extent of EX-2 is 5.5 feet based on the soil samples collected from SB32 and SB33. Confirmation sampling will be conducted to verify the lateral distribution of EX-2.

Excavation EX-3

Proposed Excavation Area EX-3 is located in the northern portion of the Site. EX-3 will target PCB and TPH-d impacted soil in LA-SB5. The initial dimension of EX-3 are estimated at approximately 25 feet by 12.5 feet. The vertical extent of EX-3 is 2.5 feet based on the soil samples collected from LA-SB5. Confirmation sampling will be conducted to verify the lateral distribution of EX-3.

Excavation EX-4

Proposed Excavation Area EX-4 is located in the central portion of the Site. EX-4 will target PCB impacted soil at LA-SB3. The initial dimension of EX-4 are estimated at approximately 25 feet by 25 feet. The vertical extent of EX-4 is 2.5 feet based on the soil samples collected from LA-SB3. Confirmation sampling will be conducted to verify the lateral distribution of EX-4.

Excavation EX-5

Proposed Excavation Area EX-5 is located in the central portion of the Site. EX-5 will target PCB, lead and copper impacted soil in SB-16. The initial dimension of EX-5 are estimated at approximately 25 feet by 25 feet and a depth of 4 feet bgs. Confirmation sampling will be conducted to verify the lateral and vertical distribution of EX-5.

Excavation EX-6

Proposed Excavation Area EX-6 is located in the central portion of the Site. EX-6 will target lead and arsenic impacted soil at LA-SB-1. The initial dimension of EX-6 are estimated at approximately 25 feet by 25 feet and a depth of 3.5 feet bgs. Confirmation sampling will be conducted to verify the lateral and vertical distribution of EX-6.

Excavation EX-7

Proposed Excavation Area EX-7 is located in the central portion of the Site. EX-7 will target lead impacted soil at RMW-3. The initial dimension of EX-7 are estimated at approximately 25 feet by 25 feet and a depth of 3 feet bgs. Confirmation sampling will be conducted to verify the lateral and vertical distribution of EX-7.

Excavation EX-8

Proposed Excavation Area EX-8 is located in the central portion of the Site. EX-8 will target lead, arsenic, hexavalent chromium, and nickel impacted soil in SB42. The initial dimension of EX-8 are estimated at approximately 25 feet by 25 feet and a depth of 3.5 feet bgs. Confirmation sampling will be conducted to verify the lateral and vertical distribution of EX-8

Excavation EX-9

Proposed Excavation Area EX-9 is located in the southern portion of the Site. EX-9 will target PCB impacted soil in SB-20. The initial dimension of EX-9 are estimated at approximately 25 feet by 25 feet and a depth of 5.5 feet bgs. The vertical extent of EX-5 is 5.5 feet based on the soil samples collected from SB20 and SB44. Confirmation sampling will be conducted to verify the lateral distribution of EX-9.

Excavation EX-10

Proposed Excavation Area EX-10 is located in the southern portion of the Site. EX-10 will target PCB impacted soil in SB39 and SB52. The initial dimension of EX-10 are estimated at approximately 25 feet by 25 feet and a depth of 2 feet bgs. Confirmation sampling will be conducted to verify the lateral and vertical distribution of EX-10.

Excavation EX-11

Proposed Excavation Area EX-11 is located in the southern portion of the Site. EX-11 will target PCB and nickel impacted soil in LA-SB10. The initial dimension of EX-11 are estimated

at approximately 25 feet by 25 feet by 5.5 feet bgs. Confirmation sampling will be conducted to verify the lateral distribution of EX-11.

Excavation EX-12

Proposed Excavation Area EX-12 is located in the southern portion of the Site. EX-12 will target lead, PCBs and TPH-d impacted soil in LA-SB9. The initial dimension of EX-12 are estimated at approximately 25 feet by 25 feet and a depth of 3.5 feet bgs. Confirmation sampling will be conducted to verify the lateral and vertical distribution of EX-12.

Excavation EX-13

Proposed Excavation Area EX-13 is located in the southern portion of the Site. EX-13 will target lead, PCBs, cadmium and nickel impacted soil in SB22. The initial dimension of EX-13 are estimated at approximately 15 feet by 25 feet and a depth of 4 feet bgs. Confirmation sampling will be conducted to verify the lateral and vertical distribution of EX-13.

Excavation EX-14

Proposed Excavation Area EX-14 is located in the southern portion of the Site. EX-14 will target lead impacted soil in SB-56 and SB-58, and cadmium impacted soil in SB-51. The initial dimension of EX-14 are estimated at approximately 50 feet by 25 feet and a depth of 3 feet bgs. Confirmation sampling will be conducted to verify the lateral and vertical distribution of EX-14.

Excavation EX-15

Proposed Excavation Area EX-15 is located in the southern portion of the Site. EX-15 will target lead impacted soil in LA-SB8. The initial dimension of EX-15 are estimated at approximately 25 feet by 25 feet. The vertical extent of EX-4 is 2.5 feet based on the soil samples collected from LA-SB8. Confirmation sampling will be conducted to verify the lateral distribution of EX-15.

Excavation EX-16

Proposed Excavation Area EX-16 is located at the former bailing shaft location in the southern portion of the Site. EX-16 will target PCB, VOCs, arsenic and TPH-d impacted soil in LA-SB7. Although VOCs were not detected in soil above target levels in LA-SB7, the former bailing shaft area has been identified as a potential TCE source area, and therefore VOC confirmation sampling will be conducted. As discussed above, additional excavation may be conducted at depths below 5 feet bgs at the former bailing shaft area in the event VOC-impacted soils are discovered during excavation that are indicative of source material. The initial dimensions of EX-16 are irregular, but are estimated at approximately 37.5 feet by 25 feet and 2.5 feet bgs. Confirmation sampling will be conducted to verify the lateral and vertical distribution of EX-16.

Excavation EX-17

Proposed Excavation Area EX-17 is located in the southern portion of the Site. EX-17 will target lead impacted soil in RMW-5. The initial dimension of EX-17 are approximately 25 feet by 25 feet. The vertical extent of EX-17 is 5.5 feet. Confirmation sampling will be conducted to verify the lateral distribution of EX-17.

Excavation EX-18

Proposed Excavation Area EX-18 is located in the central portion of the Site. EX-18 will target vanadium impacted soil in LA-SB4. The initial dimension of EX-18 is estimated at approximately 25 feet by 25 feet. The vertical extent of EX-18 is 2.5 feet based on the soil samples collected from LA-SB4. Confirmation sampling will be conducted to verify the lateral distribution of EX-18.

Excavation EX-19

Proposed Excavation Area EX-19 is located in the central portion of the Site. EX-19 will target PCB impacted soil in SB41. The initial dimension of EX-19 is estimated at approximately 25 feet by 25 feet and a depth of 4 feet bgs. Confirmation sampling will be conducted to verify the lateral and vertical distribution of EX-19.

8.6 Arsenic in Soil

For arsenic, DTSC has established an upper-bound ambient soil level for Southern California of 12 mg/kg (Chernoff et al. 2008). The calculation of 12 mg/kg is based on over 1,000 samples collected at 19 school properties in Los Angeles County. DTSC determined that the regional upper-bound background soil concentration for arsenic was 12 mg/kg for Southern California, which is the 95% UCL on the 99th quantile of the arsenic dataset. The arsenic concentrations for the whole background dataset ranged from 0.15 mg/kg to 20 mg/kg. The upper-bound ambient soil level of 12 mg/kg was used as the Alternative SL to evaluate the arsenic concentrations in on-Site soil.

Approximately 170 soil samples have been analyzed on-Site for arsenic from depths ranging from 0.5 to 25 feet bgs. Arsenic concentrations in soil at the Site ranged from non-detect to 19.5 mg/kg. Arsenic was detected in four samples (approximately 2%) at a concentration exceeding the arsenic Southern California background level of 12 mg/kg. The 95% UCL mean arsenic concentration was calculated using the ProUCL software (Version 5.1). The 95% UCL mean was calculated at 2.6 mg/kg. Accordingly, the arsenic concentrations are well within the naturally-occurring background range of Southern California soil at the Site.

Arsenic was detected in four samples (LA-SB1, SB42, SB-23 and SB27) at the Site above the alternative screening level of 12 mg/kg. Arsenic was detected in LA-SB1, SB42, SB-23 and SB27 at concentrations of 14.0 mg/kg, 14.1 mg/kg, 19.5 mg/kg and 12.2 mg/kg, respectively. Arsenic in soil at LA-SB1 and SB42 will be remediated via excavation (EX-6 and EX-8) due to other compounds of concern in this area. Arsenic in soil at SB-23 will be targeted for excavation (EX-16) due to its proximity to the bailing shaft area. Because arsenic at the Site is likely naturally-occurring and was detected in SB-17 at a concentration (12.2 mg/kg) only slightly exceeding the alternative screening level (12 mg/kg), SB-17 will not be targeted for excavation. Ramboll does not consider arsenic a chemical of concern at the Site.

8.7 General Conditions and Procedures

The following sub-sections discuss the general conditions and procedures to be followed during soil remediation activities at the Site, as further detailed in the SMP.

8.7.1 Confirmation Sampling of Excavations

Confirmation sampling will be conducted to verify contaminant removal and to confirm that chemical compounds exceeding the target levels do not extend deeper or horizontally

beyond the excavation boundaries. In certain instances, the lateral and vertical extents of the excavations were based on soil samples collected from historical borings advanced at the Site. As excavations extended to locations (both lateral and vertical) where soil analytical results are known to be below target levels, soil excavation confirmation samples will not be collected at these locations.

Confirmation soil sampling will be conducted in accordance with the procedures specified in the SMP. Unless otherwise confirmed with DTSC at the time of sampling, one sidewall sample will be collected for every 25 linear feet per sidewall and one bottom sample will be collected for every 1,000 square feet. As indicated above, in some excavations, existing soil sampling data may be used to substitute confirmation sampling.

The exact sample locations will be determined in the field. Additional confirmation sampling will be implemented if any visually impacted soil is encountered during excavating. Confirmation samples will be collected using a clean trowel and/or transferred directly into sampling jars thereby reducing the sampling equipment required, which will significantly reduce the possibility of cross contamination. The final confirmation samples will be properly covered, labeled and stored on-Site in a cooled chest prior to delivery to a California-state certified laboratory. Equipment blanks will be collected for all non-dedicated equipment, such as a hand trowel, used to collect confirmation samples.

Samples will be delivered to the laboratory on the same day collected, if time permits, and no later than the day following collection. In the event the samples are delivered the day after they are collected, the samples will be secured under proper chain-of-custody documentation at the contractor office until delivery. Confirmation soil samples will selectively be analyzed for the following:

- Metals by USEPA Method 6010/7000 series;
- TPH by USEPA Method 8105M;
- PCBs by USEPA Method 8082 or and/or USEPA Method 3540C; and
- VOCs by USEPA Method 5035/8260B.

Confirmation soil samples will be compared to the target levels on a dry-weight basis. Analytical results from confirmation samples exceeding target levels will result in further excavation and confirmation sampling. The excavation of each additional five-foot grid or one foot depth lift will proceed until the target levels are met (from any outward-facing sidewall sample and/or final bottom sample).

8.7.2 Import Material

Clean fill material may be brought to the Site to backfill excavated areas. Imported fill material would be accompanied by certificates, analytical data, and/or other supporting documents that indicate the fill material is in conformance with DTSC's Advisory for Clean Import Fill, dated 2001. Import soil materials would be limited to supplementing any soils for purpose of Site balance, and to provide clean fill for greenspace areas (top 2 feet, per discussion with HERO).

8.7.3 Waste Soil Classification and Management

Based on available data, the impacted soil excavated during the excavation activities will primarily be classified as non-hazardous waste. A component of the lead impacted soil

excavated may be classified as non-Resource Conservation and Recovery Act (RCRA) waste/California Hazardous waste (Cal-Haz). A summary of waste disposal soil sampling results is presented in Table 12. If any of the excavated soil is classified as non-RCRA waste/California Hazardous waste (Cal-Haz), RCRA hazardous and/or TSCA-hazardous waste, the excavated soil will be segregated prior to stockpiling/staging, to the extent possible, to avoid any mixture of hazardous and non-hazardous soils. This segregation will minimize the amount of hazardous soils generated and the associated disposal costs. The soil segregation will be based upon criteria for hazardous and non-hazardous soils and the available sampling data. If encountered, RCRA hazardous soils will be transported to a licensed Class 1 landfill and non-RCRA soils will be transported to a licensed Class 1 landfill or a properly permitted in-state or out-of-state disposal or treatment facility. Non-hazardous soils will be transported to an approved recycling or disposal facility or a Class 3 landfill.

An acceptance letter or approval form from each selected disposal facility will be obtained before any excavation activities commence. Upon request, additional documentation will be provided to DTSC pertaining to waste disposal profiles and waste disposal acceptance prior to any off-Site shipments of waste.

8.7.4 Loading, Transportation and Disposal Procedures

Soil will be transported to an appropriate disposal facility by appropriate registered waste haulers in compliance with State and Federal requirements for the safe handling and transportation of waste. Trucks transporting soil off-Site will not be loaded above the side boards. Truck loads will be covered with a tarp prior to leaving the Site to prevent particulate emissions to the atmosphere.

Prior to entering public roadways, trucks hauling PCB-affected soil will undergo appropriate decontamination (tires, loose soil, etc.). PCB-affected soil removed from trucks will be managed to prevent tracking of potentially PCB-contaminated soils into public roadways.

The quantity of soil removed from the Site during implementation of clean-up activities will be documented in the field, tonnage will be confirmed with truck tickets, and soil disposal will be documented with appropriate manifests and bills of lading.

8.7.5 Air Monitoring Activities (Dust)

Because the Site is located adjacent to properties with businesses frequented by the public, real-time perimeter air monitoring will be conducted continuously during activities where soil disturbance at the Site is anticipated.

California Air Resources Board's (CARB's) ambient air quality standards for dust (PM10) will be applied to an 8-hour work day. The air standard is 0.050 mg/cubic meter and will be used as the total dust standard. A 0.250 mg/cubic meter of dust will be used as the maximum 10-minute average concentration not to be exceeded. If exceeded, dust suppression measures will be increased and/or other measures taken to keep the dust levels at, or below, that average concentration.

During work within the clean-up area where impacted soils are anticipated (at or below 2 feet bgs), upwind background monitors will be installed at a reasonable distance from the clean-up work area. Dust levels at the downwind station are not to exceed CARB's standard.

A visible dust standard is to be applied during remediation activities at the Site. The visual dust standard applies to dust at the remediation area and dust leaving the perimeter of the Site.

Dust control measures will be used to control dust from activities that may cause fugitive dust emissions. These measures may include one or more of the following techniques:

- If bulk transfer operations are required, spray handling and transfer points with water at least 15 minutes before use;
- Cover haul truck loads, or maintain at least 6 inches of freeboard space in each cargo compartment;
- Ensure that haul truck cargo compartments are constructed and maintained to minimize spillage and loss of materials;
- Clean or wash each cargo compartment at the delivery Site after removal of the bulk materials;
- Minimize the soil drop height from the excavator's bucket onto the soil pile or into the transport trucks;
- After the soil is loaded into the transport trucks, cover the soil to minimize dust generation during transport.

Windbreaks may be attached to fencing installed around the property as an additional dust control measure. If precipitation is anticipated during excavation activities, stockpiled soil and open excavations will be protected with plastic sheeting or similar material to minimize erosion of stockpiled soil and ponding of storm water.

8.7.6 Noise and Runoff Control

Noise is a potential hazard associated with the operation of heavy equipment during demolition, excavation and construction activities. Suspected high noise operations will be evaluated to determine if protective measures are warranted. Hearing protection for nearby workers is highly recommended. The Site activities likely to create an impact include:

- Excavation of impacted soil;
- Backfilling with clean soil;
- Project-related vehicle traffic on-Site.

The following noise control measures will be implemented:

- Contractors will muffle and shield intakes and exhausts, shroud or shield impact tools, sand use electric-powered rather than diesel-powered construction equipment.
- All Stationary noise-generating equipment will be located as far away as possible from neighboring property lines.
- All Construction equipment will be maintained and operated according to manufacturer's maintenance schedules and recommendations to minimize noise and exhaust emissions (particularly nitrogen oxides).

There are no potential threats to the environment other than the potential for wind and surface water runoff to cause the migration of impacted soils from the Site to other areas.

Covering the impacted soils impedes wind- or surface runoff-induced erosion of impacted soils. Soil stockpiles will be constructed with plastic sheeting beneath (unless the ground surface is paved) and above the soil to prevent runon/runoff and fugitive dust and/or odor emissions. Stockpiled soil will be covered and secured at the end of each day.

9. VAPOR INTRUSION MITIGATION SYSTEMS

In accordance with the DTSC, "Vapor Intrusion Mitigation Advisory" (the "Advisory"- DTSC, 2011a), these specifications and details for VIMS have been developed to mitigate elevated concentrations of VOCs, such as TCE and PCE, which may be present beneath future residential and/or commercial structures within the Rosecrans Place development in Gardena, California (the "Site"). Rosecrans Place, LLC will contract will a specialized VIMs contractor to provide final engineering designs, install the VIMs, and provide an operation and maintenance plan.

9.1 Design Criteria and Specifications

The preliminary specifications and details of the VIMS included herein are intended to meet the requirements for passive sub-slab venting systems in the Advisory as to those locations. These specifications and details assume that groundwater is present at depths of 20 feet below ground surface (bgs) or greater, no subfloor or basement levels are planned, and estimated vapor intrusion cancer risk is not in excess of 1 x 10-4. The VIMS are designed such that they can be retrofitted to "active" systems or SSD systems if required, based on the implementation of the operation and maintenance (O&M) plan (Section 9.4). The monitoring and notification requirements for the VIMS will be discussed in the O&M Plan. The VMS layout in regard to the proposed development plan is presented on Figure 11A. Standard specifications, details and schematics for the VIMs are attached in Appendix C.

This section is organized as follows to reflect the three product types that will be constructed at the Site. Accordingly, the VIMS for single family detached homes ("Garden Court"), single family attached homes ("Livework" and "New AA Product") and retail building ("Building A") are summarized below. Rosecrans Place, LLC will contract will a specialized VIMs contractor to provide final engineering designs to the DTSC for review prior to installation.

9.1.1 Garden Court (Residential Land Use: Single Family Dwelling – Slab-on-Grade Construction Detached Homes)

- For single family, detached residential dwellings with slab-on-grade foundations, each vapor mitigation system would consist of the following components:
- Trench dams and utility conduit seals to prevent and reduce vapor migration into the buildings along the trench backfill or inside of utility conduits;
- Gas tight seals at all pipe or conduit penetrations through the impervious membrane and where the impervious membrane attaches to interior and perimeter footings; and
- A sub-slab venting (SSV) system installed underneath the entire building floor slab including the garage. The design of the SSV system assumes that the garage is considered livable space.
- The SSV system consists of an impervious membrane (which provides a barrier to both moisture and subsurface vapors); perforated horizontal pipes; a protective sand layer under the impervious membrane and around the perforated horizontal pipes; and, a solid vent riser pipe, which provides a pathway for the vapors from the perforated pipes to migrate above the roofline of the structure. The solid vent riser will be equipped with a sampling port or valve which extends through an outside wall of the building. If future monitoring of the vapor mitigation system is needed, the sampling port will allow samples of soil gas to be collected without having to enter the interior of the building.

9.1.2 Livework, New AA Product and Retail "Building A" (Mixed Land Use: Single Family Attached Homes and/or Retail)

For residential buildings (attached) and/or a commercial building where the first level consists of either commercial or residential occupants, each vapor mitigation system will consist of the following components:

- Trench dams and utility conduit seals to prevent and reduce vapor migration into the buildings along the trench backfill or inside of utility conduits;
- An SSV system installed underneath the entire building foundation where commercial or residential occupants are present. (Buildings which are entirely used for parking and are not connected to buildings with full-time occupants may not need an SSV; this would need to be evaluated by an engineer).
- The SSV system consists of an impervious membrane (which provides a barrier to both moisture and subsurface vapors); perforated horizontal pipes; a protective sand layer under the impervious membrane and around the perforated horizontal pipes; and, a solid vent riser pipe, which provides a pathway for the vapors from the perforated pipes to migrate above the roofline of the structure. The solid vent riser will be equipped with a sampling port or valve to allow samples of soil gas to be collected if monitoring is required; and
- Impervious membrane installed around elevator shafts, pistons and sump pits.

9.2 VIMS Final Design

Once additional foundation design details become available, a final engineering design will be prepared by a specialized VIMs contractor on behalf of Rosecrans Place, LLC. The final engineering designs will be submitted by Rosecrans Place, LLC to DTSC under separate cover. The Detailed Design Document will provide details pertaining to the vapor barrier installation for each residential structure layout, as well as the commercial structure layout.

9.3 VIMS Installation and Inspection

The VIMS installer is expected to conduct and document testing (i.e., smoke testing of the membrane) to ensure that each vapor barrier system is installed in accordance with the design and product specifications.

Several factors will determine the frequency of testing and inspections during installation. State or local regulations can determine the frequency of inspections. The minimum requirements include verifying the thickness and observing a smoke test to verify the system integrity at the time of installation. It is the responsibility of the certified applicator to coordinate with the inspector as to the time of the inspection. To ensure the installation and inspection runs smoothly, the applicator should consult the inspector prior to starting work on the Site to coordinate schedules and time allowances.

9.4 VIMS O&M Program

An O&M plan will be prepared by a specialized VIMs contractor on behalf of Rosecrans Place to monitor a) vapor concentrations beneath the Site and b) performance of the VIMS to monitor effectiveness against vapor intrusion and to evaluate whether the VIMS would need to be turned "active" at any point in the future based on the results of the monitoring. The

following criteria will be considered to determine the need to evaluate whether the VIMS would need to be turned "active":

1. In the event that DTSC identifies an imminent threat to human health at particular residential and/or commercial units.
2. Results of indoor air sampling indicate that a vapor intrusion risk (cancer risk greater than 10-4 or hazard index >1) exists in a particular portion of the Site or on a Site-wide basis. Recognizing that the development will consist largely of single family residential properties, indoor air sampling would only be necessitated by one or more of the following conditions:
    a. Results of soil vapor monitoring – if soil vapor concentrations within the vadose zone increase significantly over time either at a particular location or on a Site-wide basis. This would be evidenced by an order of magnitude (10 times) increase – over current "baseline" conditions as documented in the SAR/SSI, and observed over three consecutive soil vapor monitoring events; and
    b. Results of soil gas monitoring from the systems sample ports reveal an increasing trend of VOC concentrations over time, based on a minimum of three consecutive quarters of monitoring.
3. The decision on which buildings will be converted to active systems will be predicated on the location(s) of indoor air exceedances and will be discussed with DTSC prior to implementation.

    Ramboll recognizes that soil vapor guidelines are evolving. Ramboll will develop the above criteria further with input from DTSC as part of the approval process for the O&M Program.

    The details of the O&M Program will be presented in an O&M Manual, which will be submitted by Rosecrans Place, LLC for DTSC review and approval in advance of building occupancy.

9.4.1 Installation of Soil Vapor Monitoring Well Network

After development of the roadway infrastructure at the Site, Ramboll proposes to install 11 (VP-1 through VP-11) permanent dual-nested soil vapor probes at the locations depicted on Figure 12 to monitor VOCs in soil vapor following Site development and installation of the VIMS. The purpose of the vapor monitoring wells is to allow for long-term monitoring of vapors of the Site in connection with off-gassing from the underlying VOC-impacted groundwater. A proposed sampling frequency for the soil vapor monitoring network will be presented to the DTSC under separate future submittals.

The borings will be advanced using a Geoprobe® 6600 or similar direct-push drilling rig. Soil will be continuously collected from the borings using macro-core or dual tube sampling systems. Soil characteristics will be recorded in the field, logged in accordance with the USCS and screened for total VOCs by a PID utilizing a 10.6 eV lamp.

Dual-nested soil vapor probes will be installed at each boring at depths of approximately 5 and 15 feet bgs. The depth of the probes may vary slightly, depending on the lithology encountered. A typical nested vapor well construction diagram is included as Appendix E. Each probe will consist of a stainless steel 6-inch vapor probe placed in a sand pack

extending approximately 6-inches above and below the probe. The probes will be connected to the surface with Nylaflow tubing. Neat cement grout and bentonite will be used to create a seal above each of the sand packs.

Soil vapor probes will be installed and collected in general accordance with the guidelines set forth by the DTSC, Los Angeles Regional Water Quality Control Board (LARWQCB), and San Francisco Regional Water Quality Control Board (SFRWQCB) Advisory - Active Soil Gas Investigations, dated July 2015 (the "Advisory"). An appropriate leak detection compound will be selected and applied prior to sampling. Soil vapor samples will be analyzed for VOCs using USEPA Method 8260B and/or USEPA Method TO-15 using a California-certified laboratory. QC samples will also be collected per the Advisory. Ramboll's soil vapor sampling protocol is described in detail in Appendix A of the revised SSI Work Plan.

Soil Vapor Probe Contingency Plan

The soil vapor probe contingency plan will ensure the permanent soil vapor monitoring well network functions properly and provides high quality data. The contingency plan specifies that any malfunctioning permanent soil vapor probes (e.g. if any no flow conditions are encountered, or if leak detected compounds are detected at concentrations more than 10 times greater than the respective laboratory RLs) will be replaced within a reasonable time period, following the procedures described above.

10. GROUNDWATER MONITORING PROGRAM

10.1 Description of Monitoring Program

Ramboll recently installed five (MW-1 through MW-5) groundwater monitoring wells at the Site in order to verify the groundwater flow direction and the distribution of chemicals in groundwater, as requested by the DTSC (Figure 13). The results of the groundwater sampling are documented in the SSI Report. A well protection program will be implemented during the Site grading activities in order to preserve the existing monitoring wells. The wells will be inspected for damage, and repaired or replaced as necessary. The well locations were selected based on contaminant distribution and to facilitate future access (i.e., installed in roadways of the development).

A groundwater monitoring program was requested by DTSC to monitor the groundwater impacts at the Site. The primary source of the impacted groundwater at the Site can be contributed to an off-Site and hydrologically upgradient source located to the north of the Site. The monitoring well network, including the additional well proposed in Section 10.2, will be monitored on a quarterly basis for a minimum of two years following installation of the original well network.

10.2 Installation of Additional Groundwater Monitoring Well

DTSC requested the installation of an additional groundwater monitoring well to the southeast of the existing commercial building at the Site to establish hydraulic control. The proposed well location is depicted in Figure 13.

The monitoring well network can detect significant changes in groundwater chemistry indicative of impacted groundwater migration and assess seasonal variability. Sampling will be performed on a quarterly basis. The monitoring well network and sampling schedule may be reevaluated and modified based on future groundwater analytical results.

Consistent with the other monitoring wells installed at the Site, monitoring well (MW-06) will be completed using a hollow stem auger drill rig in accordance with Ramboll Standard Operating Procedures for installation of monitoring wells included as an attachment in the SSI Work Plan. The boring will be completed to a total depth of approximately 33 to 35 feet bgs, depending on the depth of encountered groundwater. Soil samples for purposes of lithologic description will be collected at 5 feet intervals and will be logged in accordance with the USCS and screened for total VOCs by a PID utilizing a 10.6 eV lamp.

Upon completion of soil sampling and boring advancement, a monitoring well (MW-6) will be constructed. The monitoring well will be constructed with 4-inch diameter flush-threaded schedule 40 PVC casing and well screen with 0.01-inch slots. Based on Ramboll's review of available lithology at, and near the Site, the shallow groundwater-bearing zone consists of primarily fine-grained material. Therefore, 0.01-inch slot screen sizes and #2/12 sand will be used. The Ramboll field geologist will log and screen the soil at the Site, however, and will communicate the lithologic observations to Ramboll's professional geologist. If, based on those observations, modifications are required, then the well construction details will be adjusted accordingly.

The well screen will be 10 feet long and will extend approximately 8 feet into groundwater with 2 feet of exposed screen. The depth of the screen may vary depending on where groundwater is first encountered, which is anticipated to be encountered at approximately

25 feet bgs based on recent groundwater observations at the Site by Ramboll. A filter pack consisting of No. 3 sand or equivalent will be placed surrounding the well screen from the bottom of the screen to approximately two feet above the top of the screen. A minimum of a 2 foot layer of hydrated bentonite will be placed above the filter pack. The remainder of the annular space will be sealed to the surface with Portland cement/bentonite grout. A typical groundwater monitoring well construction diagram is included as Appendix E.

The newly installed monitoring well will be developed after installation using a combination of bailing, pumping, and surging techniques. The monitoring well will be developed in accordance with the procedures outlined in the revised SSI Work Plan. The monitoring well location and ground surface elevations will be surveyed by a California-licensed surveyor.

The monitoring schedule is provided in Section 10.3 below. The groundwater sampling event will include measuring the depth to water at each of the newly installed monitoring wells (MW-1 through MW-6). Each newly installed monitoring well will then be purged and sampled using standard low-flow sampling methodology. Groundwater samples will be analyzed for VOCs by USEPA Method 8260B; 1,4-Dioxane by EPA Method 8260SIM, TPH by USEPA Method 8015B; filtered dissolved metals by USEPA Method 6020/7000 Series; and hexavalent chromium by USEPA 7199. As requested by the USEPA, during the first groundwater sampling event, the groundwater samples will also be analyzed for PCBs by USEPA method 8082. If PCBs are not detected in groundwater above applicable screening levels, PCB sampling in groundwater will be discontinued. If PCBs are detected in groundwater above applicable screening levels, PCB sampling will be incorporated into the ongoing groundwater monitoring plan. Chain-of-custody procedures will be followed during sample storage, transportation, and delivery. Groundwater samples will be delivered to a California-state certified fixed laboratory within 24 hours of collection.

10.3 Monitoring Schedule

After the soil remediation and grading activities are completed at the Site, Ramboll is proposing to conduct quarterly groundwater monitoring events.

Data collected during the quarterly groundwater monitoring events will be incorporated into quarterly data submittals, and an annual comprehensive groundwater monitoring report, which will be submitted to the DTSC.

11. ACTIVITY AND USE LIMITATIONS

It is anticipated that a local or state agency (e.g., DTSC) will prepare a draft restrictive LUC specific to the Site limiting certain uses at the Site. Upon submittal of the Remedial Action Completion Report, a signed LUC will be recorded by the property owner with the Los Angeles County Recorder. Any impacted soils remaining "in place" above the commercial screening levels shall be surveyed and documented as part of the LUC.

At a minimum, it is anticipated that the LUC will impose the following post-redevelopment requirements:

- All areas within the backyards of residential properties will be covered in concrete and may not be penetrated without approval by DTSC; the concrete will serve as a "final cap", as referenced further below. The final cap must be inspected, maintained, and repaired in perpetuity;
- Vapor intrusion mitigation systems will be installed at all structures (residential and commercial) at the property and will need to maintained in accordance with DTSC requirements;
- Periodic reports documenting the inspection, maintenance, and repair activities must be submitted to DTSC;
- The Site will not be used for a, hospital, school for persons under 21 years of age, or a day care center for children;
- The cap shall not be altered except in compliance with the SMP and LUC; and
- Drilling for any water, oil or gas will not be permitted without prior written approval by the DTSC.

12. REMEDIAL ACTION COMPLETION REPORT

Within 60 days after completion of the field activities, a Remedial Action Completion Report (RACR) will be submitted to DTSC. The RACR will provide documentation of implementation of the clean-up plan, and present confirmation soil data, as applicable. The RACR will also include, as applicable:

- Detailed summary of the excavation and clean-up activities completed;
- Confirmation soil sampling data and associated survey data;
- Waste characterization analytical data; and
- Copies of waste manifests and supporting waste disposal information.

13. IMPLEMENTATION SCHEDULE

A conceptual schedule for remedial action to be performed at the Site is provided below. This schedule projects the estimated duration of each phase of the RP scope of work. A more detailed schedule, which will be used for forecasting and project management, will be prepared after the RP is finalized and approved by the DTSC.

Work Element	Start Date	Completion Date
Draft Final RP Issued for Public Comment	March, 2020	March, 2020
Public Comment Period	March, 2020	April, 2020
Address Public Comments on RP	April, 2020	April, 2020
Approval of RP	May, 2020	May, 2020
SMP Implementation	May, 2020	July, 2020
RAP Implementation – Excavation, confirmation sampling and off-Site disposal	May, 2020	July, 2020
RACR submitted, DTSC/USEPA Review	July, 2020	September, 2020
RAP Implementation – Groundwater monitoring	September, 2020	September 2022
RAP Implementation – VIMS installation	December, 2020	March, 2021
VIMS Long-Term O&M	March, 2021	December, 2026

14. PUBLIC PARTICIPATION

The following public participation activities and opportunities for public involvement will occur to comply with regulatory requirements for public involvement:

- A public notice will be published in a newspaper such as the Los Angeles Times or the Gardena Daily Breeze.
- A copy of the RP report will be available at the following proposed repositories prior to the first day of the public comment period:

Gardena Mayme Dear Library, 1731 West Gardena Blvd, Gardena, CA 90247,

DTSC Regional Records Office, 5796 Corporate Avenue**,** Cypress, CA 90630-4732,

DTSC, Envirostor Database Website, https://www.envirostor.dtsc.ca.gov/public/

- A Fact Sheet will be prepared to provide historical information, describe the current Site conditions and provide information on the remedial action. The Fact Sheet may be provided in both English and Spanish. It will be distributed to nearby residents, the key contacts list, and the DTSC mandatory mailing list.
- A public meeting or open house may be scheduled if requested by community members or if required by DTSC.

Additional community outreach activities may be required as specified by DTSC public outreach coordinator.

15. ADMINISTRATIVE RECORD

Completed and current project activities/documents include the following:

Activity/Document	Activity/Document Date	Approval Date
Soil Removal Report – Cal Science Engineering	1991	1992
Underground Storage Tank Removal and Closure Report	2005	2006
Phase II ESA – Fulcrum Resources Environmental	2017	NA
Phase II ESA – Leighton & Associates	2018	NA
Supplemental Phase II ESA – Fulcrum Resources Environmental	2018	NA
Phase I ESA and supplemental subsurface Investigation – Ramboll	March, 2019	NA
Site Assessment Report – Ramboll	April, 2019	NA
Fully Executed California Land Reuse and Revitalization Agreement	May 22, 2019	May 22, 2019
Revised SSI Work Plan – Ramboll	October 2019	October 2019
SSI Report/Amended SSI Report – Ramboll	November 2019/March 2020	Pending agency review
Soil Management Plan – Ramboll	December 2019	January 2020
Revised QAPP – Ramboll	February 2019	February 2019
Management of and reuse of hardscape during demolition – Ramboll	February 2019	March 2019

NA: Document finalized prior to agency involvement or approval not necessary.

16. REPORT LIMITATIONS

This report has been prepared for the exclusive use of Rosecrans Place, LLC and may not be relied upon by any other person or entity without Ramboll's prior express written permission.

This report has been prepared in conformance with generally accepted standards of practice in the fields of environmental sciences and engineering at the time the services were rendered. Ramboll makes no other warranty or representation, either express or implied, with respect to its services.

The report findings are based in part on information/data provided by our client and/or other third parties and conditions identified as a result of Ramboll's investigations as of the date of the report. Ramboll has not attempted to verify information/data provided to it by our client or other third parties, except as explicitly noted in our report, and makes no express representations to the accuracy of such information/data by the inclusion of it in our report.

It is Ramboll's opinion that the level of detail provided in the report is appropriate to meet the study objectives; however, there is no warranty or guarantee, expressed or implied, that this investigation has uncovered all potential environmental liabilities associated with the Site. In the event of any conflict between the terms and conditions of this report and the terms and conditions of the Master Services Agreement between Ramboll and Rosecrans Place, LLC (the "MSA"), the MSA shall control.

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TABLES

Table 1. Chemical-Specific Potential ARARs and TBCs
2101 and 2129 West Rosecrans Avenue
Gardena, California

Requirement or Guideline	Agency	Reference	Description	Comment	ARAR or TBC
National Primary Drinking Water Regulations – MCLs and MCLGs	USEPA	40 CFR 141.11 – 141.16; 141.50 – 141.55; 141.60 – 141.62	National Primary Drinking Water Standards – enforceable standards for specified contaminants in drinking water.	To be considered for setting water quality objectives for groundwater as State MCLs are more stringent than federal MCLs.	TBC
National Secondary Drinking Water Regulations - SMCLs	USEPA	40 CFR 143.3	National Secondary Drinking Water Standards are regulations for the aesthetic qualities of public water systems – Secondary Maximum Contaminant Levels (SMCLs).	To be considered for setting water quality objectives as SMCLs are guidelines and not enforceable.	TBC
National Recommended Water Quality Criteria	USEPA	33 CFR 1314(a) and 42 CFR 9621(d)(2)	National Recommended Water Quality Criteria (NRWQC) are suggested water quality standards for groundwater in the absence of formally established MCLs.	Relevant and appropriate if MCLs are not available for compounds of potent5ial concern connected to the site.	ARAR
California Safe Drinking Water Act - MCLs	DHS	22 CCR 64444; 64473	California drinking water standards; primary and secondary MCLs for specified contaminants in drinking water.	Relevant and appropriate for setting water quality objectives for groundwater to the extent that State MCLs are more stringent than federal MCLs.	ARAR
Safe Drinking Water and Toxic Enforcement Act (Proposition 65)	OEHHA	27 CCR 25102	Warning requirements/prohibition of discharge or release of any chemical listed by the State as a carcinogen or reproductive hazard to water or land.	Relevant and appropriate for discharges that may impact a source of drinking water.	ARAR
A Compilation of Water Quality Goals	SWRCB	RWQCB, October 2017	Defines a procedure for selection of appropriate concentrations of chemical constituents and water quality parameters.	To be considered in selecting appropriate numerical values to establish cleanup levels and discharge limits.	TBC
Health Advisories and Water Quality Advisories	USEPA	USEPA Office of Water	Short- and long-term and life-time exposure health advisories for non-carcinogens and possible human carcinogens.	To be considered in selecting appropriate numerical cleanup values and discharge limits.	TBC
Hazardous Waste – Land Disposal Restriction	USEPA/ DTSC	40 CFR 268 / 22 CCR 66268	Sets LDR constituent concentrations and treatment standards.	Applicable to all hazardous wastes generated during site activities.	ARAR
Hazardous Waste Identification	USEPA/ DTSC	40 CFR 261 / 22 CCR 66261	Sets standards for classification of hazardous waste. Establishes constituent levels for characteristic wastes and lists of waste considered to be hazardous.	Applicable to all wastes generated during remedial action at the site.	ARAR
Non-Hazardous Waste Identification	DTSC	27 CCR 20210, 20220, 20230	Definition of non-hazardous waste. Also contains definitions of designated waste, nonhazardous waste and inert waste.	Applicable to non-hazardous wastes generated during remedial action at the site.	ARAR
Modified Screening Levels	Cal/EPA /DTSC	HERO HHRA – April 2019	Note Number 3. Sets SLs for potential industrial uses for a variety of compounds in soil.	To be considered for general risk screening purposes.	TBC
Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities	Cal/EPA	HERO HHRA - April 2019	Note Number 1. Recommends default exposure factors for risk assessments.	To be considered for general human health risk assessments.	TBC
Guidance for Screening Level Human Health Risk Assessments	Cal/EPA	HERO HHRA – May 2019	Note Number 4. Sets guidance for SLs for human health risk assessments.	To be considered for general human health risk assessments.	TBC
Risk Assessment Guidance for Superfund	USEPA	Dec 1989	Sets guidance for human health evaluation.	To be considered for general human health risk assessments.	TBC
Risk Assessment Guidance	USEPA	Office of Emergency and Remedial Response - 2004	Part E, Supplemental Guidance for Dermal Risk Assessment.	To be considered for general human health risk assessments.	TBC
Risk Assessment Guidance	USEPA	Office of Emergency and Remedial Response – January 2004	Part F, Supplemental Guidance for Inhalation Risk Assessment.	To be considered for general human health risk assessments.	TBC
Regional Screening Levels	USEPA Region 9	RSL Tables – November 2019	Sets RSLs for potential industrial uses for a variety of compounds in soil.	To be considered for general risk screening purposes.	TBC
California Human Health Screening Levels	OEHHA	CHHSLs Tables – September 2010	The California Human Health Screening Levels (CHHSLs) list concentrations for 54 chemicals in soil or soil gas that the California Environmental Protection Agency (Cal/EPA) considers to be below thresholds of concern for risks to human health.	Established by OEHHA. Are not regulatory in nature and represent non-mandatory goals.	TBC

Notes:
ARAR = Applicable or Relevant and Appropriate Requirement
CCR = California Code of Regulations
Cal/EPA = California Environmental Protection Agency
CFR = Code of Federal Regulations
CHHL = California Human Health Screening Level
DHS = Department of Health Services
DTSC = Department of Toxic Substances Control Act
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
LDR = Land Disposal Restrictions
MCL = Maximum Contaminant Level
NRWQC = National Recommended Water Quality Criteria
OEHHA = California EPA Office of Environmental Health Hazard Assessment
RWQCB = Regional Water Quality Control Board
RSL = Regional Screening Level
SMCLs = Secondary Maximum Contaminant Levels
SLs = Screening Levels
SWRCB = State Water Resources Control Board
TBC = To Be Considered

Table 2. Summary of VOCs and TPH Groundwater Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample Location	Well Type	Date Sampled	TPH			VOCs									
			GRO	DRO	ORO	Acetone	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	1,4-Dioxane
USEPA MCL			**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**7.0**	**70.0**	**100.0**	**5.0**	**5.0**	**2.0**	**NE**
California MCL			**NE**	**NE**	**NE**	**NE**	**NE**	**5.0**	**6.0**	**6.0**	**10.0**	**5.0**	**5.0**	**0.5**	**NE**
San Francisco Bay RWQCB ESLs			**100**	**100**	**NE**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ramboll															
TW-1	Temporary Well	1/29/2019	--	--	--	< 80	< 4.0	< 4.0	< 4.0	**8.0**	< 4.0	**410**	**25**	< 2.0	**--**
TW-2		1/29/2019	--	--	--	< 20	**1.3**	< 1.0	**1.0**	**11 J**	**4.4**	**2,400**	**55**	< 0.50	**--**
TW-3		1/29/2019	--	--	--	< 20	< 1.0	< 1.0	< 1.0	**1.0 J**	< 1.0	**200**	**5.6**	< 0.50	**--**
TW-4		1/29/2019	--	--	--	< 80	< 4.0	**13**	< 4.0	**47 J**	< 4.0	**82**	**73**	< 2.0	**--**
TW-5		3/11/2019	--	--	--	< 200	<10	<10	<10	**28**	<10	**960**	**58**	< 5.0	**--**
RMW-1	Monitoring Well	10/7/2019	**630 Z J**	< 49	<250	< 200	< 10	< 10	< 10	**11**	< 10	**6,700**	**82**	< 5.0	< 1.0
RMW-1		*10/7/2019*	***1,300 Z J***	*< 49*	*<250*	*< 200*	*< 10*	*< 10*	*< 10*	***11***	*< 10*	***6,900***	***79***	*< 5.0*	*< 1.0*
RMW-2		10/7/2019	**240 Z**	< 50	<250 Z	< 20	< 1.0	< 1.0	< 1.0	**12**	**3.2**	**1,400**	**68**	< 0.50	< 1.0
RMW-3		10/7/2019	**350**	**58 Z**	<250	< 100	< 5.0	**25**	< 5.0	**24**	< 5.0	**2,700**	**51**	< 2.5	**16**
RMW-4		10/7/2019	**130 Z**	**130 Z**	<250	< 20	< 1.0	**9.2**	< 1.0	**47**	< 1.0	**390**	**64**	**3.5**	**1.7**
RMW-5		10/7/2019	**130 Z**	**64 Z**	<250	< 20	< 1.0	**11**	**1.9**	**33**	**2.0**	**260**	**230**	**0.50**	< 5.0
Fulcrum															
SB26-GW	Temporary Well	10/24/2018	--	--	--	< 5.00	<1.00	**2.72**	<0.10	<0.10	<1.00	<0.10	<0.10	< 3.00	--
SB30-GW		10/24/2018	--	--	--	< 5.00	<1.00	<0.10	<0.10	<0.10	<1.00	**14.4**	<0.10	< 3.00	--
SB32-GW		10/24/2018	--	--	--	< 25.0	<5.00	<0.10	<0.10	<0.10	<5.00	**270**	**15.7**	< 15.0	**--**
SB33-GW		10/25/2018	--	--	--	< 250	<50.0	<0.10	<0.10	<0.10	<50.0	**2,560**	<0.10	< 150	--
SB36-GW		10/25/2018	--	--	--	< 100	<20.0	<0.10	<0.10	<0.10	<20.0	**1,220**	**20.4**	< 60.0	**--**
SB39-GW		10/26/2018	--	--	--	**23.8**	<1.00	<0.10	<0.10	<0.10	<1.00	**19.5**	<0.10	< 3.00	--
SB38-NW-GW		10/26/2018	--	--	--	**42.4**	<5.00	**11.2**	<0.10	**217**	<5.00	**7.95**	**155**	< 15.0	**--**
Leighton															
LA-SB3	Temporary Well	8/7/2018	<200	**380**	**--**	**--**	<0.50	<0.50	<0.50	**12**	**1.3**	**250**	**11**	< 0.5	**--**
LA-SB7		8/7/2018	<200	**610**	**--**	**--**	<0.50	**28**	**1.6**	**33**	**1.0**	**87**	**43**	**1.1**	**--**
LA-SB107		*8/7/2018*	*<200*	***590***	**--**	**--**	*<0.50*	***31***	***1.5***	***44***	***1.4***	***85***	***78***	***1.0***	**--**

Notes:

DRO - Diesel range organics

GRO - gasoline range organics

J - A "J-flagged" result represents an estimated concentration that is above the Method Detection Limit (MDL; the concentration at which laboratory equipment can detect the presence of the specific chemical), but below the laboratory RL (RL; the lowest concentration at which the laboratory can provide precise quantification).

NA - not applicable

NE - not established

ORO - Oil range organics

RWQCB ESL - Regional Water Quality Control Board Environmental Screening Levels

TPH - Total Petroleum Hydrocarbons

UJ - Reporting limits estimated

VOC - volatile organic compounds

USEPA - United States Environmental Protection Agency MCL, Groundwater and Drinking Program, updated March 13, 2019.

Z - the chromatographic response does not resemble a typical fuel pattern.

-- - not analyzed

<X - not detected above the laboratory reporting limits

Only VOCs reported above laboratory reporting limits are presented.

Duplicate samples are italicized

California MCL - California's Maximum Contaminant Levels, California State Water Resources Control Board, MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants, updated March 13, 2019.

Groundwater samples were selectively analyzed for TPH and VOCs in accordance with USEPA Methods 8015 and 8260B, respectively.

If concentrations exceed both MCL screening levels, the analyte is highlighted reflecting the lower screening level

Results and screening levels are reported in micrograms per Liter (µg/L)

Value exceeds California MCL screening criteria

Value exceeds USEPA MCL screening criteria

Value exceeds San Francisco Bay RWQCB ESL screening criteria

Table 3. Summary of Metal Groundwater Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample Location	Well Type	Date Sampled	6010B Antimony	6010B Arsenic	6020 Arsenic	6010B Barium	6010B Beryllium	6010B Cadmium	6010B Chromium (total)	7199 Hexavalent (VI) Chromium	6010B Cobalt	6010B Copper	6010B Lead	6020 Lead	7470A Mercury	6010B Molybdenum	6010B Nickel	6010B Selenium	6010B Silver	6010B Thallium	6010B Vanadium	6010B Zinc
USEPA MCL			**6**	**10**	**10**	**2,000**	**4**	**5**	**100**	**NE**	**NE**	**1,300**	**15**	**15**	**2**	**NE**	**NE**	**50**	**NE**	**2**	**NE**	**NE**
California MCL			**6**	**10**	**10**	**1,000**	**4**	**5**	**50**	**NE**	**NE**	**1,000**	**15**	**15**	**2**	**NE**	**100**	**50**	**100**	**2**	**NE**	**5,000**
Ramboll																						
TW-1	Temporary Well	1/29/2019	< 100	< 100	--	**133**	< 10.0	< 10.0	< 50.0	--	< 50.0	< 50.0	< 50.0	--	< 0.500	**78.8**	< 50.0	< 100	< 10.0	< 50.0	< 10.0	< 250
TW-2		1/29/2019	< 100	< 100	--	**185**	< 10.0	< 10.0	< 50.0	--	< 50.0	< 50.0	< 50.0	--	< 0.500	< 50.0	< 50.0	< 100	< 10.0	< 50.0	< 10.0	< 250
TW-3		1/29/2019	< 100	< 100	--	**276**	< 10.0	< 10.0	< 50.0	< 2.0	< 50.0	< 50.0	< 50.0	--	< 0.500	< 50.0	< 50.0	< 100	< 10.0	< 50.0	< 10.0	< 250
TW-4		1/29/2019	< 100	< 100	--	**355**	< 10.0	< 10.0	< 50.0	< 2.0	< 50.0	< 50.0	< 50.0	--	< 0.500	< 50.0	< 50.0	< 100	< 10.0	< 50.0	< 10.0	< 250
TW-5		3/11/2019	< 100	< 100	--	**157**	< 10.0	< 10.0	< 50.0	< 2.0	< 50.0	< 50.0	< 50.0	--	< 0.500	< 50.0	< 50.0	< 100	< 10.0	< 50.0	< 10.0	< 250
RMW-1	Monitoring Well	10/7/2019	<33	<18	<10	**287**	<2.5	<2	**9.47 J**	**4.3**	< 50.0	< 50.0	**24.0 J**	<10	< 0.500	**8.98 J**	< 50.0	<24	< 10.0	<16	< 10.0	< 250
RMW-1		*10/7/2019*	*<33*	<18	*<10*	***286***	*<2.5*	*<2*	***9.54 J***	***4.1***	*< 50.0*	*< 50.0*	***22.9 J***	*<10*	*< 0.500*	***9.24 J***	*< 50.0*	*<24*	*< 10.0*	*<16*	*< 10.0*	*< 250*
RMW-2		10/7/2019	<33	<18	<10	**61.0**	<2.5	<2	**8.45 J**	**3.2**	< 50.0	< 50.0	**22.9 J**	<10	< 0.500	**9.72 J**	< 50.0	<24	< 10.0	<16	< 10.0	< 250
RMW-3		10/7/2019	<33	<18	<10	**149**	<2.5	<2	<6.9	< 2.0	< 50.0	< 50.0	**23.0 J**	<10	< 0.500	**22.5 J**	< 50.0	<24	< 10.0	<16	**3.87 J**	< 250
RMW-4		10/7/2019	<33	<18	<10	**186**	<2.5	<2	<6.9	< 2.0	< 50.0	< 50.0	**20.5 J**	<10	< 0.500	**10.2 J**	< 50.0	<24	**3.25 U J B**	<16	< 10.0	< 250
RMW-5		10/7/2019	<33	<18	<10	**323**	<2.5	<2	<6.9	< 2.0	< 50.0	< 50.0	**21.4 J**	<10	< 0.500	**9.67 J**	< 50.0	<24	< 10.0	<16	< 10.0	< 250
Fulcrum																						
SB26-GW	Temporary Well	10/24/2018	--	--	--	--	--	--	--	<1.0	--	--	--	--	--	--	--	--	--	--	--	--
SB30-GW		10/24/2018	--	--	--	--	--	--	--	<1.0	--	--	--	--	--	--	--	--	--	--	--	--
SB32-GW		10/24/2018	--	--	--	--	--	--	--	<1.0	--	--	--	--	--	--	--	--	--	--	--	--
SB33-GW		10/25/2018	--	--	--	--	--	--	--	<1.0	--	--	--	--	--	--	--	--	--	--	--	--
SB36-GW		10/25/2018	--	--	--	--	--	--	--	<1.0	--	--	--	--	--	--	--	--	--	--	--	--
SB39-GW		10/26/2018	--	--	--	--	--	--	--	<1.0	--	--	--	--	--	--	--	--	--	--	--	--
SB38-NW-GW		10/26/2018	--	--	--	--	--	--	--	<1.0	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
-- - not analyzed.
Samples collected from RMW-1 through RMW-5 were analyzed for arsenic and lead using USEPA method 6010 and USEPA 6020, therefore both results are presented.
B = Compound was found in the blank and sample
J - A "J-flagged" result represents an estimated concentration that is above the Method Detection Limit (MDL; the concentration
at which laboratory equipment can detect the presence of the specific chemical), but below the laboratory RL (RL; the lowest concentration at which the laboratory can provide precise quantification).
U - Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
<X - not detected above the specified laboratory reporting limits and/or method detection limits.
USEPA - United States Environmental Protection Agency MCL, Groundwater and Drinking Program, updated December 2018.
Groundwater samples were selectively analyzed for metals including hexavalent chromium in accordance with USEPA Methods 6010/6020/7470 and 7199, respectively.
Results and screening levels are reported in micrograms per Liter (µg/L).
Duplicate samples are italicized.
California MCL - California's Maximum Contaminant Levels, California State Water Resources Control Board, MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants, updated December 26, 2018.
Value exceeds California MCL screening criteria
Value exceeds USEPA MCL screening criteria

Table 4. Summary of Ramboll Soil Vapor Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample Number	Date Sampled	Depth (feet bgs)	Zoning of Soil Vapor Probe Locations	Acetone	Acrolein	Bromodichloromethane	Bromoform	1,3-Butadiene	2-Butanone (MEK)	sec-Butylbenzene	tert-Butylbenzene	Carbon tetrachloride	Chloroform	Carbon Disulfide	Cyclohexane	Dibromochloromethane	1,2-Dibromoethane (EDB)	1,4-Dioxane	1,2-Dichloroethane	Ethylbenzene	Freon 11	2-Hexanone (MBK)	Isopropanol	Isopropylbenzene	4-Isopropyltoluene	4-Methyl-2-pentanone (MIBK)	Methylene chloride	Methylmethacrylate	n-Propylbenzene	n-Pentane	Propylene	Styrene	Toluene	Tetrahydrofuran
Soil Gas Residential Future Building				**32,000**	**0.021**	**0.076**	**2.6**	**0.017**	**5,200**	**420**	**420**	**0.47**	**0.12**	**730**	**6,300**	**NE**	**0.0047**	**0.56**	**0.11**	**1.1**	**NE**	**31**	**210**	**NE**	**NE**	**NE**	**1.0**	**NE**	**1,000**	**NE**	**3,100**	**940**	**310**	**NE**
Soil Gas Commercial Future Building				**280,000**	**0.176**	**0.66**	**22**	**0.188**	**44,000**	**3,600**	**3,600**	**4**	**1.06**	**6,200**	**52,000**	**NE**	**0.04**	**5**	**0.94**	**9.8**	**NE**	**260**	**1,760**	**NE**	**NE**	**NE**	**24**	**NE**	**8,600**	**NE**	**26,000**	**7,800**	**2,600**	**NE**
SV1	1/28/2019	5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		15		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV2	1/28/2019	6.5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		15		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV3	1/28/2019	5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		14.5		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV4	1/28/2019	5.5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		15		**No sample collected, no flow conditions.**																														
SV5	1/28/2019	4.5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		13		**No sample collected, no flow conditions.**																														
SV6	1/28/2019	5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		15		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV7	1/28/2019	5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		15		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV8	1/28/2019	5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		15		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV9	1/29/2019	5	Residential	**No sample collected, no flow conditions.**																														
		15		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV10	1/29/2019	5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		12		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV11	1/29/2019	5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		15		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV12	1/29/2019	5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		15		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV13	1/29/2019	5	*Commercial*	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		13		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV14	1/29/2019	5	Residential	<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
		12		<1.00	NR	NR	NR	NR	<0.200	NR	NR	<0.0150	<0.0250	NR	<0.100	<0.0250	NR	<0.0250	<0.0150	<0.0150	<0.0250	NR	NR	NR	NR	<0.0500	<0.100	NR	NR	NR	NR	NR	<0.200	NR
SV15	10/3/2019	4.5	Residential	**0.301**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.151**	**0.193**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	**0.06**	< 0.001	**0.0218**	< 0.001	< 0.001	NR	**3.74 E**	< 0.001	**0.100**	**0.0855**
		15		**0.223**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.152**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.101	< 0.01	< 0.001	< 0.001	**0.676**	< 0.001	< 0.001	< 0.001	NR	**0.668**	< 0.001	< 0.001	0.094
SV16	10/3/2019	5	Residential	**0.0979**	**0.002**	**0.0012**	< 0.001	< 0.001	**0.0085**	< 0.001	< 0.001	< 0.001	**0.0014**	**0.0077**	**0.0081**	< 0.001	< 0.001	< 0.001	< 0.001	**0.0035**	**0.0032**	< 0.001	**0.0027**	**0.0019**	< 0.001	**0.0015**	**0.0063**	< 0.001	**0.0018**	NR	**0.012**	**0.0018**	**0.0123**	**0.0036**
		15		**0.0744**	< 0.001	< 0.001	< 0.001	< 0.001	**0.0562**	< 0.001	< 0.001	< 0.001	< 0.001	**0.038**	**0.163**	< 0.001	< 0.001	< 0.001	< 0.001	0.0246	< 0.001	< 0.001	< 0.01	< 0.001	**0.0992**	< 0.001	< 0.001	< 0.001	< 0.001	NR	**1.33**	< 0.001	**0.165**	**0.0933**
SV17	10/3/2019	5	Residential	**0.684** [1]	< 0.001	**0.0089**	**0.0072**	< 0.001	**0.062**	< 0.001	**0.0013**	< 0.001	**0.0345**	**0.0464**	**0.0782**	**0.0089**	**0.002**	< 0.001	< 0.001	**0.0062**	< 0.001	**0.0096**	**0.0078**	**0.0046**	**0.0082**	**0.0244**	**0.0078**	< 0.001	< 0.001	NR	**0.684** [1]	**0.0024**	**0.023**	**0.0055**
		15		**No sample collected, no flow conditions.**																														
SV18	10/9/2019	4.5	Residential	**No sample collected, no flow conditions.**																														
	10/3/2019	15																																
SV19	10/9/2019	4.5	Residential	**No sample collected, no flow conditions.**																														
	10/3/2019	15		**0.155**	< 0.001	< 0.001	< 0.001	< 0.001	**0.114**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**1.86**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	**0.175**	< 0.001	**1.66**	< 0.001	NR	**1.35**	< 0.001	**0.049**	**0.126**
SV20	10/9/2019	5	Residential	< 0.01	< 0.001	**0.0253**	< 0.001	< 0.001	**0.0308**	< 0.001	< 0.001	**0.0277**	**0.035**	**0.0218**	**0.021**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.203**	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NR	< 0.001	< 0.001	< 0.001	**0.0245**
	10/3/2019	15		**0.107**	< 0.001	**0.0254**	< 0.001	< 0.001	**0.0492**	< 0.001	< 0.001	< 0.001	**0.0534**	**0.0242**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.0766**	< 0.001	< 0.01	< 0.001	**0.204**	**0.0204**	**0.0364**	< 0.001	< 0.001	NR	**0.405**	< 0.001	**0.103**	**0.0664**
SV20 REP	10/3/2019	15	Residential	**0.0765**	< 0.001	**0.0331**	< 0.001	**0.0262**	**0.0431**	< 0.001	< 0.001	< 0.001	**0.0684**	**0.0273**	< 0.001	**0.0531**	< 0.001	< 0.001	< 0.001	< 0.001	**0.0918**	< 0.001	< 0.01	< 0.001	**0.248**	**0.0285**	**0.0411**	< 0.001	< 0.001	NR	**0.409**	< 0.001	**0.117**	**0.0457**
SV21	10/9/2019	5	Residential	**0.395**	**0.111**	**0.224**	< 0.001	< 0.001	**0.143**	< 0.001	< 0.001	< 0.001	**0.0485**	**0.17**	**0.29**	< 0.001	< 0.001	**0.0235**	< 0.001	**0.0482**	< 0.001	< 0.001	< 0.01	< 0.001	**0.0406**	**0.0223**	**0.043**	**0.212**	< 0.001	NR	**4.13 E**	< 0.001	**0.275**	**0.0238**
		15		**No sample collected, no flow conditions.**																														
SV22	10/9/2019	4.5	Residential	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.092**	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NR	< 0.001	< 0.001	< 0.001	**0.0254**
		15		**No sample collected, no flow conditions.**																														
SV22 REP	10/9/2019	4.5	Residential	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.0814**	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NR	< 0.001	< 0.001	< 0.001	< 0.001

Table 4. Summary of Ramboll Soil Vapor Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample Number	Date Sampled	Depth (feet bgs)	Zoning of Soil Vapor Probe Locations	1,1,1-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylene	o-Xylene	Methyl tert-butyl ether (MTBE)	Di-isopropylether	tert-amylmethylether	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Difluoroethane	Benzene	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	vinyl chloride	n-Pentane	n-Hexane	n-Heptane	1,1-Difluoroethane (DFA)
Soil Gas Residential Future Building				**1,000**	**63**	**63**	**100**	**100**	**11**	**730**	**NE**	**1.8**	**73**	**NE**	**0.097**	**8.3**	**100**	**0.46**	**83**	**0.48**	**0.0095**	**NE**	**NE**	**NE**	**NE**
Soil Gas Commercial Future Building				**8,800**	**520**	**520**	**880**	**880**	**94**	**6,200**	**NE**	**15.4**	**620**	**NE**	**0.84**	**70**	**880**	**4**	**700**	**6**	**0.32**	**NE**	**NE**	**NE**	**NE**
SV1	1/28/2019	5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	< 0.0250	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
		15		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	**0.0340**	**0.0661**	< 0.150	< 0.0250	**0.0536**	**0.0735**	**9.17**	**0.0288**	**1.05**	**0.0579**	NR	NR	NR	<0.0250
SV2	1/28/2019	6.5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	< 0.0250	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
		15		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	**0.240**	**0.0297**	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
SV3	1/28/2019	5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	**0.0215**	< 0.0250	< 0.150	< 0.0250	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	**0.138**	NR	NR	NR	<0.0250
		14.5		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	**0.505**	< 0.0250	< 0.150	**0.0291**	**0.317**	< 0.0300	**0.0593**	< 0.0150	< 0.0150	**0.514**	NR	NR	NR	<0.0250
SV4	1/28/2019	5.5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	< 0.0250	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
		15		**No sample collected, no flow conditions.**																					
SV5	1/28/2019	4.5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	**0.0253**	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	**0.0188**	NR	NR	NR	<0.0250
		13		**No sample collected, no flow conditions.**																					
SV6	1/28/2019	5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	**0.0253**	< 0.0250	< 0.150	**0.0260**	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	**0.0177**	NR	NR	NR	<0.0250
		15		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	< 0.0250	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
SV7	1/28/2019	5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	< 0.0250	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
		15		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	**0.0772**	< 0.0250	< 0.150	< 0.0250	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
SV8	1/28/2019	5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	**0.0248**	< 0.0250	< 0.150	**0.0254**	< 0.0150	< 0.0300	**0.110**	< 0.0150	**0.0344**	< 0.0100	NR	NR	NR	<0.0250
		15		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	< 0.0250	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
SV9	1/29/2019	5	Residential	**No sample collected, no flow conditions.**																					
		15		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	**0.0278**	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
SV10	1/29/2019	5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	**0.0317**	**0.175**	< 0.0300	< 0.0250	< 0.0150	**0.875**	< 0.0100	NR	NR	NR	<0.0250
		12		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	< 0.0250	**0.955**	< 0.0300	< 0.0250	**0.0295**	**2.84**	< 0.0100	NR	NR	NR	<0.0250
SV11	1/29/2019	5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	**0.0355**	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
		15		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	**0.0203**	< 0.0250	< 0.150	**0.0433**	< 0.0150	< 0.0300	< 0.0250	< 0.0150	**0.0609**	< 0.0100	NR	NR	NR	<0.0250
SV12	1/29/2019	5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	**0.262**	< 0.0250	< 0.150	**0.0294**	**0.334**	< 0.0300	**0.0286**	**0.0300**	**3.95**	< 0.0100	NR	NR	NR	<0.0250
		15		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	**2.09**	0.191	< 0.150	**0.0399**	**2.32**	< 0.0300	**0.167**	**0.190**	**19.60**	**0.0209**	NR	NR	NR	<0.0250
SV13	1/29/2019	5	*Commercial*	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	< 0.0250	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
		13		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	**0.0341**	< 0.0150	< 0.0300	< 0.0250	< 0.0150	< 0.0150	< 0.0100	NR	NR	NR	<0.0250
SV14	1/29/2019	5	Residential	<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	**0.0480**	< 0.0150	< 0.0300	< 0.0250	< 0.0150	**0.0328**	< 0.0100	NR	NR	NR	<0.0250
		12		<0.0150	NR	NR	<0.200	<0.150	<0.0150	<0.0150	<0.150	< 0.0150	< 0.0250	< 0.150	**0.0492**	< 0.0150	< 0.0300	< 0.0250	< 0.0150	**0.0342**	< 0.0100	NR	NR	NR	<0.0250
SV15	10/3/2019	4.5	Residential	< 0.001	**0.0272**	< 0.001	< 0.001	**0.0203**	< 0.001	< 0.001	**0.0268**	**0.0549**	**0.280**	NA	**0.156**	**1.62**	< 0.001	< 0.001	**0.559**	**0.133**	**1.65** [2]	**1,560**	<10.0	<10.0	NR
		15		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.132**	**0.5900**	NA	< 0.001	**2.5** [2]	< 0.001	**26.9** [2]	**2.27** [2]	**11.9** [2]	**2.75** [2]	**266**	<10.0	<10.0	NR
SV16	10/3/2019	5	Residential	< 0.001	**0.0051**	< 0.001	**0.0131**	**0.0047**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NA	**0.0041**	< 0.001	**0.0030**	**0.0554**	< 0.001	**0.0017**	< 0.001	<10.0	<10.0	<10.0	NR
		15		< 0.001	< 0.001	< 0.001	**0.0877**	**0.0207**	< 0.001	< 0.001	< 0.001	**0.0205**	< 0.001	NA	**0.0335**	**0.0368**	< 0.001	**1.95** [2]	< 0.001	**0.0770**	< 0.001	**221**	<10.0	<10.0	NR
SV17	10/3/2019	5	Residential	< 0.001	**0.0111**	**0.0021**	**0.0193**	**0.006**	**0.0396**	< 0.001	< 0.001	**0.0815**	< 0.001	NA	**0.0082**	**0.0597**	**0.0018**	**0.0181**	**0.0029**	< 0.001	**0.0045**	**326** [1]	<10.0	<10.0	NR
		15		**No sample collected, no flow conditions.**																					
SV18	10/9/2019	4.5	Residential	**No sample collected, no flow conditions.**																					
	10/3/2019	15																							
SV19	10/9/2019	4.5	Residential	**No sample collected, no flow conditions.**																					
	10/3/2019	15		< 0.001	< 0.001	< 0.001	**0.035**	< 0.001	**3.239**	**0.0222**	**0.12**	**0.0677**	**0.7190**	NA	**0.0854**	**3.79** [2]	**0.1530**	**12.0** [2]	**1.75**	**9.71** [2]	**0.941**	**239**	**322**	<10.0	NR
SV20	10/9/2019	5	Residential	**0.0216**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NA	< 0.001	< 0.001	< 0.001	**4.72** [2]	< 0.001	**0.0746**	< 0.001	<10.0	<10.0	<10.0	NR
	10/3/2019	15		< 0.001	**0.0581**	< 0.001	**0.0479**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NA	< 0.001	< 0.001	< 0.001	**15.2** [2]	< 0.001	**0.0444**	< 0.001	<10.0	<10.0	<10.0	NR
SV20 REP	10/3/2019	15	Residential	< 0.001	**0.071**	< 0.001	**0.0526**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NA	< 0.001	< 0.001	< 0.001	**18.5** [2]	< 0.001	**0.0490**	< 0.001	<10.0	<10.0	<10.0	NR
SV21	10/9/2019	5	Residential	< 0.001	**0.0436**	< 0.001	**0.121**	**0.0398**	< 0.001	< 0.001	< 0.001	**27.3** [2]	**4.69**	NA	**0.4820**	**6.85** [2]	< 0.001	**0.0773**	**0.4940**	**1.90**	**4.88** [2]	<10.0	<10.0	<10.0	NR
		15		**No sample collected, no flow conditions.**																					
SV22	10/9/2019	4.5	Residential	**0.0353**	**0.0308**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NA	< 0.001	< 0.001	< 0.001	**2.07** [2]	< 0.001	**0.1910**	< 0.001	<10.0	<10.0	<10.0	NR
		15		**No sample collected, no flow conditions.**																					
SV22 REP	10/9/2019	4.5	Residential	**0.0247**	**0.0235**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NA	< 0.001	< 0.001	< 0.001	**1.83** [2]	< 0.001	**0.1870**	< 0.001	<10.0	<10.0	<10.0	NR

Table 4. Summary of Ramboll Soil Vapor Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample Number	Date Sampled	Depth (feet bgs)	Zoning of Soil Vapor Probe Locations	Acetone	Acrolein	Bromodichloromethane	Bromoform	1,3-Butadiene	2-Butanone (MEK)	sec-Butylbenzene	tert-Butylbenzene	Carbon tetrachloride	Chloroform	Carbon Disulfide	Cyclohexane	Dibromochloromethane	1,2-Dibromoethane (EDB)	1,4-Dioxane	1,2-Dichloroethane	Ethylbenzene	Freon 11	2-Hexanone (MBK)	Isopropanol	Isopropylbenzene	4-Isopropyltoluene	4-Methyl-2-pentanone (MIBK)	Methylene chloride	Methylmethacrylate	n-Propylbenzene	n-Pentane	Propylene	Styrene	Toluene	Tetrahydrofuran
Soil Gas Residential Future Building				**32,000**	**0.021**	**0.076**	**2.6**	**0.017**	**5,200**	**420**	**420**	**0.47**	**0.12**	**730**	**6,300**	**NE**	**0.0047**	**0.56**	**0.11**	**1.1**	**NE**	**31**	**210**	**NE**	**NE**	**NE**	**1.0**	**NE**	**1,000**	**NE**	**3,100**	**940**	**310**	**NE**
Soil Gas Commercial Future Building				**280,000**	**0.176**	**0.66**	**22**	**0.188**	**44,000**	**3,600**	**3,600**	**4**	**1.06**	**6,200**	**52,000**	**NE**	**0.04**	**5**	**0.94**	**9.8**	**NE**	**260**	**1,760**	**NE**	**NE**	**NE**	**24**	**NE**	**8,600**	**NE**	**26,000**	**7,800**	**2,600**	**NE**
SV23	10/9/2019	6	Residential	**No sample collected, no flow conditions.**																														
		15		**0.232**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.0369**	**0.0355**	< 0.001	< 0.001	< 0.001	< 0.001	**0.023**	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NR	**2.08 E**	< 0.001	**0.0875**	< 0.001
SV24	10/9/2019	4	Residential	**0.112** (1)	< 0.001	**0.121**	< 0.001	**0.0839**	**0.0114**	**0.0018**	< 0.001	< 0.001	**0.114** (1)	**0.0219**	**0.336** (1)	< 0.001	< 0.001	**0.0028**	**0.0023**	**0.0385**	**0.0015**	**0.0436**	**0.0058**	**0.0164**	**0.0658**	**0.107**	**0.0289**	< 0.001	0.0049	**0.0374**	**1.54** (1)	< 0.001	**0.112**	**0.0273** (1)
		15		**0.261**	< 0.001	< 0.001	< 0.001	**0.0481**	**0.0537**	< 0.001	< 0.001	< 0.001	**0.0437**	< 0.001	**0.0293**	< 0.001	< 0.001	< 0.001	< 0.001	**0.0574**	< 0.001	< 0.001	< 0.01	< 0.001	**0.132**	< 0.001	< 0.001	< 0.001	< 0.001	NR	**1.56**	< 0.001	**0.131**	< 0.001
SV25	10/9/2019	4.5	Residential	**0.0213**	**0.0036**	**0.005**	**0.0027**	< 0.001	**0.0105**	< 0.001	< 0.001	< 0.001	**0.0394**	**0.0157**	**0.0035**	**0.0045**	< 0.001	< 0.001	< 0.001	**0.0087**	**0.0036**	< 0.001	< 0.01	**0.0017**	< 0.001	**0.0046**	**0.005**	< 0.001	**0.0019**	NR	**0.152** (1)	**0.0034**	**0.0231**	**0.0023**
		15		**0.163**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.754**	< 0.001	< 0.001	< 0.001	< 0.001	**5.14 E**	< 0.001	< 0.001	< 0.001	< 0.001	**3.14** (2)	< 0.001	**4.63 E**	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	**2.46**	**0.425**	NR	**0.754**	< 0.001	**0.162**	**0.0234**
SV26	10/9/2019	5	Residential	**0.0502**	**0.0043**	**0.0229**	**0.0076**	**0.001**	**0.0095**	< 0.001	< 0.001	< 0.001	**0.0385**	**0.0114**	**0.0014**	**0.0208**	< 0.001	< 0.001	< 0.001	**0.0019**	**0.0048**	< 0.001	**0.0036**	< 0.001	< 0.001	**0.0011**	**0.0042**	< 0.001	< 0.001	NR	**0.0144**	**0.002**	**0.0028**	**0.0018**
		15		**No sample collected, no flow conditions.**																														
SV26 REP	10/9/2019	5		**0.0407**	**0.0046**	**0.0233**	**0.0078**	< 0.001	**0.0104**	< 0.001	< 0.001	< 0.001	**0.0354**	**0.0095**	**0.0012**	**0.0215**	< 0.001	< 0.001	< 0.001	**0.0019**	**0.0052**	**0.0018**	**0.002**	< 0.001	< 0.001	**0.0019**	**0.0025**	< 0.001	< 0.001	NR	**0.0089**	**0.0021**	**0.0024**	**0.0019**
SV27	10/9/2019	5	Residential	< 0.01	< 0.001	**0.0284**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.0231**	< 0.001	< 0.001	**0.0245**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NR	< 0.001	< 0.001	< 0.001	< 0.001
		15		< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	**0.0288**	< 0.001	< 0.001	< 0.001	**0.129**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NR	**0.0243**	< 0.001	< 0.001	< 0.001
SV28	10/9/2019	5	Commercial	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	**0.0276**	< 0.001	< 0.001	< 0.001	**0.034**	**0.026**	< 0.001	< 0.001	< 0.001	**0.426**	< 0.001	**0.0371**	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	NR	**0.103**	< 0.001	**0.129**	< 0.001
		15		< 0.01	< 0.001	< 0.001	< 0.001	**0.0942**	< 0.001	< 0.001	< 0.001	< 0.001	**0.131**	**0.0422**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	**0.0403**	< 0.001	< 0.001	**0.307**	**2.34 E**	< 0.001	**0.0616**	**0.0229**

Table 4. Summary of Ramboll Soil Vapor Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample Number	Date Sampled	Depth (feet bgs)	Zoning of Soil Vapor Probe Locations	1,1,1-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylene	o-Xylene	Methyl tert-butyl ether (MTBE)	Di-isopropylether	tert-amylmethylether	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Difluoroethane	Benzene	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	vinyl chloride	n-Pentane	n-Hexane	n-Heptane	1,1-Difluoroethane (DFA)
Soil Gas Residential Future Building				**1,000**	**63**	**63**	**100**	**100**	**11**	**730**	**NE**	**1.8**	**73**	**NE**	**0.097**	**8.3**	**100**	**0.46**	**83**	**0.48**	**0.0095**	**NE**	**NE**	**NE**	**NE**
Soil Gas Commercial Future Building				**8,800**	**520**	**520**	**880**	**880**	**94**	**6,200**	**NE**	**15.4**	**620**	**NE**	**0.84**	**70**	**880**	**4**	**700**	**6**	**0.32**	**NE**	**NE**	**NE**	**NE**
SV23	10/9/2019	6	Residential	**No sample collected, no flow conditions.**																					
		15		< 0.001	< 0.001	< 0.001	**0.073**	**0.0298**	< 0.001	< 0.001	< 0.001	**1.46** [2]	**0.5180**	NA	**0.0439**	**0.8670**	< 0.001	**4.59** [2]	**0.0575**	**0.2130**	**3.15** [2]	<10.0	<10.0	<10.0	NR
SV24	10/9/2019	4	Residential	< 0.001	**0.0398**	**0.0067**	**0.168** [1]	**0.047**	**3.23 E** [1]	< 0.001	0.0204	**0.0205** [1]	**0.0072**	NA	**0.2380**	**0.0856**	**0.0017**	**0.071** [2]	< 0.001	< 0.001	**0.0389**	<10.0	<10.0	<10.0	NR
		15		< 0.001	**0.0665**	< 0.001	**0.217**	**0.116**	**0.32**	< 0.001	< 0.001	**0.0253**	**0.0456**	NA	**0.0439**	< 0.001	**0.0252**	**8.9** [2]	< 0.001	**0.3670**	< 0.001	<10.0	<10.0	<10.0	NR
SV25	10/9/2019	4.5	Residential	< 0.001	**0.0101**	**0.0025**	**0.02**	**0.0089**	**0.0083**	< 0.001	< 0.001	**0.0028**	< 0.001	NA	**0.0060**	< 0.001	**0.0029**	**0.0034**	< 0.001	**0.0020**	< 0.001	**37.4**	**11.0**	<10.0	NR
		15		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.0998**	**0.0814**	< 0.001	**0.8240**	**0.0325**	NA	**0.26**	**1.5700**	**0.2230**	**0.8280**	**1.5300**	**0.81**	**0.851**	<10.0	**337**	**7,290**	NR
SV26	10/9/2019	5	Residential	**0.0103**	**0.009**	**0.0022**	**0.0087**	**0.0048**	< 0.001	< 0.001	< 0.001	**0.0266**	< 0.001	NA	**0.0012**	**0.0968**	**0.0032**	**0.0678**	**0.0036**	**0.95** [1]	< 0.001	<10.0	<10.0	<10.0	NR
		15		**No sample collected, no flow conditions.**																					
SV26 REP	10/9/2019	5		**0.0111**	**0.0087**	**0.0013**	**0.0082**	**0.0044**	< 0.001	< 0.001	< 0.001	**0.0122**	< 0.001	NA	< 0.001	**0.0745**	**0.0034**	**0.0718**	**0.0028**	**0.715** [1]	< 0.001	<10.0	<10.0	<10.0	NR
SV27	10/9/2019	5	Residential	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.1850**	**0.0213**	NA	< 0.001	**0.0764**	< 0.001	< 0.001	< 0.001	**1.17**	< 0.001	<10.0	<10.0	<10.0	NR
		15		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.4040**	**0.1840**	NA	< 0.001	**0.6350**	< 0.001	**0.4420**	**0.1110**	**19.8**	< 0.001	<10.0	<10.0	<10.0	NR
SV28	10/9/2019	5	Commercial	**0.0653**	**0.0749**	**0.0315**	**0.173**	**0.0457**	< 0.001	< 0.001	< 0.001	**3.45** [1,2]	**0.103**	NA	**0.0356**	**4.07** [2]	< 0.001	**0.4070**	**0.7870**	**43.0** [2]	**0.109**	<10.0	<10.0	<10.0	NR
		15		< 0.001	< 0.001	< 0.001	**0.0565**	< 0.001	< 0.001	< 0.001	< 0.001	**14.9** [1,2]	**0.94** [2]	NA	**0.1010**	**12.1** [2]	< 0.001	**1.37**	**1.5500**	**124.0** [1,2]	**0.120**	**307**	<10.0	<10.0	NR

Notes:
-- not analyzed, no flow
< - not detected above the laboratory reporting limit
bgs - below ground surface
E - estimated concentration; concentration exceeds calibration range
NA - not analyzed
ND - not detected
NE - not established
NR - not reported
[1] - refer to lab report for dilution factor
[2] - samples were analyzed using USEPA Method 8260B as a result of VOC detections above equipment limits while analyzing samples using the TO-15 Method
Results and screening levels are reported in micrograms per Liter (µg/L)
Result exceed the soil gas residential screening levels for future buildings
Result exceed the soil gas commercial screening levels for future buildings
Leak detect compound value greater than or equal to 10 times the reporting limit for the target analyte(s)
Leak detect compounds included n-pentane, n-hexane, n-heptane and 1,1-DFA.
Soil gas samples were analyzed for volatile organic compounds (VOCs) by USEPA 8260B or USEPA Method TO-15.
USEPA - United States Environmental Protection Agency

References:
Cal/EPA. 2011. Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air - Final. October.
Cal/EPA. 2015. Preliminary Endangerment Assessment Guidance Manual. October.
Cal/EPA. 2019. Human and Ecological Risk Office (HERO) Human Health Risk assessment (HHRA) Note Number 3, Issue: DTSC-Modified Screening Levels (DTSC-SLs). April.
USEPA. 2019. Regional Screening Levels Summary Table. November.

Table 5. Summary of Fulcrum and Leighton Soil Vapor Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample Number	Date Sampled	Depth (feet bgs)	Zoning of Soil Vapor Probe Locations	1,1-Dichloroethane	1,1-Dichloroethene	Benzene	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	vinyl chloride
Soil Gas Residential Future Building				**1.8**	**73**	**0.097**	**8.3**	**0.46**	**83**	**0.48**	**0.0095**
Soil Gas Commercial Future Building				**15.4**	**620**	**0.84**	**70**	**4**	**700**	**6**	**0.32**
Fulcrum											
SB1-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB2-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB3-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB4-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB5-SV	11/01/17	5	Residential	**3.63**	0.617	<0.10	1.69	<0.10	<0.10	<0.10	**17.8**
SB6-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB7-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB8-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB9-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB10-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB11-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB12-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB13-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB14-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB15-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB16-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB17-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB18-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**1.23**	<0.10
SB19-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB20-SV	11/01/17	5	Commercial	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB21-SV	11/01/17	5	Commercial	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB22-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB23-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB24-SV	11/01/17	5	*Commercial*	0.763	<0.10	<0.10	0.730	<0.10	<0.10	**7.19**	<0.10
SB25-SV	11/01/17	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB26-SV5	10/25/18	5	Commercial	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB26-SV15	10/25/18	15		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB26-SV22	10/25/18	22		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB30-SV5	10/25/18	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB30-SV15	10/25/18	15		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB30-SV22	10/25/18	22		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
SB32-SV5	10/25/18	5	Residential	<0.10	<0.10	<0.10	<0.10	0.146	<0.10	<0.10	<0.10
SB32-SV15	10/25/18	15		<0.10	<0.10	<0.10	<0.10	0.325	<0.10	0.020	<0.10
SB32-SV22	10/25/18	22		<0.10	<0.10	0.02	<0.10	**2.94**	<0.10	0.195	<0.10
SB33-SV5	10/25/18	5	Residential	0.07	<0.10	<0.10	<0.10	**2.02**	<0.10	0.258	<0.10
SB33-SV15	10/25/18	15		0.10	0.081	0.011	<0.10	**26.5**	<0.10	**4.75**	<0.10
SB33-SV22	10/25/18	22		0.12	0.088	<0.10	0.034	**55.2**	0.071	**4.64**	<0.10
SB36-SV5	10/25/18	5	Residential	<0.10	<0.10	<0.10	<0.10	**0.54**	<0.10	0.015	<0.10
SB36-SV15	10/25/18	15		<0.10	<0.10	<0.10	<0.10	**1.51**	<0.10	0.054	<0.10
SB36-SV22	10/25/18	22		<0.10	<0.10	<0.10	<0.10	**1.51**	<0.10	0.054	<0.10
SB37-SV5	10/25/18	5	Commercial	1.44	<0.10	<0.10	0.968	0.111	0.072	**11.1**	<0.10
SB37-SV15	10/25/18	15		1.26	0.031	<0.10	0.739	0.221	0.073	**10.4**	<0.10
SB37-SV22	10/25/18	22		0.95	0.064	<0.10	0.542	0.176	0.07	**6.45**	<0.10
SB38-SV5	10/25/18	5	Residential	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.018	<0.10
SB38-SV15	10/25/18	15		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.258	<0.10
SB38-SV22	10/25/18	22		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.431	<0.10
SB39-SV5	10/25/18	5	Residential	<0.10	<0.10	<0.10	<0.10	0.069	<0.10	0.047	<0.10
SB39-SV15	10/25/18	15		<0.10	<0.10	<0.10	<0.10	0.055	<0.10	0.070	<0.10
SB39-SV22	10/25/18	22		<0.10	<0.10	<0.10	<0.10	0.096	<0.10	0.176	<0.10

Table 5. Summary of Fulcrum and Leighton Soil Vapor Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample Number	Date Sampled	Depth (feet bgs)	Zoning of Soil Vapor Probe Locations	1,1-Dichloroethane	1,1-Dichloroethene	Benzene	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	vinyl chloride
Soil Gas Residential Future Building				**1.8**	**73**	**0.097**	**8.3**	**0.46**	**83**	**0.48**	**0.0095**
Soil Gas Commercial Future Building				**15.4**	**620**	**0.84**	**70**	**4**	**700**	**6**	**0.32**
Leighton											
LA-SB1-5'	08/18/18	5	Residential	0.996	0.022	0.083	0.030	0.444	<0.008	0.243	<0.008
LA-SB1-15'	08/18/18	15		**22.7***	1.06	0.076	1.27	0.367	0.033	**2.11**	<0.008
LA-SB3-5'	08/18/18	5	Residential	**9.36**	0.30	<0.008	7.26	0.179	0.457	**0.683**	**19.1***
LA-SB3-15'	08/18/18	15		**18.0**	2.27	**0.16**	**13.8**	**2.71**	0.505	**2.68**	**20.3***
LA-SB5-5'	08/18/18	5	Residential	0.012	<0.008	0.009	0.018	<0.008	<0.008	<0.008	<0.008
LA-SB5-15'	08/18/18	15		0.012	<0.008	<0.008	0.038	0.259	<0.008	0.098	<0.008
LA-SB6-5'	08/18/18	5	Residential	<0.008	<0.008	<0.008	0.028	0.038	<0.008	0.011	<0.008
LA-SB6-15'	08/18/18	15		<0.008	<0.008	<0.008	0.011	0.327	<0.008	0.093	<0.008
LA-SB7-5'	08/18/18	5	Commercial	3.62	0.281	0.070	2.41	0.217	0.401	**31.8***	<0.008
LA-SB7-5' REP	08/18/18	5		3.33	0.280	0.072	2.27	0.196	0.394	**27.8***	<0.008
LA-SB7-15'	08/18/18	15		7.73	0.948	0.060	<0.008	0.203	0.660	**30.0***	<0.008
LA-SB8-5'	08/18/18	5	Residential	0.027	<0.008	0.022	<0.008	0.188	<0.008	**1.82**	<0.008
LA-SB8-15'	08/18/18	15		0.253	0.018	<0.008	<0.008	**0.614**	0.02	**4.24**	<0.008

Notes:

* - value processed with D1-080818-HL01 per the laboratory report

< - not detected above the laboratory reporting limit

bgs - below ground surface

NA - Not Analyzed

ND - not detected

NE - Not established

NR - not reported

Only compounds reported above the laboratory reporting limit are shown

Results and screening levels are reported in micrograms per Liter (µg/L)

Result exceed the soil gas residential screening levels for future buildings

Result exceed the soil gas commercial screening levels for future buildings

Soil gas samples were analyzed for volatile organic compounds (VOCs) by USEPA Method 8260B

USEPA - United States Environmental Protection Agency

References:

Cal/EPA. 2011. Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air - Final. October.

Cal/EPA. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

Cal/EPA. 2019. Human and Ecological Risk Office, Human Health Risk assessment, Note Number 3, Issue: DTSC-Modified Screening Levels. April.

USEPA. 2019. Regional Screening Levels Summary Table. April.

Table 6. Summary of TPH and PCB Soil Sampling Results
2101 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	TPH by USEPA Method 8015B (mg/kg)			PCBs by USEPA Method 8082 (µg/kg)			
			TPH - GRO	TPH - DRO	TPH - ORO	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262
Soil Target Levels			**1,800**	**1,100**	**54,000**	**940**	**970**	**990**	**3,500**
Ramboll									
SB1-2	1/29/2019	2	< 0.49	< 5.2	< 5.2	< 50	< 50	< 50	< 50
SB2-2	1/22/2019	2	< 0.49	22 J	42	< 50	< 50	< 50	< 50
SB2-5	1/22/2019	5	--	900 J	1,900 J	< 49	< 49	< 49	< 49
SB3-2	1/29/2019	2	< 0.50	8.0 J	23 J	< 50	< 50	< 50	< 50
SB3-5	1/29/2019	5	--	< 5.2	--	--	580	--	--
SB4-0.5	1/24/2019	0.5	< 0.52	180 J	450 J	--	--	--	--
SB4-2	1/24/2019	2	--	--	--	110	92	< 50	< 50
SB4-5	1/24/2019	5	< 0.48	570 J	1,200 J	--	--	--	--
SB4-10	1/28/2019	10	--	< 5.0	--	--	--	--	--
SB5-0.5	1/22/2019	0.5	< 0.50	< 5.0	5.1 J	--	--	--	--
SB5-2	1/22/2019	2	--	--	--	< 49	< 49	< 49	< 49
SB5-5	1/22/2019	5	--	--	--	< 50	280	< 50	< 50
SB6-0.5	1/24/2019	0.5	< 0.48 UJ	81 J	200 J	--	--	--	--
SB7-2	1/24/2019	2	< 0.50 UJ	690 J	930 J	--	--	--	--
SB7-5	1/24/2019	5	-- UJ	34 J	--	--	--	--	--
SB8-2	1/24/2019	2	< 0.50	6.8 J	13 J	< 49	76	< 49	< 49
SB8-5	1/24/2019	5	--	< 5.1	--	< 50	< 50	< 50	< 50
SB9-0.5	1/22/2019	0.5	< 0.52	80 J	160 J	--	--	--	--
SB9-5	1/22/2019	5	< 0.49	320 J	360 J	--	--	--	--
SB10-0.5	1/22/2019	0.5	< 0.53	11 J	24 J	--	--	--	--
SB10-2	1/22/2019	2	--	--	--	< 50	< 50	< 50	< 50
SB11-2	1/22/2019	2	< 0.49 UJ	< 5.0	6.6 J	--	--	--	--
SB12-2	1/24/2019	2	< 0.50	150 J	480 J	< 50	640	< 50	< 50
SB12-5	1/24/2019	5	--	20 J	--	< 50	< 50	< 50	< 50
SB13-0.5	1/22/2019	0.5	< 0.51	830 J	1,200 J	--	--	--	--
SB13-2	1/22/2019	2	--	220 J	--	810	500	< 49	< 49
SB14-0.5	1/22/2019	0.5	< 0.50	230 J	340 J	760	630	550	< 50
SB14-2	1/22/2019	2	--	25 J	--	--	--	--	--
SB14-5	1/22/2019	5	--	12 J	27 J	< 49	< 49	< 49	< 49
SB15-2	1/22/2019	2	< 0.52	5.2 J	14 J	--	--	--	--
SB16-3	1/22/2019	3	< 0.52	830 J	1,100 J	< 5,000	**40,000**	< 5,000	< 5,000
SB16-5	1/22/2019	5	--	< 5.2	--	< 50	< 50	< 50	< 50
SB17-0.5	1/22/2019	0.5	< 0.50	< 5.0	< 5.0	--	--	--	--
SB18-2	1/22/2019	2	< 0.50	29 J	43 J	< 49	310	< 49	< 49
SB18-5	1/22/2019	5	--	11 J	34 J	< 50	< 50	< 50	< 50
SB19-2	1/23/2019	2	< 0.49	210 J	440 J	--	--	--	--
SB19-5	1/23/2019	5	< 0.52	92 J	160 J	--	--	--	--
SB20-2	1/23/2019	2	< 0.53	10 J	18 J	**1,400**	< 49	110	< 49
SB20-5	1/23/2019	5	--	--	--	**1,700**	< 49	140	< 49
SB21-2	1/23/2019	2	< 0.48	55 J	230 J	630	880	< 50	< 50
SB21-5	1/23/2019	5	--	< 5.2	--	200	330	< 49	< 49
SB22-0.5	1/23/2019	0.5	< 0.51	140 J	320 J	--	--	--	--
SB22-2	1/23/2019	2	--	7.5 J	--	170	280	< 49	< 49
SB22-4.5	1/23/2019	4.5	--	--	--	< 50	80	< 50	< 50
SB23-2	1/23/2019	2	< 0.50	14 J	29 J	< 50	160	< 50	< 50
SB23-5	1/23/2019	5	--	< 5.0	--	< 50	< 50	< 50	< 50
SB24-2	1/23/2019	2	< 0.53	630 J	1,600 J	370	800	340	< 49
SB24-4.5	1/23/2019	4.5	--	21 J	--	50	68	< 50	< 50
SB25-2	1/23/2019	2	< 0.50	82 J	160 J	< 50	< 50	< 50	< 50
SB25-5	1/23/2019	5	--	< 4.9	--	< 50	< 50	< 50	< 50
SB26-2	1/23/2019	2	< 0.51	6.6 J	12 J	140	150	< 49	< 49
DUP3	1/23/2019	2	< 0.51	< 5.0	< 5.0	< 50	< 50	< 50	< 50
SB27-2	1/23/2019	2	< 0.51	< 5.0	< 5.0	< 50	< 50	< 50	< 50
SB27-5	1/23/2019	5	--	6.2 J	--	--	--	--	--
SB28-2	1/23/2019	2	< 0.51	29 J	55 J	--	--	--	--
SB29-2	1/24/2019	2	< 0.50	< 5.0	< 5.0	--	--	--	--
SB30-0.5	1/23/2019	0.5	--	--	--	< 50	< 50	< 50	< 50
SB30-2	1/23/2019	2	< 0.51	< 5.0	9.1 J	< 50	< 50	< 50	< 50
SB31-6	3/4/2019	6	--	--	--	< 50	< 50	< 50	< 50
SB32-6	3/4/2019	6	--	--	--	320	< 50	< 50	< 50
SB32-7	3/4/2019	7	--	--	--	< 50	< 50	< 50	< 50
SB33-6	3/4/2019	6	--	610 J	--	--	--	--	--
SB33-7	3/4/2019	7	--	150 J	--	--	--	--	--
SB33-8	3/4/2019	8	--	36 J	--	--	--	--	--
SB34-12	3/11/2019	12	--	--	< 25	--	--	--	--
SB35-6	3/5/2019	6	--	< 5.0	--	--	--	--	--
SB37-3	3/5/2019	3	--	370 J	--	< 50	< 50	< 50	< 50
SB37-4	3/5/2019	4	--	7.8 J	--	--	--	--	--
SB39-3	3/4/2019	3	--	--	--	160	700	200	< 50
SB39-5	3/4/2019	5	--	--	--	< 50	< 50	< 50	< 50
SB40-3	3/4/2019	3	--	--	--	< 50	< 50	< 50	< 50
SB41-3	3/4/2019	3	--	--	--	**8,800**	**7,300**	**3,800**	< 50
SB41-5	3/4/2019	5	--	--	--	< 50	< 50	< 50	< 50
SB42-3	3/4/2019	3	--	--	--	210	960	< 50	< 50

Table 6. Summary of TPH and PCB Soil Sampling Results
2101 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	TPH by USEPA Method 8015B (mg/kg)			PCBs by USEPA Method 8082 (µg/kg)			
			TPH - GRO	TPH - DRO	TPH - ORO	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262
Soil Target Levels			**1,800**	**1,100**	**54,000**	**940**	**970**	**990**	**3,500**
SB42-5	3/4/2019	5	--	--	--	< 50	< 50	< 50	< 50
SB44-6	3/4/2019	6	--	--	--	< 50	< 50	< 50	< 50
SB45-3	3/4/2019	3	--	--	--	< 50	< 50	< 50	< 50
SB46-3	3/11/2019	3	--	--	--	< 50	< 50	< 50	< 50
SB48-6	3/4/2019	6	--	--	--	< 50	< 50	< 50	< 50
SB49-3	3/4/2019	3	--	--	--	< 50	57 J	< 50	< 50
SB50-11	3/11/2019	11	--	< 5.0	--	< 50	< 50	< 50	< 50
SB52-1	3/4/2019	1	--	--	--	**22,000**	**11,000**	< 50	< 50
SB52-3	3/4/2019	3	--	--	--	< 50	< 50	< 50	< 50
Fulcrum									
SB1-10	10/31/17	10	< 0.5	< 10	< 50	--	--	--	--
SB2-10	10/31/17	10	< 0.5	< 10	< 50	--	--	--	--
SB3-3	10/31/17	3	--	--	--	< 33	< 33	< 33	NR
SB4-3	10/31/17	3	--	--	--	< 33	< 33	< 33	NR
SB5-3	10/31/17	3	--	--	--	< 33	< 33	< 33	NR
SB6-3	10/31/17	3	< 0.5	< 10	< 50	--	--	--	--
SB7-3	10/31/17	3	--	--	--	< 33	< 33	< 33	NR
SB8-3	10/31/17	3	--	--	--	< 33	< 33	< 33	NR
SB9-3	10/31/17	3	< 0.5	< 10	< 50	--	--	--	--
SB10-3	10/31/17	3	< 0.5	380	2,650	--	--	--	--
SB10-5	10/31/17	5	< 0.5	< 10	< 50	--	--	--	--
SB10-10	10/31/17	10	< 0.5	< 10	2,980	--	--	--	--
SB11-3	10/31/17	3	< 0.5	< 10	< 50	--	--	--	--
SB12-10	10/31/17	10	< 0.5	< 10	< 50	--	--	--	--
SB13-10	10/31/17	10	< 0.5	< 10	< 50	--	--	--	--
SB14-3	10/31/17	3	< 0.5	< 10	< 50	--	--	--	--
SB15-3	10/31/17	3	< 0.5	< 10	120	--	--	--	--
SB16-3	10/31/17	3	< 0.5	< 10	< 50	--	--	--	--
SB17-20	10/31/17	20	< 0.5	< 10	< 50	--	--	--	--
SB18-15	10/31/17	15	< 0.5	< 10	< 50	--	--	--	--
SB19-15	10/31/17	15	< 0.5	< 10	< 50	--	--	--	--
SB20-15	10/31/17	15	< 0.5	< 10	< 50	--	--	--	--
SB21-15	10/31/17	15	< 0.5	< 10	< 50	--	--	--	--
SB22-3	10/31/17	3	--	--	--	< 33.0	**16,000**	< 33.0	< 33.0
SB23-3	10/31/17	3	--	--	--	< 33.0	36.4	< 33.0	< 33.0
SB24-3	10/31/17	3	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB25-20	10/31/17	20	< 0.5	< 10	< 50	--	--	--	--
SB26-1	10/24/18	1	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB26-2	10/24/18	2	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB26-5	10/24/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB27-1	10/24/18	1	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB27-2	10/24/18	2	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB27-5	10/24/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB28-1	10/24/18	1	--	< 10	378	57.4	< 33.0	< 33.0	NR
SB28-2	10/24/18	2	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB28-5	10/24/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB29-1	10/24/18	1	--	< 10	2,160	< 33.0	< 33.0	< 33.0	NR
SB29-2	10/24/18	2	--	< 10	75	< 33.0	< 33.0	< 33.0	NR
SB29-5	10/24/18	5	--	--	--	27.5	< 33.0	27.0	NR
SB30-1	10/24/18	1	--	< 10	86.9	< 33.0	< 33.0	66.6	NR
SB30-2	10/24/18	2	--	< 10	148	125	< 33.0	< 33.0	NR
SB30-5	10/24/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB31-1	10/24/18	1	--	< 10	6,110	**5,930**	< 33.0	< 33.0	NR
SB31-2	10/24/18	2	--	< 10	613	< 33.0	< 33.0	< 33.0	NR
SB31-5	10/24/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB32-1	10/24/18	1	--	< 10	164	< 33.0	40.0	< 33.0	NR
SB32-2.5	10/24/18	2.5	--	< 10	1,030	< 33.0	41.7	< 33.0	NR
SB32-5	10/24/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB33-1	10/24/18	1	--	< 10	1,190	< 33.0	289	< 33.0	NR
SB33-2	10/24/18	2	--	< 10	196	< 33.0	< 33.0	< 33.0	NR
SB33-5	10/24/18	5	--	--	--	**4,530**	< 33.0	< 33.0	NR
SB34-1	10/25/18	1	--	< 10	239	< 33.0	< 33.0	< 33.0	NR
SB34-2	10/25/18	2	--	< 10	411	233	< 33.0	< 33.0	NR
SB34-5	10/25/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB35-1	10/25/18	1	--	< 10	51	< 33.0	< 33.0	< 33.0	NR
SB35-2	10/25/18	2	--	< 10	424	< 33.0	222	< 33.0	NR
SB35-5	10/25/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB36-1	10/25/18	1	--	< 10	< 50	< 33.0	273	< 33.0	NR
SB36-2	10/25/18	2	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB36-5	10/25/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB37-1	10/25/18	1	--	< 10	100	< 33.0	255	< 33.0	NR
SB37-2	10/25/18	2	--	< 10	560	< 33.0	128	< 33.0	NR
SB37-5	10/25/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB38-1	10/25/18	1	--	< 10	188	< 33.0	< 33.0	< 33.0	NR
SB38-2	10/25/18	2	--	< 10	202	< 33.0	< 33.0	< 33.0	NR

Table 6. Summary of TPH and PCB Soil Sampling Results
2101 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	TPH by USEPA Method 8015B (mg/kg)			PCBs by USEPA Method 8082 (µg/kg)			
			TPH - GRO	TPH - DRO	TPH - ORO	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262
Soil Target Levels			**1,800**	**1,100**	**54,000**	**940**	**970**	**990**	**3,500**
SB38-5	10/25/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB39-1	10/25/18	1	--	< 10	2,890	**17,700**	< 33.0	< 33.0	NR
SB39-2	10/25/18	2	--	< 10	< 50	193	< 33.0	< 33.0	NR
SB39-5	10/25/18	5	--	--	--	434	< 33.0	< 33.0	NR
SB40-1	10/25/18	1	--	< 10	148	< 33.0	< 33.0	< 33.0	NR
SB40-2	10/25/18	2	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB40-5	10/25/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB41-1	10/25/18	1	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB41-2	10/25/18	2	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB41-5	10/25/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB42-1	10/25/18	1	--	< 10	754	< 33.0	824	< 33.0	NR
SB42-2	10/25/18	2	--	< 10	152	< 33.0	143	< 33.0	NR
SB42-5	10/25/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB43-1	10/25/18	1	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB43-2	10/25/18	2	--	< 10	< 50	< 33.0	117	< 33.0	NR
SB43-5	10/25/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB44-1	10/25/18	1	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB44-2	10/25/18	2	--	< 10	< 50	< 33.0	< 33.0	< 33.0	NR
SB44-5	10/25/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
SB45-1	10/30/18	1	--	284	497	< 33.0	< 33.0	< 33.0	NR
SB45-2	10/30/18	2	--	< 10	356	< 33.0	< 33.0	< 33.0	NR
SB45-5	10/30/18	5	--	--	--	< 33.0	< 33.0	< 33.0	NR
Leighton									
LA-SB1-1	8/7/2018	1	< 1	630	--	< 16	< 16	< 16	160
LA-SB1-2.5	8/7/2018	2.5	< 1	430	--	< 160	920	< 160	< 160
LA-SB1-5	8/7/2018	5	< 0.97	< 10	--	< 16	< 16	< 16	< 16
LA-SB1-10	8/7/2018	10	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB1-15	8/7/2018	15	< 0.85	< 10	--	< 16	< 16	< 16	< 16
LA-SB2-1	8/7/2018	1	< 1	440	--	< 16	160	< 16	< 16
LA-SB2-2.5	8/7/2018	2.5	< 1	110	--	< 16	< 16	< 16	< 16
LA-SB2-5	8/7/2018	5	< 0.88	< 10	--	< 16	< 16	< 16	< 16
LA-SB2-10	8/7/2018	10	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB3-1	8/7/2018	1	< 1	750	--	< 400	**1,400**	< 400	< 400
LA-SB3-2.5	8/7/2018	2.5	< 0.92	< 10	--	< 16	< 16	< 16	< 16
LA-SB3-5	8/7/2018	5	< 0.82	< 10	--	< 16	< 16	< 16	< 16
LA-SB3-10	8/7/2018	10	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB3-15	8/7/2018	15	< 0.99	< 10	--	< 16	< 16	< 16	< 16
LA-SB3-20	8/7/2018	20	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB3-25	8/7/2018	25	< 0.84	< 10	--	< 16	< 16	< 16	< 16
LA-SB3-30	8/7/2018	30	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB4-1	8/7/2018	1	< 1	100	--	< 16	40	< 16	< 16
LA-SB4-2.5	8/7/2018	2.5	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB4-5	8/7/2018	5	< 0.92	110	--	< 16	< 16	< 16	< 16
LA-SB4-10	8/7/2018	10	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB5-1	8/7/2018	1	< 1	**2,500**	--	< 800	**1,200**	< 800	< 800
LA-SB5-2.5	8/7/2018	2.5	< 1	110	--	< 16	< 16	< 16	< 16
LA-SB5-5	8/7/2018	5	< 0.8	98	--	< 16	< 16	< 16	< 16
LA-SB5-10	8/7/2018	10	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB5-15	8/7/2018	15	< 0.99	< 10	--	< 16	< 16	< 16	< 16
LA-SB105-15 (1)	8/7/2018	15	< 0.83	< 10	--	< 16	< 16	< 16	< 16
LA-SB6-1	8/7/2018	1	< 1	93	--	< 16	< 16	< 16	< 16
LA-SB6-2.5	8/7/2018	2.5	< 1	89	--	< 16	< 16	< 16	< 16
LA-SB6-5	8/7/2018	5	< 0.93	240	--	< 16	< 16	< 16	< 16
LA-SB6-10	8/7/2018	10	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB6-15	8/7/2018	15	< 0.85	< 10	--	< 16	< 16	< 16	< 16
LA-SB7-1	8/7/2018	1	< 1	**4,100**	--	< 320	**1,600**	< 320	< 320
LA-SB7-2.5	8/7/2018	2.5	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB7-5	8/7/2018	5	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB7-10	8/7/2018	10	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB7-15	8/7/2018	15	< 0.89	< 10	--	< 16	< 16	< 16	< 16
LA-SB7-20	8/7/2018	20	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB7-25	8/7/2018	25	< 0.86	< 10	--	< 16	< 16	< 16	< 16
LA-SB107-25 (1)	8/7/2018	25	< 0.82	< 10	--	< 16	< 16	< 16	< 16
LA-SB8-1	8/7/2018	1	< 1	300	--	< 80	< 80	< 80	< 80
LA-SB8-2.5	8/7/2018	2.5	< 1	< 10	--	< 160	790	< 160	< 160
LA-SB8-5	8/7/2018	5	< 1.1	< 10	--	< 16	< 16	< 16	< 16
LA-SB108-5 (1)	8/7/2018	5	< 1.2	30	--	< 16	< 16	< 16	< 16
LA-SB8-10	8/7/2018	10	< 1	< 10	--	< 16	< 16	< 16	< 16
LA-SB8-15	8/7/2018	15	< 0.98	< 10	--	< 16	41	< 16	< 16

Table 6. Summary of TPH and PCB Soil Sampling Results
2101 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	TPH by USEPA Method 8015B (mg/kg)			PCBs by USEPA Method 8082 (µg/kg)			
			TPH - GRO	TPH - DRO	TPH - ORO	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262
Soil Target Levels			**1,800**	**1,100**	**54,000**	**940**	**970**	**990**	**3,500**
LA-SB9-1	8/7/2018	1	< 1	**3,100**	--	< 320	**1,500**	< 320	< 320
LA-SB9-2.5	8/7/2018	2.5	< 1	**1,100**	--	< 16	< 16	< 16	< 16
LA-SB9-5	8/7/2018	5	< 1.1	440	--	< 16	110	< 16	< 16
LA-SB9-10	8/7/2018	10	< 1	**1,100**	--	< 800	**3,000**	< 800	< 800
LA-SB10-1	8/7/2018	1	< 1	310	--	< 160	490	< 160	< 160
LA-SB10-2.5	8/7/2018	2.5	< 1	110	--	**12,000**	< 1,600	< 1,600	< 1,600
LA-SB10-5	8/7/2018	5	< 0.96	50	--	< 16	66	< 16	< 16
LA-SB10-10	8/7/2018	10	< 1	20	--	< 16	24	< 16	< 16

Notes:
(1) - duplicate sample reported below its primary sample
DRO - diesel range organics
DTSC - Toxic Substances Control Department
ft bgs - feet below ground surface
GRO - gasoline range organics
ID - identification
J - Results are estimated
mg/kg - milligrams per kilogram
µg/kg - micrograms per kilogram
NE - not established
NR - not reported
ORO - oil range organics
PCBs - Polychlorinated biphenyls
R - results unusable
TPH - total petroleum hydrocarbons
UJ - Reporting limits estimated
USEPA - United States Environmental Protection Agency
See table 10 and appendix A for additional details regarding the site specific soil target levels.
<X - concentration was not detected above laboratory reporting limit
-- - not analyzed
Duplicate sample is listed immediately below its respective primary sample result
Commercial zoning in italics
Result exceeds the site specific soil target levels.
Result exceed the USEPA/DTSC screening levels for commercial/industrial soil
Result exceed the USEPA/DTSC screening levels for residential soil

Table 7: Summary of Metal Soil Sampling Results
2101 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Title 22 Metals by USEPA Method 6010/7471A and Chromium VI by USEPA Method 7199/3060A (mg/kg)																
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Soil Target Levels			**140**	**12**	**17,000**	**30**	**33**	**21,000**	**3.9**	**68**	**3,500**	**4.4**	**1,800**	**780**	**1,700**	**1,800**	**12**	**390**	**110,000**
Ramboll																			
SB1-2	1/29/2019	2	< 0.754	< 0.754	109	0.515	< 0.503	8.16	--	4.63	7.27	< 0.0833	< 0.251	6.95	< 0.754	< 0.251	< 0.754	15.2	28.2
SB1-5	1/29/2019	5	< 0.739	< 0.739	233	0.96	< 0.493	18.1	--	11.6	17.8	< 0.0877	< 0.246	15.5	< 0.739	< 0.246	< 0.739	37.9	48.8
SB2-2	1/22/2019	2	< 0.746	5.83	132	0.648	< 0.498	19.9	--	9.08	23.1	< 0.0820	< 0.249	17.6	< 0.746	< 0.249	< 0.746 UJ	29.4	60.2
SB2-5	1/22/2019	5	< 0.750	< 0.750	145	0.611	< 0.500	14.4	--	11.5	13.4	< 0.0877	< 0.250	19.2	< 0.750	< 0.250	< 0.750 UJ	30.0	27.7
SB3-2	1/29/2019	2	< 0.732	< 0.732	73.4	0.3	< 0.488	6.75	--	5.45	7.06	0.503	< 0.244	6.76	< 0.732	< 0.244	< 0.732	14.3	30.7
SB3-5	1/29/2019	5	< 0.750	< 0.750	174	0.902	< 0.500	15.6	--	8.36	16.5	< 0.0820	< 0.250	14.4	< 0.750	< 0.250	< 0.750	21.5	48.6
SB4-2	1/24/2019	2	< 0.758	3.49	165	0.739	1.97	27.2	--	10.8	80.6	< 0.0794	1.07	27.5	< 0.758	< 0.253	< 0.758	30.5	248
SB4-5	1/24/2019	5	< 0.746	< 0.746	154	0.793	< 0.498	17.3	--	9.06	16.7	< 0.0877	< 0.249	14.7	< 0.746	< 0.249	< 0.746	29.8	50.0
SB5-2	1/22/2019	2	< 0.754	0.865	83.5	0.324	< 0.503	8.25	--	4.64	10.5	< 0.0833	< 0.251	10.9	< 0.754	< 0.251	< 0.754 UJ	15.9	30.5
SB5-5	1/22/2019	5	< 0.732	< 0.732	162	0.776	< 0.488	18.3	--	8.08	19.4	< 0.0862	< 0.244	13.7	< 0.732	< 0.244	< 0.732 UJ	26.2	56.4
SB6-2	1/24/2019	2	< 0.725	< 0.725	105	0.605	< 0.483	19.3	--	7.54	12.3	< 0.0806	< 0.242	13.0	< 0.725	< 0.242	< 0.725	20.3	41.1
SB6-5	1/24/2019	5	< 0.761	< 0.761	90.5	0.756	< 0.508	16.7	--	5.53	15.2	< 0.0794	< 0.254	11.6	< 0.761	< 0.254	< 0.761	31.5	37.0
SB7-0.5	1/24/2019	0.5	< 0.735	< 0.735	142	0.676	8.70	55.4	--	9.81	353	0.524	4.95	149	< 0.735	0.265	< 0.735	26.4	377
SB7-2	1/24/2019	2	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	--	--
SB7-5	1/24/2019	5	< 0.743	2.86	242	0.801	0.846	20.9	0.70	13.9	31.7	< 0.0862	0.814	22.1	< 0.743	< 0.248	< 0.743	29.2	77.2
SB8-0.5	1/24/2019	0.5	< 0.761	2.67	119	0.669	0.655	23.3	--	9.57	79.0	< 0.0862	1.15	36.1	< 0.761	< 0.254	< 0.761	30.0	119
SB8-2	1/24/2019	2	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--
SB8-5	1/24/2019	5	< 0.750	< 0.750	308	0.842	< 0.500	17.9	< 0.40	8.31	16.4	< 0.0794	< 0.250	13.1	< 0.750	< 0.250	< 0.750	28.5	45.3
SB9-2	1/22/2019	2	< 0.718	< 0.718	104	0.67	< 0.478	12.7	--	9.59	12.3	< 0.0794	< 0.239	10.8	< 0.718	< 0.239	< 0.718 UJ	25.7	37.0
SB9-5	1/22/2019	5	< 0.732	6.54	201	0.99	11.4	110	--	18.5	733	0.452	8.27	322	< 0.732	0.370	< 0.732	54.5	390
SB10-2	1/22/2019	2	< 0.769	< 0.769	118	0.599	< 0.513	13	--	6.91	8.71	< 0.0862	< 0.256	9.46	< 0.769	< 0.256	< 0.769 UJ	22.4	36.0
SB10-5	1/22/2019	5	< 0.758	< 0.758	78	0.396	< 0.505	10.2	--	6.18	8.88	< 0.0862	< 0.253	6.88	< 0.758	< 0.253	< 0.758 UJ	18.2	29.3
SB11-2	1/22/2019	2	< 0.769	< 0.769	176	0.554	< 0.513	11.3	--	5.39	8.19	< 0.0794	< 0.256	7.58	< 0.769	< 0.256	< 0.769 UJ	21.1	30.6
SB11-5	1/22/2019	5	< 0.765	1.92	107	0.637	0.7	19.9	--	7.74	54.6	0.127	< 0.255	20.3	< 0.765	< 0.255	< 0.765 UJ	27.6	136
SB12-2	1/24/2019	2	< 0.777	3.98	147	0.709	2.07	25.2	0.9 J	9.95	71.4	< 0.0806	0.622	19.1	< 0.777	< 0.259	< 0.777	32.7	106
SB12-5	1/24/2019	5	< 0.750	2.42	171	0.726	< 0.500	14.7	< 0.40	7.68	14.7	< 0.0806	< 0.250	10.4	< 0.750	< 0.250	< 0.750	27.4	43.2
SB13-2	1/22/2019	2	< 0.758	2.85	151	0.678	3.3	41.4	--	9.96	253	0.0930	1.79	60.0	< 0.758	< 0.253	< 0.758 UJ	31.2	268
SB13-5	1/22/2019	5	< 0.732	< 0.732	191	0.941	< 0.488	18	--	10.7	19.4	< 0.0862	< 0.244	14.0	< 0.732	< 0.244	< 0.732 UJ	32.9	54.7
DUP1	1/22/2019	5	< 0.765	< 0.765	174	0.903	< 0.510	18	--	8.72	18.9	< 0.0862	< 0.255	13.8	< 0.765	< 0.255	< 0.765 UJ	30.1	53.7
SB14-2	1/22/2019	2	< 0.735	< 0.735	145	0.835	< 0.490	19.1	--	7.94	20.2	< 0.0862	< 0.245	12.7	< 0.735	< 0.245	< 0.735 UJ	28.6	56.3

Table 7: Summary of Metal Soil Sampling Results
2101 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Title 22 Metals by USEPA Method 6010/7471A and Chromium VI by USEPA Method 7199/3060A (mg/kg)																
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Soil Target Levels			**140**	**12**	**17,000**	**30**	**33**	**21,000**	**3.9**	**68**	**3,500**	**4.4**	**1,800**	**780**	**1,700**	**1,800**	**12**	**390**	**110,000**
SB14-5	1/22/2019	5	< 0.728	< 0.728	177	0.899	< 0.485	19.3	--	8.43	19.9	< 0.0862	< 0.243	14.7	< 0.728	< 0.243	< 0.728 UJ	30.0	60.9
SB15-2	1/22/2019	2	< 0.785	< 0.785	107	0.582	< 0.524	14.4	--	5.75	8.37	< 0.0833	< 0.262	8.73	< 0.785	< 0.262	< 0.785	19.3	36.5
SB15-5	1/22/2019	5	< 0.758	1.11	127	0.493	1.06	26.8	--	7.28	27.5	< 0.0877	1.10	19.0	< 0.758	< 0.253	< 0.758	24.2	105
SB16-3	1/22/2019	3	< 0.714	10.3	179	1.1	17.3	195	--	11.7	**4,000**	1.89	20.3	244	< 0.714	3.75	< 0.714	27.7	3110
SB16-5	1/22/2019	5	< 0.746	< 0.746	135	0.84	< 0.498	17.1	--	7.36	16.8	< 0.0833	< 0.249	12.9	< 0.746	< 0.249	< 0.746	24.8	52.1
DUP2	1/22/2019	5	< 0.765	< 0.765	100	0.698	< 0.510	13.3	--	6.13	14.2	< 0.0806	< 0.255	11.1	< 0.765	< 0.255	< 0.765	18.5	42.3
SB17-2	1/22/2019	2	< 0.743	< 0.743	123	0.673	< 0.495	14.8	--	7.77	14.5	< 0.0820	< 0.248	11.3	< 0.743	< 0.248	< 0.743	25.8	48.4
SB17-5	1/22/2019	5	< 0.746	8.26	179	0.808	3.62	85.8	--	12.9	88.4	< 0.0862	11.1	47.9	< 0.746	< 0.249	< 0.746	29.6	175
SB18-2	1/22/2019	2	< 0.785	3.63	99.9	0.494	0.706	17.7	--	6.86	69.7	< 0.0833	0.856	16.3	< 0.785	< 0.262	< 0.785	24.6	91.1
SB18-5	1/22/2019	5	< 0.777	< 0.777	124	0.499	< 0.518	12.7	--	7.43	16.1	< 0.0820	< 0.259	11.2	< 0.777	< 0.259	< 0.777	26.8	50.2
SB19-2	1/23/2019	2	< 0.721	< 0.721	143	0.657	0.871	21.1	--	8.07	136	0.272	< 0.240	17.2	< 0.721	< 0.240	< 0.721	29.2	141
SB19-5	1/23/2019	5	< 0.714	< 0.714	132	0.780	1.04	20.7	--	7.43	23.2	< 0.0833	< 0.238	15.5	< 0.714	< 0.238	< 0.714	39.1	77.6
SB20-2	1/23/2019	2	61.7	1.78	160	0.909	8.94	21.8	--	8.02	49.7	0.170	1.21	19.2	< 0.773	< 0.258	< 0.773	29.2	177
SB20-5	1/23/2019	5	< 0.761	< 0.761	92.8	0.654	4.92	19.6	--	8.68	91.2	< 0.0820	0.796	19.2	< 0.761	< 0.254	< 0.761	27.9	79.8
SB21-0.5	1/23/2019	0.5	< 0.750	< 0.750	128	0.569	1.46	17.2	--	9.85	24.3	0.268	0.488	15.9	< 0.750	< 0.250	< 0.750	24.2	53.4
SB21-2	1/23/2019	2	--	--	--	--	--	--	0.51	--	--	--	--	--	--	--	--	--	--
SB21-5	1/23/2019	5	< 0.769	< 0.769	123	1.04	1.07	28.5	0.67 J	8.07	42.7	< 0.0833	< 0.256	18.2	< 0.769	< 0.256	< 0.769	32.8	80.9
SB22-2	1/23/2019	2	< 0.773	< 0.773	129	0.789	0.891	19.1	< 0.40	8.32	34.3	< 0.0877	< 0.258	15.6	< 0.773	< 0.258	< 0.773	23.4	79.7
SB22-4.5	1/23/2019	4.5	< 0.769	< 0.769	209	1.05	< 0.513	70.9	--	10.5	30.3	< 0.0862	0.479	41.8	< 0.769	< 0.256	< 0.769	36.9	73.9
SB23-2	1/23/2019	2	< 0.758	**19.5**	183	0.786	2.15	32.6	1.3 J	11.8	894	< 0.0833	0.827	32.3	< 0.758	< 0.253	< 0.758	38.1	289
SB23-5	1/23/2019	5	< 0.743	1.55	203	0.839	0.556	17.8	0.41 J	20.4	17.8	< 0.0820	0.299	20.6	< 0.743	< 0.248	< 0.743	35.2	52.1
SB24-2	1/23/2019	2	2.32	9.58	233	0.623	3.82	56.5	0.96	10.3	779	0.348	10.5	97.4	< 0.761	6.04	< 0.761	30.7	400
SB24-4.5	1/23/2019	4.5	< 0.714	< 0.714	162	0.888	0.927	33.3	0.46	7.95	142	< 0.0847	1.24	24.9	< 0.714	< 0.238	< 0.714	29.0	169
SB25-2	1/23/2019	2	< 0.714	< 0.714	159	0.796	< 0.476	24.3	--	7.17	69.7	< 0.0794	0.443	20.1	< 0.714	< 0.238	< 0.714	26.2	86.6
SB25-5	1/23/2019	5	< 0.785	*< 0.785*	95.9	0.514	< 0.524	12.0	--	13.1	16.1	< 0.0806	0.553	14.0	< 0.785	< 0.262	< 0.785	20.6	41.2
SB26-2	1/23/2019	2	< 0.769	< 0.769	124	0.692	1.25	24.5	--	7.33	46.9	< 0.0806	4.15	21.2	< 0.769	< 0.256	< 0.769	26.2	76.0
DUP3	1/23/2019	2	< 0.743	< 0.743	146	0.780	< 0.495	17.9	--	7.08	16.5	< 0.0820	< 0.248	12.9	< 0.743	< 0.248	< 0.743	26.9	45.5
SB26-5	1/23/2019	5	< 0.718	0.826	140	0.814	0.632	19.4	--	11.9	20.3	< 0.0877	< 0.239	18.6	< 0.718	< 0.239	< 0.718	35.0	55.9
SB27-0.5	1/23/2019	0.5	< 0.728	< 0.728	147	0.692	3.95	46.3	--	11.6	138	< 0.0862	3.69	39.4	< 0.728	< 0.243	< 0.728	30.7	389
SB27-5	1/23/2019	5	< 0.765	**12.2**	527	0.931	1.04	18.7	--	32.7	24.3	< 0.0862	0.851	20.9	< 0.765	< 0.255	< 0.765	40.6	70.3
SB28-2	1/23/2019	2	< 0.781	< 0.781	137	0.662	14.3	19.1	--	8.39	51.3	< 0.0877	< 0.260	16.3	< 0.781	< 0.260	< 0.781	30.4	89.9

Table 7: Summary of Metal Soil Sampling Results
2101 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Title 22 Metals by USEPA Method 6010/7471A and Chromium VI by USEPA Method 7199/3060A (mg/kg)																
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Soil Target Levels			**140**	**12**	**17,000**	**30**	**33**	**21,000**	**3.9**	**68**	**3,500**	**4.4**	**1,800**	**780**	**1,700**	**1,800**	**12**	**390**	**110,000**
SB28-5	1/23/2019	5	< 0.754	< 0.754	118	0.855	< 0.503	19.5	--	8.47	17.5	< 0.0794	< 0.251	15.2	< 0.754	< 0.251	< 0.754	40.6	48.0
SB29-2	1/24/2019	2	< 0.765	< 0.765	177	0.772	< 0.510	13.6	--	9.07	14.8	< 0.0877	< 0.255	12.7	< 0.765	< 0.255	< 0.765	20.0	37.3
SB29-5	1/24/2019	5	< 0.761	< 0.761	88.2	0.765	< 0.508	17.5	--	10.0	18.7	< 0.0847	< 0.254	15.3	< 0.761	< 0.254	< 0.761	31.0	51.8
SB30-2	1/23/2019	2	< 0.746	< 0.746	182	0.671	< 0.498	15.0	--	8.24	14.9	< 0.0833	< 0.249	13.1	< 0.746	< 0.249	< 0.746	25.3	38.6
SB30-5	1/23/2019	5	< 0.721	< 0.721	155	0.671	< 0.481	20.5	--	8.98	17.3	< 0.0794	< 0.240	15.0	< 0.721	< 0.240	< 0.721	27.5	62.8
SB32-6	3/4/2019	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB35-6	3/5/2019	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB36-6	3/5/2019	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB38-6	3/5/2019	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB43-6	3/5/2019	6	--	--	--	--	--	--	<0.4	--	--	--	--	--	--	--	--	--	--
SB46-3	3/11/2019	3	--	--	--	--	--	--	--	7.75	--	--	--	--	--	--	--	--	--
SB47-4	3/4/2019	4	--	--	--	--	--	--	0.65 J	6.79	--	--	--	--	--	--	--	--	--
SB47-5	3/4/2019	5	--	--	--	--	--	--	<0.4	--	--	--	--	--	--	--	--	--	--
SB48-6	3/4/2019	6	--	--	--	--	--	--	<0.4 UJ	--	--	--	--	--	--	--	--	--	--
SB50-11	3/11/2019	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB51-2	3/4/2019	2	<0.743	3.98	144	0.747	**36.3**	49.4	--	11.3	2,020	0.375	17.1	390	<0.743	1.22	0.794	16.4	468
SB51-4	3/4/2019	4	--	--	--	--	--	--	--	10.2	--	--	--	--	--	--	<0.746	--	--
SB56-2	3/5/2019	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB56-10	3/5/2019	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB57-2	3/5/2019	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB57-10	3/5/2019	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB58-2	3/5/2019	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB58-10	3/5/2019	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fulcrum																			
SB1-10	10/31/2017	10	<0.5	1.17	54.7	<0.5	0.666	11.4	--	6.57	12	<0.05	<0.5	7.07	<0.5	<0.5	<0.5	30.6	34.8
SB2-10	10/31/2017	10	<0.5	1.09	56.4	<0.5	0.698	11.8	--	8.48	13.5	<0.05	<0.5	8.88	<0.5	<0.5	<0.5	30.4	36.7
SB3-3	10/31/2017	3	<0.5	0.722	102	0.502	0.849	14.8	--	7.29	13.5	<0.05	<0.5	10.5	<0.5	<0.5	<0.5	22.4	87.8
SB4-3	10/31/2017	3	<0.5	0.942	146	<0.5	0.731	11	--	8.77	16.5	<0.05	<0.5	15.9	<0.5	<0.5	<0.5	23.6	41.3
SB5-3	10/31/2017	3	<0.5	1.38	157	0.589	1.04	20	--	8.41	18.7	<0.05	<0.5	12.3	<0.5	<0.5	<0.5	35.2	57.6
SB7-3	10/31/2017	3	<0.5	1.45	141	<0.5	1.5	23.4	--	7.69	18.7	0.0765	4.81	13.7	<0.5	<0.5	<0.5	28.8	47.7
SB8-3	10/31/2017	3	<0.5	0.558	156	0.593	0.971	20	--	8.2	17.4	<0.05	<0.5	12.2	<0.5	<0.5	<0.5	34.3	48.8
SB12-10	10/31/2017	10	<0.5	0.86	47.8	<0.5	0.677	14.9	--	6.26	12.5	<0.05	<0.5	8.61	<0.5	<0.5	<0.5	33.1	38.5
SB13-10	10/31/2017	10	<0.5	0.781	38	<0.5	0.502	11.6	--	5.87	8.05	<0.05	<0.5	6.72	<0.5	<0.5	<0.5	26.6	29.1
SB22-3	10/31/2017	3	3.72	3.26	187	0.701	**37.3**	653	1.5	18	962	0.575	16.2	**799**	<0.5	<0.5	<0.5	56	785
SB22-5	10/31/2017	5	<0.5	0.964	74.3	0.686	1.04	25.5	<0.5	6.68	23.4	<0.05	0.542	16	<0.5	<0.5	<0.5	28.5	66.6

Table 7: Summary of Metal Soil Sampling Results
2101 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Title 22 Metals by USEPA Method 6010/7471A and Chromium VI by USEPA Method 7199/3060A (mg/kg)																
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Soil Target Levels			**140**	**12**	**17,000**	**30**	**33**	**21,000**	**3.9**	**68**	**3,500**	**4.4**	**1,800**	**780**	**1,700**	**1,800**	**12**	**390**	**110,000**
SB22-10	10/31/2017	10	0.578	2.13	90.1	<0.5	0.999	15	<0.5	13	14.6	0.893	<0.5	9.49	<0.5	<0.5	<0.5	31	37.6
SB23-3	10/31/2017	3	<0.5	4.87	309	0.55	1.92	24.7	--	25.5	29	0.898	<0.5	25.2	<0.5	<0.5	<0.5	41.6	60.4
SB24-3	10/31/2017	3	<0.5	2.77	485	0.519	1.59	17.5	--	17.3	16	<0.05	0.724	12.4	<0.5	<0.5	<0.5	32.1	55.3
SB26-1	10/24/2018	1	<0.5	0.533	94.8	0.659	1.26	20.4	--	6.6	17.2	<0.5	<0.5	12.4	<0.5	<0.5	<0.5	38.5	51.5
SB26-2.5	10/24/2018	2.5	<0.5	1.21	146	0.633	1.18	19.5	--	13.6	32.2	<0.5	<0.5	13.4	<0.5	<0.5	<0.5	36.6	50.2
SB26-5	10/24/2018	5	--	--	--	--	--	19.9	--	--	13.6	--	--	--	--	--	--	--	--
SB27-1	10/24/2018	1	<0.5	0.944	125	<0.5	0.985	18.2	--	6.05	13.5	<0.5	<0.5	10.4	<0.5	<0.5	<0.5	34.5	37.4
SB27-2.5	10/24/2018	2.5	<0.5	1.04	112	0.575	1.14	20.7	--	6.91	15.5	<0.5	<0.5	12.1	<0.5	<0.5	<0.5	38.5	43.7
SB27-5	10/24/2018	5	--	--	--	--	--	19.4	--	--	17.3	--	--	--	--	--	--	--	--
SB28-1	10/24/2018	1	<0.5	0.762	122	<0.5	1.74	23	--	6.96	35.8	0.105	<0.5	14.9	<0.5	<0.5	<0.5	36.2	88.3
SB28-2.5	10/24/2018	2.5	<0.5	0.796	93.2	<0.5	0.989	17.1	--	5.35	14.6	<0.5	<0.5	9.97	<0.5	<0.5	<0.5	35.6	43.1
SB28-5	10/24/2018	5	--	--	--	--	--	12	--	--	9.18	--	--	--	--	--	--	--	--
SB29-1	10/24/2018	1	<0.5	1.53	<0.5	<0.5	0.577	9.76	--	3.63	12.8	<0.5	0.831	13.2	<0.5	<0.5	<0.5	32.5	28.9
SB29-3	10/24/2018	3	<0.5	1.77	128	<0.5	2.24	21.2	--	9.04	30.5	0.0585	<0.5	15.5	<0.5	<0.5	<0.5	42.5	91.8
SB29-5	10/24/2018	5	--	--	--	--	--	16.6	--	--	15.9	--	--	--	--	--	--	--	--
SB30-1	10/24/2018	1	<0.5	1.05	102	0.514	1.87	41.3	--	7.56	21.5	0.0666	<0.5	16.2	<0.5	<0.5	<0.5	48.2	93.2
SB30-2.5	10/24/2018	2.5	<0.5	2.01	102	<0.5	2.06	24.4	--	8.03	36.5	0.114	4.74	18.2	<0.5	<0.5	<0.5	35.8	179
SB30-5	10/24/2018	5	--	--	--	--	--	16.3	--	--	13.9	--	--	--	--	--	--	--	--
SB31-1	10/24/2018	1	1.36	6.25	105	<0.5	22.7	149	<0.5	17.3	509	0.407	15.3	178	<0.5	<0.5	<0.5	43.1	500
SB31-2.5	10/24/2018	2.5	<0.5	1.32	139	<0.5	1.24	18.9	--	6.96	21.1	<0.5	<0.5	11.3	<0.5	<0.5	<0.5	41.3	56.5
SB31-5	10/24/2018	5	--	--	--	--	--	22.8	--	--	17.8	--	--	--	--	--	--	--	--
SB32-1	10/24/2018	1	0.888	1.64	133	<0.5	2.66	30.5	--	7.84	48.6	0.0603	0.916	19.6	<0.5	<0.5	<0.5	40.9	209
SB32-2.5	10/24/2018	2.5	0.993	2.79	124	<0.5	3.78	110	<0.5	9.5	84.6	0.103	24.7	164	<0.5	<0.5	<0.5	41.2	276
SB32-5	10/24/2018	5	--	--	--	--	--	30.2	--	--	28.3	--	--	--	--	--	--	--	--
SB33-1	10/24/2018	1	<0.5	5.51	115	<0.5	1.74	66.6	--	8.07	39.2	0.131	1.39	40	<0.5	<0.5	<0.5	34.2	83.2
SB33-2.5	10/24/2018	2.5	0.51	0.674	120	<0.5	1.18	19.6	--	6	16.3	<0.5	<0.5	11.8	<0.5	<0.5	<0.5	30.6	49.5
SB33-5	10/24/2018	5	--	--	--	--	--	1470	--	--	1,000	--	--	--	--	--	--	--	--
SB34-1	10/25/2018	1	<0.5	0.811	102	<0.5	0.718	31.7	--	5.36	13.2	<0.5	<0.5	10.3	<0.5	<0.5	<0.5	25.6	40.7
SB34-2.5	10/25/2018	2.5	<0.5	1.56	113	<0.5	1	19.5	--	5.85	18.9	<0.5	0.82	11.5	<0.5	<0.5	<0.5	33.2	46.3
SB34-5	10/25/2018	5	--	--	--	--	--	29.8	--	--	25.2	--	--	--	--	--	--	--	--
SB35-1	10/25/2018	1	<0.5	1.23	53.4	<0.5	<0.5	9.11	--	3.36	7.14	<0.5	<0.5	5.67	<0.5	<0.5	<0.5	18.3	33.6
SB35-2.5	10/25/2018	2.5	1.87	1.97	105	<0.5	2.87	60.4	<0.5	7.3	141	0.775	2.95	44	<0.5	<0.5	<0.5	30.2	233
SB35-5	10/25/2018	5	--	--	--	--	--	27.1	--	--	53.5	--	--	--	--	--	--	--	--
SB36-1	10/25/2018	1	0.564	2.76	268	0.513	9.96	38	--	13.2	856	0.146	4.63	44.7	0.596	<0.5	<0.5	44.4	433
SB36-2.5	10/25/2018	2.5	<0.5	0.426	73.1	<0.5	0.798	11.1	--	5.72	10.5	<0.5	<0.5	7.32	<0.5	<0.5	<0.5	31.9	33.6

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Gardena, California

Sample ID	Date	Depth (ft bgs)	Title 22 Metals by USEPA Method 6010/7471A and Chromium VI by USEPA Method 7199/3060A (mg/kg)																
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Soil Target Levels			**140**	**12**	**17,000**	**30**	**33**	**21,000**	**3.9**	**68**	**3,500**	**4.4**	**1,800**	**780**	**1,700**	**1,800**	**12**	**390**	**110,000**
SB36-5	10/25/2018	5	--	--	--	--	--	20.4	--	--	17.5	--	--	--	--	--	--	--	--
SB37-1	10/25/2018	1	4.03	1.82	153	<0.5	3.06	91.7	<0.5	5.15	107	0.0881	6.77	35.2	<0.5	<0.5	<0.5	22.8	213
SB37-2.5	10/25/2018	2.5	<0.5	0.52	83.3	<0.5	0.699	9.83	--	5.63	9.57	<0.5	<0.5	10.9	<0.5	<0.5	<0.5	29.3	112
SB37-5	10/25/2018	5	--	--	--	--	--	14.9	--	--	15.7	--	--	--	--	--	--	--	--
SB38-1	10/25/2018	1	<0.5	1.45	99.8	0.662	1.35	22.4	--	9.75	18.1	<0.5	<0.5	14.2	<0.5	<0.5	<0.5	39.2	57.2
SB38-2.5	10/25/2018	2.5	<0.5	1.24	184	0.664	1.38	22.1	--	7.71	18	<0.5	<0.5	12.6	<0.5	<0.5	<0.5	38.3	56.7
SB38-5	10/25/2018	5	--	--	--	--	--	15.4	--	--	14.2	--	--	--	--	--	--	--	--
SB39-1	10/25/2018	1	0.684	1.63	92.7	<0.5	3.43	36.2	<0.5	8.2	137	0.189	3.94	30.2	<0.5	<0.5	<0.5	36.4	163
SB39-2.5	10/25/2018	2.5	<0.5	1.66	124	0.508	1.14	20.5	<0.5	7.95	15.3	<0.5	<0.5	11.9	<0.5	<0.5	<0.5	35.5	44.9
SB39-5	10/25/2018	5	--	--	--	--	--	17.2	--	--	14.9	--	--	--	--	--	--	--	--
SB40-1	10/25/2018	1	<0.5	1.14	146	0.684	1.56	24	--	10.7	23.7	<0.5	<0.5	19.2	<0.5	<0.5	<0.5	37.1	60.2
SB40-2.5	10/25/2018	2.5	<0.5	1.05	154	0.642	1.54	23.6	--	10.3	20.9	<0.5	<0.5	16.4	<0.5	<0.5	<0.5	38.8	56.6
SB40-5	10/25/2018	5	--	--	--	--	--	13.3	--	--	15.8	--	--	--	--	--	--	--	--
SB41-1	10/25/2018	1	<0.5	0.663	154	0.613	1.13	21.1	--	6.6	17.4	<0.5	<0.5	11.2	<0.5	<0.5	<0.5	34.3	52.1
SB41-2.5	10/25/2018	2.5	0.824	0.744	76.9	<0.5	0.67	12.6	--	4.4	11.2	<0.5	<0.5	7.29	<0.5	<0.5	<0.5	23.1	33.6
SB41-5	10/25/2018	5	--	--	--	--	--	11.2	--	--	11.3	--	--	--	--	--	--	--	--
SB42-1	10/25/2018	1	12.2	7.25	299	<0.5	27.4	306	**15.3**	21.1	520	1.96	57.3	**1,070**	<0.5	1.23	<0.5	40.7	1,450
SB42-2.5	10/25/2018	2.5	1.58	**14.1**	138	<0.5	11.6	84.5	**14.3**	32.6	275	0.199	21.5	135	<0.5	<0.5	<0.5	17.8	1,690
SB42-5	10/25/2018	5	--	--	--	--	--	15.2	--	--	12.4	--	--	--	--	--	--	--	--
SB43-1	10/25/2018	1	<0.5	0.739	159	0.64	2.87	26.1	--	5.93	53.6	<0.5	0.732	11	<0.5	<0.5	<0.5	28.3	126
SB43-2.5	10/25/2018	2.5	<0.5	3.77	254	0.693	2.32	22.4	--	13.9	27.5	<0.5	<0.5	14.1	<0.5	<0.5	<0.5	44.8	77.7
SB43-5	10/25/2018	5	--	--	--	--	--	11.2	--	--	18.5	--	--	--	--	--	--	--	--
SB44-1	10/25/2018	1	<0.5	0.391	91.2	<0.5	0.678	12.5	--	5.01	12.9	<0.5	<0.5	7.94	<0.5	<0.5	<0.5	21.6	38.7
SB44-2.5	10/25/2018	2.5	0.883	0.631	120	0.584	0.838	14.8	--	7.83	15.4	<0.5	<0.5	12	<0.5	<0.5	<0.5	26	43.7
SB44-5	10/25/2018	5	--	--	--	--	--	13.9	--	--	14.2	--	--	--	--	--	--	--	--
SB45-1	10/30/2018	1	<0.5	1.92	282	<0.5	2.55	25.5	--	7.88	167	0.336	4.39	17.8	<0.5	<0.5	<0.5	29.4	260
SB45-2.5	10/30/2018	2.5	5.4	1.33	148	<0.5	15.3	53.6	--	7.98	31.1	0.22	<0.5	14.6	2.71	<0.5	<0.5	30.4	130
SB45-5	10/30/2018	5	--	--	--	--	--	16.6	--	--	16	--	--	--	--	--	--	--	--
Leighton																			
LA-SB1-1	8/7/2018	1	2.1	1.1	110	< 1	4.8	54	--	7.1	100	< 0.1	2.7	54	< 1	< 1	< 1	21	220
LA-SB1-2.5	8/7/2018	2.5	12	**14**	130	< 1	14	170	--	16	820	0.7	18	140	1.1	< 1	< 1	22	810
LA-SB1-5	8/7/2018	5	< 2	2.4	210	< 1	< 1	20	--	12	24	< 0.1	< 1	15	1.3	< 1	< 1	48	57
LA-SB1-10	8/7/2018	10	< 2	1.5	50	< 1	< 1	10	--	6.1	14	< 0.1	< 1	9.5	< 1	< 1	< 1	30	40
LA-SB1-15	8/7/2018	15	< 2	< 1	66	< 1	< 1	15	--	7.6	14	< 0.1	< 1	10	< 1	< 1	< 1	32	44
LA-SB2-1	8/7/2018	1	< 2	< 1	100	< 1	1.8	54	--	7.8	53	< 0.1	1.4	21	< 1	< 1	< 1	31	100

Table 7: Summary of Metal Soil Sampling Results
2101 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Title 22 Metals by USEPA Method 6010/7471A and Chromium VI by USEPA Method 7199/3060A (mg/kg)																
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Soil Target Levels			**140**	**12**	**17,000**	**30**	**33**	**21,000**	**3.9**	**68**	**3,500**	**4.4**	**1,800**	**780**	**1,700**	**1,800**	**12**	**390**	**110,000**
LA-SB2-2.5	8/7/2018	2.5	< 2	1.3	150	< 1	< 1	21	--	10	27	< 0.1	< 1	16	< 1	< 1	< 1	35	45
LA-SB2-5	8/7/2018	5	< 2	< 1	180	< 1	< 1	19	--	9.7	17	< 0.1	< 1	14	< 1	< 1	< 1	38	51
LA-SB2-10	8/7/2018	10	< 2	< 1	45	< 1	< 1	10	--	5.4	10	< 0.1	< 1	6.9	1.2	< 1	< 1	30	29
LA-SB3-1	8/7/2018	1	< 2	1	40	< 1	< 1	8.7	--	4.6	9.2	< 0.1	< 1	14	< 1	< 1	< 1	23	19
LA-SB3-2.5	8/7/2018	2.5	< 2	2.9	130	< 1	2.7	66	--	8.5	91	0.26	1.6	46	< 1	< 1	< 1	31	210
LA-SB3-5	8/7/2018	5	< 2	< 1	110	< 1	< 1	19	--	8.4	16	< 0.1	< 1	13	< 1	< 1	< 1	37	50
LA-SB3-10	8/7/2018	10	< 2	< 1	80	< 1	< 1	15	--	8.5	13	< 0.1	< 1	11	< 1	< 1	< 1	35	42
LA-SB3-15	8/7/2018	15	< 2	< 1	130	< 1	< 1	18	--	10	17	< 0.1	< 1	13	< 1	< 1	< 1	37	50
LA-SB3-20	8/7/2018	20	< 2	< 1	120	< 1	< 1	22	--	13	30	< 0.1	< 1	20	1.4	< 1	< 1	43	67
LA-SB3-25	8/7/2018	25	< 2	1.1	120	< 1	< 1	19	--	10	22	< 0.1	< 1	15	< 1	< 1	< 1	41	48
LA-SB3-30	8/7/2018	30	< 2	1.4	75	< 1	< 1	11	--	7.3	12	< 0.1	< 1	11	< 1	< 1	< 1	30	36
LA-SB4-1	8/7/2018	1	14	< 1	240	< 1	< 1	1,100	--	7.5	66	< 0.1	1.3	19	13	< 1	< 1	**830**	190
LA-SB4-2.5	8/7/2018	2.5	< 2	1.9	100	< 1	8.8	110	--	12	460	1.2	14	94	1.8	< 1	< 1	28	300
LA-SB4-5	8/7/2018	5	< 2	< 1	130	< 1	< 1	32	--	9.3	59	< 0.1	< 1	18	1.2	< 1	< 1	36	130
LA-SB4-10	8/7/2018	10	< 2	< 1	56	< 1	< 1	12	--	6.6	11	< 0.1	< 1	9	< 1	< 1	< 1	22	37
LA-SB5-1	8/7/2018	1	< 2	< 1	110	< 1	3.1	27	--	8.5	89	< 0.1	1.7	35	< 1	< 1	< 1	28	390
LA-SB5-2.5	8/7/2018	2.5	< 2	< 1	73	< 1	< 1	19	--	6.8	14	< 0.1	< 1	11	< 1	< 1	< 1	33	43
LA-SB5-5	8/7/2018	5	< 2	< 1	73	< 1	< 1	16	--	6.2	13	< 0.1	< 1	10	< 1	< 1	< 1	37	38
LA-SB5-10	8/7/2018	10	< 2	2	57	< 1	< 1	15	--	8.2	15	0.57	< 1	10	1	< 1	< 1	43	40
LA-SB5-15	8/7/2018	15	< 2	1.1	43	< 1	< 1	12	--	6.4	12	< 0.1	< 1	8	1.1	< 1	< 1	31	35
LA-SB105-15 [2]	8/7/2018	15	< 2	< 1	48	< 1	< 1	14	--	7.3	12	< 0.1	< 1	9.2	< 1	< 1	< 1	29	35
LA-SB6-1	8/7/2018	1	< 2	< 1	100	< 1	< 1	18	--	8	18	< 0.1	< 1	13	< 1	< 1	< 1	33	160
LA-SB6-2.5	8/7/2018	2.5	< 2	< 1	94	< 1	1.8	18	--	8.6	24	< 0.1	< 1	18	< 1	< 1	< 1	33	110
LA-SB6-5	8/7/2018	5	< 2	< 1	140	< 1	1.1	20	--	7.3	18	< 0.1	< 1	14	< 1	< 1	< 1	32	60
LA-SB6-10	8/7/2018	10	< 2	< 1	420	< 1	< 1	16	--	5.2	13	0.12	< 1	8.4	< 1	< 1	< 1	30	35
LA-SB6-15	8/7/2018	15	< 2	< 1	66	< 1	< 1	20	--	8.3	20		< 1	13	< 1	< 1	< 1	35	50
LA-SB7-1	8/7/2018	1	4.8	< 1	140	< 1	3.8	190	--	11	600	0.53	19	180	< 1	< 1	< 1	32	440
LA-SB7-2.5	8/7/2018	2.5	< 2	< 1	110	< 1	< 1	18	--	7.8	17	< 0.1	< 1	13	< 1	< 1	< 1	29	48
LA-SB7-5	8/7/2018	5	< 2	2.1	180	< 1	< 1	13	--	14	13	< 0.1	< 1	13	1.5	< 1	< 1	30	42
LA-SB7-10	8/7/2018	10	< 2	< 1	61	< 1	< 1	13	--	9.7	12	< 0.1	< 1	11	1	< 1	< 1	30	39
LA-SB7-15	8/7/2018	15	< 2	< 1	67	< 1	< 1	17	--	10	19	< 0.1	< 1	12	1.1	< 1	< 1	37	50
LA-SB7-20	8/7/2018	20	< 2	2.4	110	< 1	< 1	21	--	11	24	< 0.1	< 1	17	< 1	< 1	< 1	43	53
LA-SB7-25	8/7/2018	25	< 2	1.5	74	< 1	< 1	11	--	7.3	12	< 0.1	< 1	11	< 1	< 1	< 1	27	34
LA-SB107-25 [2]	8/7/2018	25	< 2	1.4	71	< 1	< 1	9.9	--	6.4	11	< 0.1	< 1	10	< 1	< 1	< 1	25	32
LA-SB8-1	8/7/2018	1	16	< 1	310	< 1	9.7	710	--	17	490	< 0.1	12	380	2.6	< 1	< 1	45	1,000

Table 7: Summary of Metal Soil Sampling Results
2101 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Title 22 Metals by USEPA Method 6010/7471A and Chromium VI by USEPA Method 7199/3060A (mg/kg)															
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Cobalt	Copper	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Soil Target Levels			**140**	**12**	**17,000**	**30**	**33**	**21,000**	**3.9**	**68**	**3,500**	**4.4**	**1,800**	**780**	**1,700**	**1,800**	**12**	**390**	**110,000**
LA-SB8-2.5	8/7/2018	2.5	< 2	1.1	120	< 1	1.5	30	--	9.8	52	< 0.1	< 1	20	1	< 1	< 1	35	120
LA-SB8-5	8/7/2018	5	< 2	4.1	380	< 1	1.2	22	--	33	46	< 0.1	< 1	31	2	< 1	< 1	44	80
LA-SB108-5 (2)	8/7/2018	5	< 2	2.0	200	< 1	<1.0	150	--	18	27	< 0.1	< 1	230	1.5	< 1	< 1	35	59
LA-SB8-10	8/7/2018	10	< 2	< 1	130	< 1	< 1	19	--	12	22	< 0.1	< 1	15	1.3	< 1	< 1	39	58
LA-SB8-15	8/7/2018	15	< 2	< 1	150	< 1	1.2	32	--	10	56	0.1	< 1	22	< 1	< 1	< 1	28	110
LA-SB9-1	8/7/2018	1	20	3.7	190	< 1	29	160	--	14	1,900	0.65	12	110	3	< 1	< 1	49	2,800
LA-SB9-2.5	8/7/2018	2.5	6	1.5	100	< 1	1.6	47	--	8.5	110	0.12	< 1	23	< 1	< 1	< 1	32	270
LA-SB9-5	8/7/2018	5	< 2	2	180	< 1	1.7	72	--	16	85	< 0.1	9.7	27	< 1	< 1	< 1	36	180
LA-SB9-10	8/7/2018	10	12	2.6	200	< 1	15	190	--	19	930	0.59	19	230	1.4	< 1	< 1	41	1,200
LA-SB10-1	8/7/2018	1	4.2	2.2	540	< 1	3	91	--	8.1	3,100	0.57	20	130	1	< 1	< 1	19	310
LA-SB10-2.5	8/7/2018	2.5	35	< 1	110	< 1	8.9	2,200	--	43	280	0.68	300	**2,600**	< 1	< 1	< 1	31	490
LA-SB10-5	8/7/2018	5	21	< 1	460	< 1	< 1	1,800	--	35	59	< 0.1	130	**3,300**	1.2	< 1	< 1	68	70
LA-SB10-10	8/7/2018	10	< 2	1.9	270	< 1	< 1	23	--	26	25	< 0.1	< 1	29	1.3	< 1	< 1	29	54

Notes:
[1] - value based on study "Determination of a Southern California Regional Background Arsenic Concentration in soil" by DTSC
(2) - duplicate sample reported below its primary sample
DTSC - Toxic Substances Control Department
ft bgs - feet below ground surface
ID- identification
mg/kg - milligrams per kilogram
NE - not established
* - non-cancer endpoint value
-- - not analyzed
<X - concentration was not detected above the laboratory reporting limit
Duplicate sample is listed immediately below its respective primary sample result
Commercial zoning in italics
Result exceed the site specific soil target levels.
See table 10 and appendix A for additional details regarding the site specific soil target levels.
USEPA - United States Environmental Protection Agency

Table 8. Summary of Lead Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Lead (mg/kg)
Soil Target Levels			**320**
Ramboll			
SB1-2	1/29/2019	2	2.52
SB1-5	1/29/2019	5	1.53
SB2-2	1/22/2019	2	25.9
SB2-5	1/22/2019	5	3.98
SB3-2	1/29/2019	2	1.38
SB3-5	1/29/2019	5	4.13
SB4-2	1/24/2019	2	56.6
SB4-5	1/24/2019	5	4.21
SB5-2	1/22/2019	2	14.1
SB5-5	1/22/2019	5	23.1
SB6-2	1/24/2019	2	6.97
SB6-5	1/24/2019	5	< 0.508
SB7-0.5	1/24/2019	0.5	88.8
SB7-5	1/24/2019	5	7.13
SB8-0.5	1/24/2019	0.5	43.7
SB8-5	1/24/2019	5	1.27
SB9-2	1/22/2019	2	0.744
SB9-5	1/22/2019	5	140
SB10-2	1/22/2019	2	5.63
SB10-5	1/22/2019	5	2.03
SB11-2	1/22/2019	2	7.17
SB11-5	1/22/2019	5	175
SB12-2	1/24/2019	2	82.9
SB12-5	1/24/2019	5	< 0.500
SB13-2	1/22/2019	2	109
SB13-5	1/22/2019	5	0.936
DUP1	1/22/2019	5	0.760
SB14-2	1/22/2019	2	5.64
SB14-5	1/22/2019	5	3.47
SB15-2	1/22/2019	2	1.06
SB15-5	1/22/2019	5	79.6
SB16-3	1/22/2019	3	**401**
SB16-5	1/22/2019	5	< 0.498
DUP2	1/22/2019	5	1.56
SB17-2	1/22/2019	2	2.13
SB17-5	1/22/2019	5	180
SB18-2	1/22/2019	2	59.0
SB18-5	1/22/2019	5	12.6
SB19-2	1/23/2019	2	55.1
SB19-5	1/23/2019	5	31.5
SB20-2	1/23/2019	2	124
SB20-5	1/23/2019	5	23.3
SB21-0.5	1/23/2019	0.5	16.3
SB21-5	1/23/2019	5	7.05
SB22-2	1/23/2019	2	22.6
SB22-4.5	1/23/2019	4.5	5.87
SB23-2	1/23/2019	2	89.7
SB23-5	1/23/2019	5	< 0.495
SB24-2	1/23/2019	2	239
SB24-4.5	1/23/2019	4.5	34.6
SB25-2	1/23/2019	2	20.2
SB25-5	1/23/2019	5	< 0.524
SB26-2	1/23/2019	2	25.4
DUP3	1/23/2019	2	1.15
SB26-5	1/23/2019	5	0.949

Table 8. Summary of Lead Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Lead (mg/kg)
Soil Target Levels			**320**
SB27-0.5	1/23/2019	0.5	144
SB27-5	1/23/2019	5	3.83
SB28-2	1/23/2019	2	68.2
SB28-5	1/23/2019	5	1.72
SB29-2	1/24/2019	2	0.892
SB29-5	1/24/2019	5	< 0.508
SB30-2	1/23/2019	2	2.05
SB30-5	1/23/2019	5	11.9
SB32-6	3/4/2019	6	3.22
SB35-6	3/5/2019	6	2.27
SB36-6	3/5/2019	6	1.75
SB38-6	3/5/2019	6	1.14
SB50-11	3/11/2019	11	<0.510
SB51-2	3/4/2019	2	95.9
SB51-4	3/4/2019	4	7.96
SB56-2	3/5/2019	2	**352**
SB56-10	3/5/2019	10	<0.493
SB57-2	3/5/2019	2	188
SB57-10	3/5/2019	10	<0.495
SB58-2	3/5/2019	2	**389**
SB58-10	3/5/2019	10	<0.485
RMW-1	9/25/2019	2	4.19
RMW-1	9/25/2019	5	1.76
RMW-2	9/25/2019	2	133
RMW-2	9/25/2019	5	1.80
DUP01	9/25/2019	5	2.06
RMW-3	9/26/2019	2	**566**
RMW-3	9/26/2019	5	113
RMW-3	9/26/2019	10	< 0.508
RMW-4	9/27/2019	2	119
RMW-4	9/27/2019	5	0.511
RMW-4	9/27/2019	10	0.777 J
DUP03	9/27/2019	10	2.46 J
RMW-4	9/27/2019	15	3.17
RMW-4	9/27/2019	20	2.93
RMW-5	9/26/2019	2	10.2
RMW-5	9/26/2019	5	**430**
RMW-5	9/26/2019	10	< 0.505
RSB-59	10/7/2019	2	39.9
RSB-59	10/7/2019	5	4.37
RSB-59	10/7/2019	10	4.87
RSB-59	10/7/2019	12	4.71
RSB-60	10/7/2019	2	25.9
RSB-60	10/7/2019	5	4.38
RSB-60	10/7/2019	10	4.20
RSB-60	10/7/2019	12	6.37
RSB-61	10/7/2019	2	26.1
RSB-61	10/7/2019	5	4.68
RSB-61	10/7/2019	10	3.29
DUP13	10/7/2019	10	4.26
RSB-61	10/7/2019	12	8.08
RSB-62	10/7/2019	2	25.8
RSB-62	10/7/2019	5	6.21
RSB-62	10/7/2019	10	4.41 J
DUP11	10/7/2019	10	< 0.490 UJ
RSB-62	10/7/2019	12	6.23 J
DUP12	10/7/2019	12	< 0.503 UJ
RSB-63	10/7/2019	2	13.9
RSB-63	10/7/2019	5	5.98
RSB-63	10/7/2019	10	4.52
RSB-63	10/7/2019	12	0.528

Table 8. Summary of Lead Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Lead (mg/kg)
Soil Target Levels			**320**
Fulcrum			
SB1-10	10/31/2017	10	2.67
SB2-10	10/31/2017	10	2.53
SB3-3	10/31/2017	3	4.79
SB4-3	10/31/2017	3	16.1
SB5-3	10/31/2017	3	8.89
SB7-3	10/31/2017	3	10.2
SB8-3	10/31/2017	3	5.16
SB12-10	10/31/2017	10	2.96
SB13-10	10/31/2017	10	2.2
SB22-3	10/31/2017	3	**361**
SB22-5	10/31/2017	5	10.9
SB22-10	10/31/2017	10	14.4
SB23-3	10/31/2017	3	7.12
SB24-3	10/31/2017	3	4.2
SB26-1	10/24/2018	1	6.15
SB26-2.5	10/24/2018	2.5	5.67
SB26-5	10/24/2018	5	2.76
SB27-1	10/24/2018	1	3.39
SB27-2.5	10/24/2018	2.5	4.14
SB27-5	10/24/2018	5	3
SB28-1	10/24/2018	1	41.7
SB28-2.5	10/24/2018	2.5	3.74
SB28-5	10/24/2018	5	1.89
SB29-1	10/24/2018	1	7.28
SB29-3	10/24/2018	3	32.6
SB29-5	10/24/2018	5	19.9
SB30-1	10/24/2018	1	31.9
SB30-2.5	10/24/2018	2.5	74
SB30-5	10/24/2018	5	3.78
SB31-1	10/24/2018	1	121
SB31-2.5	10/24/2018	2.5	5.84
SB31-5	10/24/2018	5	4.48
SB32-1	10/24/2018	1	93.7
SB32-2.5	10/24/2018	2.5	119
SB32-5	10/24/2018	5	49.3
SB33-1	10/24/2018	1	30.5
SB33-2.5	10/24/2018	2.5	11.8
SB33-5	10/24/2018	5	183
SB34-1	10/25/2018	1	30.9
SB34-2.5	10/25/2018	2.5	14.3
SB34-5	10/25/2018	5	8.69
SB35-1	10/25/2018	1	19.7
SB35-2.5	10/25/2018	2.5	75.9
SB35-5	10/25/2018	5	20.7
SB36-1	10/25/2018	1	114
SB36-2.5	10/25/2018	2.5	2.69
SB36-5	10/25/2018	5	4.2
SB37-1	10/25/2018	1	118
SB37-2.5	10/25/2018	2.5	9.04
SB37-5	10/25/2018	5	3.75
SB38-1	10/25/2018	1	5.77
SB38-2.5	10/25/2018	2.5	4.75
SB38-5	10/25/2018	5	3.89
SB39-1	10/25/2018	1	91
SB39-2.5	10/25/2018	2.5	6.71
SB39-5	10/25/2018	5	3.56
SB40-1	10/25/2018	1	11.1
SB40-2.5	10/25/2018	2.5	8.36
SB40-5	10/25/2018	5	3.21
SB41-1	10/25/2018	1	4.64
SB41-2.5	10/25/2018	2.5	2.97
SB41-5	10/25/2018	5	2.52

Table 8. Summary of Lead Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Lead (mg/kg)
Soil Target Levels			**320**
SB42-1	10/25/2018	1	**569**
SB42-2.5	10/25/2018	2.5	174
SB42-5	10/25/2018	5	3.5
SB43-1	10/25/2018	1	16.7
SB43-2.5	10/25/2018	2.5	9.13
SB43-5	10/25/2018	5	4.02
SB44-1	10/25/2018	1	10.3
SB44-2.5	10/25/2018	2.5	8.24
SB44-5	10/25/2018	5	3.4
SB45-1	10/30/2018	1	156
SB45-2.5	10/30/2018	2.5	52.3
SB45-5	10/30/2018	5	5.01
Leighton			
LA-SB1-1	8/7/2018	1	**320**
LA-SB1-2.5	8/7/2018	2.5	**540**
LA-SB1-5	8/7/2018	5	8.3
LA-SB1-10	8/7/2018	10	2.1
LA-SB1-15	8/7/2018	15	1.9
LA-SB2-1	8/7/2018	1	100
LA-SB2-2.5	8/7/2018	2.5	6.8
LA-SB2-5	8/7/2018	5	5.6
LA-SB2-10	8/7/2018	10	1.5
LA-SB3-1	8/7/2018	1	1.4
LA-SB3-2.5	8/7/2018	2.5	90
LA-SB3-5	8/7/2018	5	8
LA-SB3-10	8/7/2018	10	2.1
LA-SB3-15	8/7/2018	15	2
LA-SB3-20	8/7/2018	20	5.6
LA-SB3-25	8/7/2018	25	2.4
LA-SB3-30	8/7/2018	30	1.9
LA-SB4-1	8/7/2018	1	70
LA-SB4-2.5	8/7/2018	2.5	130
LA-SB4-5	8/7/2018	5	94
LA-SB4-10	8/7/2018	10	1.8
LA-SB5-1	8/7/2018	1	37
LA-SB5-2.5	8/7/2018	2.5	2.5
LA-SB5-5	8/7/2018	5	2.3
LA-SB5-10	8/7/2018	10	2.9
LA-SB5-15	8/7/2018	15	1.9
LA-SB105-15 (1)	8/7/2018	15	2.3
LA-SB6-1	8/7/2018	1	19
LA-SB6-2.5	8/7/2018	2.5	46
LA-SB6-5	8/7/2018	5	12
LA-SB6-10	8/7/2018	10	1.3
LA-SB6-15	8/7/2018	15	2.7
LA-SB7-1	8/7/2018	1	210
LA-SB7-2.5	8/7/2018	2.5	4.1
LA-SB7-5	8/7/2018	5	2
LA-SB7-10	8/7/2018	10	2.4
LA-SB7-15	8/7/2018	15	2.3
LA-SB7-20	8/7/2018	20	2.3
LA-SB7-25	8/7/2018	25	1.6
LA-SB107-25 (1)	8/7/2018	25	1.3
LA-SB8-1	8/7/2018	1	**520**
LA-SB8-2.5	8/7/2018	2.5	10
LA-SB8-5	8/7/2018	5	5.4
LA-SB108-5 (1)	8/7/2018	5	3.9
LA-SB8-10	8/7/2018	10	4
LA-SB8-15	8/7/2018	15	17
LA-SB9-1	8/7/2018	1	**470**
LA-SB9-2.5	8/7/2018	2.5	130
LA-SB9-5	8/7/2018	5	32
LA-SB9-10	8/7/2018	10	**960**

Table 8. Summary of Lead Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Lead (mg/kg)
Soil Target Levels			**320**
LA-SB10-1	8/7/2018	1	120
LA-SB10-2.5	8/7/2018	2.5	240
LA-SB10-5	8/7/2018	5	14
LA-SB10-10	8/7/2018	10	7.3

Notes:
(1) - duplicate sample reported below its primary sample
* - non-cancer end point value
-- - not analyzed
<X - concentration was not detected above the laboratory reporting limit
Commercial zoning in italics
DTSC - Toxic Substances Control Department
Duplicate sample is listed immediately below its respective primary sample result
ft bgs - feet below ground surface
ID - identification
mg/kg - milligrams per kilogram
Result exceeds the site specific soil target level
See table 10 and appendix A for additional details regarding the site specific soil target levels.
USEPA - United States Environmental Protection Agency

Table 9. Summary of VOC Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

				Benzene	Toluene	Ethyl Benzene	m,p-xylene	MTBE	ortho-xylene	Acetone	Bromoform	Chloroethane	Chloromethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	2-Butanone	1,2,4-Trichlorobenzene	Isopropylbenzene	Methylene Chloride	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene
Soil Target Levels				**1,400**	**5,300,000**	**25,000**	**2,400,000**	**210,000**	**2,800,000**	**670,000,000**	**86,000**	**57,000,000**	**460,000**	**16,000**	**84,000**	**2,700**	**6,000**	**150**	**190,000,000**	**35,000**	**9,900,000**	**26,000**	**18,000,000**	**24,000,000**	**12,000,000**
Sample ID	**Date**	**Depth**	**USEPA Method**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**ug/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
Ramboll																									
RMW-1	9/25/2019	2	5035/8260B	< 0.74	< 0.74	< 0.74	< 1.5	< 1.5	< 0.74	< 37	< 3.7	< 1.5	< 15	< 0.74	< 0.74	< 0.74	< 1.5	< 0.74	< 15	< 1.5	< 0.74	< 7.4	< 0.74	< 1.5	< 0.74
RMW-1	9/25/2019	5	5035/8260B	< 0.67	< 0.67	< 0.67	< 1.3	< 1.3	< 0.67	< 33	< 3.3	< 1.3	< 13	< 0.67	**1.2**	< 0.67	< 1.3	< 0.67	< 13	< 1.3	< 0.67	< 6.7	< 0.67	< 1.3	< 0.67
RMW-1	9/25/2019	10	5035/8260B	< 0.76	< 0.76	< 0.76	< 1.5	< 1.5	< 0.76	< 38	< 3.8	< 1.5	< 15	< 0.76	< 0.76	**2.0**	< 1.5	< 0.76	< 15	< 1.5	< 0.76	< 7.6	< 0.76	< 1.5	< 0.76
RMW-1	9/25/2019	15	5035/8260B	< 0.72	< 0.72	< 0.72	< 1.4	< 1.4	< 0.72	< 36	< 3.6	< 1.4	< 14	< 0.72	< 0.72	**0.89**	< 1.4	< 0.72	< 14	< 1.4	< 0.72	< 7.2	< 0.72	< 1.4	< 0.72
RMW-1	9/25/2019	20	5035/8260B	< 0.84	< 0.84	< 0.84	< 1.7	< 1.7	< 0.84	< 42	< 4.2	< 1.7	< 17	< 0.84	< 0.84	**46**	< 1.7	< 0.84	< 17	< 1.7	< 0.84	< 8.4	< 0.84	< 1.7	< 0.84
RMW-2	9/25/2019	2	5035/8260B	< 0.84	< 0.84	< 0.84	< 1.7	< 1.7	< 0.84	< 42	< 4.2	< 1.7	< 17	< 0.84	< 0.84	< 0.84	< 1.7	< 0.84	< 17	< 1.7	< 0.84	< 8.4	< 0.84	< 1.7	< 0.84
RMW-2	9/25/2019	5	5035/8260B	< 0.66	< 0.66	< 0.66	< 1.3	< 1.3	< 0.66	< 33	< 3.3	< 1.3	< 13	< 0.66	< 0.66	**3.1**	**1.8**	< 0.66	< 13	< 1.3	< 0.66	< 6.6	< 0.66	< 1.3	< 0.66
DUP01	9/25/2019	5	5035/8260B	< 0.66	< 0.66	< 0.66	< 1.3	< 1.3	< 0.66	< 33	< 3.3	< 1.3	< 13	< 0.66	< 0.66	**4.0**	**1.9**	< 0.66	< 13	< 1.3	< 0.66	< 6.6	< 0.66	< 1.3	< 0.66
RMW-2	9/25/2019	10	5035/8260B	< 0.74	< 0.74	< 0.74	< 1.5	< 1.5	< 0.74	< 37	< 3.7	< 1.5	< 15	< 0.74	< 0.74	< 0.74	< 1.5	< 0.74	< 15	< 1.5	< 0.74	< 7.4	< 0.74	< 1.5	< 0.74
RMW-2	9/25/2019	15	5035/8260B	< 0.72	< 0.72	< 0.72	< 1.4	< 1.4	< 0.72	< 36	< 3.6	< 1.4	< 14	< 0.72	< 0.72	**1.6**	< 1.4	< 0.72	< 14	< 1.4	< 0.72	< 7.2	< 0.72	< 1.4	< 0.72
RMW-2	9/25/2019	20	5035/8260B	< 0.66	< 0.66	< 0.66	< 1.3	< 1.3	< 0.66	< 33	**7.6**	< 1.3	< 13	< 0.66	< 0.66	**9.2**	< 1.3	< 0.66	< 13	< 1.3	< 0.66	< 6.6	< 0.66	< 1.3	< 0.66
RMW-3	9/26/2019	2	5035/8260B	< 0.66	< 0.66	< 0.66	< 1.3	< 1.3	< 0.66	< 33	< 3.3	< 1.3	< 13	< 0.66	< 0.66	**1.2**	< 1.3	< 0.66	< 13	< 1.3	< 0.66	< 6.6	< 0.66	< 1.3	< 0.66
RMW-3	9/26/2019	5	5035/8260B	< 0.84	< 0.84	< 0.84	< 1.7	< 1.7	< 0.84	< 42	< 4.2	< 1.7	< 17	< 0.84	< 0.84	< 0.84	< 1.7	< 0.84	< 17	< 1.7	< 0.84	< 8.4	< 0.84	< 1.7	< 0.84
DUP02	9/26/2019	10	5035/8260B	< 0.76	< 0.76	< 0.76	< 1.5	< 1.5	< 0.76	< 38	< 3.8	< 1.5	< 15	< 0.76	< 0.76	< 0.76	< 1.5	< 0.76	< 15	< 1.5	< 0.76	< 7.6	< 0.76	< 1.5	< 0.76
RMW-3	9/26/2019	10	5035/8260B	< 0.84	< 0.84	< 0.84	< 1.7	< 1.7	< 0.84	< 42	< 4.2	< 1.7	< 17	< 0.84	< 0.84	< 0.84	< 1.7	< 0.84	< 17	< 1.7	< 0.84	< 8.4	< 0.84	< 1.7	< 0.84
RMW-3	9/26/2019	15	5035/8260B	< 0.68	< 0.68	< 0.68	< 1.4	< 1.4	< 0.68	< 34	< 3.4	< 1.4	< 14	< 0.68	< 0.68	**0.83**	< 1.4	< 0.68	< 14	< 1.4	< 0.68	< 6.8	< 0.68	< 1.4	< 0.68
RMW-3	9/26/2019	20	5035/8260B	< 0.74	< 0.74	< 0.74	< 1.5	< 1.5	< 0.74	< 37	< 3.7	< 1.5	< 15	< 0.74	< 0.74	**0.94**	< 1.5	< 0.74	< 15	< 1.5	< 0.74	< 7.4	< 0.74	< 1.5	< 0.74
RMW-4	9/27/2019	2	5035/8260B	< 0.78	< 0.78	< 0.78	< 1.6	< 1.6	< 0.78	**44**	< 3.9	< 1.6	< 16	< 0.78	< 0.78	< 0.78	**3.7**	< 0.78	< 16	< 1.6	< 0.78	< 7.8	< 0.78	< 1.6	< 0.78
RMW-4	9/27/2019	5	5035/8260B	< 0.76	< 0.76	< 0.76	< 1.5	< 1.5	< 0.76	< 38	< 3.8	< 1.5	< 15	< 0.76	< 0.76	< 0.76	**1.9**	< 0.76	< 15	< 1.5	< 0.76	< 7.6	< 0.76	< 1.5	< 0.76
RMW-4	9/27/2019	10	5035/8260B	< 1.0	< 1.0	< 1.0	< 2.1	< 2.1	< 1.0	< 52	< 5.2	< 2.1	< 21	< 1.0	< 1.0	< 1.0	< 2.1	< 1.0	< 21	< 2.1	< 1.0	< 10	< 1.0	< 2.1	< 1.0
DUP03	9/27/2019	10	5035/8260B	< 0.85	< 0.85	< 0.85	< 1.7	< 1.7	< 0.85	**43**	< 4.3	< 1.7	< 17	< 0.85	< 0.85	< 0.85	< 1.7	< 0.85	< 17	< 1.7	< 0.85	< 8.5	< 0.85	< 1.7	< 0.85
RMW-4	9/27/2019	15	5035/8260B	< 0.77	< 0.77	< 0.77	< 1.5	< 1.5	< 0.77	< 39	< 3.9	< 1.5	< 15	**4.3**	**5.5**	< 0.77	**22**	< 0.77	< 15	< 1.5	< 0.77	< 7.7	< 0.77	< 1.5	< 0.77
RMW-4	9/27/2019	20	5035/8260B	< 0.78	< 0.78	< 0.78	< 1.6	< 1.6	< 0.78	< 39	< 3.9	< 1.6	< 16	**2.8**	**3.6**	< 0.78	**13**	< 0.78	< 16	< 1.6	< 0.78	< 7.8	< 0.78	< 1.6	< 0.78
RMW-5	9/26/2019	2	5035/8260B	< 0.85	< 0.85	< 0.85	< 1.7	< 1.7	< 0.85	**66**	< 4.2	< 1.7	< 17	< 0.85	< 0.85	< 0.85	< 1.7	< 0.85	< 17	< 1.7	< 0.85	< 8.5	< 0.85	< 1.7	< 0.85
RMW-5	9/26/2019	5	5035/8260B	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	**53**	< 5.1	< 2.0	< 20	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 20	< 2.0	< 1.0	< 10	< 1.0	< 2.0	< 1.0
RMW-5	9/26/2019	10	5035/8260B	< 0.82	< 0.82	< 0.82	< 1.6	< 1.6	< 0.82	< 41	< 4.1	< 1.6	< 16	< 0.82	< 0.82	< 0.82	< 1.6	< 0.82	< 16	< 1.6	< 0.82	< 8.2	< 0.82	< 1.6	< 0.82
RMW-5	9/26/2019	15	5035/8260B	< 0.91	< 0.91	< 0.91	< 1.8	< 1.8	< 0.91	< 45	< 4.5	< 1.8	< 18	< 0.91	**3.7**	< 0.91	**13**	< 0.91	< 18	< 1.8	< 0.91	< 9.1	< 0.91	< 1.8	< 0.91
RMW-5	9/26/2019	20	5035/8260B	< 0.74	< 0.74	< 0.74	< 1.5	< 1.5	< 0.74	< 37	< 3.7	< 1.5	< 15	< 0.74	**3.3**	< 0.74	**7.8**	< 0.74	< 15	< 1.5	< 0.74	< 7.4	< 0.74	< 1.5	< 0.74
SB-53	3/5/2019	1	5030C/8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 50	< 5.0	< 5.0	< 50	< 5.0	< 5.0	< 5.0
SB-54	3/5/2019	1	5030C/8260B	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 130	< 5.1	< 5.1	< 25	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 51	< 5.1	< 5.1	< 51	< 5.1	< 5.1	< 5.1
SB-55	3/5/2019	1	5030C/8260B	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 130	< 5.1	< 5.1	< 26	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 51	< 5.1	< 5.1	< 51	< 5.1	< 5.1	< 5.1
SV-15	10/1/2019	2	5035/8260B	< 0.82	< 0.82	< 0.82	< 1.6	< 1.6	< 0.82	< 41	< 4.1	< 1.6	< 16	< 0.82	< 0.82	< 0.82	< 1.6	< 0.82	< 16	< 1.6	< 0.82	< 8.2	< 0.82	< 1.6	< 0.82
SV-15	10/1/2019	5	5035/8260B	< 0.89	< 0.89	< 0.89	< 1.8	< 1.8	< 0.89	< 45	< 4.5	< 1.8	< 18	< 0.89	**1.5**	< 0.89	< 1.8	< 0.89	< 18	< 1.8	< 0.89	< 8.9	< 0.89	< 1.8	< 0.89
SV-15	10/1/2019	10	5035/8260B	< 0.88	< 0.88	< 0.88	< 1.8	< 1.8	< 0.88	< 44	< 4.4	< 1.8	< 18	< 0.88	**1.8**	**2.5**	**2.8**	< 0.88	< 18	< 1.8	< 0.88	< 8.8	< 0.88	< 1.8	< 0.88
DUP04	10/1/2019	10	5035/8260B	< 0.90	< 0.90	< 0.90	< 1.8	< 1.8	< 0.90	< 45	< 4.5	< 1.8	< 18	< 0.90	< 0.90	**0.94**	< 1.8	< 0.90	< 18	< 1.8	< 0.90	< 9.0	< 0.90	< 1.8	< 0.90
SV-15	10/1/2019	12	5035/8260B	< 0.81	< 0.81	< 0.81	< 1.6	< 1.6	< 0.81	< 41	< 4.1	< 1.6	< 16	< 0.81	**1.2**	**2.1**	**1.9**	< 0.81	< 16	< 1.6	< 0.81	< 8.1	< 0.81	< 1.6	< 0.81
SV-15	10/1/2019	15	5035/8260B	< 0.81	< 0.81	< 0.81	< 1.6	< 1.6	< 0.81	< 40	< 4.0	< 1.6	< 16	< 0.81	**2.4**	**7.6**	**3.6**	< 0.81	< 16	< 1.6	< 0.81	< 8.1	< 0.81	< 1.6	< 0.81
SV-16	10/1/2019	2	5035/8260B	< 0.69	< 0.69	< 0.69	< 1.4	< 1.4	< 0.69	< 35	< 3.5	< 1.4	< 14	< 0.69	< 0.69	< 0.69	< 1.4	< 0.69	< 14	< 1.4	< 0.69	< 6.9	< 0.69	< 1.4	< 0.69
SV-16	10/1/2019	5	5035/8260B	< 0.92	< 0.92	< 0.92	< 1.8	< 1.8	< 0.92	< 46	< 4.6	< 1.8	< 18	< 0.92	< 0.92	< 0.92	< 1.8	< 0.92	< 18	< 1.8	< 0.92	< 9.2	< 0.92	< 1.8	< 0.92
SV-16	10/1/2019	10	5035/8260B	< 1.3	< 1.3	< 1.3	< 2.5	< 2.5	< 1.3	< 64	< 6.4	< 2.5	< 25	< 1.3	< 1.3	< 1.3	< 2.5	< 1.3	< 25	< 2.5	< 1.3	**15**	< 1.3	< 2.5	< 1.3
SV-16	10/1/2019	12	5035/8260B	< 0.98	< 0.98	< 0.98	< 2.0	< 2.0	< 0.98	< 49	< 4.9	< 2.0	< 20	< 0.98	< 0.98	< 0.98	< 2.0	< 0.98	< 20	< 2.0	< 0.98	< 9.8	< 0.98	< 2.0	< 0.98
SV-16	10/1/2019	15	5035/8260B	< 0.98	< 0.98	< 0.98	< 2.0	< 2.0	< 0.98	< 49	< 4.9	< 2.0	< 20	< 0.98	< 0.98	< 0.98	< 2.0	< 0.98	< 20	< 2.0	< 0.98	< 9.8	< 0.98	< 2.0	< 0.98
SV-17	10/1/2019	2	5035/8260B	< 0.89	< 0.89	< 0.89	< 1.8	< 1.8	< 0.89	< 45	< 4.5	< 1.8	< 18	< 0.89	< 0.89	< 0.89	< 1.8	< 0.89	< 18	< 1.8	< 0.89	< 8.9	< 0.89	< 1.8	< 0.89
SV-17	10/1/2019	5	5035/8260B	< 0.87	< 0.87	< 0.87	< 1.7	< 1.7	< 0.87	< 43	< 4.3	< 1.7	< 17	< 0.87	< 0.87	< 0.87	< 1.7	< 0.87	< 17	< 1.7	< 0.87	< 7.5	< 0.87	< 1.7	< 0.87
DUP05	10/1/2019	5	5035/8260B	< 0.87	< 0.87	< 0.87	< 1.7	< 1.7	< 0.87	< 44	< 4.4	< 1.7	< 17	< 0.87	< 0.87	< 0.87	< 1.7	< 0.87	< 17	< 1.7	< 0.87	< 8.7	< 0.87	< 1.7	< 0.87
SV-17	10/1/2019	10	5035/8260B	< 0.74	< 0.74	< 0.74	< 1.5	< 1.5	< 0.74	< 37	< 3.7	< 1.5	< 15	< 0.74	< 0.74	< 0.74	< 1.5	< 0.74	< 15	< 1.5	< 0.74	< 7.4	< 0.74	< 1.5	< 0.74
SV-17	10/1/2019	12	5035/8260B	< 0.87	< 0.87	< 0.87	< 1.7	< 1.7	< 0.87	< 44	< 4.4	< 1.7	< 17	< 0.87	< 0.87	< 0.87	< 1.7	< 0.87	< 17	< 1.7	< 0.87	< 8.7	< 0.87	< 1.7	< 0.87
SV-17	10/1/2019	15	5035/8260B	< 0.91	< 0.91	< 0.91	< 1.8	< 1.8	< 0.91	< 46	< 4.6	< 1.8	< 18	< 0.91	< 0.91	< 0.91	< 1.8	< 0.91	< 18	< 1.8	< 0.91	< 9.1	< 0.91	< 1.8	< 0.91
SV-18	10/1/2019	2	5035/8260B	< 0.88	< 0.88	< 0.88	< 1.8	< 1.8	< 0.88	< 44	< 4.4	< 1.8	< 18	< 0.88	< 0.88	< 0.88	< 1.8	< 0.88	< 18	< 1.8	< 0.88	< 8.8	< 0.88	< 1.8	< 0.88
DUP06	10/1/2019	2	5035/8260B	< 0.85	< 0.85	< 0.85	< 1.7	< 1.7	< 0.85	< 43	< 4.3	< 1.7	< 17	< 0.85	< 0.85	< 0.85	< 1.7	< 0.85	< 17	< 1.7	< 0.85	< 8.5	< 0.85	< 1.7	< 0.85
SV-18	10/1/2019	5	5035/8260B	< 0.76	< 0.76	< 0.76	< 1.5	< 1.5	< 0.76	< 38	< 3.8	< 1.5	< 15	< 0.76	< 0.76	< 0.76	< 1.5	< 0.76	< 15	< 1.5	< 0.76	< 7.6	< 0.76	< 1.5	< 0.76

Table 9. Summary of VOC Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

				Benzene	Toluene	Ethyl Benzene	m,p-xylene	MTBE	ortho-xylene	Acetone	Bromoform	Chloroethane	Chloromethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	2-Butanone	1,2,4-Trichlorobenzene	Isopropylbenzene	Methylene Chloride	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene
Soil Target Levels				**1,400**	**5,300,000**	**25,000**	**2,400,000**	**210,000**	**2,800,000**	**670,000,000**	**86,000**	**57,000,000**	**460,000**	**16,000**	**84,000**	**2,700**	**6,000**	**150**	**190,000,000**	**35,000**	**9,900,000**	**26,000**	**18,000,000**	**24,000,000**	**12,000,000**
Sample ID	**Date**	**Depth**	**USEPA Method**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**ug/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
SV-18	10/1/2019	10	5035/8260B	< 0.94	< 0.94	< 0.94	< 1.9	< 1.9	< 0.94	< 47	< 4.7	< 1.9	< 19	< 0.94	< 0.94	< 0.94	< 1.9	< 0.94	< 19	< 1.9	< 0.94	< 9.4	< 0.94	< 1.9	< 0.94
SV-18	10/1/2019	12	5035/8260B	< 0.80	< 0.80	< 0.80	< 1.6	< 1.6	< 0.80	< 40	< 4.0	< 1.6	< 16	< 0.80	< 0.80	**1.6**	< 1.6	< 0.80	< 16	< 1.6	< 0.80	< 8.0	< 0.80	< 1.6	< 0.80
SV-18	10/1/2019	15	5035/8260B	< 0.83	< 0.83	< 0.83	< 1.7	< 1.7	< 0.83	< 42	< 4.2	< 1.7	< 17	< 0.83	< 0.83	**3.9**	< 1.7	< 0.83	< 17	< 1.7	< 0.83	< 8.3	< 0.83	< 1.7	< 0.83
SV-19	10/1/2019	2	5035/8260B	< 0.72	< 0.72	< 0.72	< 1.4	**8.1**	< 0.72	< 36	< 3.6	< 1.4	< 14	< 0.72	**3.8**	< 0.72	< 1.4	< 0.72	< 14	< 1.4	< 0.72	**13**	< 0.72	< 1.4	< 0.72
SV-19	10/1/2019	5	5035/8260B	< 0.79	< 0.79	< 0.79	< 1.6	**7.3**	< 0.79	< 40	< 4.0	< 1.6	< 16	< 0.79	**5.3**	< 0.79	< 1.6	< 0.79	< 16	< 1.6	< 0.79	< 7.9	< 0.79	< 1.6	< 0.79
SV-19	10/1/2019	10	5035/8260B	< 0.75	< 0.75	< 0.75	< 1.5	**2.3**	< 0.75	< 37	< 3.7	< 1.5	< 15	< 0.75	**0.82**	< 0.75	< 1.5	< 0.75	< 15	< 1.5	< 0.75	< 7.5	< 0.75	< 1.5	< 0.75
SV-19	10/1/2019	12	5035/8260B	< 0.75	< 0.75	< 0.75	< 1.5	**1.5**	< 0.75	< 37	< 3.7	< 1.5	< 15	< 0.75	< 0.75	< 0.75	< 1.5	< 0.75	< 15	< 1.5	< 0.75	< 7.5	< 0.75	< 1.5	< 0.75
SV-19	10/1/2019	15	5035/8260B	< 0.81	< 0.81	< 0.81	< 1.6	**3.2**	< 0.81	< 40	< 4.0	< 1.6	< 16	< 0.81	< 0.81	**0.92**	< 1.6	< 0.81	< 16	< 1.6	< 0.81	< 8.1	< 0.81	< 1.6	< 0.81
SV-20	10/1/2019	2	5035/8260B	< 1.0	< 1.0	< 1.0	< 2.1	< 2.1	< 1.0	**62**	< 5.2	< 2.1	< 21	< 1.0	< 1.0	**6.1**	< 2.1	< 1.0	< 21	< 2.1	< 1.0	< 10	< 1.0	< 2.1	< 1.0
SV-20	10/1/2019	5	5035/8260B	< 0.87	< 0.87	< 0.87	< 1.7	< 1.7	< 0.87	< 43	< 4.3	< 1.7	< 17	< 0.87	< 0.87	**7.8**	< 1.7	< 0.87	< 17	< 1.7	< 0.87	< 8.7	< 0.87	< 1.7	< 0.87
SV-20	10/1/2019	10	5035/8260B	< 0.95	< 0.95	< 0.95	< 1.9	< 1.9	< 0.95	< 48	< 4.8	< 1.9	< 19	< 0.95	< 0.95	< 0.95	< 1.9	< 0.95	< 19	< 1.9	< 0.95	< 9.5	< 0.95	< 1.9	< 0.95
SV-20	10/1/2019	12	5035/8260B	< 0.96	< 0.96	< 0.96	< 1.9	< 1.9	< 0.96	< 48	< 4.8	< 1.9	< 19	< 0.96	< 0.96	< 0.96	< 1.9	< 0.96	< 19	< 1.9	< 0.96	< 9.6	< 0.96	< 1.9	< 0.96
SV-20	10/1/2019	15	5035/8260B	< 0.78	< 0.78	< 0.78	< 1.6	< 1.6	< 0.78	< 39	< 3.9	< 1.6	< 16	< 0.78	< 0.78	**1.3**	< 1.6	< 0.78	< 16	< 1.6	< 0.78	< 7.8	< 0.78	< 1.6	< 0.78
SV-21	10/2/2019	2	5035/8260B	< 0.96	< 0.96	< 0.96	< 1.9	< 1.9	< 0.96	**150**	< 4.8	< 1.9	< 19	< 0.96	< 0.96	< 0.96	< 1.9	< 0.96	**30**	< 1.9	< 0.96	< 9.6	< 0.96	< 1.9	< 0.96
SV-21	10/2/2019	5	5035/8260B	< 0.73	< 0.73	< 0.73	< 1.5	< 1.5	< 0.73	< 36	< 3.6	< 1.5	< 15	**17**	**4.2**	< 0.73	< 1.5	< 0.73	< 15	< 1.5	< 0.73	< 7.3	< 0.73	< 1.5	< 0.73
SV-21	10/2/2019	10	5035/8260B	< 0.83	< 0.83	< 0.83	< 1.7	< 1.7	< 0.83	< 42	< 4.2	< 1.7	< 17	**4.2**	< 0.83	< 0.83	< 1.7	< 0.83	< 17	< 1.7	< 0.83	< 8.3	< 0.83	< 1.7	< 0.83
SV-21	10/2/2019	12	5035/8260B	< 0.90	< 0.90	< 0.90	< 1.8	< 1.8	< 0.90	< 45	< 4.5	< 1.8	< 18	**4.8**	< 0.90	< 0.90	< 1.8	< 0.90	< 18	< 1.8	< 0.90	< 9.0	< 0.90	< 1.8	< 0.90
SV-21	10/2/2019	15	5035/8260B	< 0.84	< 0.84	< 0.84	< 1.7	< 1.7	< 0.84	< 42	< 4.2	< 1.7	< 17	**13**	**1.8**	< 0.84	< 1.7	< 0.84	< 17	< 1.7	< 0.84	< 8.4	< 0.84	< 1.7	< 0.84
SV-22	10/2/2019	2	5035/8260B	< 0.99	< 0.99	< 0.99	< 2.0	< 2.0	< 0.99	< 49	< 4.9	< 2.0	< 20	< 0.99	< 0.99	< 0.99	< 2.0	< 0.99	< 20	< 2.0	< 0.99	< 9.9	< 0.99	< 2.0	< 0.99
DUP07	10/2/2019	2	5035/8260B	< 0.81	< 0.81	< 0.81	< 1.6	< 1.6	< 0.81	< 41	< 4.1	< 1.6	< 16	< 0.81	< 0.81	**0.91**	< 1.6	< 0.81	< 16	< 1.6	< 0.81	< 8.1	< 0.81	< 1.6	< 0.81
SV-22	10/2/2019	5	5035/8260B	< 0.82	< 0.82	< 0.82	< 1.6	< 1.6	< 0.82	**67**	< 4.1	< 1.6	< 16	< 0.82	< 0.82	**1.8**	< 1.6	< 0.82	< 16	< 1.6	< 0.82	< 8.2	< 0.82	< 1.6	< 0.82
SV-22	10/2/2019	10	5035/8260B	< 0.80	< 0.80	< 0.80	< 1.6	< 1.6	< 0.80	< 40	< 4.0	< 1.6	< 16	< 0.80	< 0.80	< 0.80	< 1.6	< 0.80	< 16	< 1.6	< 0.80	< 8.0	< 0.80	< 1.6	< 0.80
SV-22	10/2/2019	12	5035/8260B	< 1.1	< 1.1	< 1.1	< 2.3	< 2.3	< 1.1	< 57	< 5.7	< 2.3	< 23	< 1.1	< 1.1	< 1.1	< 2.3	< 1.1	< 23	< 2.3	< 1.1	< 11	< 1.1	< 2.3	< 1.1
SV-22	10/2/2019	15	5035/8260B	< 0.87	< 0.87	< 0.87	< 1.7	< 1.7	< 0.87	< 44	< 4.4	< 1.7	< 17	< 0.87	< 0.87	< 0.87	< 1.7	< 0.87	< 17	< 1.7	< 0.87	< 8.7	< 0.87	< 1.7	< 0.87
SV-23	10/2/2019	2	5035/8260B	< 0.73	< 0.73	< 0.73	< 1.5	< 1.5	< 0.73	**37**	< 3.7	< 1.5	< 15	**0.91**	< 0.73	< 0.73	< 1.5	**1.1**	< 15	**2.4**	< 0.73	< 7.3	< 0.73	< 1.5	< 0.73
DUP08	10/2/2019	2	5035/8260B	< 0.90	< 0.90	< 0.90	< 1.8	< 1.8	< 0.90	**47**	< 4.5	< 1.8	< 18	**1.5**	< 0.90	< 0.90	< 1.8	**1.6**	< 18	**6.1**	< 0.90	< 9.0	< 0.90	< 1.8	< 0.90
SV-23	10/2/2019	5	5035/8260B	< 0.74	< 0.74	< 0.74	< 1.5	< 1.5	< 0.74	< 37	< 3.7	< 1.5	< 15	< 0.74	< 0.74	< 0.74	< 1.5	< 0.74	< 15	< 1.5	< 0.74	< 7.4	< 0.74	< 1.5	< 0.74
SV-23	10/2/2019	10	5035/8260B	< 0.75	< 0.75	< 0.75	< 1.5	< 1.5	< 0.75	< 38	< 3.8	< 1.5	< 15	< 0.75	< 0.75	< 0.75	< 1.5	< 0.75	< 15	< 1.5	< 0.75	< 7.5	< 0.75	< 1.5	< 0.75
SV-23	10/2/2019	12	5035/8260B	< 1.1	< 1.1	< 1.1	< 2.2	< 2.2	< 1.1	< 54	< 5.4	< 2.2	< 22	< 1.1	< 1.1	< 1.1	< 2.2	< 1.1	< 22	< 2.2	< 1.1	< 11	< 1.1	< 2.2	< 1.1
SV-23	10/2/2019	15	5035/8260B	< 0.73	< 0.73	< 0.73	< 1.5	< 1.5	< 0.73	< 36	< 3.6	< 1.5	< 15	< 0.73	< 0.73	**0.99**	< 1.5	< 0.73	< 15	< 1.5	< 0.73	< 7.3	< 0.73	< 1.5	< 0.73
SV-24	10/2/2019	2	5035/8260B	< 0.73	< 0.73	< 0.73	< 1.5	**3.4**	< 0.73	< 36	< 3.6	< 1.5	< 15	< 0.73	< 0.73	< 0.73	< 1.5	< 0.73	< 15	< 1.5	< 0.73	< 7.3	< 0.73	< 1.5	< 0.73
SV-24	10/2/2019	5	5035/8260B	< 1.3	< 1.3	< 1.3	< 2.6	**14**	< 1.3	< 66	< 6.6	< 2.6	< 26	< 1.3	< 1.3	< 1.3	< 2.6	< 1.3	< 26	< 2.6	< 1.3	< 13	< 1.3	< 2.6	< 1.3
DUP09	10/2/2019	5	5035/8260B	< 0.75	< 0.75	< 0.75	< 1.5	**7.9**	< 0.75	**39**	< 3.8	< 1.5	< 15	< 0.75	< 0.75	< 0.75	< 1.5	< 0.75	< 15	< 1.5	< 0.75	< 7.5	< 0.75	< 1.5	< 0.75
SV-24	10/2/2019	10	5035/8260B	< 0.88	< 0.88	< 0.88	< 1.8	< 1.8	< 0.88	< 44	< 4.4	< 1.8	< 18	< 0.88	< 0.88	< 0.88	< 1.8	< 0.88	< 18	< 1.8	< 0.88	< 8.8	< 0.88	< 1.8	< 0.88
SV-24	10/2/2019	12	5035/8260B	< 0.92	< 0.92	< 0.92	< 1.8	< 1.8	< 0.92	< 46	< 4.6	< 1.8	< 18	< 0.92	< 0.92	< 0.92	< 1.8	< 0.92	< 18	< 1.8	< 0.92	< 9.2	< 0.92	< 1.8	< 0.92
SV-24	10/2/2019	15	5035/8260B	< 0.83	< 0.83	< 0.83	< 1.7	< 1.7	< 0.83	< 42	< 4.2	< 1.7	< 17	< 0.83	< 0.83	**1.8**	< 1.7	< 0.83	< 17	< 1.7	< 0.83	< 8.3	< 0.83	< 1.7	< 0.83
SV-25	10/2/2019	2	5035/8260B	< 0.74	< 0.74	< 0.74	< 1.5	< 1.5	< 0.74	< 37	< 3.7	< 1.5	< 15	< 0.74	< 0.74	< 0.74	< 1.5	< 0.74	< 15	< 1.5	< 0.74	< 7.4	< 0.74	< 1.5	< 0.74
SV-25	10/2/2019	5	5035/8260B	< 39	< 39	**54**	< 79	< 79	< 39	< 2,000	< 200	< 79	< 790	< 39	< 39	< 39	< 79	< 39	< 790	< 79	< 39	< 390	**40**	< 79	< 39
SV-25	10/2/2019	10	5035/8260B	< 45	< 45	**1,100**	< 89	< 89	< 45	< 2,200	< 220	< 89	< 890	< 45	< 45	< 45	< 89	< 45	< 890	< 89	**110**	< 450	**520**	**270**	**330**
DUP10	10/2/2019	10	5035/8260B	< 73	< 73	**1,900**	< 150	< 150	< 73	< 3,700	< 370	< 150	< 1500	< 73	< 73	< 73	< 150	< 73	< 1,500	< 150	**200**	< 730	**970**	**420**	**610**
SV-25	10/2/2019	12	5035/8260B	< 0.71	< 0.71	**2.5**	< 1.4	< 1.4	< 0.71	< 36	< 3.6	< 1.4	< 14	< 0.71	< 0.71	< 0.71	< 1.4	< 0.71	< 14	< 1.4	< 0.71	< 7.1	< 0.71	< 1.4	< 0.71
SV-25	10/2/2019	15	5035/8260B	< 0.74	< 0.74	< 0.74	< 1.5	< 1.5	< 0.74	< 37	< 3.7	< 1.5	< 15	< 0.74	< 0.74	< 0.74	< 1.5	< 0.74	< 15	< 1.5	< 0.74	< 7.4	< 0.74	< 1.5	< 0.74
SV-26	10/2/2019	2	5035/8260B	< 1.5	< 1.5	< 1.5	< 3.1	< 3.1	< 1.5	< 77	< 7.7	< 3.1	< 31	< 1.5	< 1.5	< 1.5	< 3.1	< 1.5	< 31	< 3.1	< 1.5	< 15	< 1.5	< 3.1	< 1.5
SV-26	10/2/2019	5	5035/8260B	< 1.5	< 1.5	< 1.5	< 3.0	< 3.0	< 1.5	< 75	< 7.5	< 3.0	< 30	< 1.5	**1.6**	< 1.5	< 3.0	< 1.5	< 30	< 3.0	< 1.5	< 15	< 1.5	< 3.0	< 1.5
SV-26	10/2/2019	10	5035/8260B	< 0.74	< 0.74	< 0.74	< 1.5	< 1.5	< 0.74	< 37	< 3.7	< 1.5	< 15	**0.93**	**11**	< 0.74	**5.3**	< 0.74	< 15	< 1.5	< 0.74	< 7.4	< 0.74	< 1.5	< 0.74
SV-26	10/2/2019	12	5035/8260B	< 0.68	< 0.68	< 0.68	< 1.4	< 1.4	< 0.68	< 34	< 3.4	< 1.4	< 14	**1.4**	**19**	< 0.68	**6.9**	< 0.68	< 14	< 1.4	< 0.68	< 6.8	< 0.68	< 1.4	< 0.68
SV-26	10/2/2019	15	5035/8260B	< 0.74	< 0.74	< 0.74	< 1.5	< 1.5	< 0.74	< 37	< 3.7	< 1.5	< 15	**3.7**	**47**	< 0.74	**14**	< 0.74	< 15	< 1.5	< 0.74	< 7.4	< 0.74	< 1.5	< 0.74
SV-27	10/2/2019	2	5035/8260B	< 2.0	< 2.0	< 2.0	< 3.9	< 3.9	< 2.0	< 99	< 9.9	< 3.9	< 39	< 2.0	< 2.0	< 2.0	< 3.9	< 2.0	< 39	< 3.9	< 2.0	< 20	< 2.0	< 3.9	< 2.0
SV-27	10/2/2019	5	5035/8260B	< 1.7	< 1.7	< 1.7	< 3.4	< 3.4	< 1.7	< 86	< 8.6	< 3.4	< 34	< 1.7	< 1.7	< 1.7	< 3.4	< 1.7	< 34	< 3.4	< 1.7	< 17	< 1.7	< 3.4	< 1.7
SV-27	10/2/2019	10	5035/8260B	< 1.8	< 1.8	< 1.8	< 3.6	< 3.6	< 1.8	**160**	< 8.9	< 3.6	< 36	< 1.8	< 1.8	< 1.8	< 3.6	< 1.8	< 36	< 3.6	< 1.8	< 18	< 1.8	< 3.6	< 1.8
SV-27	10/2/2019	12	5035/8260B	< 1.5	< 1.5	< 1.5	< 3.0	< 3.0	< 1.5	< 75	< 7.5	< 3.0	< 30	< 1.5	< 1.5	< 1.5	< 3.0	< 1.5	< 30	< 3.0	< 1.5	< 15	< 1.5	< 3.0	< 1.5
SV-27	10/2/2019	15	5035/8260B	< 1.8	< 1.8	< 1.8	< 3.7	< 3.7	< 1.8	< 91	< 9.1	< 3.7	< 37	< 1.8	< 1.8	< 1.8	**17**	< 1.8	< 37	< 3.7	< 1.8	< 18	< 1.8	< 3.7	< 1.8

Table 9. Summary of VOC Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

				Benzene	Toluene	Ethyl Benzene	m,p-xylene	MTBE	ortho-xylene	Acetone	Bromoform	Chloroethane	Chloromethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	2-Butanone	1,2,4-Trichlorobenzene	Isopropylbenzene	Methylene Chloride	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene
Soil Target Levels				**1,400**	**5,300,000**	**25,000**	**2,400,000**	**210,000**	**2,800,000**	**670,000,000**	**86,000**	**57,000,000**	**460,000**	**16,000**	**84,000**	**2,700**	**6,000**	**150**	**190,000,000**	**35,000**	**9,900,000**	**26,000**	**18,000,000**	**24,000,000**	**12,000,000**
Sample ID	**Date**	**Depth**	**USEPA Method**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**ug/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
SV-28	10/7/2019	2	5035/8260B	< 1.8	< 1.8	< 1.8	< 3.5	< 3.5	< 1.8	< 88	< 8.8	< 3.5	< 35	< 1.8	< 1.8	< 1.8	**8.0**	< 1.8	< 35	< 3.5	< 1.8	< 18	< 1.8	< 3.5	< 1.8
SV-28	10/7/2019	5	5035/8260B	< 1.5	< 1.5	< 1.5	< 3.0	< 3.0	< 1.5	**500**	< 7.6	< 3.0	< 30	**4.8**	**4.5**	< 1.5	**11**	< 1.5	< 30	< 3.0	< 1.5	< 15	< 1.5	< 3.0	< 1.5
SV-28	10/7/2019	10	5035/8260B	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	**130**	< 9.9	< 4.0	< 40	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 40	< 4.0	< 2.0	< 20	< 2.0	< 4.0	< 2.0
SV-28	10/7/2019	12	5035/8260B	< 1.8	< 1.8	< 1.8	< 3.5	< 3.5	< 1.8	**320**	< 8.8	< 3.5	< 35	**2.8**	**2.0**	< 1.8	**4.7**	< 1.8	< 35	< 3.5	< 1.8	< 18	< 1.8	< 3.5	< 1.8
SV-28	10/7/2019	15	5035/8260B	< 1.7	< 1.7	< 1.7	< 3.3	< 3.3	< 1.7	**170**	< 8.3	< 3.3	< 33	**20**	**15**	< 1.7	**50**	< 1.7	< 33	< 3.3	< 1.7	< 17	< 1.7	< 3.3	< 1.7
DUP14	10/7/2019	15	5035/8260B	< 1.5	< 1.5	< 1.5	< 3.1	< 3.1	< 1.5	< 77	< 7.7	< 3.1	< 31	**10**	**8.0**	< 1.5	**25**	< 1.5	< 31	< 3.1	< 1.5	< 15	< 1.5	< 3.1	< 1.5
SV-28	10/7/2019	15	5035/8260B	< 1.7	< 1.7	< 1.7	< 3.3	< 3.3	< 1.7	**170**	< 8.3	< 3.3	< 33	**20**	**15**	< 1.7	**50**	< 1.7	< 33	< 3.3	< 1.7	< 17	< 1.7	< 3.3	< 1.7
Leighton																									
LA-SB1	8/7/2018	5	5035/8260B	< 5.3	< 5.3	< 5.3	< 11	< 5.3	< 5.3	---	< 5.3	< 5.3	< 5.3	**8.9**	< 5.3	< 5.3	< 5.3	< 5.3	---	< 5.3	< 5.3	< 5.3	< 5.3	< 5.3	< 5.3
LA-SB1	8/7/2018	15	5035/8260B	< 5.1	< 5.1	< 5.1	< 10	< 5.1	< 5.1	---	< 5.1	< 5.1	< 5.1	**11**	< 5.1	< 5.1	< 5.1	< 5.1	---	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1
LA-SB10	8/7/2018	5	5035/8260B	< 4.9	< 4.9	< 4.9	< 9.7	< 4.9	< 4.9	---	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	---	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9
LA-SB2	8/7/2018	5	5035/8260B	< 4.3	< 4.3	< 4.3	< 8.6	< 4.3	< 4.3	---	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	---	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3
LA-SB3	8/7/2018	2.5	5035/8260B	< 3.8	< 3.8	< 3.8	< 7.6	< 3.8	< 3.8	---	< 3.8	**6.2**	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	**4.0**	---	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8
LA-SB3	8/7/2018	5	5035/8260B	< 4.5	< 4.5	< 4.5	< 9.1	< 4.5	< 4.5	---	< 4.5	< 4.5	< 4.5	**16**	**23**	< 4.5	< 4.5	< 4.5	---	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5
LA-SB3	8/7/2018	15	5035/8260B	< 4.8	< 4.8	< 4.8	< 9.5	< 4.8	< 4.8	---	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	---	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8
LA-SB3	8/7/2018	25	5035/8260B	< 4.1	< 4.1	< 4.1	< 8.3	< 4.1	< 4.1	---	< 4.1	< 4.1	< 4.1	**7.5**	< 4.1	**6.3**	< 4.1	< 4.1	---	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1
LA-SB4	8/7/2018	5	5035/8260B	< 4.4	< 4.4	< 4.4	< 8.7	< 4.4	< 4.4	---	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	---	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4
LA-SB5	8/7/2018	5	5035/8260B	< 5.7	< 5.7	< 5.7	< 11	< 5.7	< 5.7	---	< 5.7	< 5.7	< 5.7	< 5.7	< 5.7	< 5.7	< 5.7	< 5.7	---	< 5.7	< 5.7	< 5.7	< 5.7	< 5.7	< 5.7
LA-SB5	8/7/2018	15	5035/8260B	< 4.4	< 4.4	< 4.4	< 8.9	< 4.4	< 4.4	---	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	---	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4
LA-SB6	8/7/2018	5	5035/8260B	< 4.3	< 4.3	< 4.3	< 8.6	< 4.3	< 4.3	---	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	---	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3
LA-SB6	8/7/2018	15	5035/8260B	< 4.5	< 4.5	< 4.5	< 9.0	< 4.5	< 4.5	---	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	---	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5
LA-SB7	8/7/2018	5	5035/8260B	< 4.2	< 4.2	< 4.2	< 8.3	< 4.2	< 4.2	---	**4.9**	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	**5**	< 4.2	---	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2
LA-SB7	8/7/2018	15	5035/8260B	< 4.4	< 4.4	< 4.4	< 8.8	< 4.4	< 4.4	---	< 4.4	< 4.4	< 4.4	**11**	**9.1**	< 4.4	**41**	< 4.4	---	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4
LA-SB7	8/7/2018	25	5035/8260B	< 3.8	< 3.8	< 3.8	< 7.7	< 3.8	< 3.8	---	< 3.8	< 3.8	< 3.8	**7.2**	**10**	**13**	**45**	< 3.8	---	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8
LA-SB8	8/7/2018	5	5035/8260B	< 6.4	< 6.4	< 6.4	< 13	< 6.4	< 6.4	---	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	---	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4
LA-SB8	8/7/2018	15	5035/8260B	< 4.3	< 4.3	< 4.3	< 8.6	< 4.3	< 4.3	---	< 4.3	< 4.3	< 4.3	< 4.3	**5.3**	< 4.3	**21**	< 4.3	---	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3
LA-SB9	8/7/2018	5	5035/8260B	< 7.5	< 7.5	< 7.5	< 15	< 7.5	< 7.5	---	< 7.5	< 7.5	**30**	< 7.5	< 7.5	< 7.5	< 7.5	< 7.5	---	< 7.5	< 7.5	< 7.5	< 7.5	< 7.5	< 7.5
Fulcrum																									
SB1-10	10/31/2017	10	5030A/8260B	< 2.00	< 2.00	< 2.00	< 2.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB2-10	10/31/2017	10	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB6-3	10/31/2017	3	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	**11.5**	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB9-3	10/31/2017	3	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB10-3	10/31/2017	3	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**90.3**	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB10-5	10/31/2017	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB10-10	10/31/2017	10	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB11-3	10/31/2017	3	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB12-10	10/31/2017	10	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB13-10	10/31/2017	10	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB14-3	10/31/2017	3	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB15-3	10/31/2017	3	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB16-3	10/31/2017	3	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB17-20	10/31/2017	20	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB18-15	10/31/2017	15	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB19-15	10/31/2017	15	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB20-15	10/31/2017	15	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB21-15	10/31/2017	15	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB25-20	10/31/2017	20	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	<30.0	<30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	---	---	---	---	---	---	---
SB26	10/24/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB27	10/24/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB28	10/24/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB29	10/24/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**25.8**	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB30	10/24/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0

Table 9. Summary of VOC Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

				Benzene	Toluene	Ethyl Benzene	m,p-xylene	MTBE	ortho-xylene	Acetone	Bromoform	Chloroethane	Chloromethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	2-Butanone	1,2,4-Trichlorobenzene	Isopropylbenzene	Methylene Chloride	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene
Soil Target Levels				**1,400**	**5,300,000**	**25,000**	**2,400,000**	**210,000**	**2,800,000**	**670,000,000**	**86,000**	**57,000,000**	**460,000**	**16,000**	**84,000**	**2,700**	**6,000**	**150**	**190,000,000**	**35,000**	**9,900,000**	**26,000**	**18,000,000**	**24,000,000**	**12,000,000**
Sample ID	**Date**	**Depth**	**USEPA Method**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**ug/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
SB31	10/24/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**33.5**	< 50.0	< 30.0	< 30.0	< 10.0	**27.5**	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB32	10/24/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**85.0**	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB33	10/24/2018	5	5030A/8260B	**1.00**	**2.70**	**2.50**	**4.60**	< 5.00	**2.65**	**138**	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB34	10/24/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**55.4**	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB35	10/25/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB36	10/25/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**18.8**	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	**9.85**	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB37	10/25/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**14.0**	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB38	10/24/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB39	10/25/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**13.2**	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB40	10/25/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB41	10/25/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**14.3**	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB42	10/25/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**12.9**	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB43	10/25/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	**12.7**	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB44	10/25/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0
SB45	10/30/2018	5	5030A/8260B	< 2.00	< 2.00	< 2.00	< 4.00	< 5.00	< 2.00	< 50.0	< 50.0	< 30.0	< 30.0	< 10.0	< 10.0	< 10.0	< 10.0	< 30.0	< 50.0	< 10.0	< 10.0	< 50.0	< 10.0	< 10.0	< 10.0

Notes:
DTSC - Toxic Substances Control Department
ft bgs - feet below ground surface
ID - identification
µg/kg - micrograms per kilogram
NE - not established
USEPA - United States Environmental Protection Agency
VOCs - volatile organic compounds
-- - not analyzed
Duplicate sample is listed immediately below its respective primary sample result
<X - concentration was not detected above laboratory reporting limit
See Table 10 and Appendix A for additional details regarding the site specific soil target levels.

Table 10

Summary for Soil Target levels

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	$RBTC_{Soil}$ (mg/kg)	Soil DTSC-SL (mg/kg)	USEPA Soil RSL (mg/kg)	SFBRWQCB ESL (mg/kg)		Alternative Soil Screening Levels [a] (mg/kg)	Soil Target Level [b] (mg/kg)
		Construction Worker	Commericial	Commericial	Commercial: Shallow Soil Exposure	Construction Worker		
VOC	Benzene	--	1.4E+00	5.1E+00	--	--	--	1.4E+00
VOC	1,1-Dichloroethane	--	1.6E+01	1.6E+01	--	--	--	1.6E+01
VOC	cis-1,2-Dichloroethene	--	8.4E+01	2.3E+03	--	--	--	8.4E+01
VOC	Tetrachloroethene	--	2.7E+00	1.0E+02	--	--	--	2.7E+00
VOC	Trichloroethene	--	--	6.0E+00	--	--	--	6.0E+00
VOC	Vinyl Chloride	--	1.5E-01	1.7E+00	--	--	--	1.5E-01
VOC	Acetone	--	--	6.7E+05	--	--	--	6.7E+05
VOC	Bromoform	--	8.6E+01	8.6E+01	--	--	--	8.6E+01
VOC	Chloroethane	--	--	5.7E+04	--	--	--	5.7E+04
VOC	Chloromethane	--	--	4.6E+02	--	--	--	4.6E+02
VOC	Ethyl Benzene	--	--	2.5E+01	--	--	--	2.5E+01
VOC	Methyl tert-Butyl Ether	--	--	2.1E+02	--	--	--	2.1E+02
VOC	Toluene	--	5.3E+03	4.7E+04	--	--	--	5.3E+03
VOC	m,p-Xylene	--	--	2.4E+03	--	--	--	2.4E+03
VOC	ortho-Xylene	--	--	2.8E+03	--	--	--	2.8E+03
VOC	2-Butanone (MEK)	--	--	1.9E+05	--	--	--	1.9E+05
VOC	n-Butylbenzene	--	1.8E+04	5.8E+04	--	--	--	1.8E+04
VOC	sec-Butylbenzene	--	1.2E+04	1.2E+05	--	--	--	1.2E+04
VOC	Isopropylbenzene	--	--	9.9E+03	--	--	--	9.9E+03
VOC	n-Propylbenzene	--	--	2.4E+04	--	--	--	2.4E+04
VOC	Methylene Chloride	--	2.6E+01	1.0E+03	--	--	--	2.6E+01
VOC	1,2,4-Trichlorobenzene	--	3.5E+01	1.1E+02	--	--	--	3.5E+01
TPH	TPH as Diesel	--	--	--	1.2E+03	1.1E+03	--	1.1E+03
TPH	TPH as Gasoline	--	--	--	2.0E+03	1.8E+03	--	1.8E+03
PDIST	TPH as Motor Oil	--	--	--	1.8E+05	5.4E+04	--	5.4E+04
PCB	Aroclor-1248	3.5E+00	5.8E-01	9.4E-01	--	--	--	9.4E-01
PCB	Aroclor-1254	3.5E+00	5.9E-01	9.7E-01	--	--	--	9.7E-01
PCB	Aroclor-1260	3.5E+00	6.0E-01	9.9E-01	--	--	--	9.9E-01
PCB	Aroclor-1262	3.5E+00	--	--	--	--	--	3.5E+00
INORG	Antimony	1.4E+02	--	4.7E+02	--	--	--	1.4E+02
INORG	Arsenic	--	3.6E-01	3.0E+00	--	--	1.2E+01	1.2E+01
INORG	Barium	1.7E+04	--	2.2E+05	--	--	--	1.7E+04
INORG	Beryllium	3.0E+01	2.3E+02	2.3E+03	--	--	--	3.0E+01
INORG	Cadmium	3.3E+01	--	9.8E+02	--	--	--	3.3E+01
INORG	Chromium	2.1E+04	--		--	--	--	2.1E+04
INORG	Chromium VI	3.9E+00	6.2E+00	6.3E+00	--	--	--	3.9E+00
INORG	Cobalt	6.8E+01	--	3.5E+02	--	--	--	6.8E+01
INORG	Copper	3.5E+03	--	4.7E+04	--	--	--	3.5E+03
INORG	Lead	--	3.2E+02	8.0E+02	--	--	--	3.2E+02
INORG	Mercury	1.1E+02	4.4E+00	4.6E+01	--	--	--	4.4E+00
INORG	Molybdenum	1.8E+03	--	5.8E+03	--	--	--	1.8E+03
INORG	Nickel	7.8E+02	1.1E+04	2.2E+04	--	--	--	7.8E+02
INORG	Selenium	1.7E+03	--	5.8E+03	--	--	--	1.7E+03
INORG	Silver	1.8E+03	--	5.8E+03	--	--	--	1.8E+03
INORG	Thallium	1.4E+01	--	1.2E+01	--	--	--	1.2E+01
INORG	Vanadium	3.9E+02	--	5.8E+03	--	--	--	3.9E+02
INORG	Zinc	1.1E+05	--	3.5E+05	--	--	--	1.1E+05

Notes:

a. Alternative screening level for Arsenic is background concentration from Chernoff (2008).

b. The target levels are the minimum of calculated construction worker RBTCs and soil screening levels from Cal/EPA (2019) and USEPA (2019) for INORG (except arsenic and lead), the minimum soil screening levels from Cal/EPA (2019) and USEPA (2019) for VOC and lead, the minimum commercial and construction worker soil ESLs from SFBRWQCB (2019) for TPH, the minimum of calculated construction worker RBTCs and soil screening levels from USEPA (2019) for PCB, and the California background level for arsenic (Chernoff, 2008).

-- = Not calculated
Cal/EPA = California Environmental Protection Agency
DTSC = Department of Toxic Substances Control
ESL - Environmental Screening Level
ft = feet
INORG = Inorganic
mg/kg = milligram per kilogram
PCB = Polychlorinated Biphenyl
TPH = Total Petroleum Hydrocarbon
$RBTC_{Soil}$ = Risk-Based Target Concentration for soil
RSL = Regional screening level
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
SL = Screening level
TPH = Total Petroleum Hydrocarbons
USEPA = United States Environmental Protection Agency
VOC = Volatile Organic Compound

Sources:

Cal/EPA. 2019. Human and Ecological Risk Office (HERO) Human Health Risk assessment (HHRA) Note Number 3, Issue: DTSC-Modified Screening Levels (DTSC-SLs
Chernoff G, Bosan W, Oudiz D. 2008. Determination of a Southern California Regional Background Arsenic Concentration in Soil.
SFBRWQCB. 2019. Environmental Screening Levels (ESLs) Workbook. January
USEPA. 2019. Regional Screening Levels. November.

Table 11. Summary of Excavation Areas
2101 and 2129 West Rosecrans Avenue
Gardena, California

Excavation Area	Sample ID	Sample Depth (feet)	Excavation: Dimensions: Length (in feet)	Excavation: Dimensions: Width (in feet)	Excavation: Dimensions: Depth (in feet)	Excavation: Area: square feet	Excavation: Volume: in cubic feet	Excavation: Volume: in cubic yards	Estimated Number of Confirmation Samples: Side wall	Estimated Number of Confirmation Samples: Excavation Bottom	COC	TPH mg/kg: TPH-D	PCBs µg/kg: Aroclor-1248	PCBs µg/kg: Aroclor-1254	PCBs µg/kg: Aroclor-1260	Metals mg/kg: Lead	Metals mg/kg: Cadmium	Metals mg/kg: Copper	Metals mg/kg: Nickel	Metals mg/kg: Vanadium	Metals mg/kg: Hexavalent Chromium
Soil Target Levels												**1,100**	**940**	**970**	**990**	**320**	**33**	**3,500**	**780**	**390**	**3.9**
EX-1	SB31	1	25	25	2.5	625	1563	58	4	0	PCBs	NA	**5,930**	<33	<33	NA	NA	NA	NA	NA	NA
		2										NA	<33	<33	<33	NA	NA	NA	NA	NA	NA
EX-2	SB33	1	25	25	5.5	625	3438	127	4	0	PCBs	NA	<33	**289**	<33	NA	NA	NA	NA	NA	NA
		2										NA	<33	<33	<33	NA	NA	NA	NA	NA	NA
		5										NA	**4,530**	<33	<33	NA	NA	NA	NA	NA	NA
	SB32	6										NA	**320**	<33	<33	NA	NA	NA	NA	NA	NA
		7										NA	<50	<50	<50	NA	NA	NA	NA	NA	NA
EX-3	LA-SB5	1	25	12.5	2.5	312.5	781	29	4	0	PCB, TPH-D	**2,500**	<800	**1,200**	<800	NA	NA	NA	NA	NA	NA
		2.5										**110**	<16	<16	<16	NA	NA	NA	NA	NA	NA
		5										**98**	<16	<16	<16	NA	NA	NA	NA	NA	NA
		10										<10	<16	<16	<16	NA	NA	NA	NA	NA	NA
		15										<10	<16	<16	<16	NA	NA	NA	NA	NA	NA
EX-4	LA-SB3	1	25	25	2.5	625	1563	58	4	0	PCBs	NA	<400	**1,400**	<400	NA	NA	NA	NA	NA	NA
		2.5										NA	<16	<16	<16	NA	NA	NA	NA	NA	NA
		5										NA	<16	<16	<16	NA	NA	NA	NA	NA	NA
		10										NA	<16	<16	<16	NA	NA	NA	NA	NA	NA
		15										NA	<16	<16	<16	NA	NA	NA	NA	NA	NA
		20										NA	<16	<16	<16	NA	NA	NA	NA	NA	NA
		25										NA	<16	<16	<16	NA	NA	NA	NA	NA	NA
		30										NA	<16	<16	<16	NA	NA	NA	NA	NA	NA
EX-5	SB-16	3	25	25	4	625	2500	93	4	1	PCBs, Lead, copper	NA	<5,000	**40,000**	<5,000	**401**	NA	**4,000**	NA	NA	NA
		5										NA	<50	<50	<50	<0.498	NA	**16.8**	NA	NA	NA
EX-6*	LA-SB-1	1	25	25	3.5	625	2188	81	4	1	Lead	NA	NA	NA	NA	**320**	NA	NA	NA	NA	NA
		2.5										NA	NA	NA	NA	**540**	NA	NA	NA	NA	NA
		5										NA	NA	NA	NA	**8.3**	NA	NA	NA	NA	NA
		10										NA	NA	NA	NA	**2.1**	NA	NA	NA	NA	NA
		15										NA	NA	NA	NA	**1.9**	NA	NA	NA	NA	NA
EX-7	RMW-3	2	25	25	3	625	1875	69	4	1	Lead	NA	NA	NA	NA	**566**	NA	NA	NA	NA	NA
		5										NA	NA	NA	NA	**113**	NA	NA	NA	NA	NA
		10										NA	NA	NA	NA	<0.508	NA	NA	NA	NA	NA
EX-8*	SB42	1	25	25	3.5	625	2188	81	4	1	Lead, Hex Chrome, Nickel	NA	NA	NA	NA	**569**	NA	NA	**1070**	NA	**15.3**
		2.5										NA	NA	NA	NA	**174**	NA	NA	**135**	NA	**14.3**
		5										NA	NA	NA	NA	**3.5**	NA	NA	N/A	NA	N/A
EX-9	SB-20	2	25	25	5.5	625	3438	127	4	0	PCBs	NA	**1,400**	<49	**110**	NA	NA	NA	NA	NA	NA
		5										NA	**1,700**	<49	**140**	NA	NA	NA	NA	NA	NA
	SB-44	6										NA	<50	<50	<50	NA	NA	NA	NA	NA	NA

Table 11. Summary of Excavation Areas
2101 and 2129 West Rosecrans Avenue
Gardena, California

Excavation Area	Sample ID	Sample Depth (feet)	Excavation						Estimated Number of Confirmation Samples		COC	TPH	PCBs			Metals					
			Dimensions			Area	Volume					mg/kg	µg/kg			mg/kg					
			Length (in feet)	Width (in feet)	Depth (in feet)	square feet	in cubic feet	in cubic yards	Side wall	Excavation Bottom		TPH-D	Aroclor-1248	Aroclor-1254	Aroclor-1260	Lead	Cadmium	Copper	Nickel	Vanadium	Hexavalent Chromium
EX-10	SB-39	1	25	25	2	625	1250	46	4	1	PCBs	NA	**17,700**	<33	<33	NA	NA	NA	NA	NA	NA
		2										NA	**193**	<33	<33	NA	NA	NA	NA	NA	NA
		5										NA	**434**	<33	<33	NA	NA	NA	NA	NA	NA
	SB-52	1										NA	**22,000**	**11,000**	<50	NA	NA	NA	NA	NA	NA
		3										NA	<50	<50	<50	NA	NA	NA	NA	NA	NA
EX-11	LA-SB10	1	25	25	5.5	625	3438	127	4	0	PCBs, Nickel	NA	<160	**490**	<160	NA	NA	NA	**130**	NA	NA
		2.5										NA	**12,000**	<1,600	<1,600	NA	NA	NA	**2,600**	NA	NA
		5										NA	<16	**66**	<16	NA	NA	NA	**3,300**	NA	NA
		10										NA	<16	**24**	<16	NA	NA	NA	**29**	NA	NA
EX-12	LA-SB9	1	25	25	3.5	625	2188	81	4	1	Lead, PCBs, TPH-D	**3,100**	<320	**1,500**	<320	**470**	NA	NA	NA	NA	NA
		2.5										**1,100**	<16	<16	<16	**130**	NA	NA	NA	NA	NA
		5										**440**	<16	**110**	<16	**32**	NA	NA	NA	NA	NA
		10										**1,100**	<800	**3,000**	<800	**960**	NA	NA	NA	NA	NA
EX-13	SB22	3	15	25	4	375	1500	56	4	1	Lead, PCBs, Cadmium, Nickel	NA	<33	**16,000**	<33	**361**	**37.3**	NA	**799**	NA	NA
		5										NA	N/A	N/A	N/A	**10.9**	**1.04**	NA	**16**	NA	NA
EX-14	SB58	2	50	25	3	1250	3750	139	4	2	Lead, Cadmium	NA	NA	NA	NA	**389**	NA	NA	NA	NA	NA
		10										NA	NA	NA	NA	<0.485	NA	NA	NA	NA	NA
	SB56	2										NA	NA	NA	NA	**352**	NA	NA	NA	NA	NA
		10										NA	NA	NA	NA	<0.493	NA	NA	NA	NA	NA
	SB-51	2										NA	NA	NA	NA	NA	**36.3**	NA	NA	NA	NA
	SB23	3										NA	NA	NA	NA	NA	**1.92**	NA	NA	NA	NA
EX-15	LA-SB8	1	25	25	2.5	625	1563	58	4	0	Lead	NA	NA	NA	NA	**520**	NA	NA	NA	NA	NA
		2.5										NA	NA	NA	NA	**10**	NA	NA	NA	NA	NA
		5										NA	NA	NA	NA	**5.4**	NA	NA	NA	NA	NA
		10										NA	NA	NA	NA	**4**	NA	NA	NA	NA	NA
		15										NA	NA	NA	NA	**17**	NA	NA	NA	NA	NA
EX-16*	LA-SB7	1	37.5	25	2.5	937.5	2344	87	4	1	PCBs, TPH-d, VOCs	**4,100**	<320	**1,600**	<320	NA	NA	NA	NA	NA	NA
		2.5										<10	<16	<16	<16	NA	NA	NA	NA	NA	NA
		5										<10	<16	<16	<16	NA	NA	NA	NA	NA	NA
		10										<10	<16	<16	<16	NA	NA	NA	NA	NA	NA
		15										<10	<16	<16	<16	NA	NA	NA	NA	NA	NA
		20										<10	<16	<16	<16	NA	NA	NA	NA	NA	NA
		25										<10	<16	<16	<16	NA	NA	NA	NA	NA	NA
EX-17	RMW-5	2	25	25	5.5	625	3438	127	4	0	Lead	NA	NA	NA	NA	**10.2**	NA	NA	NA	NA	NA
		5										NA	NA	NA	NA	**430**	NA	NA	NA	NA	NA
		10										NA	NA	NA	NA	<0.505	NA	NA	NA	NA	NA
EX-18	LA-SB4	1	25	25	2.5	625	1563	58	4	0	Vanadium	NA	NA	NA	NA	NA	NA	NA	NA	**830**	NA
		2.5										NA	NA	NA	NA	NA	NA	NA	NA	**28**	NA
		5										NA	NA	NA	NA	NA	NA	NA	NA	**36**	NA
		10										NA	NA	NA	NA	NA	NA	NA	NA	**22**	NA

Table 11. Summary of Excavation Areas
2101 and 2129 West Rosecrans Avenue
Gardena, California

			Excavation						Estimated Number of Confirmation Samples			TPH	PCBs			Metals					
			Dimensions			Area	Volume					mg/kg	µg/kg			mg/kg					
Excavation Area	Sample ID	Sample Depth (feet)	Length (in feet)	Width (in feet)	Depth (in feet)	square feet	in cubic feet	in cubic yards	Side wall	Excavation Bottom	COC	TPH-D	Aroclor-1248	Aroclor-1254	Aroclor-1260	Lead	Cadmium	Copper	Nickel	Vanadium	Hexavalent Chromium
EX-19	SB-41	3	25	25	4	625	2500	93	4	1	PCBs	NA	**8,800**	**7,300**	**3,800**	NA	NA	N/A	NA	NA	NA
		5										NA	<50	<50	<50	NA	NA	N/A	NA	NA	NA

Notes:
ID = identification
COC = Chemicals of Concern
Proposed excavation dimensions and depths are approximate. The actual depth and lateral extent will vary depending on confirmation soil sampling results.
At some excavation locations, existing samples below target levels are used for vertical delineation and bottom samples are not being proposed.
TPH-D = total petroleum hydrocarbons as diesel, carbon range
VOCs = volatile organic compounds
PCBs = Polychlorinated biphenyls
NA = not applicable, only compounds targeted for specific excavation are presented.
N/A = not available
ND<X = not detected (ND) at the specified laboratory reporting limit (RL)
Analytical results above the laboratory RLs are shown in **BOLD**
The maximum depth of impacted soil removal/excavation will be approximately 5 feet bgs. Any impacted soils left "in place" above target levels at a depth of 5 feet or below 5 feet will be recorded on a deed restriction.
The exception to the maximum excavation depth of 5 feet bgs is at EX-16. If VOC impacts are found at EX-16 deeper then 5 feet bgs, the excavation will extend deeper to remove VOC impacted soil.
Colored analytical results at LA-SB9 indicate the results are above the soil target levels, but will not be targeted for excavation
*Arsenic in soil above 12 mg/kg will be removed from excavations EX-6, EX-8 and EX-16. However, arsenic is not considered a COC at the site and confirmation sampling for arsenic will not be conducted.
Highlighted analytical results are above the soil target levels and are targeted for excavation/remediation.

Table 12. Summary of Waste Disposal Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

Sample ID	Date	Depth (ft bgs)	Zoning of Soil Boring Locations	TPH		PCBs						Title 22 Metals and VI Chromium					
				DRO (mg/kg)	DRO STLC (mg/l)	Aroclor-1248(µg/kg)	Aroclor-1248 STLC (mg/l)	Aroclor-1248 TCLP (mg/l)	Aroclor-1254 (µg/kg)	Aroclor 1254-STLC (mg/l)	Aroclor 1254-TCLP (mg/l)	VI Chromium (mg/kg)	VI Chromium STLC (mg/l)	VI Chromium TCLP (mg/l)	Lead (mg/kg)	Lead STLC (mg/l)	Lead TCLP (mg/l)
Regulatory Screening Levels																	
Residential USEPA Region 9 Screening Levels				**96**	**NA**	**230**	**NA**	**NA**	**240**	**NA**	**NA**	**0.3**	**NA**	**NA**	**400**	**NA**	**NA**
Residential DTSC Hero Note 3 Screening Levels				**NE**	**NA**	**NE**	**NA**	**NA**	**NE**	**NA**	**NA**	**NE**	**NA**	**NA**	**80***	**NA**	**NA**
Commercial/Industrial USEPA Region 9 Screening Levels				**440**	**NA**	**950**	**NA**	**NA**	**950**	**NA**	**NA**	**6.3**	**NA**	**NA**	**800**	**NA**	**NA**
Commercial/Industrial DTSC Hero Note 3 Screening Levels				**NE**	**NA**	**NE**	**NA**	**NA**	**NE**	**NA**	**NA**	**NE**	**NA**	**NA**	**320***	**NA**	**NA**
Waste Criteria																	
STLC (mg/l)				**NA**	**NE**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**
TCLP (mg/l)				**NA**	**NE**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**5.0**	**5.0**	**5.0**
TTLC (mg/kg)				**NA**	**NE**	**50**	**50**	**50**	**50**	**50**	**50**	**500**	**500**	**500**	**1,000**	**1,000**	**1,000**
Ramboll																	
SB33-6	3/4/2019	6		**610**	<0.500	--	--	--	--	--	--	--	--	--		--	--
SB33-7	3/4/2019	7	Residential	**150**	--	--	--	--	--	--	--	--	--	--	--	--	--
SB33-8	3/4/2019	8		**36**	--	--	--	--	--	--	--	--	--	--	--	--	--
SB47-4	3/4/2019	4	Residential	--	--	--	--	--	--	--	--	**0.65**	<0.002	<0.001	**--**	--	--
SB47-5	3/4/2019	5		--	--	--	--	--	--	--	--	<0.4	--	--	**--**		
SB51-2	3/4/2019	2	Residential	--	--	--	--	--	--	--	--	--	--	--	**95.9**	**6.75**	<0.500
SB51-4	3/4/2019	4		--	--	--	--	--	--	--	--	--	--	--	**7.96**	--	--
SB52-1	3/4/2019	1	Residential	--	--	**22,000**	<0.01	<0.01	**11,000**	<0.01	<0.01	--	--	--	--	--	--
SB52-3	3/4/2019	3		--	--	<50	--	--	<50	--	--	--	--	--	--	--	--
RMW2-2	9/25/2019	2	Residential	--	--	--	--	--	--	--	--	--	--	--	**133**	**6.06**	<0.500
RMW2-5	9/25/2019	5		--	--	--	--	--	--	--	--	--	--	--	**1.80**	--	--
RMW3-2	9/26/2019	2	Residential	--	--	--	--	--	--	--	--	--	--	--	**566**	<0.500	<0.500
RMW3-5	9/26/2019	5		--	--	--	--	--	--	--	--	--	--	--	**113**	<0.500	<0.500
RMW3-10	9/26/2019	10		--	--	--	--	--	--	--	--	--	--	--	<0.508	--	--
RMW4-2	9/27/2019	2	Commercial	--	--	--	--	--	--	--	--	--	--	--	**119**	**4.37**	<0.500
RMW4-5	9/27/2019	5		--	--	--	--	--	--	--	--	--	--	--	**0.511**	--	--
RMW5-5	9/26/2019	5	Residential	--	--	--	--	--	--	--	--	--	--	--	**430**	**4.25**	<0.500
RMW5-10	9/26/2019	10		--	--	--	--	--	--	--	--	--	--	--	<0.505	--	--

Table 12. Summary of Waste Disposal Soil Sampling Results
2101 and 2129 Rosecrans Avenue
Gardena, California

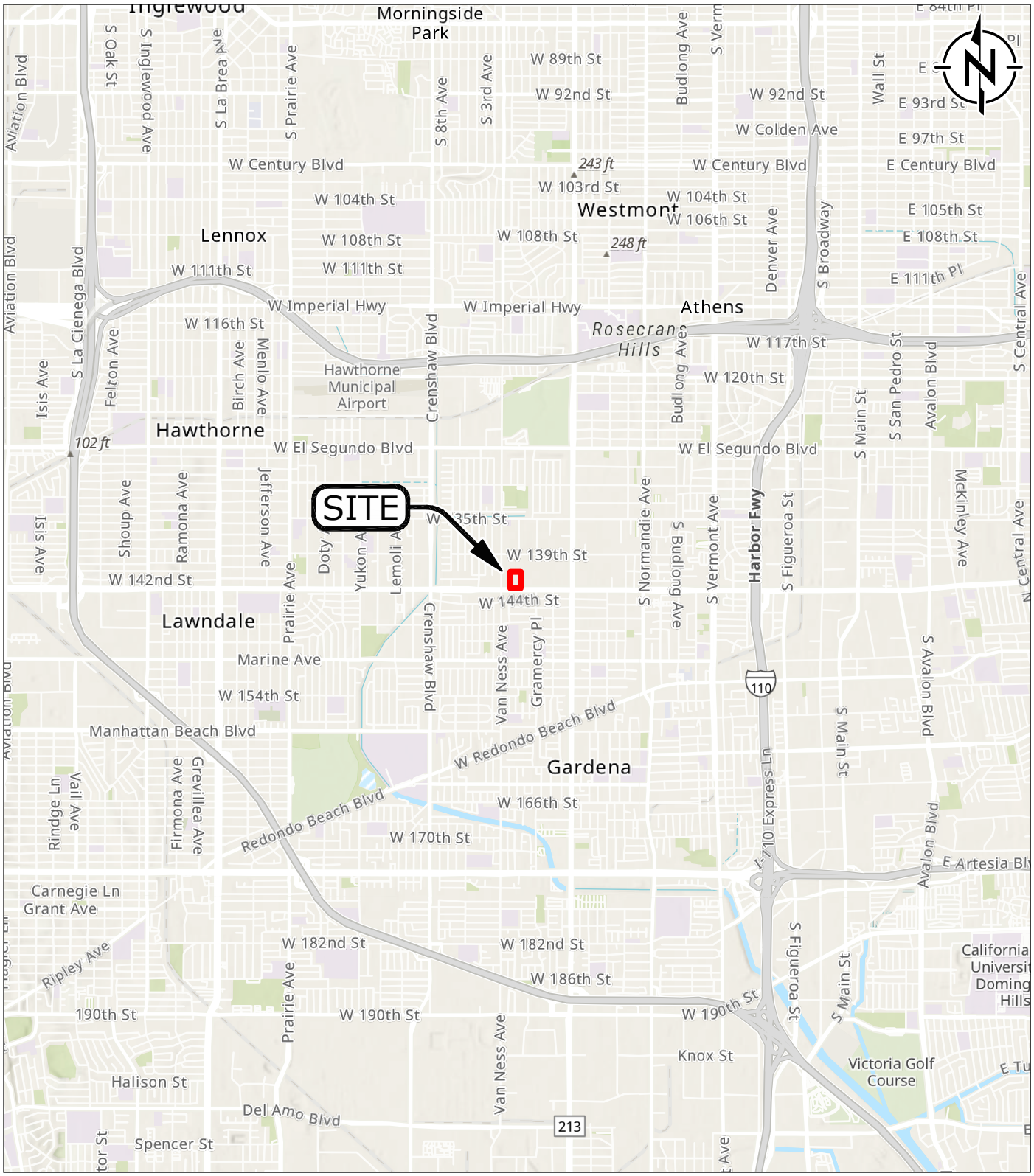
Sample ID	Date	Depth (ft bgs)	Zoning of Soil Boring Locations	TPH		PCBs						Title 22 Metals and VI Chromium					
				DRO (mg/kg)	DRO STLC (mg/l)	Aroclor-1248(µg/kg)	Aroclor-1248 STLC (mg/l)	Aroclor-1248 TCLP (mg/l)	Aroclor-1254 (µg/kg)	Aroclor 1254-STLC (mg/l)	Aroclor 1254-TCLP (mg/l)	VI Chromium (mg/kg)	VI Chromium STLC (mg/l)	VI Chromium TCLP (mg/l)	Lead (mg/kg)	Lead STLC (mg/l)	Lead TCLP (mg/l)
Regulatory Screening Levels																	
Residential USEPA Region 9 Screening Levels				**96**	**NA**	**230**	**NA**	**NA**	**240**	**NA**	**NA**	**0.3**	**NA**	**NA**	**400**	**NA**	**NA**
Residential DTSC Hero Note 3 Screening Levels				**NE**	**NA**	**NE**	**NA**	**NA**	**NE**	**NA**	**NA**	**NE**	**NA**	**NA**	**80***	**NA**	**NA**
Commercial/Industrial USEPA Region 9 Screening Levels				**440**	**NA**	**950**	**NA**	**NA**	**950**	**NA**	**NA**	**6.3**	**NA**	**NA**	**800**	**NA**	**NA**
Commercial/Industrial DTSC Hero Note 3 Screening Levels				**NE**	**NA**	**NE**	**NA**	**NA**	**NE**	**NA**	**NA**	**NE**	**NA**	**NA**	**320***	**NA**	**NA**
Waste Criteria																	
STLC (mg/l)				**NA**	**NE**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**	**5.0**
TCLP (mg/l)				**NA**	**NE**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**5.0**	**5.0**	**5.0**
Fulcrum																	
SB22-3	10/31/2017	3	Residential	--	--	<33.0	--	--	**16,000**	--	--	**1.50**	--	--	**361**	**38.7**	--
SB31-1	10/24/2018	1	Residential	<10	--	**5,930**	--	--	< 33.0	--	--	<0.5	--	--	**121**	**4.11**	--
SB32-2.5	10/24/2018	2.5	Residential	<10	--	<33.0	--	--	**41.7**	--	--	<0.5	--	--	**119**	**3.64**	--

Notes:
DTSC - Toxic Substances Control Department
ft bgs - feet below ground surface
ID - identification
µg/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
mg/l - milligrams per liter
NA - not applicable
NE - not established
NL - not listed
PCBs- Polychlorinated biphenyls
STLC - Soluble Threshold Limit Concentration
TCLP - Toxicity characteristic leaching procedure
TPH - Total Petroleum Hydrocarbons
TTLC - Total threshold limit concentration
USEPA - United States Environmental Protection Agency
VI Chromium - Hexavalent Chromium
-- - not analyzed
<X - concentration was not detected above the laboratory reporting limit

The listed screening levels are the USEPA Region IX Regional Screening Levels (RSLs) for industrial/commercial land use (April 2019) and/or DTSC-modified human health Risk Assessment Note 3 - Screening levels (SLs) for industrial/commercial land use (April 2019). Results are compared to the most conservative screening level.

Result exceed the USEPA/DTSC screening levels for commercial/industrial soil
Result exceed the USEPA/DTSC screening levels for residential soil
Result exceeds the Waste Criteria

FIGURES



Legend

Site Boundary

0 0.5 1 1.5 2

Scale in Miles

KEY MAP

Source: Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
Map Scale: 1: Spatial Reference: NAD 1983 StatePlane California V FIPS 0405 Feet; Map Center: 118°18'57"W 33°54'7"N

C:\Projects\G3 Urban\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 01 - Site Location Map

RAMBOLL

Site Location Map

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
1

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C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 02 - General Site Layout

Former Parts Wash Location

2140 West 139th Street

Former Steam Cleaning Bay

Former Paint Booths

Former Body Shop

Former Vault

Former Clarifier

Former Car Wash

Possible Former UST Location/ Asphalt Patch

Former Mechanic Shop

Former Compressor

Former Waste Oil

Former AST

Former Commercial Building

Former 3,000-gallon "Super UST" Location

Former Clarifier

Former Office

Former Bailing Shaft

Former AST and USTs Location

Legend

- Former Northwestern UST: 4-Compartment 3,000 gallon UST containing motor oil, automatic transmission fluid, waste oil and wastewater. Closure documentation available.
- Former Southern USTs: 2,000 gallon gasoline UST and 10,000 gallong diesel fuel UST. No closure documentation available.
- Possible Former UST Location: Identified by Fulcrum based on surface features (asphalt patch). However based on the results of a geophysical survey, a UST was not identified in this area.
- Trench Drain
- Subsurface Piping
- Site Boundary

Notes:
1. UST piping location documented in the Underground Storage Tank Removal and Closure Report (UST Closure Report) prepared by Environmental Support Technologies.
2. Subsurface drainage and piping locations are documented in the County of Los Angeles Department of Engineer-Facilities Industrial Waste Survey.
3. Subsurface piping layout is approximate and not to scale.
4. Above ground structures and buildings were demolished in February 2020. The hardscape at the site is still intact.

0 50

SCALE IN FEET

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General Site Layout and Features

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
2

PROJECT: 1690012501

C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 3 - Surrounding Properties

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Surrounding Properties

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
3

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C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 4 - Sample Locations

2140 West 139th Street

PAOC-1
Former Parts Wash Location
SB-55
SV-25
SB-54
SB-53
SB29
SB14
TW-1
SB-1
RMW-2
SV-1
SB32
SV-19
Former Steam Cleaning Bay
SB-30
SB31
TW-5
A6
SV-15
SB-31
SB-5
PAOC-6
SB-32
SB33
TW-2
SB-2
SB-33
SV-16
RMW-1
SV-17
SV-18
C4
Former Paint Booths
C5
Former Body Shop
SB9
SB-10
Former Vault
Vault N
CL1-N
CL1-B
CL1-S
SB12
SB-34
SB10
SB11
LA-SB5
SB13
SB-9
SB-35
Former Clarifier
PAOC-4
C1
LA-SB6
SB15
Former Car Wash
A2
SV-4
SB-4
SB34
SB-14
Possible Former UST Location/ Asphalt Patch
SB17
PAOC-2
SB25
Former Compressor
Former Mechanic Shop
C3
SB-37
A5
SB8
SB7
SB-13
SV-23
C6
SB6
SB-36
SB-11
SB45
SV-24
LA-SB2
SV-3
PAOC-3
SV-5
LA-SB4
SB5
Former Waste Oil
A1
SV-2
SB16
C2
Former AST
SB30
LA-SB3
SV-22
SV-20
SB-39
A3
SB-42
SB-40
SB-16
C7
Former Commercial Building
SB-15
TW-3
SB-3
SB-18
SB-41
SB-17
SB-38
SB28
LA-SB1
SB35
A4
SB36
SV-21
RMW-3
Former Clarifier
SB2
CL1-N
SB1
CL1-B
CL1-S
Clarifier S
SV-7
SB-7
SB-43
SV-6
SB-6
SV-8
SB-8
A7
SB27
SB42
SB-47
RSB-61
SB-48
SB-21
RSB-62
RSB-60
RSB-63
SB-45
SB-20
SB-44
SB39
LA-SB9
SB-49
RSB-59
SB-50
SB22
SB-22
SB-19
LA-SB10
SB-46
SB-52
SB-51
SB23
SB-56
SB-58
SB-57
SV-9
SV-11
SV-10
LA-SB8
SV-28
SB-24
Former Bailing Shaft
PAOC-5
SB37
SV-12
SB-12
SV-26
SB-23
SB24
LA-SB7
SB41
SV-27
SB-27
SB43
Former Office
C8
SB-25
RMW-4
SB40
SB-26
SB-28
SB44
PAOC-2
SB20
SB18
SB21
SB19
SB38-NW
SB38
RMW-5
SV-14
SB26
SB-29
SV-13
Storm Drain
Former AST and USTs Location
TW-4

Legend

Site Boundary

Ramboll, 2019
- Soil Sample Location
- Soil Vapor Probe Location
- Groundwater Monitoring Well Location
- Piezometer Well Location
- Concrete/Asphalt Sample Location
- Sediment Sediment Sample from Clarifier

Leighton, 2018
- Soil Sample Location
- Soil and Soil Vapor Sample Location
- Groundwater, Soil, and Soil Vapor Sample Location

Fulcrum, 2017-2018
- Soil Sample Location
- Soil and Soil Vapor Sample Location
- Groundwater, Soil, and Soil Vapor Sample Location

Potential Areas of Concern (PAOC)
- PAOC-1: Former Parts Wash Location
- PAOC-2: Former Above Ground Storage Tanks (ASTs) and Underground Storage Tanks (USTs)
- PAOC-3: Former Excavation Area\Central Portion of the site
- PAOC-4: Clarifiers
- PAOC-5: Former Bailing Shaft
- PAOC-6: Northern Site Boundary and Car Wash

0 50
SCALE IN FEET

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Site Exploration Plan and Potential Areas of Concern

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
4

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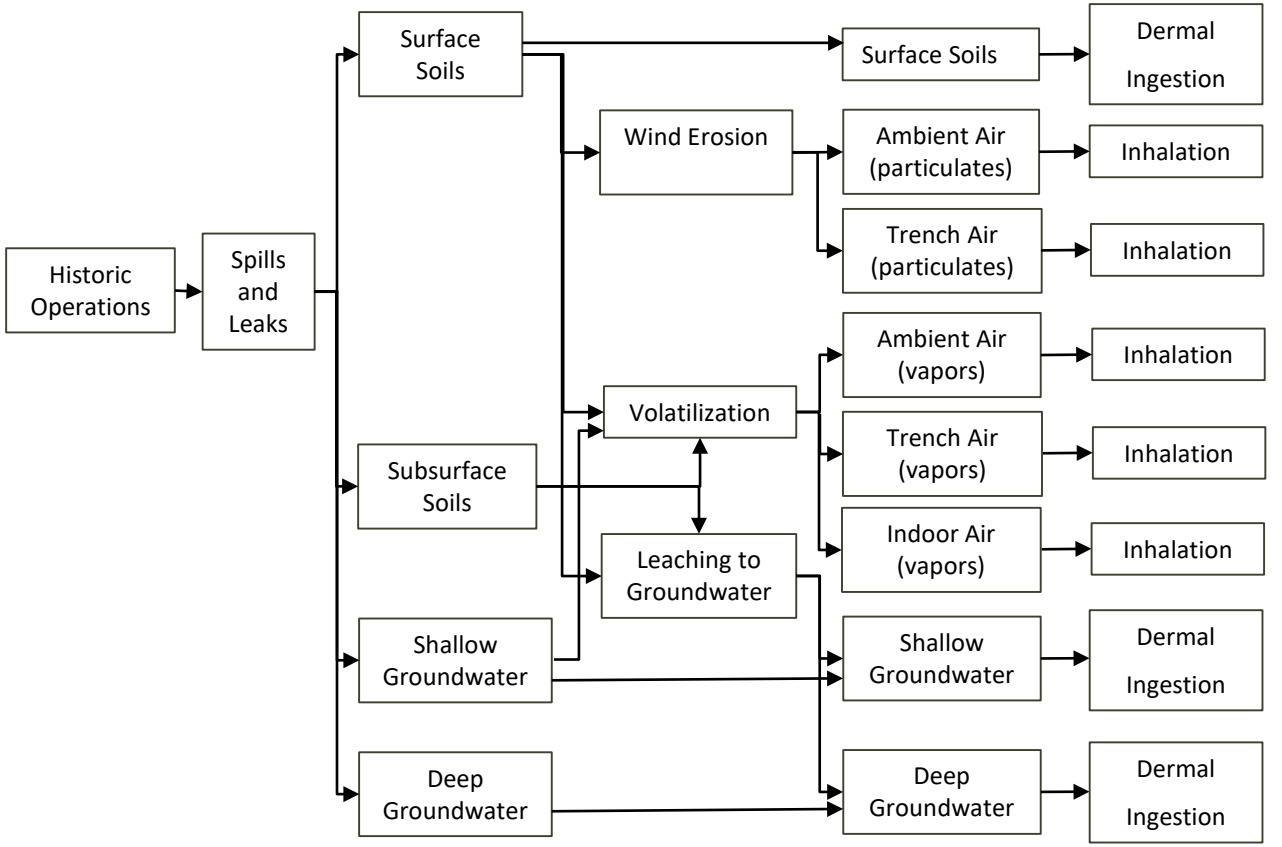
Z:\01_Projects\G3 Urban\03_GIS\20191212_ExcavationReport\Figure 5 - Gardena CSM.pptx



Primary Source	Primary Release Mechanism	Potential Secondary Source	Secondary Release Mechanism	Exposure Media	Exposure Route	Residents	Commercial Composite Worker	Construction Trench Worker
Historic Operations	Spills and Leaks	Surface Soils		Surface Soils	Dermal Ingestion	O	X	X
						O	X	X
			Wind Erosion	Ambient Air (particulates)	Inhalation	O	X	O
				Trench Air (particulates)	Inhalation	O	O	X
			Volatilization	Ambient Air (vapors)	Inhalation	X	X	O
				Trench Air (vapors)	Inhalation	O	O	X
				Indoor Air (vapors)	Inhalation	X	X	O
		Subsurface Soils	Leaching to Groundwater	Shallow Groundwater	Dermal Ingestion	O	O	O
						O	O	O
		Shallow Groundwater						
		Deep Groundwater		Deep Groundwater	Dermal Ingestion	O	O	O
						O	O	O

Notes:

X = Potentially Complete Exposure Pathway

O = Incomplete Exposure Pathway

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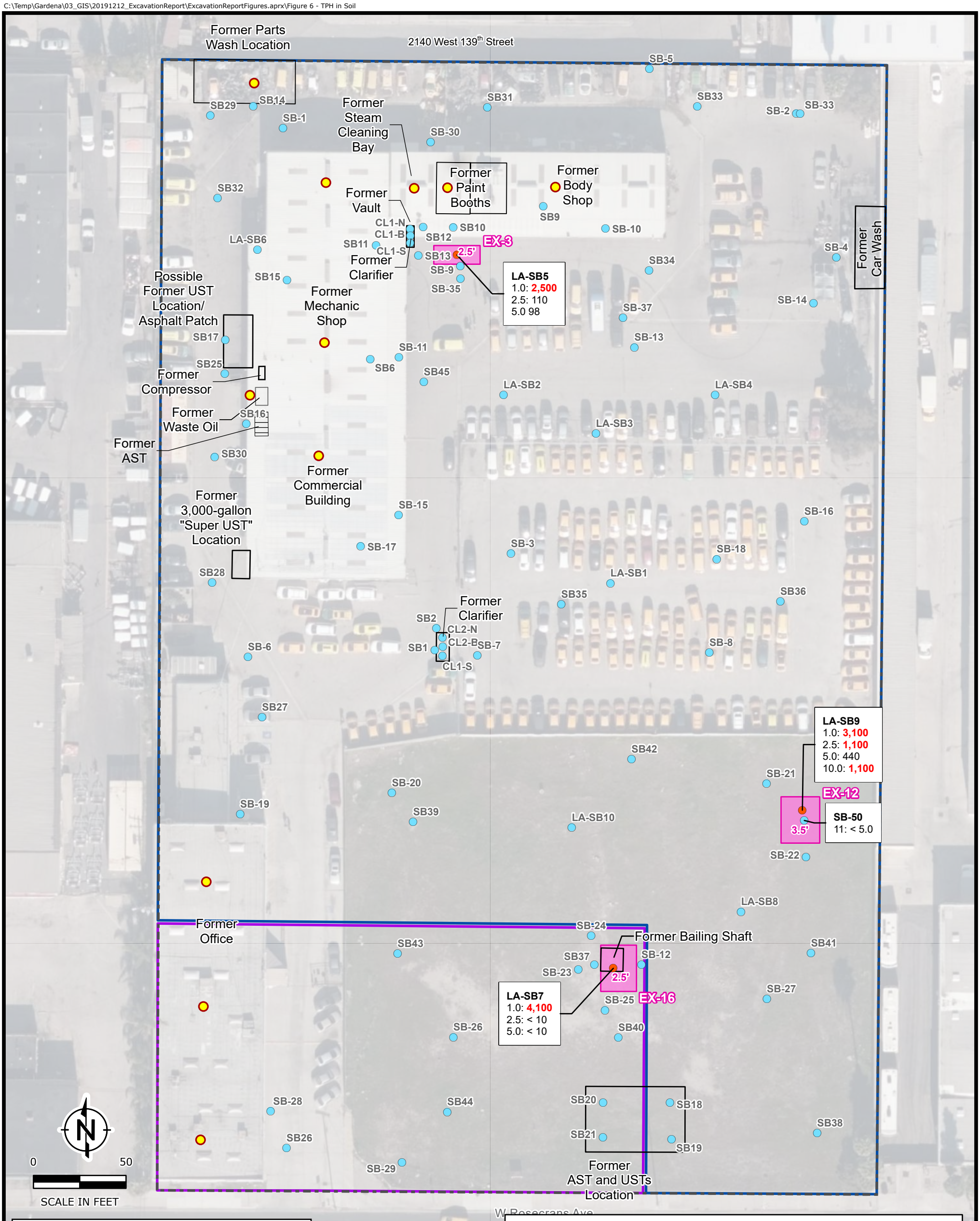
Conceptual Site Model

2101& 2129 West Rosecrans Avenue
Gardena, California

FIGURE
5

PROJECT: 1690012501

C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 6 - TPH in Soil



Legend

- 2' Proposed Excavation Area and Depth (ft bgs)

Proposed Sampling Locations
- Soil Sampling Location

Historical Sampling Locations
- Soil Sample Location with TPH Exceedance
- Soil Sample Location with no TPH Exceedance
- Proposed Commercial Boundary
- Proposed Residential Boundary
- Site Boundary

Label Explanation:
Sample ID
Depth (ft bgs): TPH DRO (mg/kg)

Notes:
1. Excavation depth and lateral extent may vary depending on confirmation soil sampling results.
2. 1,200: Exceedance of Commercial screening level
3. < x: Not detected above the laboratory reporting limit.
4. DRO: Diesel Range Organics
5. ft bgs: feet below ground surface
6. TPH: Total Petroleum Hydrocarbons
7. Results are in milligrams per kilogram (mg/kg)
8. Commercial San Francisco Bay Regional Water Quality Control Board (SFRWQCB) screening levels (SLs) for TPH DRO are 1,100 mg/kg.
9. Ramboll is proposing to collect 11 soil samples for TPH DRO analysis from beneath/adjacent to the footprints of the two main buildings and from the former parts wash station during grading activities at the site. The sampling locations and depths will be adjusted based on field observations during grading.

RAMBOLL

Proposed TPH DRO Soil Sampling Locations and Excavation Layout

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
6

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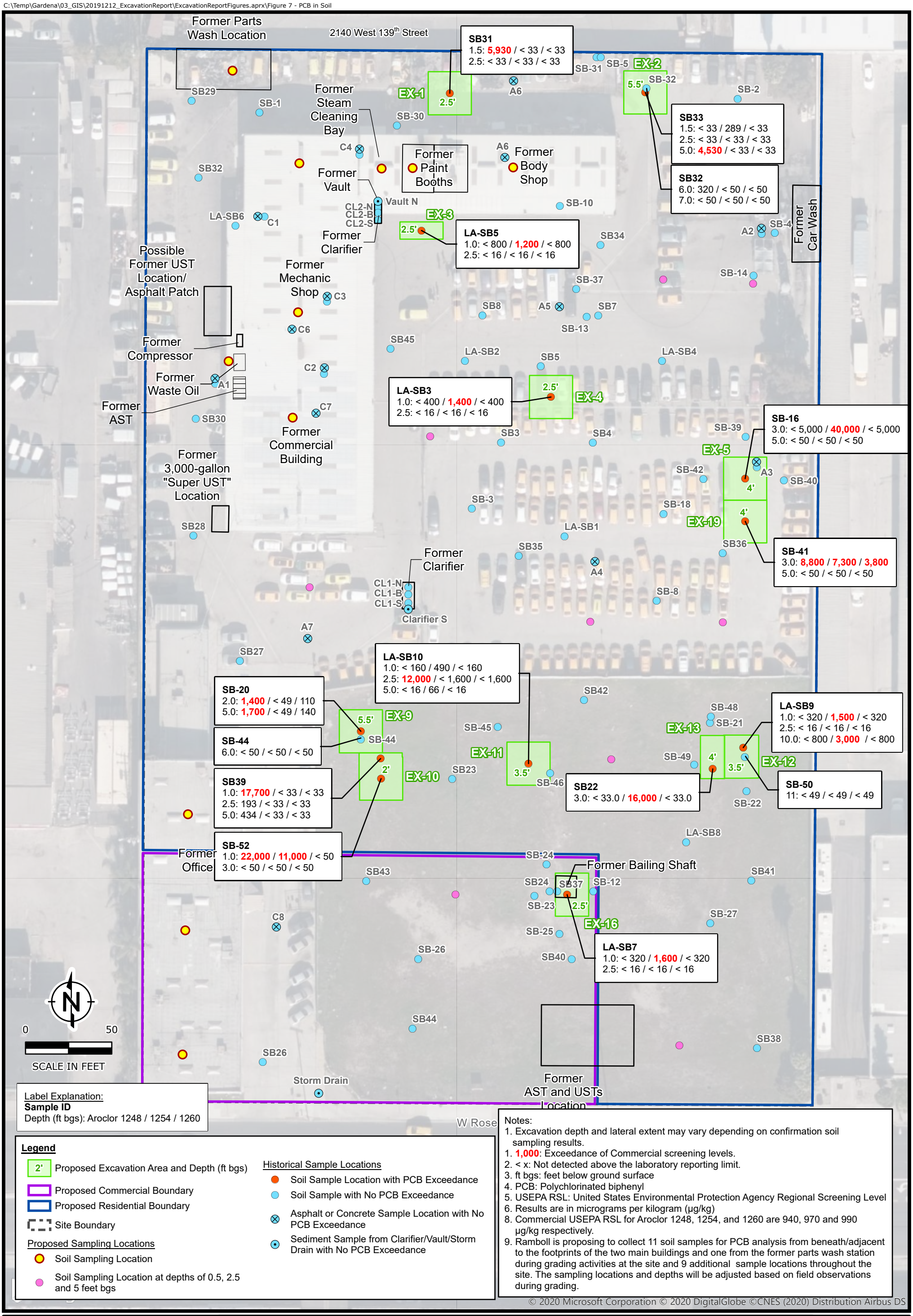
C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 7 - PCB in Soil



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Proposed PCB Soil Sampling Locations and Excavation Layout

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
7

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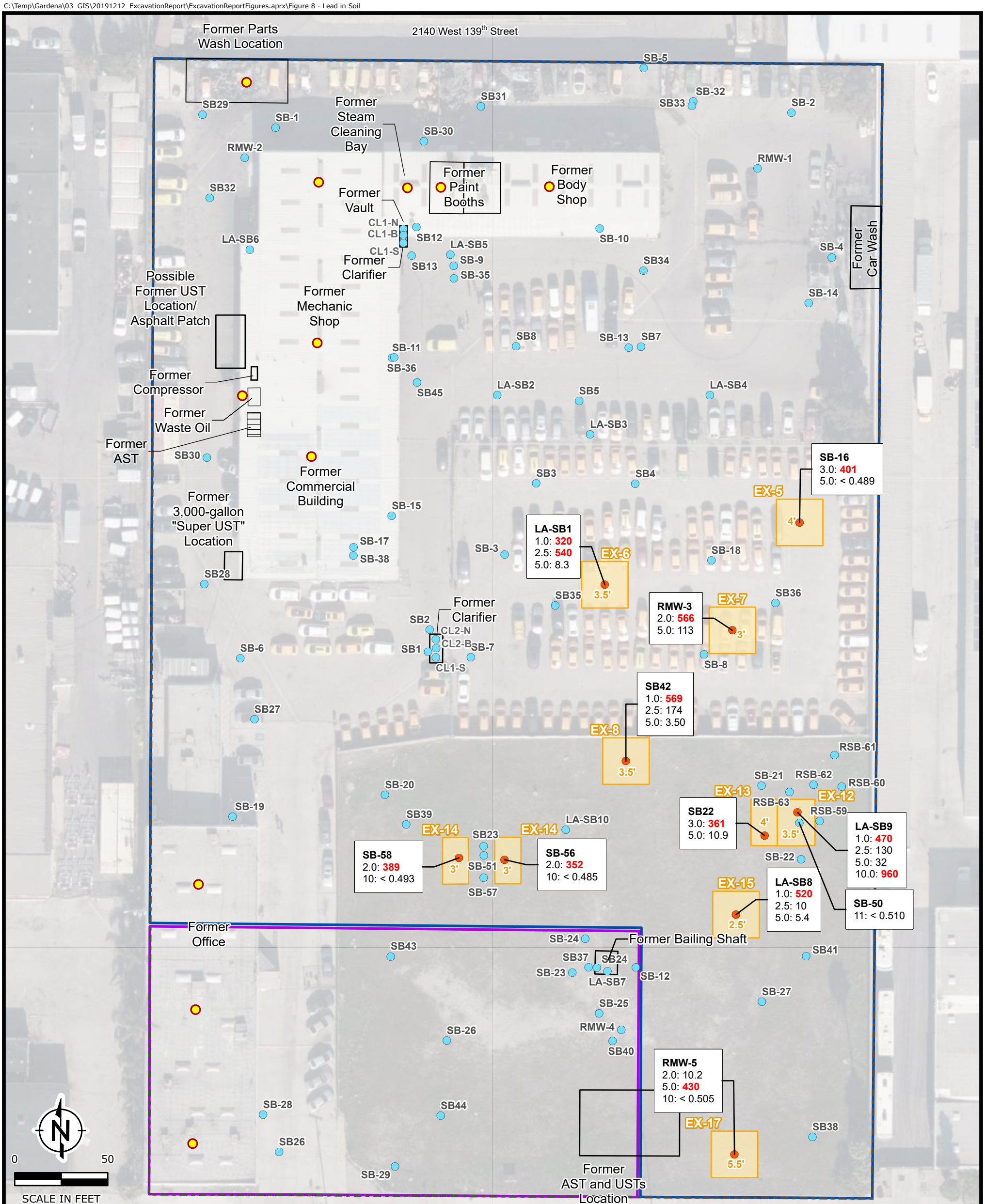
C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 8 - Lead in Soil



Legend

- 3' — Proposed Excavation Area and Depth (ft bgs)

Proposed Sampling Locations
- Soil Sampling Location

Historical Sampling Locations
- Soil Sample with Lead Exceedance
- Soil Sample Location with No Lead Exceedance
- Proposed Commercial Boundary
- Proposed Residential Boundary
- Site Boundary

Label Explanation:
Sample ID
Depth (ft bgs): Lead (mg/kg)

Notes:
1. Excavation depth and lateral extent may vary depending on confirmation soil sampling results.
2. **400**: Exceedance of Commercial screening level. The Commercial DTSC HHRA Note 3 screening level for lead is 320 mg/kg.
3. Sample locations without summary boxes did not contain lead above applicable screening levels.
4. < x: Not detected above the laboratory reporting limit.
5. DTSC HHRA: Department of Toxic Substances Control Human Health Risk Assessment
6. ft bgs: feet below ground surface
7. Results are in milligrams per kilogram (mg/kg)
8. Ramboll is proposing to collect 11 soil samples for Lead analysis from beneath/adjacent to the footprints of the two main buildings and from the former parts wash station during grading activities at the site. The sampling locations and depths will be adjusted based on field observations during grading.

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Proposed Lead Soil Sampling Locations and Excavation Layout

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
8

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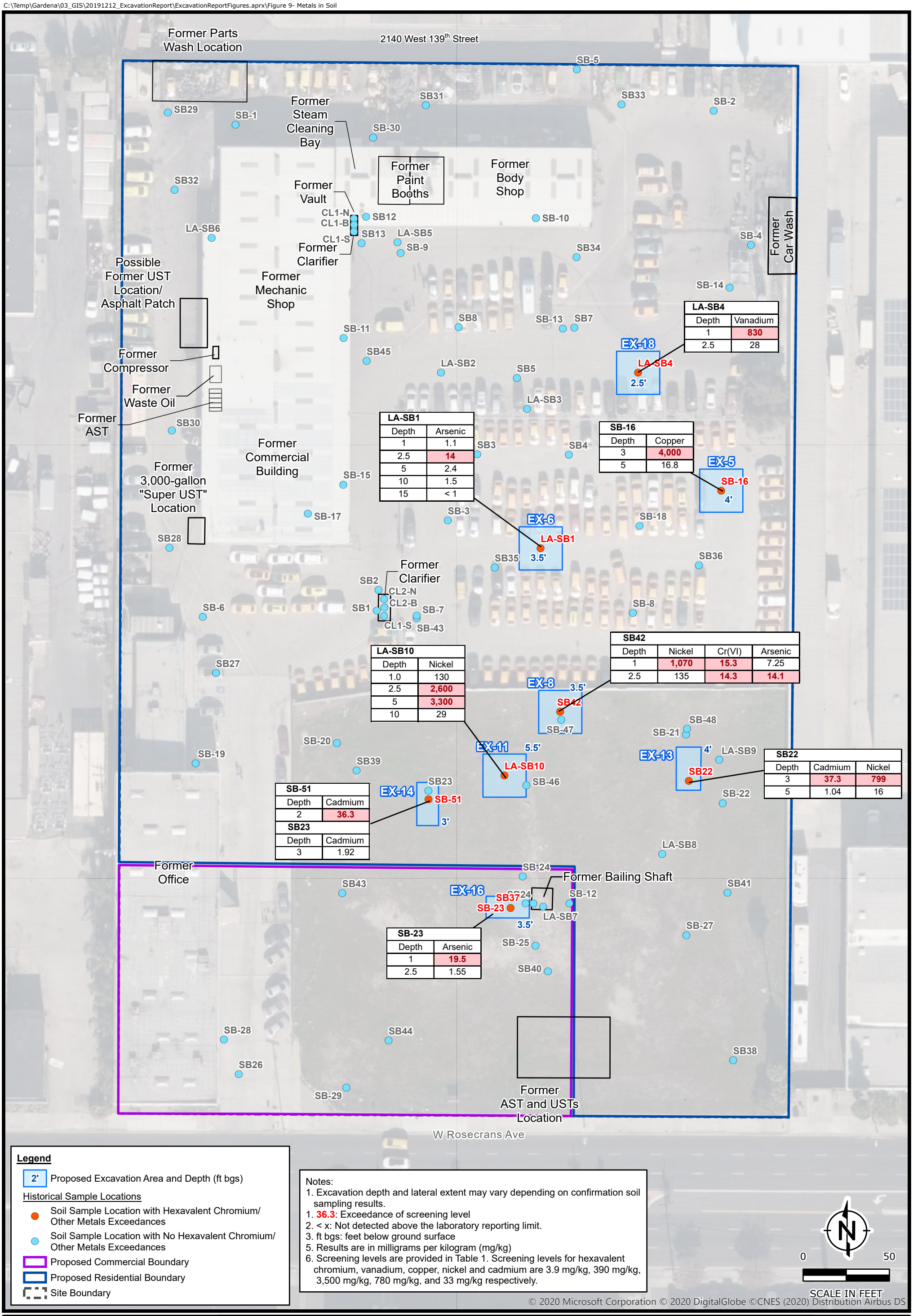
C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 9- Metals in Soil



RAMBOLL

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Proposed Hexavalent Chromium and Other Metals Excavation Layout

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
9

PROJECT: 1690012501

C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 10 - Overall Excavation Plan

2140 West 139th Street

Former Parts Wash Location

Former Steam Cleaning Bay

Former Vault

Former Clarifier

Former Paint Booths

Former Body Shop

Former Car Wash

Former Mechanic Shop

Possible Former UST Location/ Asphalt Patch

Former Compressor

Former Waste Oil

Former AST

Former Commercial Building

Former 3,000-gallon "Super UST" Location

Former Office

Former Clarifier

Former Bailing Shaft

Former AST and USTs Location

W Rosecrans Ave

EX-1
SB31
2'

EX-2
SB33
5.5'

EX-3
2.5'
LA-SB5

EX-4
LA-SB3
2.5'

EX-5
SB-16
4'

EX-6
LA-SB1
3.5'

EX-7
RMW-3
3'

EX-8
SB42
3.5'

EX-9
SB-20
5.5'

EX-10
SB39
SB-52
2'

EX-11
LA-SB10
5.5'

EX-12
LA-SB9
3.5'

EX-13
4'
SB22

EX-14
SB-58
3'
SB-51
3'
SB-56
3'

EX-15
LA-SB8
2.5'

EX-16
SB-23
LA-SB7
2.5'

EX-17
RMW-5
5.5'

EX-18
LA-SB4
2.5'

EX-19
SB-41
3'

0 50

SCALE IN FEET

Legend

Excavation Classification and Depth (ft bgs)

- 2' Lead
- 2' Lead/Metals
- 2' Lead/PCB/Metals
- 2' Lead/PCB/TPH
- 2' Metals
- 2' PCB
- 2' PCB/Metals
- 2' PCB/TPH
- 2' PCB/TPH/VOC

Site Boundary

Soil Sample Location with Exceedances (Targeted for Excavation)

Notes:
1. Excavation depth and lateral extent may vary depending on confirmation soil sampling results.
2. Metals include hexavalent chromium, arsenic, vanadium, copper, nickel and cadmium. See Table 7 for additional details.
3. ft bgs: feet below ground surface
4. PCB: Polychlorinated biphenyl
5. TPH: Total Petroleum Hydrocarbons (as diesel range organics)
6. VOCs: Volatile Organic Compounds

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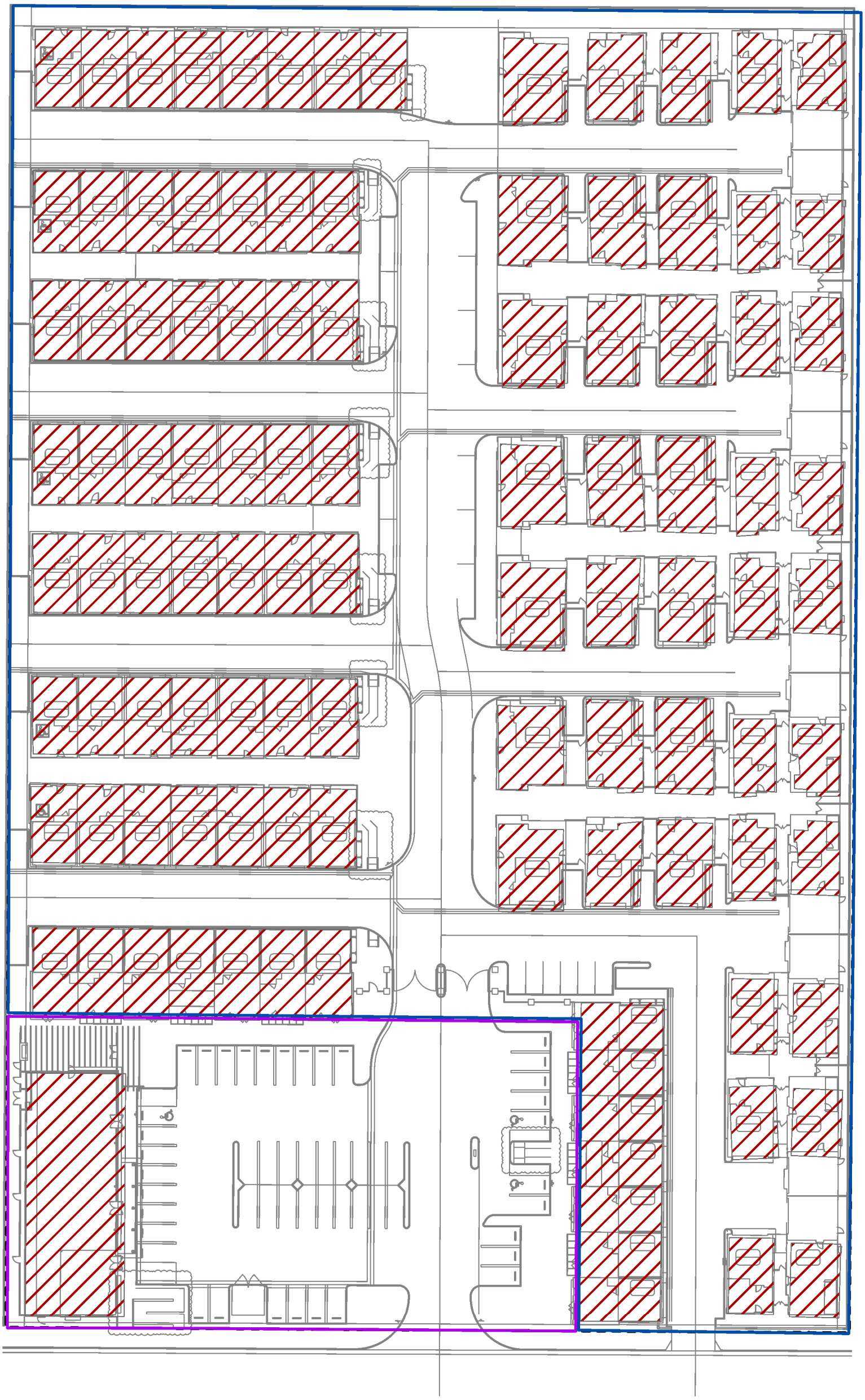
Summary of Proposed Excavations

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
10

PROJECT: 1690012501

C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 11A - VIMS Layout



Legend
- Vapor Mitigation System
- Site Boundary
- Proposed Commercial Boundary
- Proposed Residential Boundary

Rosecrans Ave

Source: Angeleno Associates, Inc. 2019

0 50
SCALE IN FEET

RAMBOLL

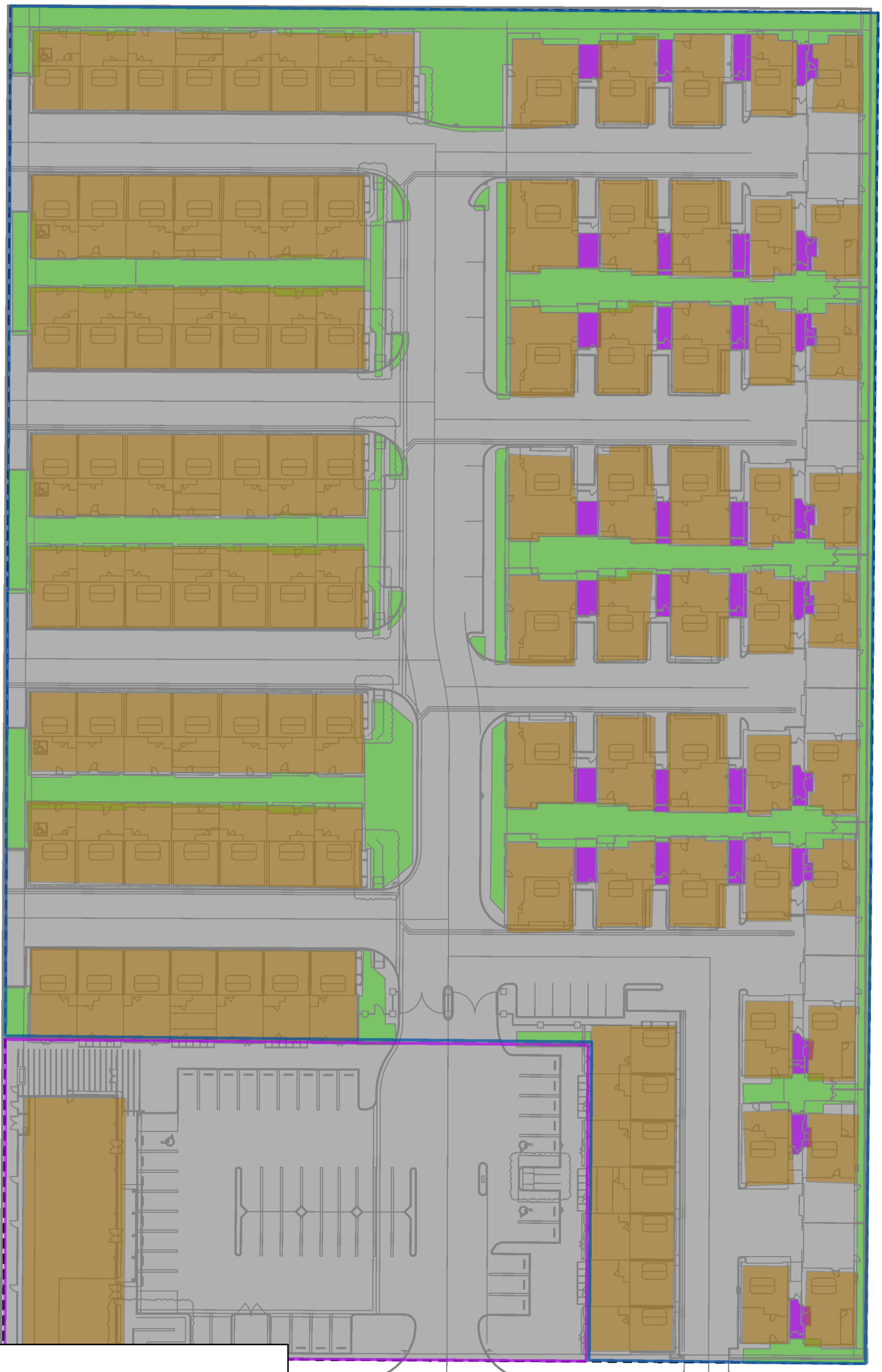
Proposed Development Plan and Proposed Vapor Intrusion Mitigation System Layout

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
11A

DRAFTED BY: MKNEALE | DATE: 3/25/2020 | PROJECT: 1690012501

C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 11B - VIMS Layout1



Legend

- Open Space/ Imported clean fill from 0-2 ft bgs
- Backyard covered with hardscape/concrete
- Proposed residential/commercial structures
- Proposed pavement
- Site Boundary
- Proposed Commercial Boundary
- Proposed Residential Boundary

Notes:
1. Layouts depictions are conceptual and approximate

0 50

SCALE IN FEET

Source: Angeleno Associates, Inc. 2019

RAMBOLL

Proposed Development Plan and Proposed Clean Fill and Hardscape Layout

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
11B

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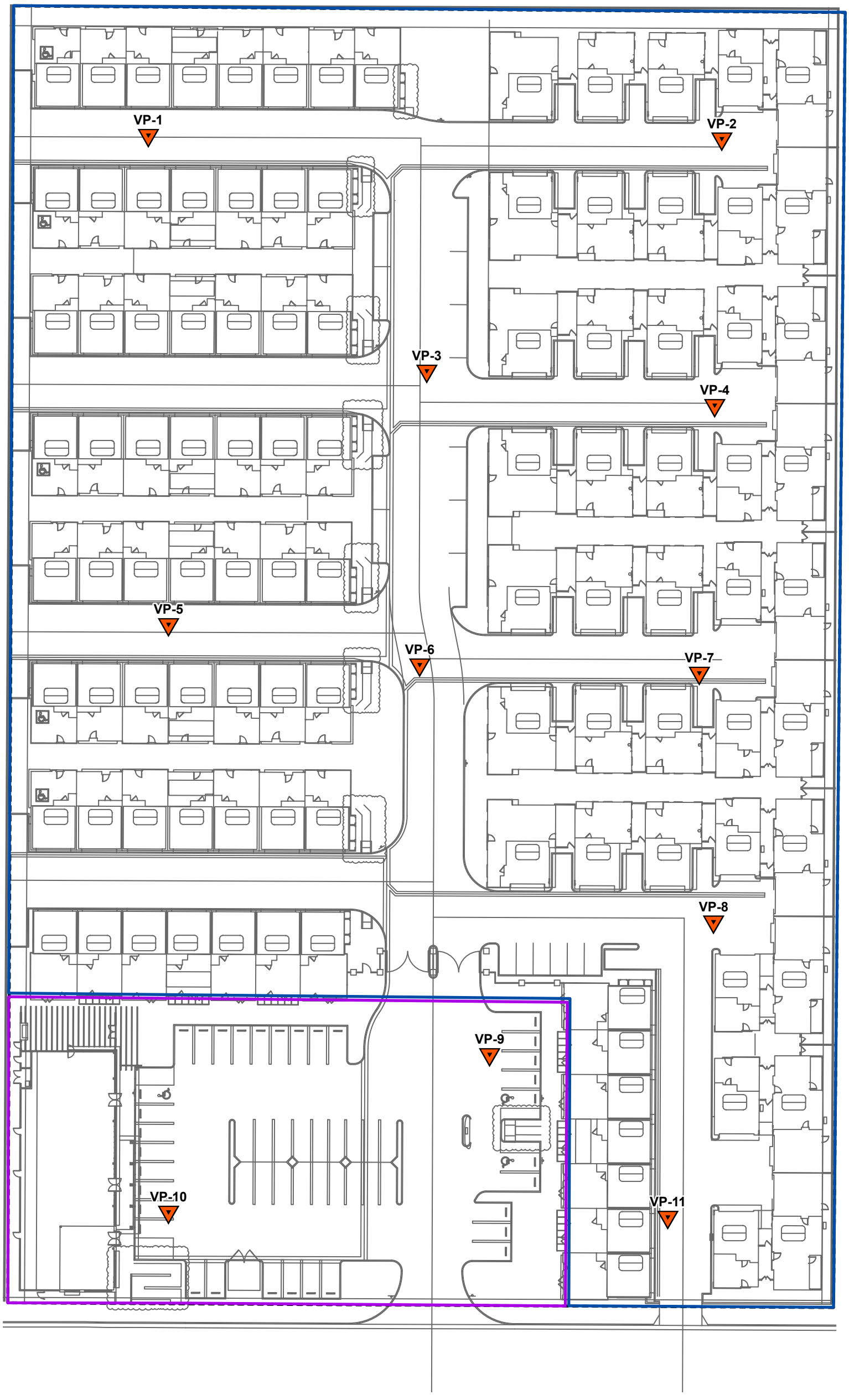
C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 12 - Proposed Soil Vapor Probes



Legend

- Proposed Soil Vapor Probe Location
- Proposed Commercial Boundary
- Proposed Residential Boundary
- Site Boundary

Source: Angeleno Associates, Inc. 2019

N

0 50

SCALE IN FEET

RAMBOLL

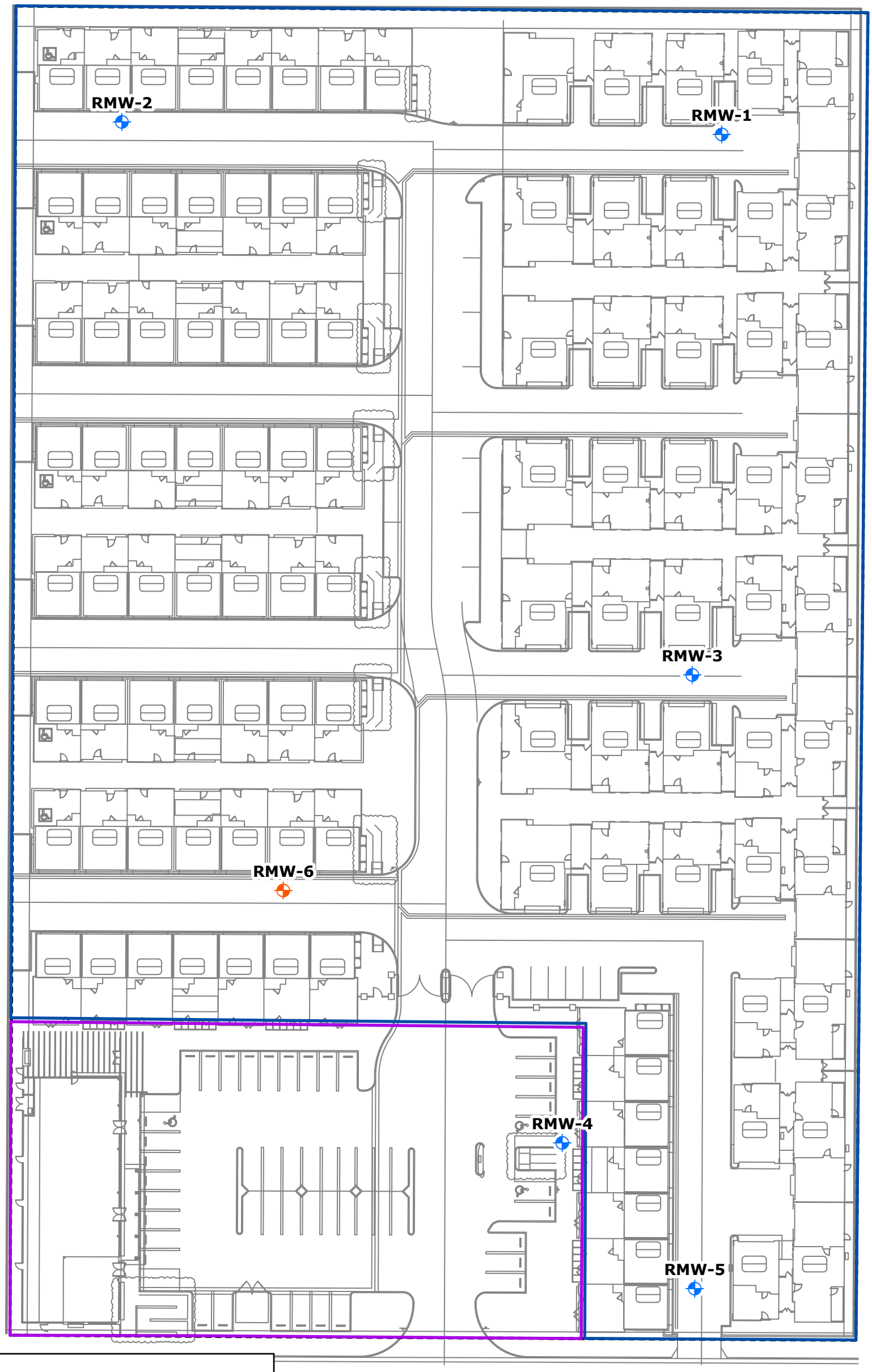
Proposed Development Plan and Proposed Soil Vapor Monitoring Well Network

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
12

DRAFTED BY : MKNEALE | DATE: 3/25/2020 | PROJECT: 1690012501

C:\Temp\Gardena\03_GIS\20191212_ExcavationReport\ExcavationReportFigures.aprx\Figure 13 - Proposed Monitoring Wells



Legend

- Proposed Groundwater Monitoring Well Location
- Existing Groundwater Monitoring Well Location
- Site Boundary
- Proposed Commercial Boundary
- Proposed Residential Boundary

Source: Angeleno Associates, Inc. 2019

RAMBOLL

Proposed Development Plan and Proposed Groundwater Monitoring Well Network

2101 & 2129 West Rosecrans Avenue
Gardena, California

FIGURE
13

DRAFTED BY : MKNEALE | DATE: 3/25/2020 | PROJECT: 1690012501

APPENDIX A
DEVELOPMENT OF RISK BASED TARGET CONCENTRATIONS

APPENDIX A – DEVELOPMENT OF RISK BASED TARGET CONCENTRATIONS PREPARED BY

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Appendix A

Development of RISK-BASED TARGET CONCENTRATIONS

This appendix describes the derivation of Risk-Based Target Concentrations (RBTCs) which are developed for chemicals of potential concern (COPCs) at the Site. RBTCs were developed following the recommended methodologies from DTSC (Cal/EPA 2011, 2019a, 2019b, and 2019c) and USEPA (1989, 2004, 2009, and 2019) with consideration of site-specific information.

The RBTC represents the concentration of a chemical that is protective of human health. As a conservative measure, the RBTCs were calculated to correspond to a target cancer risk of one in a million (1×10^{-6}) and a target non-cancer hazard quotient (HQ) of one. The National Contingency Plan (NCP) (40 Code of Federal Regulations [CFR] § 300) is commonly cited as the basis for target risk and hazard levels. According to the NCP, lifetime incremental cancer risks posed by a site should not exceed 1×10^{-6} to one hundred in a million (1×10^{-4}), and noncarcinogenic chemicals should not be present at levels expected to cause adverse health effects (i.e., HQ greater than one). As a risk management policy, the Cal/EPA generally considers 1×10^{-6} to be a point of departure for purposes of making risk management decisions, with most approved remediation achieving incremental risk levels of ten in a million (1×10^{-5}) or lower.

Chemicals detected at least once in groundwater, soil vapor samples and soil samples collected in 2017-2019 on Site are shown in Table A-1. RBTCs were developed for all volatile chemicals detected in soil vapor and groundwater and all chemicals detected in soil listed in Table A-1. For all chemicals detected in soil, the regulatory screening levels (Regulatory SLs) or alternative screening levels (Alternative SLs) were considered to evaluate on-Site soil concentrations.

RBTCs were developed under potential future uses for residents, commercial/industrial composite workers, and construction trench workers. The following sections discuss the steps and components required for developing RBTCs for the on-site populations.

1. CONCEPTUAL SITE MODEL

A Conceptual Site Model (CSM) was developed for the Site to describe the relationships among chemical sources, exposure pathways, and potentially exposed populations and is presented in Figure 5. Based on the planned future use of the Site, the CSM identified three potential future on-site populations (residents, commercial/industrial composite workers, and construction trench workers) and associated potential exposure routes.

As reflected on Figure 5, groundwater exposure through groundwater dermal contact and ingestion is incomplete because use of drinking water will be precluded by a deed restriction. Soil direct contact pathways for residents is incomplete because the Site will be covered with clean fill or concrete.

During redevelopment, construction workers may be exposed to COPCs during excavation activities. After redevelopment, commercial/industrial composite workers may be exposed to COPCs via the vapor intrusion pathways from soil vapor and groundwater (i.e., both indoor and outdoor pathways) and direct contact with impacted soil. Residents (typical residential adult and child) may be exposed to COPCs via the vapor intrusion pathways from soil vapor and groundwater.

RBTCs will be developed for each of the three identified environmental media (i.e., soil vapor, groundwater and soil) for corresponding hypothetical exposed population consistent with the CSM shown on Figure 5.

2. EXPOSURE ASSESSMENT

To evaluate the human health risks posed by a site, it is necessary to identify the populations that may potentially be exposed to the chemicals present and to determine the pathways by which these exposures may occur. A CSM describing the potentially exposed populations and exposure pathways identified for the Site is presented in Section 1. The CSM is included as Figure 5.

2.1 Potentially Exposed Human Populations

Based on the planned future use of the Site, the CSM identified three potential future on-site populations and associated potential exposure routes as discussed below:

2.1.1 Residents

The hypothetical future on-site residents may be exposed to contamination through inhalation of vapors in indoor or ambient air migrated from groundwater, soil and soil vapor at any depth.

2.1.2 Commercial/Industrial Composite Workers

The hypothetical future on-site commercial/industrial composite workers may be exposed to contamination through dermal contact and ingestion of surface soils, inhalation of windblown particulates in ambient air of surface soils, and inhalation of vapors in indoor or ambient air migrated from groundwater, soil and soil vapor at any depth.

2.1.3 Construction Workers

A hypothetical future on-site construction worker scenario was added based on-site redevelopment. The construction worker scenario includes activities in a trench. The construction workers may be exposed to contamination through dermal contact and ingestion of soils during excavation activities, inhalation of windblown particulates of soils, and inhalation of vapors in the trench air migrated from groundwater, soil and soil vapor at any depth.

2.2 Exposure Pathways

Based on the CSM, the on-site potential exposure media included in this analysis include soil vapor and soil. Each of these media is discussed separately below.

2.2.1 Soil Vapor

Future on-site populations, including residents, commercial composite workers and construction trench workers, may potentially be exposed to chemicals in soil vapor as a result of migration of vapors from the subsurface to indoor air, outdoor air and trench air. The construction worker was conservatively assumed to be exposed in a trench setting, placing them closer to the potential source.

2.2.2 Groundwater

Future on-site populations, including residents, commercial composite workers and construction trench workers, may potentially be exposed to chemicals in groundwater as a result of migration of vapors from the subsurface to indoor air, outdoor air and trench air. The construction worker was conservatively assumed to be exposed in a trench setting, placing them closer to the potential source.

2.2.3 Soil

Future on-site commercial composite workers and construction trench workers may be exposed to chemicals in soil by means of direct contact with soil (incidental ingestion and dermal contact) and inhalation (windblown particulates and vapor).

2.3 Intake Estimation

For residents or commercial composite workers exposed to air migrating from soil vapor or groundwater, Regulatory SLs for residential air or commercial air were applied in concert with an appropriate attenuation factor. For commercial composite workers exposed to soil, Regulatory SLs for commercial soil were applied. Thus, exposures were not quantified to calculate soil vapor, groundwater and soil RBTCs for residents and commercial composite workers.

Exposures were quantified for construction trench workers. The methodology to calculate the intake factors (IF) are from DTSC (Cal/EPA 2019a) and USEPA (USEPA 1989, 2004, and 2009). The exposure assumptions used to develop and calculate the intake factors are presented in Table A-2. The assumptions used to develop the intake factors are based on default assumptions from DTSC (Cal/EPA 2019a) or USEPA (USEPA 2019) unless otherwise noted in Table A-2.

2.3.1 Soil Ingestion

The intake factor for soil ingestion was calculated using the following equation (USEPA 1989):

$$IF_{soil.ing\_c} = \frac{EF \times ED \times IR \times CF}{AT_c \times BW}$$

$$IF_{soil.ing\_nc} = \frac{EF \times ED \times IR \times CF}{AT_{nc} \times BW}$$

$IF_{soil.ing\_c}$ = Intake Factor for soil ingestion, carcinogenic endpoint (kg_{soil}/kg_{BW}/day)

$IF_{soil.ing\_nc}$ = Intake Factor for soil ingestion, noncarcinogenic endpoint (kg_{soil}/kg_{BW}/day)

EF = Exposure Frequency (days/year)

ED = Exposure Duration (years)

IR = Soil Ingestion Rate (mg_{soil}/day)

BW = Body Weight (kg_{BW})

AT_c = Averaging Time for Cancinogens (days)

AT_{nc} = Averaging Time for Noncancinogens (days)

CF = Conversion Factor (10^{-6} kg_{soil}/mg_{soil})

2.3.2 Soil Dermal Contact

The intake factor for dermal contact with soil was calculated using the following equation (USEPA 2004):

$$IF_{soil.derm\_c} = \frac{EF \times ED \times SA \times AF \times CF}{AT_c \times BW}$$

$$IF_{soil.derm\_nc} = \frac{EF \times ED \times SA \times AF \times CF}{AT_{nc} \times BW}$$

$IF_{soil.derm\_c}$ = Intake Factor for soil dermal contact, carcinogenic endpoint (kg_{soil}/kg_{BW}/day)

$IF_{soil.derm\_nc}$ = Intake Factor for soil dermal contact, noncarcinogenic endpoint (kg_{soil}/kg_{BW}/day)

EF = Exposure Frequency (days/year)

ED = Exposure Duration (years)

SA = Skin Surface Area for Soil Contact (cm^2/day)

AF = Adherence Factor (mg_{soil}/cm^2)

AT_c = Averaging Time for Cancinogens (days)

AT_{nc} = Averaging Time for Noncancinogens (days)

CF = Conversion Factor (10^{-6} kg_{soil}/mg_{soil})

2.3.3 Soil Inhalation

The intake factor for inhalation of windblown particulates or volatile chemicals migrating from soil, groundwater or soil vapor to trench air was calculated using the following equation (USEPA 2009):

$$IF_{inh\_c} = \frac{ET \times EF \times ED}{AT_c \times CF}$$

$$IF_{inh\_nc} = \frac{ET \times EF \times ED}{AT_{nc} \times CF}$$

IF_{inh_c} = Intake Factor for soil particulate inhalation, carcinogenic endpoint (unitless)

IF_{inh_nc} = Intake Factor for soil particulate inhalation, noncarcinogenic endpoint (unitless)

ET = Exposure Time (hours/day)

EF = Exposure Frequency (days/year)

ED = Exposure Duration (years)

AT_c = Averaging Time for Cancinogens (days)

AT_{nc} = Averaging Time for Noncancinogens (days)

CF = Conversion Factor (24 hours/day)

3. FATE AND TRANSPORT MODELING

3.1 Vapor

Volatile compounds detected in soil vapor, groundwater and soil can potentially migrate through the unsaturated zone to indoor air, ambient air, or trench air. This migration is quantified for the purposes of this assessment through an estimated intermedia transfer factor (TF). When the TF is multiplied by the source concentration of a chemical in soil, groundwater, or soil vapor, the product is the resulting steady-state concentration that is predicted in indoor, outdoor or trench air.

For future residents and commercial composite workers, only inhalation of volatile chemicals migrating from soil vapor or groundwater to indoor air was evaluated, since outdoor air concentrations will be lower than indoor air concentrations due to higher mixing in the ambient environment. Based on Cal/EPA guidance (2019c), DTSC recommends use of default attenuation factors (AFs) for preliminary screening evaluations found in Table 2 of DTSC's 2011 Vapor Intrusion Guidance (Cal/EPA, 2011), and also recommends that screening assessments evaluate the default AF of 0.03 for sub-slab soil gas and "near-source" exterior soil gas, released in 2015 by USEPA (2015). Soil vapor to air TF is same as soil vapor to air AF. Groundwater to air TF is calculated as groundwater vapor to air AF multiplying with corresponding unitless Henry's Law constant. Ramboll calculated transfer factors based on default AFs for volatile compounds from soil vapor or groundwater to indoor air for the following scenarios:

- Transport of soil vapor into residential or commercial indoor air for resident or commercial composite worker exposure with default AF of 0.03 (USEPA 2015).
- Transport of soil vapor into future residential indoor air for resident exposure with default AF of 0.001 (Cal/EPA 2011).
- Transport of soil vapor into future commercial indoor air for commercial worker exposure with default AF of 0.0005 (Cal/EPA 2011).

- Transport of soil vapor into existing commercial indoor air for commercial worker exposure with default AF of 0.001 (Cal/EPA 2011).
- Transport of groundwater vapor into future residential indoor air for resident exposure with default AF of 0.001 (Cal/EPA 2011).
- Transport of groundwater vapor into future commercial indoor air for commercial worker exposure with default AF of 0.0005 (Cal/EPA 2011).
- Transport of groundwater vapor into existing commercial indoor air for commercial worker exposure with default AF of 0.001 (Cal/EPA 2011).

As requested by DTSC during a teleconference on December 9, 2019, the Virginia Unified Risk-Assessment Model (VURAM) developed by Virginia Department of Environmental Quality (VDEP, 2019) was used to develop attenuation factor for construction trench scenario. Ramboll developed transfer factors for volatile compounds from soil vapor or groundwater to trench air for construction trench worker exposure using VURAM model.

The model is conservative because: 1) it assumes that the chemical source has infinite mass, 2) it does not include other attenuation processes that typically would reduce the amount of vapor migration, such as biodegradation, leaching from infiltration, and lateral diffusion, 3) it assumes a conservative box model with reduced airflow in the breathing zone of the construction workers inside the trench, 4) it assumes the soil vapor source is only 1 cm from the trench bottom, and 5) chemicals were assumed to migrate from trench walls in addition to the base of the trench.

The construction worker trench model parameters, including trench dimensions, source parameters, and vadose zone soil parameters, applied in VURAM are summarized in Table A-3. The physical-chemical properties, including Henry's Law constant, and diffusivity in air used in above calculations are from USEPA (2019) for volatile organic compounds (VOCs) and San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) for total petroleum hydrocarbons (TPHs). Only chemicals that readily volatilize were included in the evaluation of vapor intrusion pathway. These include chemicals with a Henry's Law constant of greater than 1×10^{-5} atmosphere-cubic meter per mole (atm-m^3/mol) or a vapor pressure of greater than 1 millimeter of mercury (mm Hg).

The TFs for chemicals migrating from soil vapor and groundwater to trench air are presented in Tables A-5C and A-7C, respectively.

3.2 Windblown Dust

It was assumed that the potential future on-site commercial/industrial composite workers may be exposed to windblown dust on a daily basis under regular Site conditions. For commercial composite workers exposed to soil, Regulatory SLs for commercial soil were applied. Thus, windblown dust exposures were not quantified and soil RBTCs were not calculated for commercial composite workers.

It was assumed that the construction workers may be exposed to airborne particulates due to either traffic or excavation activities while performing construction-related tasks at the Site. Consistent with Cal/EPA recommendations (Cal/EPA 2014), a PEF of 1.0 x 10^6 m^3/kg was used to estimate airborne concentrations of a chemical from corresponding soil concentrations for the construction workers. This PEF reflects an airborne concentration of dust of approximately 1,000 µg/m^3. The default PEFs were derived based on conservative assumptions and tend to overestimate the particulate concentrations in the air.

4. TOXICITY ASSESSMENT

The toxicity assessment (also referred to as the dose-response assessment) examines the potential for a chemical to cause adverse health effects in exposed individuals. Toxicity values (toxicity criteria) that were used to estimate the likelihood of adverse effects from the chemicals present at the Site were identified in this component of the RBTC development process. The RBTCs were developed to evaluate the theoretical exposures to chemicals for two categories of potential health effects, carcinogenic and noncarcinogenic. In general, chemicals are capable of inducing noncarcinogenic adverse health effects when human exposure occurs at sufficiently high exposure point concentrations over a certain period of time (chronic or subchronic). Some, but not all, chemicals may also induce a carcinogenic health effect.

The toxicity values used in the development of RBTCs are summarized in Table A-4. The general hierarchy of sources used for the chronic toxicity values are as below:

- Cal/EPA DTSC Human and Ecological Risk Office (HERO) Human Health Risk assessment (HHRA) Note Number 10, Issue: Toxicity Criteria. February. (Cal/EPA 2019d)
- Cal/EPA DTSC Human and Ecological Risk Office (HERO) Human Health Risk assessment (HHRA) Note Number 3, Issue: DTSC-Modified Screening Levels (DTSC-SLs). April. (Cal/EPA 2019b)
- United States Environmental Protection Agency (USEPA). Regional Screening Levels. November. (USEPA 2019)

In addition, toxicity values from the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Environmental Screening Levels (ESLs) Workbook for TPHs were used (SFBRWQCB 2019).

For construction workers, who were assumed to be present on-Site for six months, subchronic toxicity values were used whenever available for the evaluation of adverse non-cancer effects in accordance with recommendations by USEPA (2019). The subchronic toxicity values table from USEPA (2019) is generally used for the subchronic toxicity values. In the absence of subchronic toxicity values, chronic toxicity values were used as a surrogate.

5. CALCULATION OF RBTCS

As a conservative measure, the RBTCs were developed to correspond to a target cancer risk of $1x10^{-6}$ and a target noncancer HQ of one. Since the RBTCs correspond to the low end of the target risk range considered by USEPA and Cal/EPA to be protective of human health, the presence of a chemical at a concentration in excess of the RBTC does not indicate that adverse impacts to human health are occurring or will occur but suggests that further evaluation may be warranted.

For chemicals that have both carcinogenic and noncarcinogenic effects, the RBTCs were calculated separately for both health effect endpoints. The more stringent (i.e., lowest and most conservative) value was selected as RBTC and used for comparison with Site data.

This section provides the equations and assumptions used to calculate the RBTCs for each medium for the potential future on-site populations evaluated for the Site.

5.1 Soil Vapor RBTCs

The soil vapor RBTCs for residents, commercial composite workers and construction trench workers are presented in Table A-5A, Table A-5B and Table A-5C, respectively. The most stringent (i.e., lowest and most conservative) RBTCs out of the three RBTCs calculated using DTSC-recommended default attenuation factors and the VURAM-derived attenuation factor were selected as soil vapor evaluation thresholds and summarized in Tables A-6.

5.1.1 Residents

The Regulatory air SLs are used for screening volatile chemicals in soil vapor data when used in concert with an appropriate attenuation factor. For VOCs, the DTSC-modified SLs (Cal/EPA 2019b) when available or USEPA RSLs (USEPA 2019) for residential air are applied as Regulatory air SLs. To be consistent with TPH fraction grouping, the ESLs from SFBRWQCB for residential air are applied as Regulatory air SLs (SFBRWQCB, 2019).

The soil vapor RBTCs for residents exposed to soil vapor migrating to indoor air through inhalation were calculated based on the Regulatory SLs for residential air, which were divided by a DTSC-recommended default attenuation factor of 0.001 for future residential building from contaminant source (Cal/EPA 2011) or default screening attenuation factor of 0.03 (USEPA, 2015).

5.1.2 Commercial/Industrial Composite Workers

The Regulatory air SLs are used for screening volatile chemicals in soil vapor data when used in concert with an appropriate attenuation factor. For VOCs, the DTSC-modified SLs (Cal/EPA 2019b) when available or USEPA RSLs (USEPA 2019) for commercial air are applied as Regulatory air SLs. To be consistent with TPH fraction grouping, the ESLs from SFBRWQCB for commercial air are applied as Regulatory air SLs (SFBRWQCB, 2019).

The soil vapor RBTCs for commercial composite workers exposed to soil vapor migrating to indoor air through inhalation were calculated based on the Regulatory SLs for commercial air, which were

divided by a DTSC-recommended default attenuation factor of 0.0005 for future commercial building from contaminant source (Cal/EPA, 2011) or default screening attenuation factor of 0.03 (USEPA, 2015). The soil vapor RBTCs for commercial composite workers were also calculated by a DTSC-recommended default attenuation factor of 0.001 for existing commercial building from contaminant source (Cal/EPA, 2011) for reference.

5.1.3 Construction Workers

The equation used to calculate soil vapor RBTCs for carcinogenic volatile compounds in soil vapor migrating from the subsurface to trench air is as follows:

$$RBTC_{SG.c} = \frac{TR}{IF_{vapor.inh} * \alpha * IUR * CF}$$

Where:

$RBTC_{SG.c}$	=	Risk-Based Target Concentration, soil vapor (microgram per liter [µg/L]), carcinogenic endpoint
TR	=	Target Risk (unitless, 1×10^{-6})
$IF_{vapor.inh}$	=	Intake Factor for vapor inhalation (unitless)
IUR	=	Inhalation Unit Risk $(\mu g/m^3)^{-1}$
α	=	Transfer Factor for soil vapor migrating to trench air (µg/L per µg/L)
CF	=	Conversion Factor (1000 L/m^3)

The equation used to calculate soil vapor RBTCs for non-carcinogenic volatile compounds in soil vapor migrating from the subsurface to outdoor air or trench air is as follows:

$$RBTC_{SG.nc} = \frac{THQ * RfC_{inh}}{IF_{vapor.inh} * \alpha * CF}$$

Where:

$RBTC_{SG.nc}$	=	Risk-Based Target Concentration, soil vapor (µg/L), noncarcinogenic endpoint
THQ	=	Target Hazard Quotient (unitless, 1)
$IF_{vapor.inh}$	=	Intake Factor for vapor inhalation (unitless)
RfC_{inh}	=	Inhalation Reference Concentration $(\mu g/m^3)$
α	=	Transfer Factor for soil vapor migrating to trench air (µg/L per µg/L)
CF	=	Conversion Factor (1000 L/m^3)

The TF for soil vapor migrating to trench air is calculated based on VURAM model as described in Section 3.1.

5.2 Groundwater RBTCs

The groundwater RBTCs for residents, commercial composite workers and construction trench workers are presented in Table A-7A, Table A-7B and Table A-7C, respectively. The most stringent (i.e., lowest and most conservative) RBTCs out of the three RBTCs calculated using DTSC-recommended default

attenuation factors and the VURAM-derived attenuation factor were selected as groundwater evaluation thresholds and summarized in Tables A-8.

5.2.1 Residents

The Regulatory air SLs are used for screening volatile chemicals in groundwater data when used in concert with an appropriate attenuation factor. For VOCs, the DTSC-modified SLs (Cal/EPA 2019b) when available or USEPA RSLs (USEPA 2019) for residential air are applied as Regulatory air SLs. To be consistent with TPH fraction grouping, the ESLs from SFBRWQCB (2019) for residential air are applied as Regulatory air SLs.

The groundwater RBTCs for residents exposed to groundwater migrating to indoor air through inhalation were calculated based on the Regulatory SLs for residential air, which were divided by a DTSC-recommended default attenuation factor of 0.001 for future residential building from contaminant source (Cal/EPA, 2011) and Henry's Law constant for the chemicals.

5.2.2 Commercial/Industrial Composite Workers

The Regulatory air SLs are used for screening volatile chemicals in groundwater data when used in concert with an appropriate attenuation factor. For VOCs, the DTSC-modified SLs (Cal/EPA 2019b) when available or USEPA RSLs (USEPA 2019) for commercial air are applied as Regulatory air SLs. To be consistent with TPH fraction grouping, the ESLs from SFBRWQCB (2019) for commercial air are applied as Regulatory air SLs.

The groundwater RBTCs for commercial composite workers exposed to groundwater migrating to indoor air through inhalation were calculated based on the Regulatory SLs for commercial air, which were divided by a DTSC-recommended default attenuation factor of 0.0005 for future commercial building from contaminant source (Cal/EPA, 2011) and Henry's Law constant for the chemicals. The groundwater RBTCs for commercial composite workers were also calculated by a DTSC-recommended default attenuation factor of 0.001 for existing commercial building from contaminant source (Cal/EPA, 2011) for reference.

5.2.3 Construction Workers

The equation used to calculate groundwater RBTCs for carcinogenic volatile compounds in groundwater migrating from the subsurface to trench air is as follows:

$$RBTC_{GW.c} = \frac{TR}{IF_{vapor.inh} * \alpha * IUR * CF}$$

Where:

$RBTC_{GW.c}$ = Risk-Based Target Concentration, groundwater (µg/L), carcinogenic endpoint

TR = Target Risk (unitless, 1×10^{-6})

$IF_{vapor.inh}$ = Intake Factor for vapor inhalation (unitless)

IUR = Inhalation Unit Risk $(\mu g/m^3)^{-1}$

α	=	Transfer Factor for groundwater migrating to trench air (µg/L per µg/L)
CF	=	Conversion Factor (1000 L/m^3)

The equation used to calculate groundwater RBTCs for non-carcinogenic volatile compounds in groundwater migrating from the subsurface to outdoor air or trench air is as follows:

$$RBTC_{GW.nc} = \frac{THQ * RfC_{inh}}{IF_{vapor.inh} * \alpha * CF}$$

Where:

$RBTC_{GW.nc}$	=	Risk-Based Target Concentration, groundwater (µg/L), noncarcinogenic endpoint
THQ	=	Target Hazard Quotient (unitless, 1)
$IF_{vapor.inh}$	=	Intake Factor for vapor inhalation (unitless)
RfC_{inh}	=	Inhalation Reference Concentration (µg/m^3)
α	=	Transfer Factor for groundwater migrating to trench air (µg/L per µg/L)
CF	=	Conversion Factor (1000 L/m^3)

The TF for groundwater migrating to trench air is calculated based on VURAM model as described in Section 3.1.

5.3 Soil RBTCs

For commercial composite workers, soil RBTCs were not calculated in this analysis and Regulatory SLs for commercial soil were applied. For construction trench workers, soil RBTCs are not calculated for VOCs, TPHs, arsenic and lead, and are calculated for PCBs and metals (except arsenic and lead) using the following equations and are presented in Table A-9.

The equation used to calculate the soil RBTCs for PCBs and Metals for construction trench workers for the carcinogenic endpoint due to exposure via ingestion, dermal contact, and inhalation of soil particulates is as follows:

$$RBTC_{soil.c} = \frac{TR}{(IF_{soil.ing} * RBA_{oral} + ABS/GIABS * IF_{soil.derm}) * CSF_{oral} + (IF_{part.inh}/PEF) * IUR * CF}$$

Where:

$RBTC_{soil.c}$	=	Risk-Based Target Concentration, soil direct contact, carcinogenic endpoint (mg/kg)
TR	=	Target Risk (unitless, 10^{-6})
$IF_{soil.ing}$	=	Intake Factor for soil ingestion (kg of soil/kg body weight-day)
$IF_{soil.derm}$	=	Intake Factor for dermal contact with soil (kg of soil/kg body weight-day)
$IF_{part.inh}$	=	Intake Factor for soil particulate inhalation (unitless)
CSF_{oral}	=	Oral Cancer Slope Factor (mg/kg body weight-day)$^{-1}$
IUR	=	Inhalation Unit Risk (µg/m^3)$^{-1}$
RBA_{oral}	=	Oral Relative Bioavailability

ABS	=	Soil Absorption Factor (unitless)
GIABS	=	Fraction of contaminant absorbed in gastrointestinal tract (unitless)
PEF	=	Particulate Emission Factor, resident (m^3/kg of soil)
CF	=	Conversion Factor (1000 µg/mg)

The equation used to calculate soil RBTCs for PCBs and Metals for construction trench workers for the noncarcinogenic endpoint due to exposure via ingestion, dermal contact, and inhalation of soil particulates is as follows:

$$RBTC_{soil.nc} = \frac{THQ}{(IF_{soil.ing} * RBA_{oral} + ABS/GIABS * IF_{soil.derm)}/RfD_{oral} + (\frac{IF_{part.inh}}{PEF})/RfC_{inh} * CF}$$

Where:

$RBTC_{soil.nc}$	=	Risk-Based Target Concentration, soil direct contact, noncarcinogenic endpoint (mg/kg)
THQ	=	Target Hazard Quotient (unitless, 1)
$IF_{soil.ing}$	=	Intake Factor for soil ingestion (kg of soil/kg body weight-day)
$IF_{soil.derm}$	=	Intake Factor for dermal contact with soil (kg of soil/kg body weight-day)
$IF_{part.inh}$	=	Intake Factor for soil particulate inhalation (unitless)
RfD_{oral}	=	Oral Reference Dose (mg/kg body weight-day)
RfC_{inh}	=	Inhalation Reference Concentration (µg/m^3)
RBA_{oral}	=	Oral Relative Bioavailability
ABS	=	Soil Absorption Factor (unitless)
GIABS	=	Fraction of contaminant absorbed in gastrointestinal tract (unitless)
PEF	=	Particulate Emission Factor, resident (m^3/kg of soil)
CF	=	Conversion Factor (1000 µg/mg)

Oral relative bioavailability (RBAoral), soil absorption factors (ABSsoil), and fraction of contaminant absorbed in gastrointestinal tract (GIABS) are presented in Table A-4.

REFERENCES

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CalEPA. 2019a. Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note Number 1, Issue: Recommended Department of Toxic Substances Control (DTSC) Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. April.

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Virginia Department of Environmental Quality (VDEP). 2019. Virginia Unified Risk Assessment Model – VURAM User Guide for Risk Assessors. July.

Table A-1
Summary of Chemicals Detected in Site Media
2101-2129 Rosecrans Avenue
Gardena, California

Chemical Group	Chemical	Soil Vapor		Groundwater		Soil		
		Detected	RBTC Calculated	Detected	RBTC Calculated	Detected	RBTC Calculated	Regulatory or Alternative Screening Levels
VOC	Benzene	X	X			X		X
VOC	1,1-Dichloroethane	X	X	X	X	X		X
VOC	1,1-Dichloroethene	X	X	X	X			
VOC	Dichlorodifluoromethane	X	X					
VOC	cis-1,2-Dichloroethene	X	X	X	X	X		X
VOC	trans-1,2-Dichloroethene	X	X	X	X			
VOC	Tetrachloroethene	X	X	X	X	X		X
VOC	Trichloroethene	X	X	X	X	X		X
VOC	Vinyl Chloride	X	X	X	X	X		X
VOC	Acetone	X	X	X	X	X		X
VOC	Bromoform	X	X			X		X
VOC	Chloroethane					X		X
VOC	Chloroform	X	X	X	X			
VOC	Chloromethane					X		X
VOC	Ethyl Benzene	X	X			X		X
VOC	Methyl tert-Butyl Ether	X	X			X		X
VOC	Toluene	X	X			X		X
VOC	m,p-Xylene	X	X			X		X
VOC	ortho-Xylene	X	X			X		X
VOC	Acrolein	X	X					
VOC	Bromodichloromethane	X	X					
VOC	1,3-Butadiene	X	X					
VOC	2-Butanone (MEK)	X	X			X		X
VOC	n-Butylbenzene					X		X
VOC	sec-Butylbenzene	X	X			X		X
VOC	tert-Butylbenzene	X	X					
VOC	Carbon Tetrachloride	X	X					
VOC	Carbon Disulfide	X	X					
VOC	Cyclohexane	X	X					
VOC	1,2-Dibromoethane (EDB)	X	X					
VOC	1,2-Dichloroethane	X	X					
VOC	1,1-Difluoroethane	X	X					
VOC	1,4-Dioxane	X	X	X	X			
VOC	Freon 11	X	X					
VOC	2-Hexanone (MBK)	X	X					
VOC	Isopropanol	X	X					
VOC	4-Isopropyltoluene	X	X					
VOC	Isopropylbenzene					X		X
VOC	n-Propylbenzene	X	X			X		X
VOC	Methylene Chloride	X	X			X		X
VOC	Methyl methacrylate	X	X					
VOC	4-Methyl-2-pentanone (MIBK)	X	X					
VOC	1,2,4-Trichlorobenzene					X		X
VOC	n-Pentane	X	X					
VOC	Propylene	X	X					
VOC	Tetrahyrofuran	X	X					
VOC	1,1,1-Trichloroethane	X	X					
VOC	1,2,4-Trimethylbenzene	X	X					
VOC	1,3,5-Trimethylbenzene	X	X					
VOC	Styrene	X	X					
VOC	Di-Isoproylether	X	X					
VOC	tert-amylmethylether	X	X					
TPH	TPH - GRO	X	X	X	X	X		X
TPH	TPH - DRO			X	X	X		X
TPH	TPH - ORO					X		X
PCB	Aroclor-1248					X	X	X
PCB	Aroclor-1254					X	X	X
PCB	Aroclor-1260					X	X	X
PCB	Aroclor-1262					X	X	X
INORG	Antimony					X	X	X
INORG	Arsenic					X		X
INORG	Barium			X		X	X	X
INORG	Beryllium					X	X	X
INORG	Cadmium					X	X	X
INORG	Chromium			X		X	X	X
INORG	Hexavalent Chromium			X		X	X	X
INORG	Cobalt					X	X	X
INORG	Copper					X	X	X
INORG	Lead			X		X		X

Table A-1
Summary of Chemicals Detected in Site Media
2101-2129 Rosecrans Avenue
Gardena, California

Chemical Group	Chemical	Soil Vapor		Groundwater		Soil		
		Detected	RBTC Calculated	Detected	RBTC Calculated	Detected	RBTC Calculated	Regulatory or Alternative Screening Levels
INORG	Mercury					X	X	X
INORG	Molybdenum			X		X	X	X
INORG	Nickel					X	X	X
INORG	Selenium					X	X	X
INORG	Silver			X		X	X	X
INORG	Thallium					X	X	X
INORG	Vanadium			X		X	X	X
INORG	Zinc					X	X	X

Notes:
X = Indicate a chemical was detected in a specific medium.
INORG = Inorganic
PCB = Polychlorinated Biphenyl
TPH = Total Petroleum Hydrocarbons
VOC = Volatile organic compound

Table A-2
Exposure Assumptions for Construction Trench Workers
2101-2129 Rosecrans Avenue
Gardena, California

Exposure Factors	Units	Symbol	Construction Trench Worker	
			Value	Source
Receptor-Specific Exposure Factors				
Target Risk	unitless	TR	1E-06	--
Target Hazard Quotient	unitless	THQ	1	--
Population-Specific Exposure Assumptions				
Exposure Time	hours/day	ET	8	Cal/EPA 2019
Exposure Frequency	days/year	EF	250	Cal/EPA 2019
Exposure Duration	years	ED	0.5	site-specific
Body Weight	kg_{BW}	BW	80	Cal/EPA 2019
Averaging Time for Cancinogens	days	AT_c	25,550	Cal/EPA 2019
Averaging Time for Noncarcinogens	days	AT_{nc}	183	Cal/EPA 2019
Soil Ingestion				
Soil Ingestion Rate	mg_{soil}/day	IR_s	330	Cal/EPA 2019
Conversion Factor	kg_{soil}/mg_{soil}	CF	1E-06	--
Intake Factor for Soil Ingestion, cancer	kg_{soil}/kg_{BW}/day	$IF_{soil.ing\_c}$	2.0E-08	USEPA 1989
Intake Factor for Soil Ingestion, noncancer	kg_{soil}/kg_{BW}/day	$IF_{soil.ing\_nc}$	2.8E-06	USEPA 1989
Soil Dermal Contact				
Skin Surface Area for Soil Contact	cm^2/day	SAs	6,032	Cal/EPA 2019
Adherence Factor	mg_{soil}/cm^2	AF	0.8	Cal/EPA 2019
Conversion Factor	kg_{soil}/mg_{soil}	CF	1E-06	--
Intake Factor for Soil Dermal Contact, cancer	kg_{soil}/kg_{BW}/day	$IF_{soil.derm\_c}$	3.0E-07	USEPA 2004
Intake Factor for Soil Dermal Contact, noncancer	kg_{soil}/kg_{BW}/day	$IF_{soil.derm\_nc}$	4.1E-05	USEPA 2004
Inhalation of Soil Particulates or Vapor				
Particulate Emission Factor	m^3/kg_{soil}	PEF	1.0E+06	Cal/EPA 2019
Conversion Factor	hour/day	CF	24	--
Intake Factor for Soil Inhalation, cancer	unitless	$IF_{soil.inh\_c}$	1.6E-03	USEPA 2009
Intake Factor for Soil Inhalation, noncancer	unitless	$IF_{soil.inh\_nc}$	2.3E-01	USEPA 2009

Notes:
-- = Not applicable
Cal/EPA = California Environmental Protection Agency
USEPA = United States Environmental Protection Agency
cm^2 = square centimeter
cm^2/day = square centimeter per day
cm^2-event/kgBW/day = square centimeter-event per kilogram of body weight per day

Sources:
Cal/EPA. 2019. Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note Number 1, Issue: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. April.

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Table A-3
Construction Worker Trench Model Parameters
2101-2129 Rosecrans Avenue
Gardena, California

Parameter	Value	Units	Notes
Source/Receptor Parameters			
Depth to groundwater	25	feet	Site-specific estimate
Depth of trench, Dtrench	15	feet	Default value (VDEP 2019)
Length of trench	2.44	m	Default value (VDEP 2019)
Width of trench	0.91	m	Default value (VDEP 2019)
Area of trench, A	17.54	m^2	Calculated from default value, including walls and bottom (VDEP 2019)
Volume of trench, V	10.15	m^3	Calculated from default value (VDEP 2019)
Depth between trench bottom to groundwater, Ld	10	feet	Site-specific estimate
Depth between trench bottom to soil gas source	1	cm	Default value (VDEP 2019)
Fraction of floor through which contaminant can enter	1	unitless	Default value (VDEP 2019)
Air changes per hour, ACH	2	/hr	Default value (VDEP 2019)
Vadose Zone Soil Parameters			
Bulk density	1.5	g/cm^3	Default value (VDEP 2019)
Total porosity	0.440	unitless	Default value (VDEP 2019)
Water-filled porosity	0.306	unitless	Default value (VDEP 2019)
Air-filled porosity	0.134	unitless	Default value (VDEP 2019)
Soil temperature	298.15	K	Default value (VDEP 2019)

Notes:
-- =Not applicable
cm = centimeter
g/cm^3 = gram per cubic centimeter
VDEP = Virginia Department of Environemntal Quality

Sources:
VDEQ. 2019. Virginia Unified Risk Assessment Model - VURAM User Guide for Risk Assessors. July.

Table A-4
Toxicity Values
2101-2129 Rosecrans Avenue
Gardena, California

Chemical Group	Chemical	Oral Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$		Inhalation Unit Risk $(\mu g/m^3)^{-1}$		Oral Subchronic RfD (mg/kg-day)		Inhalation Subchronic RfC $(\mu g/m^3)$		GIABS	Soil Dermal Absorption Factor ABS_{soil}		Relative Bio-Availability (unitless)
VOC	Benzene	0.1	Cal/EPA 2019b	0.000029	Cal/EPA 2019b	0.01	USEPA 2019	80	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	1,1-Dichloroethane	0.0057	Cal/EPA 2019b	1.6E-06	Cal/EPA 2019b	2	USEPA 2019	7,000	USEPA 2019[a]	1	--	Cal/EPA 2019a	1
VOC	1,1-Dichloroethene	--	--	--	--	0.009	USEPA 2019	79	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	Dichlorodifluoromethane	--	--	--	--	0.05	USEPA 2019	1000	USEPA 2019	1	--	USEPA 2019	1
VOC	cis-1,2-Dichloroethene	--	--	--	--	0.02	USEPA 2019	70	USEPA 2019[a]	1	--	Cal/EPA 2019a	1
VOC	trans-1,2-Dichloroethene	--	--	--	--	0.2	USEPA 2019	793	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	Tetrachloroethene	0.54	Cal/EPA 2019b	6.1E-06	Cal/EPA 2019b	0.008	USEPA 2019	41	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	Trichloroethene	0.046	Cal/EPA 2019b	4.1E-06	Cal/EPA 2019b	0.0005	USEPA 2019	2.15	USEPA 2019	1	--	USEPA 2019	1
VOC	Vinyl Chloride	0.72	Cal/EPA 2019b	0.000078	Cal/EPA 2019b	0.022	USEPA 2019[a]	77	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	Acetone	--	--	--	--	2	USEPA 2019	30900	USEPA 2019	1	--	USEPA 2019	1
VOC	Bromoform	0.0079	Cal/EPA 2019b	1.1E-06	Cal/EPA 2019b	0.03	USEPA 2019	105	USEPA 2019[a]	1	--	Cal/EPA 2019a	1
VOC	Chloroform	0.031	Cal/EPA 2019b	0.000023	Cal/EPA 2019b	0.1	USEPA 2019	244	USEPA 2019	1	--	USEPA 2019	1
VOC	Ethyl Benzene	0.011	Cal/EPA 2019b	2.5E-06	Cal/EPA 2019b	0.05	USEPA 2019	9000	USEPA 2019	1	--	USEPA 2019	1
VOC	Methyl tert-Butyl Ether	0.0018	Cal/EPA 2019b	2.6E-07	Cal/EPA 2019b	0.3	USEPA 2019	2524	USEPA 2019	1	--	USEPA 2019	1
VOC	Toluene	--	--	--	--	0.8	USEPA 2019	5000	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	m,p-Xylene	--	--	--	--	0.4	USEPA 2019	400	USEPA 2019	1	--	USEPA 2019	1
VOC	ortho-Xylene	--	--	--	--	0.4	USEPA 2019	400	USEPA 2019	1	--	USEPA 2019	1
VOC	Acrolein	--	--	--	--	0.004	USEPA 2019	0.09	USEPA 2019	1	--	USEPA 2019	1
VOC	Bromodichloromethane	0.062	Cal/EPA 2019b	0.000037	Cal/EPA 2019b	0.008	USEPA 2019	20	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	1,3-Butadiene	0.6	Cal/EPA 2019b	0.00017	Cal/EPA 2019b	0.0006	Cal/EPA 2019b[ab]	2	Cal/EPA 2019b[b]	1	--	Cal/EPA 2019a	1
VOC	2-Butanone (MEK)	--	--	--	--	2	USEPA 2019	1000	USEPA 2019	1	--	USEPA 2019	1
VOC	sec-Butylbenzene	--	--	--	--	0.1	USEPA 2019	400	Cal/EPA 2019b[b]	1	--	Cal/EPA 2019a	1
VOC	tert-Butylbenzene	--	--	--	--	0.1	USEPA 2019	400	Cal/EPA 2019b[b]	1	--	Cal/EPA 2019a	1
VOC	Carbon Tetrachloride	0.07	Cal/EPA 2019b	0.000006	Cal/EPA 2019b	0.007	USEPA 2019	189	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	Carbon Disulfide	--	--	--	--	0.1	USEPA 2019	700	USEPA 2019	1	--	USEPA 2019	1
VOC	Cyclohexane	--	--	--	--	5.1	USEPA 2019[a]	18000	USEPA 2019	1	--	USEPA 2019	1
VOC	1,2-Dibromoethane (EDB)	2	Cal/EPA 2019b	0.0006	Cal/EPA 2019b	0.0006	USEPA 2019[a]	2	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	1,2-Dichloroethane	0.091	Cal/EPA 2019b	0.000026	Cal/EPA 2019b	0.02	USEPA 2019	70	USEPA 2019	1	--	USEPA 2019	1
VOC	1,1-Difluoroethane	--	--	--	--	11.4	Cal/EPA 2019b[ab]	40000	Cal/EPA 2019b[b]	1	--	USEPA 2019	1
VOC	1,4-Dioxane	0.1	Cal/EPA 2019b	0.000005	Cal/EPA 2019b	0.5	USEPA 2019	720	USEPA 2019	1	--	USEPA 2019	1
VOC	Freon 11	--	--	--	--	0.3	USEPA 2019[a]	1000	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	2-Hexanone (MBK)	--	--	--	--	0.005	Cal/EPA 2019b[b]	30	Cal/EPA 2019b[b]	1	--	USEPA 2019	1
VOC	Isopropanol	--	--	--	--	2	USEPA 2019	7000	USEPA 2019	1	--	USEPA 2019	1
VOC	4-Isopropyltoluene	--	--	--	--	--	--	--	--	1	--	--	1
VOC	n-Propylbenzene	--	--	--	--	0.1	USEPA 2019	1000	USEPA 2019	1	--	USEPA 2019	1
VOC	Methylene Chloride	0.002	Cal/EPA 2019b	0.000001	Cal/EPA 2019b	0.06	USEPA 2019	1042	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	Methyl methacrylate	--	--	--	--	0.08	USEPA 2019	700	Cal/EPA 2019b[b]	1	--	USEPA 2019	1
VOC	4-Methyl-2-pentanone (MIB	--	--	--	--	0.8	USEPA 2019	800	USEPA 2019	1	--	USEPA 2019	1
VOC	n-Pentane	--	--	--	--	2.9	USEPA 2019[a]	10000	USEPA 2019	1	--	USEPA 2019	1
VOC	Propylene	--	--	--	--	0.9	Cal/EPA 2019b[ab]	3000	Cal/EPA 2019b[b]	1	--	USEPA 2019	1
VOC	Tetrahyrofuran	--	--	--	--	0.9	Cal/EPA 2019b[b]	2000	Cal/EPA 2019b[b]	1	--	Cal/EPA 2019a	1
VOC	1,1,1-Trichloroethane	--	--	--	--	7	USEPA 2019	5000	USEPA 2019	1	--	Cal/EPA 2019a	1
VOC	1,2,4-Trimethylbenzene	--	--	--	--	0.04	USEPA 2019	200	USEPA 2019	1	--	USEPA 2019	1
VOC	1,3,5-Trimethylbenzene	--	--	--	--	0.04	USEPA 2019	200	USEPA 2019	1	--	USEPA 2019	1
VOC	Styrene	--	--	--	--	0.2	Cal/EPA 2019b[b]	3000	USEPA 2019	1	--	USEPA 2019	1
VOC	Di-Isoproylether	--	--	--	--	0.2	USEPA 2019[a]	700	USEPA 2019	1	--	USEPA 2019	1
VOC	tert-amylmethylether	--	--	--	--	--	--	--	--	1	--	--	1
TPH	TPH as Diesel	--	--	--	--	0.03	SFBRWQCB 2019[b,c]	260	SFBRWQCB 2019[b,c]	1	--	SFBRWQCB 2019	1
TPH	TPH as Gasoline	--	--	--	--	0.3	SFBRWQCB 2019[b,c]	570	SFBRWQCB 2019[b,c]	1	--	SFBRWQCB 2019	1
PCB	Aroclor-1248	2	Cal/EPA 2019b	0.000571	Cal/EPA 2019b	0.00003	USEPA 2019[d]	--	--	1	0.14	Cal/EPA 2019a	1
PCB	Aroclor-1254	2	Cal/EPA 2019b	0.00057	Cal/EPA 2019b	0.00003	USEPA 2019	0.11	USEPA 2019[a]	1	0.14	Cal/EPA 2019a	1
PCB	Aroclor-1260	2	Cal/EPA 2019b	0.000571	Cal/EPA 2019b	0.00003	USEPA 2019[d]	--	--	1	0.14	Cal/EPA 2019a	1
PCB	Aroclor-1262	2	Cal/EPA 2019b[d]	0.00057	Cal/EPA 2019b[d]	0.00003	USEPA 2019[d]	--	--	1	0.14	Cal/EPA 2019a[d]	1
INORG	Antimony	--	--	--	--	0.0004	USEPA 2019	--	--	0.15	--	USEPA 2019	1
INORG	Barium	--	--	--	--	0.2	USEPA 2019	5	USEPA 2019	0.07	--	USEPA 2019	1

Table A-4
Toxicity Values
2101-2129 Rosecrans Avenue
Gardena, California

Chemical Group	Chemical	Oral Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$		Inhalation Unit Risk $(\mu g/m^3)^{-1}$		Oral Subchronic RfD (mg/kg-day)		Inhalation Subchronic RfC $(\mu g/m^3)$		GIABS	Soil Dermal Absorption Factor ABS_{soil}		Relative Bio-Availability (unitless)
INORG	Beryllium	--	--	0.0024	Cal/EPA 2019b	0.005	USEPA 2019	0.007	Cal/EPA 2019b[e]	1	--	Cal/EPA 2019a	1
INORG	Cadmium	--	--	0.0042	Cal/EPA 2019b	0.0005	USEPA 2019	0.01	Cal/EPA 2019b[e]	0.05	0.001	USEPA 2019	1
INORG	Chromium	--	--	--	--	1.5	USEPA 2019[e]	5	USEPA 2019[e]	0.013	--	USEPA 2019[e]	1
INORG	Chromium VI	0.5	Cal/EPA 2019b	0.15	Cal/EPA 2019b	0.005	USEPA 2019	0.3	USEPA 2019	0.025	--	Cal/EPA 2019a	1
INORG	Cobalt	--	--	0.009	Cal/EPA 2019b	0.003	USEPA 2019	0.02	USEPA 2019	1	--	USEPA 2019	1
INORG	Copper	--	--	--	--	0.01	USEPA 2019	--	--	1	--	USEPA 2019	1
INORG	Mercury	--	--	--	--	0.002	USEPA 2019[f]	0.03	Cal/EPA 2019b[b, f]	0.07	--	Cal/EPA 2019a[f]	1
INORG	Molybdenum	--	--	--	--	0.005	USEPA 2019	--	--	1	--	USEPA 2019	1
INORG	Nickel	--	--	0.00026	Cal/EPA 2019b	0.02	USEPA 2019	0.2	USEPA 2019	0.04	--	Cal/EPA 2019a	1
INORG	Selenium	--	--	--	--	0.005	USEPA 2019	20	Cal/EPA 2019b[b]	1	--	USEPA 2019	1
INORG	Silver	--	--	--	--	0.005	USEPA 2019	--	--	0.04	--	USEPA 2019	1
INORG	Thallium	--	--	--	--	0.00004	USEPA 2019	--	--	1	--	USEPA 2019	1
INORG	Vanadium	--	--	--	--	0.01	USEPA 2019	0.1	Cal/EPA 2019b[b]	0.026	--	USEPA 2019	1
INORG	Zinc	--	--	--	--	0.3	USEPA 2019	--	--	1	--	USEPA 2019	1

Notes:

-- = Not available
mg/kg-day = milligram per kilogram per day
$\mu g/m^3$ = microgram per cubic meter
ABS_{soil} = Soil Dermal Absorption Factor
Cal/EPA = California Environmental Protection Agency
DTSC = Department of Toxic Substances Control
GIABS = Fraction of contaminant absorbed in gastrointestinal tract
INORG = Inorganic
PCB = Polychlorinated Biphenyl
TPH = Total Petroleum Hydrocarbons
RfD = Reference Dose
RfC = Reference Concentration
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
USEPA = United States Environmental Protection Agency
VOC = Volatile Organic Compound

a. Route to route extrapolation.
b. Chronic value was used as a subchronic surrogate.
c. Used the toxicity values for TPH in water.
d. Used the toxicity values for aroclor 1254 as surrogate.
e. Used the toxicity values for Chromium (III) as surrogate.
f. Use the toxicity values for Mercuric Chloride as surrogate.

Sources:

Cal/EPA. 2019a. Human and Ecological Risk Office (HERO) Human Health Risk assessment (HHRA) Note Number 3, Issue: DTSC-Modified Screening Levels (DTSC-SLs). April.

Cal/EPA. 2019b. Human and Ecological Risk Office (HERO) Human Health Risk assessment (HHRA) Note Number 10, Issue: Toxicity Criteria. February.

SFBRWQCB. 2019. Environmental Screening Levels (ESLs) Workbook. Table IP-2: Toxicity Values. January.

USEPA. 2019. Regional Screening Levels. November.

Table A-5A

Risk-Based Target Concentrations -- Residents Exposed to Soil Vapor Migrating to Indoor Air

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Residential Air Screening Level		Residential Soil Vapor RBTC (µg/L)	
		Value ($\mu g/m^3$)	Source	Default AF = 0.03 (USEPA 2015)	Default AF = 0.001 (Cal/EPA 2011)
VOC	Benzene	0.097	Cal/EPA 2019	3.2E-03	9.7E-02
VOC	1,1-Dichloroethane	1.8	Cal/EPA 2019	6.0E-02	1.8E+00
VOC	1,1-Dichloroethene	73	Cal/EPA 2019	2.4E+00	7.3E+01
VOC	Dichlorodifluoromethane	100	USEPA 2019	3.3E+00	1.0E+02
VOC	cis-1,2-Dichloroethene	8.3	Cal/EPA 2019	2.8E-01	8.3E+00
VOC	trans-1,2-Dichloroethene	83	Cal/EPA 2019	2.8E+00	8.3E+01
VOC	Tetrachloroethene	0.46	Cal/EPA 2019	1.5E-02	4.6E-01
VOC	Trichloroethene	0.48	USEPA 2019	1.6E-02	4.8E-01
VOC	Vinyl Chloride	0.0095	Cal/EPA 2019	3.2E-04	9.5E-03
VOC	Acetone	32000	USEPA 2019	1.1E+03	3.2E+04
VOC	Bromoform	2.6	Cal/EPA 2019	8.7E-02	2.6E+00
VOC	Chloroform	0.12	USEPA 2019	4.0E-03	1.2E-01
VOC	Ethyl Benzene	1.1	USEPA 2019	3.7E-02	1.1E+00
VOC	Methyl tert-Butyl Ether	11	USEPA 2019	3.7E-01	1.1E+01
VOC	Toluene	310	Cal/EPA 2019	1.0E+01	3.1E+02
VOC	m,p-Xylene	100	USEPA 2019	3.3E+00	1.0E+02
VOC	ortho-Xylene	100	USEPA 2019	3.3E+00	1.0E+02
VOC	Acrolein	0.021	USEPA 2019	7.0E-04	2.1E-02
VOC	Bromodichloromethane	0.076	Cal/EPA 2019	2.5E-03	7.6E-02
VOC	1,3-Butadiene	0.017	Cal/EPA 2019	5.7E-04	1.7E-02
VOC	2-Butanone (MEK)	5200	USEPA 2019	1.7E+02	5.2E+03
VOC	sec-Butylbenzene	420	Cal/EPA 2019	1.4E+01	4.2E+02
VOC	tert-Butylbenzene	420	Cal/EPA 2019	1.4E+01	4.2E+02
VOC	Carbon Tetrachloride	0.47	Cal/EPA 2019	1.6E-02	4.7E-01
VOC	Carbon Disulfide	730	USEPA 2019	2.4E+01	7.3E+02
VOC	Cyclohexane	6300	USEPA 2019	2.1E+02	6.3E+03
VOC	1,2-Dibromoethane (EDB)	0.0047	Cal/EPA 2019	1.6E-04	4.7E-03
VOC	1,2-Dichloroethane	0.11	USEPA 2019	3.7E-03	1.1E-01
VOC	1,1-Difluoroethane	42000	USEPA 2019	1.4E+03	4.2E+04
VOC	1,4-Dioxane	0.56	USEPA 2019	1.9E-02	5.6E-01
VOC	Freon 11	1300	Cal/EPA 2019	4.3E+01	1.3E+03
VOC	2-Hexanone (MBK)	31	USEPA 2019	1.0E+00	3.1E+01
VOC	Isopropanol	210	USEPA 2019	7.0E+00	2.1E+02
VOC	4-Isopropyltoluene	NA	--	--	--
VOC	n-Propylbenzene	1000	USEPA 2019	3.3E+01	1.0E+03
VOC	Methylene Chloride	1	Cal/EPA 2019	3.3E-02	1.0E+00
VOC	Methyl methacrylate	730	USEPA 2019	2.4E+01	7.3E+02
VOC	4-Methyl-2-pentanone (MIBK	3100	USEPA 2019	1.0E+02	3.1E+03
VOC	n-Pentane	1000	USEPA 2019	3.3E+01	1.0E+03
VOC	Propylene	3100	USEPA 2019	1.0E+02	3.1E+03
VOC	Tetrahyrofuran	2100	USEPA 2019	7.0E+01	2.1E+03
VOC	1,1,1-Trichloroethane	1000	Cal/EPA 2019	3.3E+01	1.0E+03
VOC	1,2,4-Trimethylbenzene	63	USEPA 2019	2.1E+00	6.3E+01
VOC	1,3,5-Trimethylbenzene	63	USEPA 2019	2.1E+00	6.3E+01
VOC	Styrene	940	Cal/EPA 2019	3.1E+01	9.4E+02

Table A-5A

Risk-Based Target Concentrations -- Residents Exposed to Soil Vapor Migrating to Indoor Air

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Residential Air Screening Level		Residential Soil Vapor RBTC (µg/L)	
		Value ($\mu g/m^3$)	Source	Default AF = 0.03 (USEPA 2015)	Default AF = 0.001 (Cal/EPA 2011)
VOC	Di-Isoproylether	730	USEPA 2019	2.4E+01	7.3E+02
VOC	tert-amylmethylether	NA	--	--	--
TPH	TPH as Gasoline	600	SFBRWQCB 2019	2.0E+01	6.0E+02

Notes:

$\mu g/m^3$ = microgram per cubic meter
µg/L = microgram per liter
AF = Attenuation Factor
Cal/EPA = California Environmental Protection Agency
NA = not available
TPH = Total Petroleum Hydrocarbons
RBTC = Risk-Based Target Concentration
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
VOC = Volatile Organic Compound
USEPA = United States Environmental Protection Agency

Sources:

Cal/EPA. 2011. Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October.

Cal/EPA. 2019. Human and Ecological Risk Office (HERO) Human Health Risk assessment (HHRA) Note Number 3, Issue: DTSC-Modified Screening Levels (DTSC-SLs). April.

SFBRWQCB. 2019. Environmental Screening Levels (ESLs) Workbook. January.

USEPA. 2015. OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air. June.

USEPA. 2019. Regional Screening Levels. November.

Table A-5B

Risk-Based Target Concentrations -- Commercial/Industrial Composite Workers Exposed to Soil Vapor Migrating to Indoor Air

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Commercial/Industrial Air Screening Level		Commercial/Industrial Soil Vapor RBTC (µg/L)		
		Value (µg/m^3)	Source	Default AF = 0.03 (USEPA 2015)	Default AF = 0.001 (Cal/EPA 2011[a])	Default AF = 0.0005 (Cal/EPA 2011[b])
VOC	Benzene	0.42	Cal/EPA 2019	1.4E-02	4.2E-01	8.4E-01
VOC	1,1-Dichloroethane	7.7	Cal/EPA 2019	2.6E-01	7.7E+00	1.5E+01
VOC	1,1-Dichloroethene	310	Cal/EPA 2019	1.0E+01	3.1E+02	6.2E+02
VOC	Dichlorodifluoromethane	440	USEPA 2019	1.5E+01	4.4E+02	8.8E+02
VOC	cis-1,2-Dichloroethene	35	Cal/EPA 2019	1.2E+00	3.5E+01	7.0E+01
VOC	trans-1,2-Dichloroethene	350	Cal/EPA 2019	1.2E+01	3.5E+02	7.0E+02
VOC	Tetrachloroethene	2	Cal/EPA 2019	6.7E-02	2.0E+00	4.0E+00
VOC	Trichloroethene	3	USEPA 2019	1.0E-01	3.0E+00	6.0E+00
VOC	Vinyl Chloride	0.16	Cal/EPA 2019	5.3E-03	1.6E-01	3.2E-01
VOC	Acetone	140000	USEPA 2019	4.7E+03	1.4E+05	2.8E+05
VOC	Bromoform	11	Cal/EPA 2019	3.7E-01	1.1E+01	2.2E+01
VOC	Chloroform	0.53	USEPA 2019	1.8E-02	5.3E-01	1.1E+00
VOC	Ethyl Benzene	4.9	USEPA 2019	1.6E-01	4.9E+00	9.8E+00
VOC	Methyl tert-Butyl Ether	47	USEPA 2019	1.6E+00	4.7E+01	9.4E+01
VOC	Toluene	1300	Cal/EPA 2019	4.3E+01	1.3E+03	2.6E+03
VOC	m,p-Xylene	440	USEPA 2019	1.5E+01	4.4E+02	8.8E+02
VOC	ortho-Xylene	440	USEPA 2019	1.5E+01	4.4E+02	8.8E+02
VOC	Acrolein	0.088	USEPA 2019	2.9E-03	8.8E-02	1.8E-01
VOC	Bromodichloromethane	0.33	Cal/EPA 2019	1.1E-02	3.3E-01	6.6E-01
VOC	1,3-Butadiene	0.072	Cal/EPA 2019	2.4E-03	7.2E-02	1.4E-01
VOC	2-Butanone (MEK)	22000	USEPA 2019	7.3E+02	2.2E+04	4.4E+04
VOC	sec-Butylbenzene	1800	Cal/EPA 2019	6.0E+01	1.8E+03	3.6E+03
VOC	tert-Butylbenzene	1800	Cal/EPA 2019	6.0E+01	1.8E+03	3.6E+03
VOC	Carbon Tetrachloride	2	Cal/EPA 2019	6.7E-02	2.0E+00	4.0E+00
VOC	Carbon Disulfide	3100	USEPA 2019	1.0E+02	3.1E+03	6.2E+03
VOC	Cyclohexane	26000	USEPA 2019	8.7E+02	2.6E+04	5.2E+04
VOC	1,2-Dibromoethane (EDB)	0.02	Cal/EPA 2019	6.7E-04	2.0E-02	4.0E-02
VOC	1,2-Dichloroethane	0.47	USEPA 2019	1.6E-02	4.7E-01	9.4E-01
VOC	1,1-Difluoroethane	180000	USEPA 2019	6.0E+03	1.8E+05	3.6E+05
VOC	1,4-Dioxane	2.5	USEPA 2019	8.3E-02	2.5E+00	5.0E+00
VOC	Freon 11	5300	Cal/EPA 2019	1.8E+02	5.3E+03	1.1E+04
VOC	2-Hexanone (MBK)	130	USEPA 2019	4.3E+00	1.3E+02	2.6E+02
VOC	Isopropanol	880	USEPA 2019	2.9E+01	8.8E+02	1.8E+03
VOC	4-Isopropyltoluene	NA	--	--	--	--
VOC	n-Propylbenzene	4400	USEPA 2019	1.5E+02	4.4E+03	8.8E+03
VOC	Methylene Chloride	12	Cal/EPA 2019	4.0E-01	1.2E+01	2.4E+01
VOC	Methyl methacrylate	3100	USEPA 2019	1.0E+02	3.1E+03	6.2E+03
VOC	4-Methyl-2-pentanone (MIBK	13000	USEPA 2019	4.3E+02	1.3E+04	2.6E+04
VOC	n-Pentane	4400	USEPA 2019	1.5E+02	4.4E+03	8.8E+03
VOC	Propylene	13000	USEPA 2019	4.3E+02	1.3E+04	2.6E+04
VOC	Tetrahyrofuran	8800	USEPA 2019	2.9E+02	8.8E+03	1.8E+04
VOC	1,1,1-Trichloroethane	4400	Cal/EPA 2019	1.5E+02	4.4E+03	8.8E+03
VOC	1,2,4-Trimethylbenzene	260	USEPA 2019	8.7E+00	2.6E+02	5.2E+02
VOC	1,3,5-Trimethylbenzene	260	USEPA 2019	8.7E+00	2.6E+02	5.2E+02
VOC	Styrene	3900	Cal/EPA 2019	1.3E+02	3.9E+03	7.8E+03
VOC	Di-Isoproylether	3100	USEPA 2019	1.0E+02	3.1E+03	6.2E+03
VOC	tert-amylmethylether	NA	--	--	--	--
TPH	TPH as Gasoline	2500	SFBRWQCB 2019	8.3E+01	2.5E+03	5.0E+03

Notes:

a. Default attenuation factor for existing commercial/industrial workers (Cal/EPA, 2011).

Table A-5B

Risk-Based Target Concentrations -- Commercial/Industrial Composite Workers Exposed to Soil Vapor Migrating to Indoor Air

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Commercial/Industrial Air Screening Level		Commercial/Industrial Soil Vapor RBTC (µg/L)		
		Value (µg/m^3)	Source	Default AF = 0.03 (USEPA 2015)	Default AF = 0.001 (Cal/EPA 2011[a])	Default AF = 0.0005 (Cal/EPA 2011[b])

b. Default attenuation factor for future commercial/industrial workers (Cal/EPA, 2011).
-- = Not calculated
µg/m^3 = microgram per cubic meter
µg/L = microgram per liter
AF = Attenuation Factor
Cal/EPA = California Environmental Protection Agency
NA = not available
TPH = Total Petroleum Hydrocarbons
RBTC = Risk-Based Target Concentration
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
VOC = Volatile Organic Compound
USEPA = United States Environmental Protection Agency

Sources:

Cal/EPA. 2011. Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October.

Cal/EPA. 2019. Human and Ecological Risk Office (HERO) Human Health Risk assessment (HHRA) Note Number 3, Issue: DTSC-Modified Screening Levels (DTSC-SLs). April.

SFBRWQCB. 2019. Environmental Screening Levels (ESLs) Workbook. January.

USEPA. 2015. OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air. June.

USEPA. 2019. Regional Screening Levels. November.

Table A-5C

Risk-Based Target Concentrations -- Construction Trench Workers Exposed to Soil Vapor Migrating to Trench Air

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Construction Trench Worker Trench Air RBTC			Soil Gas to Trench Air Transfer Factor [a] (µg/L per µg/L)	Construction Trench Soil Vapor RBTC (µg/L)
		$RBTC_C$ (µg/L)	$RBTC_{NC}$ (µg/L)	Minimum RBTC (µg/L)		
VOC	Benzene	2.1E-02	3.5E-01	2.1E-02	1.78E-02	1.2E+00
VOC	1,1-Dichloroethane	3.8E-01	3.1E+01	3.8E-01	1.66E-02	2.3E+01
VOC	1,1-Dichloroethene	--	3.5E-01	3.5E-01	1.72E-02	2.0E+01
VOC	Dichlorodifluoromethane	--	4.4E+00	4.4E+00	1.51E-02	2.9E+02
VOC	cis-1,2-Dichloroethene	--	3.1E-01	3.1E-01	1.76E-02	1.7E+01
VOC	trans-1,2-Dichloroethene	--	3.5E+00	3.5E+00	1.74E-02	2.0E+02
VOC	Tetrachloroethene	1.0E-01	1.8E-01	1.0E-01	1.00E-02	1.0E+01
VOC	Trichloroethene	1.5E-01	9.4E-03	9.4E-03	1.37E-02	6.9E-01
VOC	Vinyl Chloride	7.9E-03	3.4E-01	7.9E-03	2.13E-02	3.7E-01
VOC	Acetone	--	1.4E+02	1.4E+02	2.11E-02	6.4E+03
VOC	Bromoform	5.6E-01	4.6E-01	4.6E-01	7.11E-03	6.5E+01
VOC	Chloroform	2.7E-02	1.1E+00	2.7E-02	1.53E-02	1.7E+00
VOC	Ethyl Benzene	2.5E-01	3.9E+01	2.5E-01	1.36E-02	1.8E+01
VOC	Methyl tert-Butyl Ether	2.4E+00	1.1E+01	2.4E+00	1.50E-02	1.6E+02
VOC	Toluene	--	2.2E+01	2.2E+01	1.55E-02	1.4E+03
VOC	m,p-Xylene	--	1.8E+00	1.8E+00	1.36E-02	1.3E+02
VOC	ortho-Xylene	--	1.8E+00	1.8E+00	1.37E-02	1.3E+02
VOC	Acrolein	--	4.0E-04	4.0E-04	2.22E-02	1.8E-02
VOC	Bromodichloromethane	1.7E-02	8.8E-02	1.7E-02	1.12E-02	1.5E+00
VOC	1,3-Butadiene	3.6E-03	8.8E-03	3.6E-03	2.00E-02	1.8E-01
VOC	2-Butanone (MEK)	--	4.4E+00	4.4E+00	1.82E-02	2.4E+02
VOC	sec-Butylbenzene	--	1.8E+00	1.8E+00	1.05E-02	1.7E+02
VOC	tert-Butylbenzene	--	1.8E+00	1.8E+00	1.05E-02	1.7E+02
VOC	Carbon Tetrachloride	1.0E-01	8.3E-01	1.0E-01	1.14E-02	9.0E+00
VOC	Carbon Disulfide	--	3.1E+00	3.1E+00	2.12E-02	1.4E+02
VOC	Cyclohexane	--	7.9E+01	7.9E+01	1.59E-02	5.0E+03
VOC	1,2-Dibromoethane (EDB)	1.0E-03	8.8E-03	1.0E-03	8.56E-03	1.2E-01
VOC	1,2-Dichloroethane	2.4E-02	3.1E-01	2.4E-02	1.70E-02	1.4E+00
VOC	1,1-Difluoroethane	--	1.8E+02	1.8E+02	2.03E-02	8.6E+03
VOC	1,4-Dioxane	1.2E-01	3.2E+00	1.2E-01	1.74E-02	7.1E+00
VOC	Freon 11	--	4.4E+00	4.4E+00	1.30E-02	3.4E+02
VOC	2-Hexanone (MBK)	--	1.3E-01	1.3E-01	1.40E-02	9.4E+00
VOC	Isopropanol	--	3.1E+01	3.1E+01	2.05E-02	1.5E+03
VOC	4-Isopropyltoluene	--	--	--	--	--
VOC	n-Propylbenzene	--	4.4E+00	4.4E+00	1.20E-02	3.7E+02
VOC	Methylene Chloride	6.1E-01	4.6E+00	6.1E-01	1.99E-02	3.1E+01
VOC	Methyl methacrylate	--	3.1E+00	3.1E+00	1.49E-02	2.1E+02
VOC	4-Methyl-2-pentanone (MIBK	--	3.5E+00	3.5E+00	1.39E-02	2.5E+02
VOC	n-Pentane	--	4.4E+01	4.4E+01	1.63E-02	2.7E+03
VOC	Propylene	--	1.3E+01	1.3E+01	2.18E-02	6.0E+02
VOC	Tetrahyrofuran	--	8.8E+00	8.8E+00	1.98E-02	4.4E+02
VOC	1,1,1-Trichloroethane	--	2.2E+01	2.2E+01	1.29E-02	1.7E+03
VOC	1,2,4-Trimethylbenzene	--	8.8E-01	8.8E-01	1.21E-02	7.3E+01
VOC	1,3,5-Trimethylbenzene	--	8.8E-01	8.8E-01	1.20E-02	7.3E+01

Table A-5C

Risk-Based Target Concentrations -- Construction Trench Workers Exposed to Soil Vapor Migrating to Trench Air

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Construction Trench Worker Trench Air RBTC			Soil Gas to Trench Air Transfer Factor [a] (µg/L per µg/L)	Construction Trench Soil Vapor RBTC (µg/L)
		$RBTC_C$ (µg/L)	$RBTC_{NC}$ (µg/L)	Minimum RBTC (µg/L)		
VOC	Styrene	--	1.3E+01	1.3E+01	1.41E-02	9.3E+02
VOC	Di-Isoproylether	--	3.1E+00	3.1E+00	1.30E-02	2.4E+02
VOC	tert-amylmethylether	--	--	--	--	--
TPH	TPH as Gasoline	--	2.5E+00	2.5E+00	1.45E-02	1.7E+02

Notes:

a. Soil Gas to Trench Air Transfer Factor is calculated using Equation 2-13 in VDEQ (2019) and relevant chemical properties from USEPA RSL (2019) for VOC and SFBRWQCB ESL (2019) for PDIST.

-- = Not calculated
µg/L = microgram per liter
ft bgs= feet below ground surface
TPH = Total Petroleum Hydrocarbons
RBTC = Risk-Based Target Concentration
VDEQ = Virginia Department of Environmental Quality
VOC = Volatile Organic Compound

Sources:

SFBRWQCB. 2019. Environmental Screening Levels (ESLs) Workbook. January.

USEPA. 2019. Regional Screening Levels. November.

VDEQ. 2019. Virginia Unified Risk Assessment Model - VURAM User Guide. July.

Table A-6

Summary for Soil Vapor Evaluation Thresholds

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Residential Soil Vapor RBTC (µg/L)		Commercial/Industrial Soil Vapor RBTC (µg/L)			Construction Trench Soil Vapor RBTC (µg/L)	Soil Vapor Evaluation Threshold [a] (µg/L)
		Default AF = 0.03 (USEPA 2015)	Default AF = 0.001 (Cal/EPA 2011) [b]	Default AF = 0.03 (USEPA 2015)	Default AF = 0.001 (Cal/EPA 2011)[c]	Default AF = 0.0005 (Cal/EPA 2011)[b]		
VOC	Benzene	3.2E-03	9.7E-02	1.4E-02	4.2E-01	8.4E-01	1.2E+00	9.7E-02
VOC	1,1-Dichloroethane	6.0E-02	1.8E+00	2.6E-01	7.7E+00	1.5E+01	2.3E+01	1.8E+00
VOC	1,1-Dichloroethene	2.4E+00	7.3E+01	1.0E+01	3.1E+02	6.2E+02	2.0E+01	2.0E+01
VOC	Dichlorodifluoromethane	3.3E+00	1.0E+02	1.5E+01	4.4E+02	8.8E+02	2.9E+02	1.0E+02
VOC	cis-1,2-Dichloroethene	2.8E-01	8.3E+00	1.2E+00	3.5E+01	7.0E+01	1.7E+01	8.3E+00
VOC	trans-1,2-Dichloroethene	2.8E+00	8.3E+01	1.2E+01	3.5E+02	7.0E+02	2.0E+02	8.3E+01
VOC	Tetrachloroethene	1.5E-02	4.6E-01	6.7E-02	2.0E+00	4.0E+00	1.0E+01	4.6E-01
VOC	Trichloroethene	1.6E-02	4.8E-01	1.0E-01	3.0E+00	6.0E+00	6.9E-01	4.8E-01
VOC	Vinyl Chloride	3.2E-04	9.5E-03	5.3E-03	1.6E-01	3.2E-01	3.7E-01	9.5E-03
VOC	Acetone	1.1E+03	3.2E+04	4.7E+03	1.4E+05	2.8E+05	6.4E+03	6.4E+03
VOC	Bromoform	8.7E-02	2.6E+00	3.7E-01	1.1E+01	2.2E+01	6.5E+01	2.6E+00
VOC	Chloroform	4.0E-03	1.2E-01	1.8E-02	5.3E-01	1.1E+00	1.7E+00	1.2E-01
VOC	Ethyl Benzene	3.7E-02	1.1E+00	1.6E-01	4.9E+00	9.8E+00	1.8E+01	1.1E+00
VOC	Methyl tert-Butyl Ether	3.7E-01	1.1E+01	1.6E+00	4.7E+01	9.4E+01	1.6E+02	1.1E+01
VOC	Toluene	1.0E+01	3.1E+02	4.3E+01	1.3E+03	2.6E+03	1.4E+03	3.1E+02
VOC	m,p-Xylene	3.3E+00	1.0E+02	1.5E+01	4.4E+02	8.8E+02	1.3E+02	1.0E+02
VOC	ortho-Xylene	3.3E+00	1.0E+02	1.5E+01	4.4E+02	8.8E+02	1.3E+02	1.0E+02
VOC	Acrolein	7.0E-04	2.1E-02	2.9E-03	8.8E-02	1.8E-01	1.8E-02	1.8E-02
VOC	Bromodichloromethane	2.5E-03	7.6E-02	1.1E-02	3.3E-01	6.6E-01	1.5E+00	7.6E-02
VOC	1,3-Butadiene	5.7E-04	1.7E-02	2.4E-03	7.2E-02	1.4E-01	1.8E-01	1.7E-02
VOC	2-Butanone (MEK)	1.7E+02	5.2E+03	7.3E+02	2.2E+04	4.4E+04	2.4E+02	2.4E+02
VOC	sec-Butylbenzene	1.4E+01	4.2E+02	6.0E+01	1.8E+03	3.6E+03	1.7E+02	1.7E+02
VOC	tert-Butylbenzene	1.4E+01	4.2E+02	6.0E+01	1.8E+03	3.6E+03	1.7E+02	1.7E+02
VOC	Carbon Tetrachloride	1.6E-02	4.7E-01	6.7E-02	2.0E+00	4.0E+00	9.0E+00	4.7E-01
VOC	Carbon Disulfide	2.4E+01	7.3E+02	1.0E+02	3.1E+03	6.2E+03	1.4E+02	1.4E+02
VOC	Cyclohexane	2.1E+02	6.3E+03	8.7E+02	2.6E+04	5.2E+04	5.0E+03	5.0E+03
VOC	1,2-Dibromoethane (EDB)	1.6E-04	4.7E-03	6.7E-04	2.0E-02	4.0E-02	1.2E-01	4.7E-03
VOC	1,2-Dichloroethane	3.7E-03	1.1E-01	1.6E-02	4.7E-01	9.4E-01	1.4E+00	1.1E-01
VOC	1,1-Difluoroethane	1.4E+03	4.2E+04	6.0E+03	1.8E+05	3.6E+05	8.6E+03	8.6E+03
VOC	1,4-Dioxane	1.9E-02	5.6E-01	8.3E-02	2.5E+00	5.0E+00	7.1E+00	5.6E-01
VOC	Freon 11	4.3E+01	1.3E+03	1.8E+02	5.3E+03	1.1E+04	3.4E+02	3.4E+02
VOC	2-Hexanone (MBK)	1.0E+00	3.1E+01	4.3E+00	1.3E+02	2.6E+02	9.4E+00	9.4E+00
VOC	Isopropanol	7.0E+00	2.1E+02	2.9E+01	8.8E+02	1.8E+03	1.5E+03	2.1E+02
VOC	4-Isopropyltoluene	--	--	--	--	--	--	--
VOC	n-Propylbenzene	3.3E+01	1.0E+03	1.5E+02	4.4E+03	8.8E+03	3.7E+02	3.7E+02
VOC	Methylene Chloride	3.3E-02	1.0E+00	4.0E-01	1.2E+01	2.4E+01	3.1E+01	1.0E+00
VOC	Methyl methacrylate	2.4E+01	7.3E+02	1.0E+02	3.1E+03	6.2E+03	2.1E+02	2.1E+02

Table A-6

Summary for Soil Vapor Evaluation Thresholds

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Residential Soil Vapor RBTC (µg/L)		Commercial/Industrial Soil Vapor RBTC (µg/L)			Construction Trench Soil Vapor RBTC (µg/L)	Soil Vapor Evaluation Threshold [a] (µg/L)
		Default AF = 0.03 (USEPA 2015)	Default AF = 0.001 (Cal/EPA 2011) [b]	Default AF = 0.03 (USEPA 2015)	Default AF = 0.001 (Cal/EPA 2011)[c]	Default AF = 0.0005 (Cal/EPA 2011)[b]		
VOC	4-Methyl-2-pentanone (MIBK	1.0E+02	3.1E+03	4.3E+02	1.3E+04	2.6E+04	2.5E+02	2.5E+02
VOC	n-Pentane	3.3E+01	1.0E+03	1.5E+02	4.4E+03	8.8E+03	2.7E+03	1.0E+03
VOC	Propylene	1.0E+02	3.1E+03	4.3E+02	1.3E+04	2.6E+04	6.0E+02	6.0E+02
VOC	Tetrahyrofuran	7.0E+01	2.1E+03	2.9E+02	8.8E+03	1.8E+04	4.4E+02	4.4E+02
VOC	1,1,1-Trichloroethane	3.3E+01	1.0E+03	1.5E+02	4.4E+03	8.8E+03	1.7E+03	1.0E+03
VOC	1,2,4-Trimethylbenzene	2.1E+00	6.3E+01	8.7E+00	2.6E+02	5.2E+02	7.3E+01	6.3E+01
VOC	1,3,5-Trimethylbenzene	2.1E+00	6.3E+01	8.7E+00	2.6E+02	5.2E+02	7.3E+01	6.3E+01
VOC	Styrene	3.1E+01	9.4E+02	1.3E+02	3.9E+03	7.8E+03	9.3E+02	9.3E+02
VOC	Di-Isoproylether	2.4E+01	7.3E+02	1.0E+02	3.1E+03	6.2E+03	2.4E+02	2.4E+02
VOC	tert-amylmethylether	--	--	--	--	--	--	--
TPH	TPH as Gasoline	2.0E+01	6.0E+02	8.3E+01	2.5E+03	5.0E+03	1.7E+02	1.7E+02

Notes:

a. The evaluation thresholds are the minimum of calculated construction worker RBTCs and soil vapor RBTCs derived from regulatory air screening levels and default attenuation factor in Cal/EPA 2011.

b. Attenuation factors (AF) are the default DTSC-recommended AF for future use scenario.

c. Attenuation factors (AF) are the default DTSC-recommended AF for existing commercial scenario.

-- = Not calculated
µg/L = microgram per liter
ft bgs= feet below ground surface
AF = Attenuation Factor
TPH = Total Petroleum Hydrocarbons
RBTC = Risk-Based Target Concentration
VOC = Volatile Organic Compound

Sources:

Cal/EPA. 2011. Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October.

USEPA. 2015. OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air. June.

Table A-7A

Risk-Based Target Concentrations -- Residents Exposed to Groundwater Migrating to Indoor Air

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Residential Air Screening Level		Henry's Law Constant [a] (unitless)	Residential Groundwater RBTC (µg/L)
		Value (µg/m^3)	Source		Default AF = 0.001 (Cal/EPA 2011)
VOC	1,1-Dichloroethane	1.8	Cal/EPA 2019	2.30E-01	7.8E+00
VOC	1,1-Dichloroethene	73	Cal/EPA 2019	1.07E+00	6.8E+01
VOC	cis-1,2-Dichloroethene	8.3	Cal/EPA 2019	1.67E-01	5.0E+01
VOC	trans-1,2-Dichloroethene	83	Cal/EPA 2019	3.84E-01	2.2E+02
VOC	Tetrachloroethene	0.46	Cal/EPA 2019	7.24E-01	6.4E-01
VOC	Trichloroethene	0.48	USEPA 2019	4.03E-01	1.2E+00
VOC	Vinyl Chloride	0.0095	Cal/EPA 2019	1.14E+00	8.4E-03
VOC	Acetone	32000	USEPA 2019	1.43E-03	2.2E+07
VOC	Chloroform	0.12	USEPA 2019	1.50E-01	8.0E-01
VOC	1,4-Dioxane	0.56	USEPA 2019	1.96E-04	2.9E+03
TPH	TPH as Diesel	270	SFBRWQCB 2019	7.36E+01	3.7E+00
TPH	TPH as Gasoline	600	SFBRWQCB 2019	7.36E+01	8.1E+00

Notes:

a. Henry's constant is from USEPA RSL (2019) for VOC and SFBRWQCB ESL (2019) for PDIST.

µg/m^3 = microgram per cubic meter
µg/L = microgram per liter
AF = Attenuation Factor
Cal/EPA = California Environmental Protection Agency
TPH = Total Petroleum Hydrocarbons
RBTC = Risk-Based Target Concentration
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
VOC = Volatile Organic Compound
USEPA = United States Environmental Protection Agency

Sources:

Cal/EPA. 2011. Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October.

Cal/EPA. 2019. Human and Ecological Risk Office (HERO) Human Health Risk assessment (HHRA) Note Number 3, Issue: DTSC-Modified Screening Levels (DTSC-SLs). April.

SFBRWQCB. 2019. Environmental Screening Levels (ESLs) Workbook. January.

USEPA. 2019. Regional Screening Levels. November.

Table A-7B

Risk-Based Target Concentrations -- Commercial/Industrial Composite Workers Exposed to Groundwater Migrating to Indoor Air

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Commercial/Industrial Air Screening Level		Henry's Law Constant [a] (unitless)	Future Commercial/Industrial Groundwater RBTC (µg/L)	
		Value (µg/m^3)	Source		Default AF = 0.001 (Cal/EPA 2011[b])	Default AF = 0.0005 (Cal/EPA 2011[c])
VOC	1,1-Dichloroethane	7.7	Cal/EPA 2019	2.30E-01	3.3E+01	6.7E+01
VOC	1,1-Dichloroethene	310	Cal/EPA 2019	1.07E+00	2.9E+02	5.8E+02
VOC	cis-1,2-Dichloroethene	35	Cal/EPA 2019	1.67E-01	2.1E+02	4.2E+02
VOC	trans-1,2-Dichloroethene	350	Cal/EPA 2019	3.84E-01	9.1E+02	1.8E+03
VOC	Tetrachloroethene	2	Cal/EPA 2019	7.24E-01	2.8E+00	5.5E+00
VOC	Trichloroethene	3	USEPA 2019	4.03E-01	7.4E+00	1.5E+01
VOC	Vinyl Chloride	0.16	Cal/EPA 2019	1.14E+00	1.4E-01	2.8E-01
VOC	Acetone	140000	USEPA 2019	1.43E-03	9.8E+07	2.0E+08
VOC	Chloroform	0.53	USEPA 2019	1.50E-01	3.5E+00	7.1E+00
VOC	1,4-Dioxane	2.5	USEPA 2019	1.96E-04	1.3E+04	2.5E+04
TPH	TPH as Diesel	1100	SFBRWQCB 2019	7.36E+01	1.5E+01	3.0E+01
TPH	TPH as Gasoline	2500	SFBRWQCB 2019	7.36E+01	3.4E+01	6.8E+01

Notes:

a. Henry's constant is from USEPA RSL (2019) for VOC and SFBRWQCB ESL (2019) for PDIST.

b. Default attenuation factor for existing commercial/industrial workers (Cal/EPA, 2011).

c. Default attenuation factor for future commercial/industrial workers (Cal/EPA, 2011).

µg/m^3 = microgram per cubic meter
µg/L = microgram per liter
AF = Attenuation Factor
Cal/EPA = California Environmental Protection Agency
TPH = Total Petroleum Hydrocarbons
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
VOC = Volatile Organic Compound
USEPA = United States Environmental Protection Agency

Sources:

Cal/EPA. 2011. Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October.

Cal/EPA. 2019. Human and Ecological Risk Office (HERO) Human Health Risk assessment (HHRA) Note Number 3, Issue: DTSC-Modified Screening Levels (DTSC-SLs). April.

SFBRWQCB. 2019. Environmental Screening Levels (ESLs) Workbook. January.

USEPA. 2019. Regional Screening Levels. November.

Table A-7C

Risk-Based Target Concentrations -- Construction Trench Workers Exposed to Groundwater Migrating to Trench Air

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Construction Trench Worker Trench Air RBTC			Groundwater to Trench Air Transfer Factor [a] (µg/L per µg/L)	Construction Trench Grounwater RBTC (µg/L)
		$RBTC_C$ (µg/L)	$RBTC_{NC}$ (µg/L)	Minimum RBTC (µg/L)		
VOC	1,1-Dichloroethane	3.8E-01	3.1E+01	3.8E-01	1.25E-05	3.1E+04
VOC	1,1-Dichloroethene	--	3.5E-01	3.5E-01	6.01E-05	5.8E+03
VOC	cis-1,2-Dichloroethene	--	3.1E-01	3.1E-01	9.63E-06	3.2E+04
VOC	trans-1,2-Dichloroethene	--	3.5E+00	3.5E+00	2.19E-05	1.6E+05
VOC	Tetrachloroethene	1.0E-01	1.8E-01	1.0E-01	2.38E-05	4.2E+03
VOC	Trichloroethene	1.5E-01	9.4E-03	9.4E-03	1.81E-05	5.2E+02
VOC	Vinyl Chloride	7.9E-03	3.4E-01	7.9E-03	7.95E-05	9.9E+01
VOC	Acetone	--	1.4E+02	1.4E+02	9.89E-08	1.4E+09
VOC	Chloroform	2.7E-02	1.1E+00	2.7E-02	7.53E-06	3.5E+03
VOC	1,4-Dioxane	1.2E-01	3.2E+00	1.2E-01	1.12E-08	1.1E+07
TPH	TPH as Diesel	--	1.1E+00	1.1E+00	2.88E-03	4.0E+02
TPH	TPH as Gasoline	--	2.5E+00	2.5E+00	3.51E-03	7.1E+02

Notes:

a. Groundwater to Trench Air Transfer Factor is calculated using Equation 2-2 in VDEQ (2019) and relevant chemical properties from USEPA RSL (2019) for VOC and SFBRWQCB ESL (2019) for PDIST.

-- = Not calculated

µg/L = microgram per liter

ft bgs= feet below ground surface

TPH = Total Petroleum Hydrocarbons

RBTC = Risk-Based Target Concentration

VDEQ = Virginia Department of Environmental Quality

VOC = Volatile Organic Compound

Sources:

SFBRWQCB. 2019. Environmental Screening Levels (ESLs) Workbook. January.

USEPA. 2019. Regional Screening Levels. November.

VDEQ. 2019. Virginia Unified Risk Assessment Model - VURAM User Guide. July.

Table A-8

Summary for Groundwater Evaluation Thresholds

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Residential Groundwater RBTC (µg/L)	Commercial/Industrial Groundwater RBTC (µg/L)		Construction Trench Groundwater RBTC (µg/L)	Groundwater Evaluation Threshold [a] (µg/L)
		Default AF = 0.001 (Cal/EPA 2011) [b]	Default AF = 0.001 (Cal/EPA 2011) [c]	Default AF = 0.0005 (Cal/EPA 2011) [b]		
VOC	1,1-Dichloroethane	7.8E+00	3.3E+01	6.7E+01	3.1E+04	7.8E+00
VOC	1,1-Dichloroethene	6.8E+01	2.9E+02	5.8E+02	5.8E+03	6.8E+01
VOC	cis-1,2-Dichloroethene	5.0E+01	2.1E+02	4.2E+02	3.2E+04	5.0E+01
VOC	trans-1,2-Dichloroethene	2.2E+02	9.1E+02	1.8E+03	1.6E+05	2.2E+02
VOC	Tetrachloroethene	6.4E-01	2.8E+00	5.5E+00	4.2E+03	6.4E-01
VOC	Trichloroethene	1.2E+00	7.4E+00	1.5E+01	5.2E+02	1.2E+00
VOC	Vinyl Chloride	8.4E-03	1.4E-01	2.8E-01	9.9E+01	8.4E-03
VOC	Acetone	2.2E+07	9.8E+07	2.0E+08	1.4E+09	2.2E+07
VOC	Chloroform	8.0E-01	3.5E+00	7.1E+00	3.5E+03	8.0E-01
VOC	1,4-Dioxane	2.9E+03	1.3E+04	2.5E+04	1.1E+07	2.9E+03
TPH	TPH as Diesel	3.7E+00	1.5E+01	3.0E+01	4.0E+02	3.7E+00
TPH	TPH as Gasoline	8.1E+00	3.4E+01	6.8E+01	7.1E+02	8.1E+00

Notes:

a. The evaluation thresholds are the minimum of calculated construction worker RBTCs and groundwater RBTCs derived from regulatory air screening levels and default attenuation factor in Cal/EPA 2011.

b. Attenuation factors (AF) are the default DTSC-recommended AF for future use scenario.

c. Attenuation factors (AF) are the default DTSC-recommended AF for existing commercial scenario.

-- = Not calculated
µg/L = microgram per liter
ft bgs= feet below ground surface
AF = Attenuation Factor
TPH = Total Petroleum Hydrocarbons
RBTC = Risk-Based Target Concentration
VOC = Volatile Organic Compound

Sources:

Cal/EPA. 2011. Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October.

Table A-9

Risk-Based Target Concentrations -- Construction Trench Workers Exposed to Soil through Direct Contact

2101-2129 Rosecrans Avenue

Gardena, California

Chemical Group	Chemical	Soil Ingestion		Soil Dermal Contact		Soil Inhalation		Combined Cancer RBTC (mg/kg)	Combined Non-Cancer RBTC (mg/kg)	Minimum RBTC (mg/kg)
		$RBTC_{soil\text{-}ing\text{-}C}$ (mg/kg)	$RBTC_{soil\text{-}ing\text{-}NC}$ (mg/kg)	$RBTC_{soil\text{-}derm\text{-}C}$ (mg/kg)	$RBTC_{soil\text{-}derm\text{-}NC}$ (mg/kg)	$RBTC_{soil.part\text{-}inh\text{-}C}$ (mg/kg)	$RBTC_{soil.part\text{-}inh\text{-}NC}$ (mg/kg)			
PCB	Aroclor-1248	2.5E+01	1.1E+01	1.2E+01	5.2E+00	1.1E+03	--	8.1E+00	3.5E+00	3.5E+00
PCB	Aroclor-1254	2.5E+01	1.1E+01	1.2E+01	5.2E+00	1.1E+03	4.6E+02	8.1E+00	3.5E+00	3.5E+00
PCB	Aroclor-1260	2.5E+01	1.1E+01	1.2E+01	5.2E+00	1.1E+03	--	8.1E+00	3.5E+00	3.5E+00
PCB	Aroclor-1262	2.5E+01	1.1E+01	1.2E+01	5.2E+00	1.1E+03	--	8.1E+00	3.5E+00	3.5E+00
INORG	Antimony	--	1.4E+02	--	--	--	--	--	1.4E+02	1.4E+02
INORG	Barium	--	7.1E+04	--	--	--	2.2E+04	--	1.7E+04	1.7E+04
INORG	Beryllium	--	1.8E+03	--	--	2.6E+02	3.1E+01	2.6E+02	3.0E+01	3.0E+01
INORG	Cadmium	--	1.8E+02	--	6.1E+02	1.5E+02	4.4E+01	1.5E+02	3.3E+01	3.3E+01
INORG	Chromium	--	5.3E+05	--	--	--	2.2E+04	--	2.1E+04	2.1E+04
INORG	Chromium VI	9.9E+01	1.8E+03	--	--	4.1E+00	1.3E+03	3.9E+00	7.5E+02	3.9E+00
INORG	Cobalt	--	1.1E+03	--	--	6.8E+01	8.8E+01	6.8E+01	8.1E+01	6.8E+01
INORG	Copper	--	3.5E+03	--	--	--	--	--	3.5E+03	3.5E+03
INORG	Mercury	--	7.1E+02	--	--	--	1.3E+02	--	1.1E+02	1.1E+02
INORG	Molybdenum	--	1.8E+03	--	--	--	--	--	1.8E+03	1.8E+03
INORG	Nickel	--	7.1E+03	--	--	2.4E+03	8.8E+02	2.4E+03	7.8E+02	7.8E+02
INORG	Selenium	--	1.8E+03	--	--	--	8.8E+04	--	1.7E+03	1.7E+03
INORG	Silver	--	1.8E+03	--	--	--	--	--	1.8E+03	1.8E+03
INORG	Thallium	--	1.4E+01	--	--	--	--	--	1.4E+01	1.4E+01
INORG	Vanadium	--	3.5E+03	--	--	--	4.4E+02	--	3.9E+02	3.9E+02
INORG	Zinc	--	1.1E+05	--	--	--	--	--	1.1E+05	1.1E+05

Notes:

-- = Not calculated

mg/kg = milligram per kilogram

INORG = Inorganic

PCB = Polychlorinated Biphenyl

$RBTC_{soil\text{-}ing\text{-}C}$ = Risk-Based Concentration, cancer, soil ingestion

$RBTC_{soil\text{-}ing\text{-}NC}$ = Risk-Based Concentration, noncancer, soil ingestion

$RBTC_{soil\text{-}derm\text{-}C}$ = Risk-Based Concentration, cancer, soil dermal contact

$RBTC_{soil\text{-}derm\text{-}NC}$ = Risk-Based Concentration, noncancer, soil dermal contact

$RBTC_{soil.part\text{-}inh\text{-}C}$ = Risk-Based Concentration, cancer, soil particulate inhalation

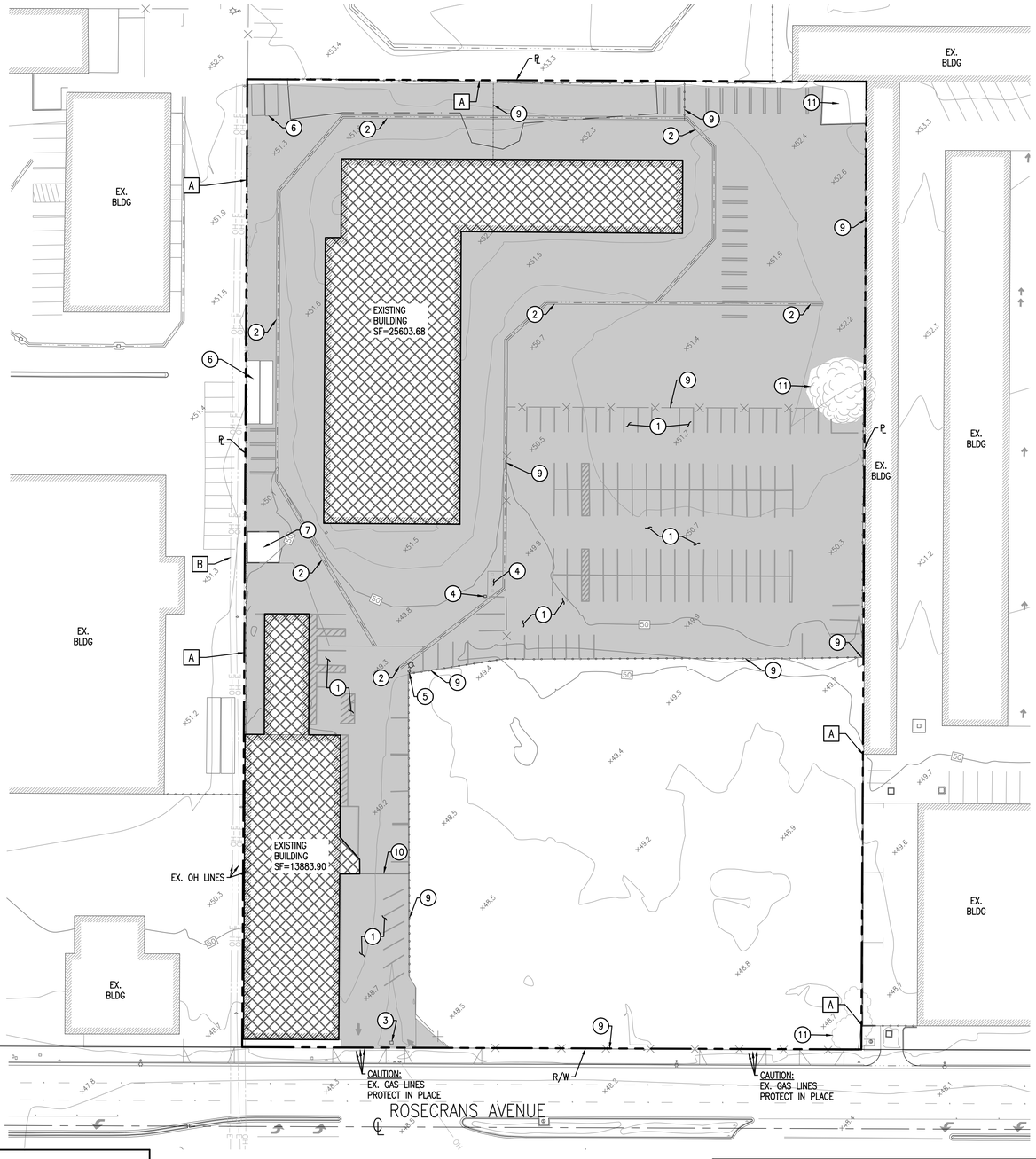
$RBTC_{soil.part\text{-}inh\text{-}NC}$ = Risk-Based Concentration, noncancer, soil particulate inhalation

APPENDIX B
GRADING PLANS

MASS GRADING PLAN

TRACT 82667

CITY OF GARDENA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA



SCALE: 1" = 40'

0 20 40 80

SHEET INDEX:

DEMOLITION NOTES

1. CONTRACTOR SHALL CHECK AND VERIFY ALL EXISTING CONDITIONS AT SITE BEFORE STARTING WORK.

2. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL CONTACT DIG–ALERT (800–227–2600).

3. CONTRACTOR TO IDENTIFY ALL EXISTING UTILITY CONNECTIONS AND LATERALS TO BUILDINGS AND REMOVE THEM BACK TO THE PROPERTY LINE. COORDINATE WITH UTILITY PROVIDERS.

4. CONTRACTOR SHALL MARK THE LOCATIONS OF ALL EXISTING UTILITY STUBS ON THE CURB. ON SEWER STUBS, INDICATE THE DEPTH FROM TOP OF CURB.

5. EXISTING PERIMETER CURBS AND SIDEWALKS ARE TO BE PROTECTED IN PLACE.

6. ALL ITEMS REMOVED DURING DEMOLITION OF THIS SITE SHALL BE DISPOSED AND/OR RECYCLED ACCORDING TO ALL APPLICABLE FEDERAL, STATE AND/OR CITY ORDINANCES AND LAWS.

7. CARE SHOULD BE TAKEN DURING THE DEMOLITION PROCESS TO IDENTIFY ANY LEACH FIELDS, SEPTIC TANKS, SEEPAGE PITS, OR OTHER UNDERGROUND FEATURES. NOTIFY ENGINEER IF SUCH AREAS ARE ENCOUNTERED.

8. THIS DEMOLITION PLAN IS SPECIFIC TO THE PROJECT SITE. ALL OTHER REMOVALS OR IMPROVEMENTS SHALL BE PER SEPARATE SPECIFIC CITY APPROVED PLANS AND REQUIRE APPROPRIATE ENCROACHMENT PERMITS AND AGENCY APPROVAL.

9. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A DEMOLITION PERMIT AND DESIGNATING ALL HAUL ROUTES AND DISPOSAL.

CIVIL ENGINEER'S NOTICE TO CONTRACTOR:

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THEIR PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF MY KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTION– ANY MEASURES TO PROTECT THE UTILITIES AND STRUCTURES SHOWN AND ANY OTHER LINES OR STRUCTURES NOT OF RECORD OR NOT SHOWN ON THESE PLANS, AND IS RESPONSIBLE FOR THE PROTECTION OF, AND ANY DAMAGE TO, THESE LINES OR STRUCTURES.

2. THE CONTRACTOR AGREES THAT HE WILL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OR WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER, OR ANY PUBLIC AGENCY.

3. THE ESTIMATES OF IMPROVEMENT QUANTITIES AS SHOWN HEREON ARE PROVIDED ONLY FOR THE PURPOSE OF SATISFYING DISTRICT PLAN INFORMATION REQUIREMENTS. THE CONTRACTOR SHALL PERFORM AN INDEPENDENT ESTIMATE OF ALL IMPROVEMENT QUANTITIES AND SHALL USE SAME AS A BASIS FOR HIS BID(S) AND CONTRACT(S).

4. CONTRACTOR TO VERIFY CLEARANCE AT ALL UTILITY CROSSINGS. IF INTERFERENCE OCCURS, OTHER THAN NOTED ON PLAN, CONTRACTOR TO CONTACT DESIGN ENGINEER FOR POSSIBLE REDESIGN. IF REDESIGN IS UNFEASIBLE, CONTRACTOR TO RELOCATE UTILITY AT NO EXPENSE TO ENGINEER.

5. CONTRACTOR SHALL FOLLOW CALIFORNIA DEPARTMENT OF HEALTH SERVICES CRITERIA FOR THE SEPARATION AND PROTECTION OF WATER MAINS AND NON–POTABLE PIPELINES, FOR MATERIALS OF PIPES, AND THE INSTALLATION OF THE PROPOSED WATER SYSTEM.

SOIL ENGINEER'S NOTE

ALL GRADING SHALL COMPLY WITH SOIL REPORT'S RECOMMENDATIONS.
OVER–EXCAVATION NOT TO EXCEED 5' IN DEPTH ON–SITE.

DEMOLITION NOTES:

(1) REMOVE EXISTING ASPHALTIC CONCRETE AND BASE TO SUBGRADE
(2) REMOVE EXISTING V–GUTTER TO SUBGRADE
(3) REMOVE EXISTING STORM DRAIN STRUCTURE
(4) REMOVE EXISTING UNKNOWN UTILITIES
(5) REMOVE EXISTING LIGHT
(6) REMOVE EXISTING CONTAINERS
(7) REMOVE TRASH ENCLOSURE
(8) NOT USED
(9) REMOVE EXISTING FENCE
(10) REMOVE EXISTING GATE
(11) REMOVE EXISTING PLANTERS & TREES/VEGETATION

PROTECT–IN–PLACE

[A] EXISTING WALL/FENCE REMOVAL TO BE COORDINATED BY CONTRACTOR AS APPLICABLE
[B] PROTECT–IN–PLACE UTILITY POLES, MAST ARM, & GUY WIRE

EXISTING STRUCTURE(S) TO BE REMOVED (PER SEPARATE PERMIT)

EXISTING ASPHALT TO BE REMOVED

EXISTING UNDERGROUND UTILITIES AND STRUCTURES:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF NOT RECORD OR NOT SHOWN ON THESE DRAWINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UNDERGROUND UTILITY PIPES, CONDUITS, OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS.

GRADING NOTES:

1. ALL GRADING SHALL BE DONE IN ACCORDANCE WITH THE CITY OF GARDENA STANDARDS AND SPECIFICATIONS AND THE LATEST CITY–APPROVED BUILDING CODE, AS INTERPRETED BY THE CITY ENGINEER. WHENEVER THE TERM "BUILDING OFFICIAL" IS USED, IT SHALL MEAN THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVES.
2. THE FOLLOWING PERMITS SHALL BE OBTAINED PRIOR TO ANY CONSTRUCTION FROM THE PUBLIC WORKS DEPARTMENT ALONG WITH APPLICABLE PERMIT FEES:
(A) GRADING PERMIT
(B) HAULING PERMIT FOR EXPORT AND IMPORT OF MATERIALS
(C) SEWER PERMIT FOR ANY SEWER MAIN CONNECTION, SEWER LATERAL, MANHOLE, OR SEWER CLEANOUT.
(D) CONCRETE PERMIT FOR CONSTRUCTION.
(E) PAVING PERMIT ANY WATER MAIN CONNECTION, FIRE PROTECTION LINE CONSTRUCTION AND DOMESTIC WATER SERVICE.
(F) WATER LINE PERMIT FOR ANY WATER MAIN CONNECTION, FIRE PROTECTION LINE CONSTRUCTION AND DOMESTIC WATER SERVICE.
(G) STORM DRAIN PERMIT FOR STORM DRAIN CONNECTION TO AN EXISTING CITY STORM DRAIN FACILITY OR FOR NEW STORM DRAIN MAIN LINE AND LATERAL CONSTRUCTION.
(H) SOUTHERN CALIFORNIA EDISON COMPANY, SBC, THE GAS COMPANY AND TIME WARNER CABLE PERMITS FOR MAIN OR LATERAL FACILITY INSTALLATIONS IN THE PUBLIC RIGHT OF WAY.
(I) TRANSPORTATION PERMIT FOR HAULING OPERATIONS.
3. IN THE REMOVAL AND/OR CONSTRUCTION OF OFF–SITE IMPROVEMENTS IN THE CITY RIGHT OF WAY, THE PUBLIC WORKS INSPECTOR MAY USE HIS DISCRETION IN DETERMINING THE EXTENT AND LIMIT OF WORK TO BE UNDERTAKEN IN CONFORMANCE WITH THE CITY REQUIREMENTS AND IN ACCORDANCE WITH THE SPECIFICATIONS AND CITY STANDARDS.
4. ON–SITE WATER LINES LESS THAN 3" (10.2 CM) IN DIAMETER, AND ON–SITE SEWER LATERALS 4" (10.16 CM) IN DIAMETER SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF UNIFORM PLUMBING CODE AND INSPECTED BY BUILDING DIVISION.
5. MASONRY BLOCK WALL AND RETAINING WALL CALCULATIONS AND CONSTRUCTION SHALL BE REVIEWED, INSPECTED AND APPROVED, AND PERMIT ISSUED BY THE BUILDING DIVISION.
6. ALL EXCAVATIONS, CONSTRUCTION, AND INSTALLATIONS IN THE PUBLIC RIGHT OF WAY REQUIRE INSPECTION. FAILURE TO HAVE INSPECTION WILL RESULT IN REOPENING OF THE EXCAVATION AND POSSIBLE RECONSTRUCTION.
7. ALL WASTE, VEGETATION, REFUSE AND DELETERIOUS MATERIALS SHALL BE REMOVED PRIOR TO ANY GRADING.
8. NO WATER SHALL BE TAKEN FROM CITY FIRE HYDRANTS WITHOUT APPROVED APPLICATION FROM THE CONSTRUCTION SERVICES DIVISION AND PAYMENT OF FEES AND DEPOSITS.
9. DUST SHALL BE CONTROLLED BY WATERING. THE CONTRACTOR SHALL PROVIDE MOBILE SWEEPERS AND WATER TRUCKS AS DIRECTED BY THE ENGINEER.
10. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 72 HOURS ADVANCE (1–800–227–2600) PRIOR TO EXCAVATION.
11. CONTRACTOR IS REQUIRED TO CALL 310–217–9530, AT LEAST 48 HOURS IN ADVANCE FOR INSPECTION.
12. NO CONSTRUCTION OR GRADING SHALL BEGIN PRIOR TO PRE–CONSTRUCTION MEETING WITH CITY PUBLIC WORKS INSPECTORS FROM THE CONSTRUCTION SERVICES DIVISION.
13. DEVELOPER WILL SUBMIT TWO (2) COPIES OF APPROVED STREET LIGHT LOCATION PLANS FROM S.C. EDISON TO THE CITY PRIOR TO ISSUANCE OF CITY PERMIT FOR STREET LIGHTS.
14. DEVELOPER/OWNER SHALL BE RESPONSIBLE FOR CHECKING AND RECOGNIZING ALL EASEMENTS IN THE DEVELOPMENT AND ADJACENT PROPERTIES. ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR INDICATING EXISTING UTILITY LOCATIONS AND RESOLVING POSSIBLE CONFLICTS OF SERVICE CONNECTIONS FOR THE DEVELOPMENT.
15. DEVELOPER/CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL PRIOR TO ANY LANE CLOSURE OR WORK IN THE CITY RIGHT OF WAY. PLANS SHALL SHOW THE PROPER PLACING OF BARRICADES OR DELINEATORS FOR TRAFFIC DIRECTION AND INFORMATION. SOLAR–POWERED ARROWBOARDS ARE REQUIRED FOR ALL LANE CLOSURES.
16. UTILITY TRENCHES WITHIN THE CITY RIGHT OF WAY SHALL NOT BE EXCAVATED AND LEFT OPEN. UTILITY TRENCHES SHALL BE PROPERTY DIVIDED WITH STEEL TRAFFIC COVERS (SEE CITY STANDARD 310, 1–1/2" (3.8 CM) THICK NON–SKID) AND TRAFFIC DELINEATORS IN ACCORDANCE WITH CITY STANDARDS AND TO THE SATISFACTION OF THE CITY ENGINEER.
17. COMPACTION ON NATIVE SOIL SHALL BE A MINIMUM 90%, AND AGGREGATE BASE OVER NATIVE SOIL SHALL BE A MINIMUM 95% COMPACTION.
18. BEDDING, BACKFILL, AND COMPACTION FOR ALL UNDERGROUND UTILITIES SHALL BE CERTIFIED BY THE DEVELOPER'S/CONTRACTOR'S SOILS ENGINEER.
19. UNDERGROUND UTILITY ELEVATIONS, INCLUDING INVERTS, SHALL BE CERTIFIED BY THE DEVELOPER'S/CONTRACTOR'S CIVIL ENGINEER.
20. A MINIMUM OF TWO (2) MOBILE SWEEPERS, OR AS DETERMINED BY THE ENGINEER, SHALL BE PROVIDED AND IN USE FULLTIME DURING ALL HAULING OPERATIONS.
21. THE CITY ENGINEER MAY REQUIRE CONTRACTOR TO PERFORM A WATER TEST TO VERIFY FINISHED GRADES OF NEW PAVEMENT.
22. THE CONTRACTOR/DEVELOPER SHALL COMPLY WITH ALL NPDES REQUIREMENTS AT ALL TIMES.

WDID NO._____

DIGALERT — DIAL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG — TOLL FREE 1–800–227–2600 — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

OWNER/DEVELOPER
G3 URBAN
15235 S WESTERN AVE.
GARDENA, CA 90249
(213) 400–5358

PLAN PREPARED BY:
C&V CONSULTING, INC.
CIVIL ENGINEERING
LAND PLANNING & SURVEYING
6 ORCHARD, SUITE 200
LAKE FOREST, CALIFORNIA 92630
T. 949.916.3800
F. 949.916.3805
CVC-INC.NET

REGISTERED PROFESSIONAL ENGINEER — RYAN J. BITTNER — No. 68167 — CIVIL — STATE OF CALIFORNIA

NO.	REVISIONS	DATE	BY	APP.

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS — ENGINEERING DIVISION

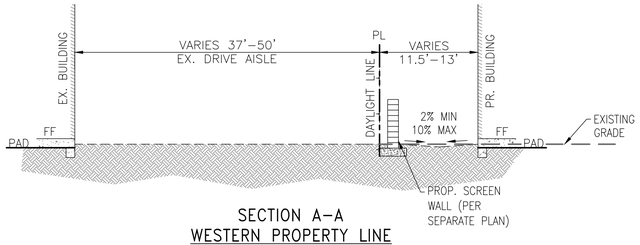
PROJECT: TRACT 82667 - 2129 ROSECRANS AVENUE

LIMITS: DEMOLITION PLAN

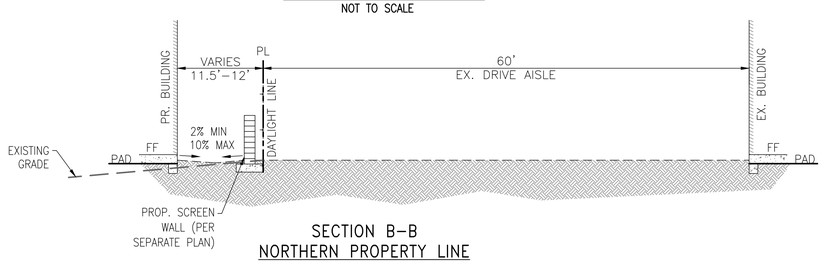
F. B. REF.			APPROVED BY : _____ DATE: _____
DESIGNED BY	MM	01/2020	P.W. DIRECTOR/CITY ENGINEER R. C. E. NO. _____
DRAWN BY	IH	01/2020	SHT. 1 OF 4 — DWG. NO. _____
CHECKED BY	RB	01/2020	

PLANSET: FINAL
DATE: 01/03/2020

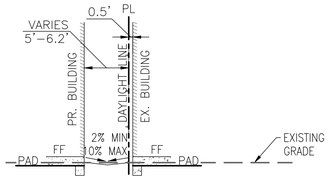
PROJ: GYM-004 DWG: P:\GYM\-004\dwg\Sheets\MM\MM-01-104.dwg BY: Hoang – Jan 03, 2020 - 3:40:15pm



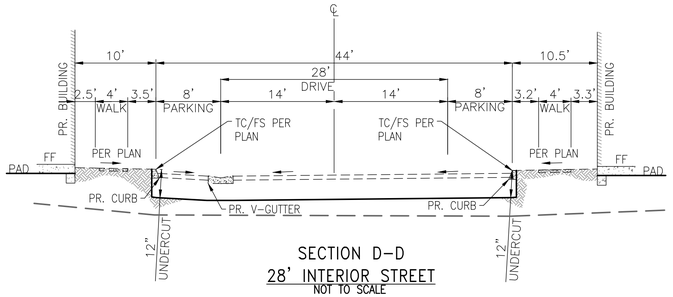
SECTION A-A
WESTERN PROPERTY LINE
NOT TO SCALE



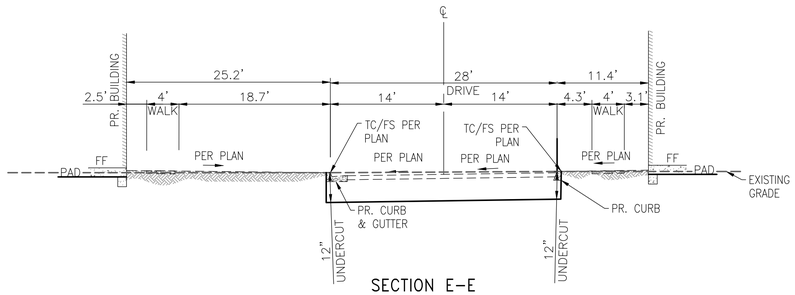
SECTION B-B
NORTHERN PROPERTY LINE
NOT TO SCALE



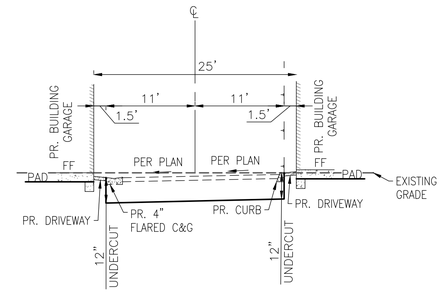
SECTION C-C
EASTERN PROPERTY LINE
NOT TO SCALE



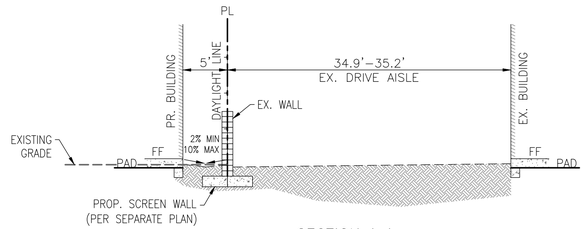
SECTION D-D
28' INTERIOR STREET
NOT TO SCALE



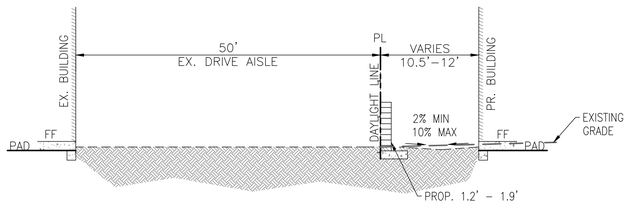
SECTION E-E
28' INTERIOR STREET
NOT TO SCALE



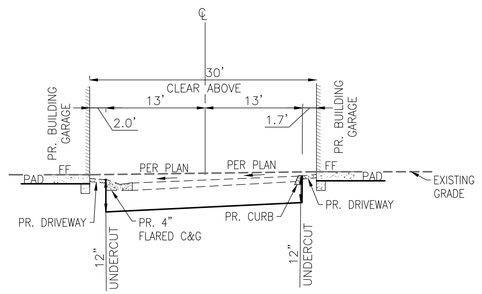
SECTION G-G
22' PRIVATE DRIVE
NOT TO SCALE



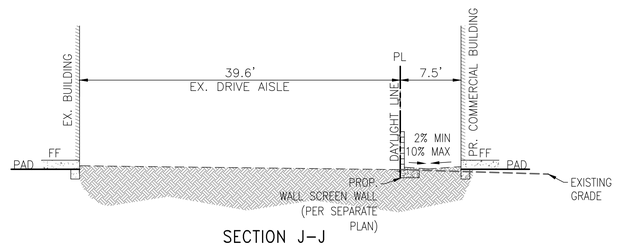
SECTION I-I
EASTERN PROPERTY LINE
NOT TO SCALE



SECTION H-H
WESTERN PROPERTY LINE
NOT TO SCALE



SECTION F-F
26' PRIVATE DRIVE
NOT TO SCALE



SECTION J-J
WESTERN PROPERTY LINE
NOT TO SCALE

DIGALERT
DIAL BEFORE YOU DIG
TWO WORKING DAYS BEFORE YOU DIG
TOLL FREE 1-800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

OWNER/DEVELOPER
G3 URBAN
15235 S WESTERN AVE.
GARDENA, CA 90249
(213) 400-5358

PLAN PREPARED BY:
C&V CONSULTING, INC.
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6 ORCHARD, SUITE 200
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CVC-INC.NET

REGISTERED PROFESSIONAL ENGINEER
RYAN J. BITTNER
No. 68167
CIVIL
STATE OF CALIFORNIA

NO.	REVISIONS	DATE	BY	APP.

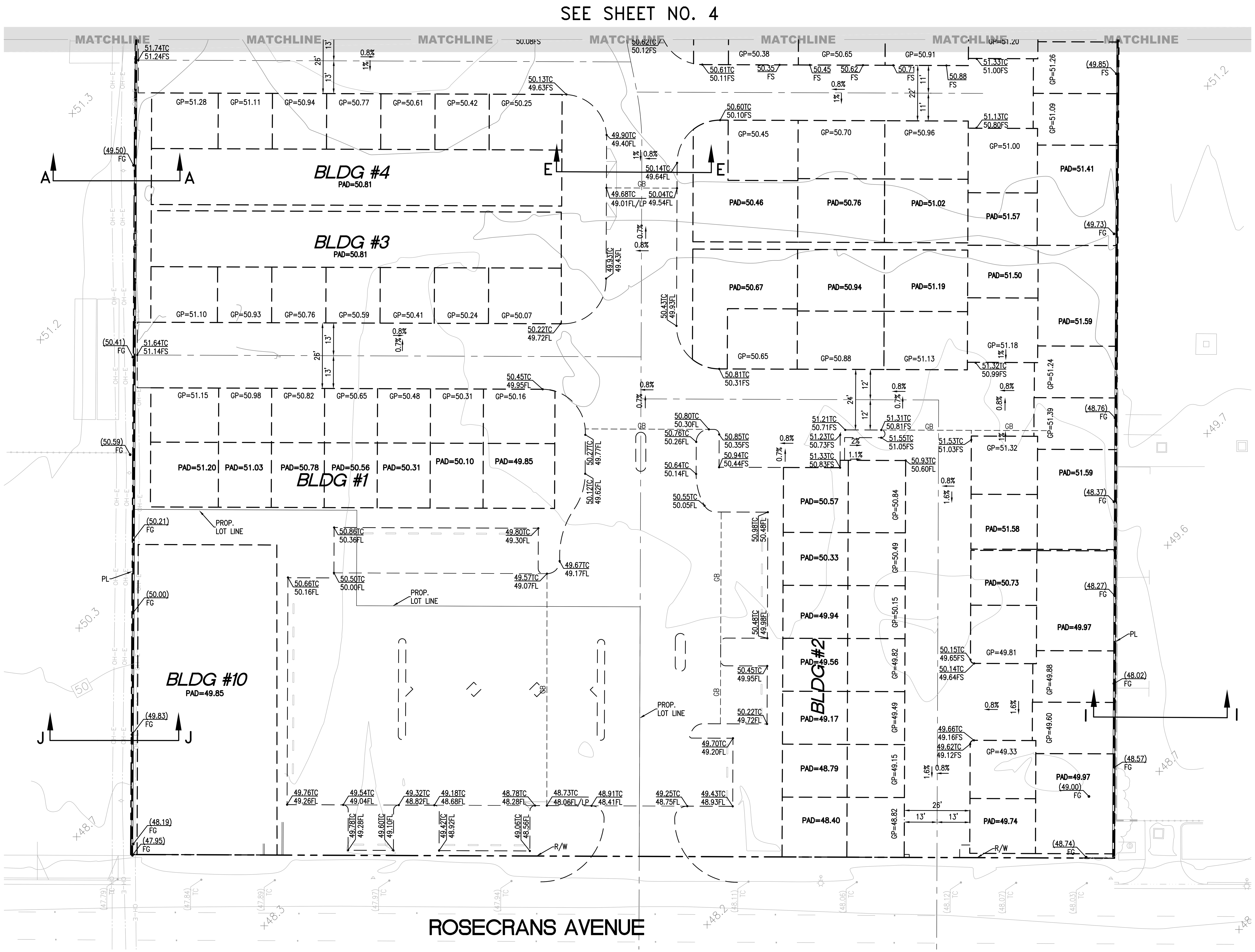
WDID NO.

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS — ENGINEERING DIVISION
PROJECT: TRACT 82667 - 2129 ROSECRANS AVENUE
LIMITS: SECTIONS

F. B. REF.		
DESIGNED BY	MM	11/2019
DRAWN BY	IH	11/2019
CHECKED BY	RB	11/2019

APPROVED BY:
DATE:
P.W. DIRECTOR/CITY ENGINEER R.C.E. NO.
SHT. 2 OF 4
DWG. NO.

DWG: P:\CIVIL\TRF-004\Dwg\Sheets\MM\MP-02-SECTIONS.dwg BY: thong - Jan 03, 2020 3:40:22pm
PROJ. 0TRF-004
DATE: 01/03/2020



SOIL ENGINEER'S NOTE

ALL GRADING SHALL COMPLY WITH SOIL REPORT'S RECOMMENDATIONS. OVER-EXCAVATION NOT TO EXCEED 5' IN DEPTH ON-SITE.

NOTE:

FINISH GRADE ELEVATIONS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY. FINISH GRADE ELEVATIONS SHALL BE PER APPROVED ON-SITE IMPROVEMENT PLANS.

SCALE: 1" = 20'

0 10 20 40

WDID NO.

DIGALERT

DIAL BEFORE YOU DIG

TWO WORKING DAYS BEFORE YOU DIG

TOLL FREE 1-800-227-2600

A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

OWNER/DEVELOPER

G3 urban

G3 URBAN
15235 S WESTERN AVE.
GARDENA, CA 90249
(213) 400-5358

PLAN PREPARED BY:

C&V CONSULTING, INC.
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REGISTERED PROFESSIONAL ENGINEER
RYAN J. BITTNER
No. 68167
CIVIL
STATE OF CALIFORNIA

NO.	REVISIONS	DATE	BY	APP.

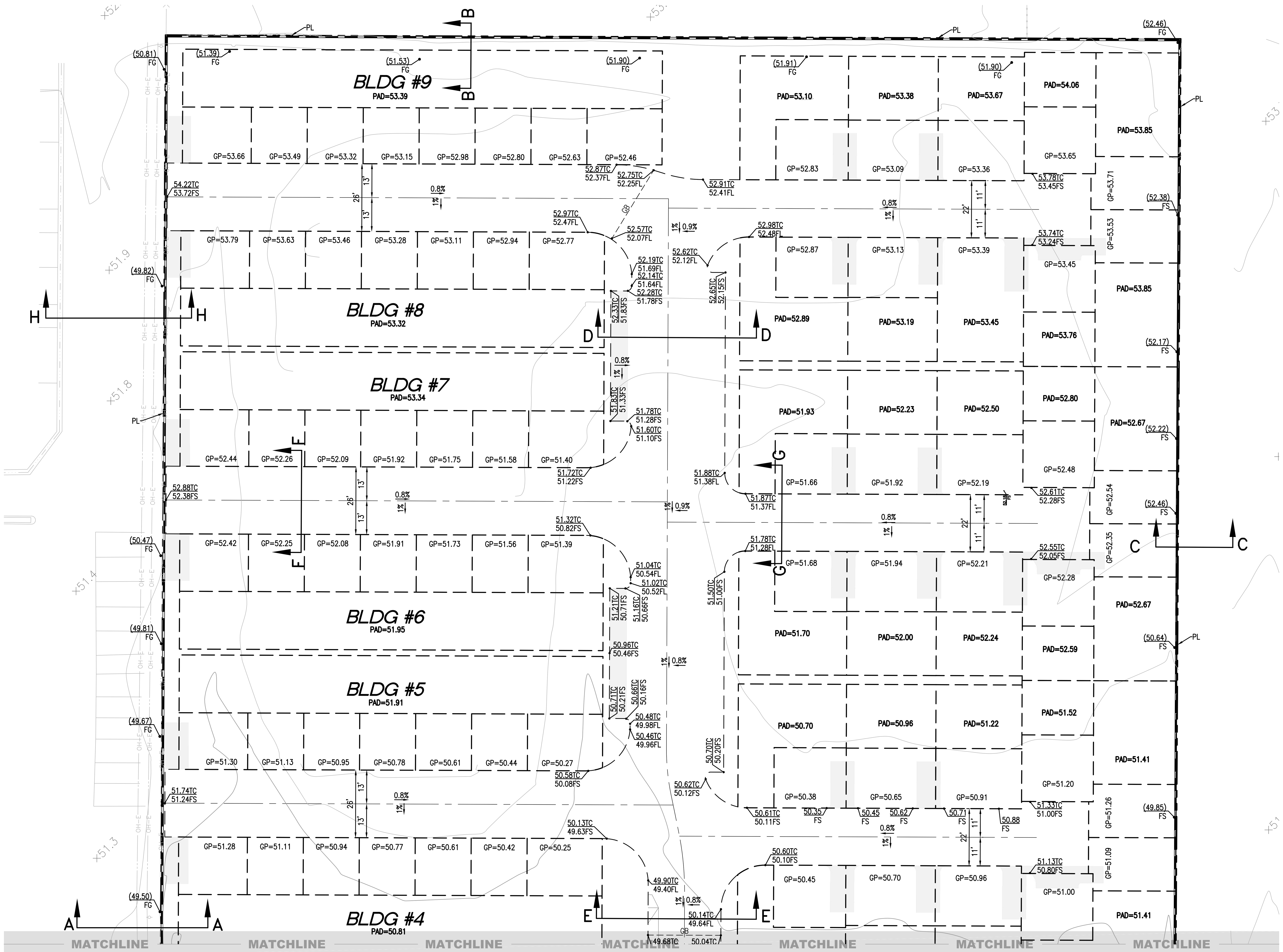
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

PROJECT: TRACT 82667 - 2129 ROSECRANS AVENUE

LIMITS: ROUGH GRADING PLAN

F. B. REF.			APPROVED BY :
DESIGNED BY	MM	01/2020	DATE:
DRAWN BY	IH	01/2020	P.W. DIRECTOR/CITY ENGINEER R.C.E. NO.
CHECKED BY	RB	01/2020	SHT. 3 OF 4 DWG. NO.

PLAN SET: PS02



SEE SHEET NO. 3

SOIL ENGINEER'S NOTE

ALL GRADING SHALL COMPLY WITH SOIL REPORT'S RECOMMENDATIONS. OVER-EXCAVATION NOT TO EXCEED 5' IN DEPTH ON-SITE.

NOTE:

FINISH GRADE ELEVATIONS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY. FINISH GRADE ELEVATIONS SHALL BE PER APPROVED ON-SITE IMPROVEMENT PLANS.

SCALE: 1" = 20'

0 10 20 40

WDID NO.

OWNER/DEVELOPER
G3 urban
G3 URBAN
15235 S WESTERN AVE.
GARDENA, CA 90249
(213) 400-5358

PLAN PREPARED BY:
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CVC-INC.NET

REGISTERED PROFESSIONAL ENGINEER
RYAN J. BITTNER
No. 68167
CIVIL
STATE OF CALIFORNIA

NO.	REVISIONS	DATE	BY	APP.

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS — ENGINEERING DIVISION

PROJECT : TRACT 82667 - 2129 ROSECRANS AVENUE

LIMITS: ROUGH GRADING PLAN

F. B. REF.			APPROVED BY :
DESIGNED BY	MM	01/2020	DATE:
DRAWN BY	IH	01/2020	P.W. DIRECTOR/CITY ENGINEER R.C.E. NO.
CHECKED BY	RB	01/2020	SHT. 4 OF 4 DWG. NO.

PLAN SET: PS02
DATE: 01/03/2020
PROJ: GTHR-004

APPENDIX C
VAPOR INTRUSION MITIGATION SYSTEM DESIGN SPECIFICATIONS AND SCHEMATICS

ATTACHMENT C

GARDEN COURT

(RESIDENTIAL LAND USE: SINGLE FAMILY DWELLING – SLAB-ON-GRADE CONSTRUCTION DETACHED HOMES)

ATTACHMENT C
GARDEN COURT
(RESIDENTIAL LAND USE: SINGLE FAMILY DWELLING – SLAB-ON-GRADE CONSTRUCTION DETACHED HOMES)

1. Applicability

1.1 The standard vapor intrusion mitigation system (VIMS) components shall be installed during construction of single-family dwellings with slab-on-grade foundations.

2. VIMS Components

2.1 Soil Vapor Barrier (Detail 1)

2.1.1 Materials. The soil vapor barrier shall consist of: 1) A sand layer; 2) Base Layer: such as EPRO e.BASE 205, Geo-Seal Base or equivalent; 3) Core Layer: EPRO e.spray, Geo-Seal Core or equivalent and 4) Bond Layer: EPRO e.SHIELD 205, Geo-Seal bond or equivalent. The soil vapor barrier components are shown on Detail 1.

2.1.1.1 Sand Layer. A sand layer shall be placed under the base layer and shall be a minimum of 2 inches.

2.1.1.2 BASE Layer. The BASE layer shall be comprised of a high strength laminated HDPE membrane that is thermally bonded to a polypropylene geotextile giving the BASE layer a high puncture resistance (Class A Rating) as well as high chemical resistance. The BASE layer shall be installed over the substrate with the HDPE side facing up.

2.1.1.3 CORE Layer. The CORE layer shall be an elastic water-based co-polymer modified asphaltic membrane spray applied to a minimum dry thickness of 60 mils.

2.1.1.4 BOND Layer. The BOND layer shall be comprised of a high strength laminated HDPE membrane that is thermally bonded to a polypropylene geotextile giving the BASE layer a high puncture resistance (Class A Rating) as well as high chemical resistance. The BOND layer shall be installed as a protection course over the BASE and CORE layers with the geotextile side facing up.

2.1.2 Submittals. The following product data for the soil vapor barrier shall be submitted to the architect/engineer no later than 30 days prior to construction: 1) manufacturer's printed instructions for evaluating and preparing the substrate; 2) product technical data, including tested physical and performance properties; 3) samples of soil vapor barrier components; and 4) certified installer certificates.

2.1.3 Pre-Installation Meeting. A pre-installation meeting shall be held prior to application of the soil vapor barrier system to assure proper site and installation conditions. The meeting shall include, at a minimum, the contractor, installer, architect/engineer, other trades influenced by soil vapor barrier installation and special inspector (if any).

2.1.4 Installation. The soil vapor barrier shall be installed below the entire building ground level floor slab.

2.1.4.1 Materials shall be delivered to the project site as specified by the manufacturer, labeled with manufacturer's name, product brand name and type, date of manufacture, shelf life, and directions for storing and mixing with other components.

2.1.4.2 Materials shall be stored as specified by the manufacturer in a clean, dry, protected location and within the temperature range required by manufacturer.

2.1.4.3 Stored materials shall be protected from direct sunlight.

2.1.4.4 Material that cannot be applied within its stated shelf life shall be removed and replaced.

2.1.4.5 Areas adjacent to installation area should be protected. Where necessary, masking shall be applied to prevent staining of surfaces to remain exposed wherever membrane abuts to other finish surfaces. Minimum clearance of 24 inches is required for application of product. For areas with less than 24-inch clearance, the membrane may be applied by hand.

2.1.4.6 Soil vapor barrier installation shall only be performed when existing and forecasted weather conditions are within manufacturer's recommendations for the material and application method used. Ambient

temperature shall be within manufacturer's specifications. (Greater than +45°F/+7°C.) Consult manufacturer for the proper requirements when desiring to apply the CORE layer below 45°F/7°C.

2.1.4.7 All plumbing, electrical, mechanical and structural items to be under or passing through the soil vapor barrier system shall be positively secured in their proper positions and appropriately protected prior to membrane application, and smoke tested in accordance with soil vapor barrier manufacturer Quality Assurance Standards.

2.1.4.8 The soil vapor barrier shall be installed before placement of fill material and reinforcing steel. When not possible, all exposed reinforcing steel shall be masked by general contractor prior to CORE layer application.

2.1.4.9 Stakes used to secure the concrete forms shall not penetrate the soil vapor barrier system after it has been installed. If stakes need to puncture the soil vapor barrier system after it has been installed, the necessary repairs need to be made by a certified applicator. To confirm the staking procedure is in agreement with the manufacture's recommendation, contact the manufacturer.

2.1.4.10 The BASE layer shall be installed over substrate material in one direction with six-inch overlaps and the geotextile (fabric side) facing down.

2.1.4.11 The BASE seams shall be secured by applying 60 mils of CORE between the 6" overlapped sheets with the geotextile side down.

2.1.4.12 The Installer shall manually verify there are no gaps/fish mouths in seams.

2.1.4.13 For best results, an equal amount of BASE and CORE shall be installed in one day. Leaving unsprayed BASE overnight might allow excess moisture to collect on the BASE. If excess moisture collects, it shall be removed.

2.1.4.14 The film thickness of the CORE layer shall be verified every 500 ft^2. (46.45 m^2). The CORE layer will generally cure in 24 to 48 hours. As a rule, when temperature decreases or humidity increases, the curing of the membrane will be prolonged. The membrane does not need to be fully cured prior the placement of the BOND layer, provided 60 mil thickness has been verified and a smoke test conducted.

2.1.4.15 When applying to a vertical concrete wall, the CORE layer can be applied directly to the concrete surface using manufacturer's recommended protection material based on site specific conditions. NOTE: Care should be taken to not trap moisture between the layers of the CORE. Trapping moisture may occur from applying a second coat prior to the membrane prior to curing. Repairs and detailing may be done over the CORE layer when not fully cured.

2.1.4.16 The BOND layer protection course shall be installed perpendicular to the direction of the BASE layer with overlapped seams over the nominally cured CORE layer.

2.1.4.17 Any water that has collected on the surface of the CORE layer shall be removed prior to the placement of the BOND layer.

2.1.4.18 The seams of the BOND layer shall be overlapped in the same manner as the BASE layer.

2.1.5 Utility Pipe/Conduit Penetrations. Gas tight seals shall be provided at all pipe or conduit penetrations through the soil vapor barrier (as shown in Detail 10). Penetrations shall be field tested for Quality Assurance in accordance with this specification and soil vapor barrier manufacturer's specifications.

2.1.5.1 All pipe penetrations should be securely in place prior to the installation of the soil vapor barrier.

2.1.6 Foundation Seal. Gas tight seals shall be provided where the soil vapor barrier attaches to interior and perimeter footings.

2.1.7 Quality Assurance. The soil vapor barrier must be installed by a trained and certified installer and inspector(s) approved by the soil vapor barrier manufacturer.

2.1.7.1 As required by the warranty, the soil vapor barrier manufacturer will require a manufacturer's representative or certified 3rd party inspector to inspect and verify that the soil vapor barrier has been installed per the manufacturer's recommendations.

2.1.7.2 Smoke Testing shall be conducted per the smoke testing protocol provided by the soil vapor barrier manufacturer. Where leaks, are identified, repairs should be made and additional testing performed until no leaks are detected.

2.1.7.3 Visual inspections prior to placement of concrete, but after the installation of concrete reinforcing, shall be performed to identify any punctures that may have occurred during the installation of rebar, post tension cables, etc. Punctures in the system should be easy to identify due to the color contrasting layers in the system. Punctures shall be repaired in accordance with the manufacturer's recommendations.

2.2 Vent Piping (Detail 2)

2.2.1 Materials. Vent piping shall consist of minimum Schedule 40, minimum 3-inch diameter, rigid, slotted or perforated PVC pipe. Per plan details, corrugated PVC drain piping may be used for short bends below shallow footings and/or utility piping and shall be connected to solid PVC pipe using an appropriate fitting (see Details 3 and 4).

2.2.2 Vent Piping Trenches. Vent pipes shall be placed in trenches with a minimum of 2-inches of sand (see Table 1 for specifications) around the vent pipe. A geo-fabric to prevent sand from entering the vent pipes shall be placed around the vent pipe.

2.2.3 Installation. Vent piping shall be installed a minimum of 2-inches below the soil vapor barrier as shown in Detail 2.

2.2.3.1 The vent piping shall be located no greater than 25 feet apart.

2.2.3.2 Except where needed to accommodate shallow footings and/or utilities, undulations in the vent piping, which may impede the flow of gas, shall be avoided.

2.2.3.3 Vent piping shall be connected to Vent Risers which extend above the building.

2.3 Vent Risers (Detail 13)

2.3.1 Material. Vent risers and associated fittings shall be constructed of materials that comply with the Uniform Plumbing and Mechanical Codes. All joints shall be tightly sealed with approved materials.

2.3.2 Installation. Vent Risers shall be connected to vent piping and equipped with a shut-off valve as shown in these plans.

2.3.2.1 Where vent risers are cast-in-concrete, piping shall be wrapped with high density PVC Foam Tape [Closed Cell, Adhesive backed, ¼-inch thick (minimum) by 4-inch wide (minimum)].

2.3.2.2 Where vent risers transition through building footings, the penetration shall be accomplished in compliance with the Uniform Building Code and with the approval of the Project Structural Engineer.

2.3.2.3 Vent risers shall be properly secured with brackets a minimum of every 5 feet.

2.3.2.4 Vent riser pipe shall be clearly marked to indicate that the pipe may contain vapors. This may be accomplished through stencils, labels, or other permanent labeling method. Riser pipe shall be clearly and permanently labeled "Vapor", in ½" high letters, near their termination point and at 5-foot intervals along the remainder of the vent pipe. This includes sections encased within walls or other enclosures.

2.3.2.5 To prevent UV damage, vent risers shall be painted with a light-colored, water-based paint where exposed to sunlight.

2.3.3 Outlets. Vent Risers outlets attached to, or penetrating the sides of, buildings should be located at least 10 feet above ground level, at least one foot above the edge of the roof, and at least 10 feet away from any window, door or other opening.

2.3.3.1 Vent Riser outlets above the roof line should terminate above the highest roof of the building or ridge, where practicable. Each vent riser outlet should be equipped with a wind-driven turbine (such as a "spinner vent" or "vacu stack cap").

2.4 Sampling Ports (Detail 12)

2.4.1 Material. Sampling port piping and associated fittings shall be constructed of minimum Schedule 80 PVC and shall be no smaller than 3-inches in diameter. All joints shall be tightly sealed with approved materials.

2.4.2 Installation. Sampling port piping shall be connected to vent piping and equipped with a sampling port and a shut-off valve as shown in these plans.

2.4.2.1 Where sampling port piping is cast-in-concrete, piping shall be wrapped with high density PVC Foam Tape [Closed Cell, Adhesive backed, ¼-inch thick (minimum) by 4-inch wide (minimum)].

2.4.2.2 Where sampling port piping transitions through building footings, the penetration shall be accomplished in compliance with the Uniform Building Code and with the approval of the Project Structural Engineer.

2.4.2.3 Sampling port piping shall be installed in a manner that will allow it to be connected to an active venting system without modification of damage to the structure (e.g. Capped TEE fitting located near the foundation).

3. Utility Corridor Protection (Detail 11)

3.1 Installation. Trench dams shall be installed to protect utility corridors from the migration of underground gas into buildings or structures along the trench backfill. All piping and electrical conduits installed below ground shall be placed in trenches sealed with Trench Dams prior to entering the building.

3.2 Materials. Trench Dams shall be constructed of one of the following:

3.2.1 Bentonite Cement Slurry Trench Dam: a mixture of 4% Type II Cement and 2% Powdered Bentonite. The length of the bentonite slurry mix shall be a minimum of three feet for trenches that are 18 inches wide or less. For utility trenches that are wider than 18 inches, the length of the bentonite slurry mix trench dam shall be a minimum of 2 times the utility trench width.

3.2.2 Compacted Native Soils Backfill Trench Dam: Native soils shall be compacted at least 90% relative compaction in accordance with ASTM D-1557 Testing Procedures. The length of the compacted native soil trench dam shall be a minimum of five feet for trenches that are 18 inches wide or less. For utility trenches that are wider than 18 inches, the length of the trench dam shall be a minimum of 3 times the utility trench width.

3.2.3 Concrete Mixes other than Bentonite Cement Slurry may be used for utility trench dams provided that conduit or piping is wrapped with high density PVC Foam Tape [Closed Cell, Adhesive backed, ¼ inch thick (minimum) by ½ inch wide (minimum)] within the Trench Dam. The tape shall be applied to a clean surface with ends butted together. Conduit/piping protection requirements should be verified with utility provider standards. The length of the trench dam shall be a minimum of three feet for trenches that are 18 inches wide or less. For utility trenches that are wider than 18 inches, the length of the trench dam shall be a minimum of 2 times the utility trench width.

3.3 Corrosion Protection. Piping and conduit placed in Trench Dams shall be protected from corrosion and settlement as needed depending on the size and type of piping material and utility provider standards.

3.4 Conduit Seals. Conduit seals shall be provided at the termination of all utility conduits to reduce the potential for elevated concentrations of chemicals in soil vapor to migrate along the conduit to other non-impacted areas of the site. Seals shall be constructed of closed cell polyurethane foam, or other inert gas-impermeable material, extending a minimum of six conduit diameters, or six inches, whichever is greater, into the conduit. Electrical conduit should be provided with seals as required by the appropriate sections of the National Electrical Code.

4. Notification Placards (Details 14 and 15)

4.1 Permanent notification placards are required to indicate the presence of the Soil Vapor Barrier and/or Vent Piping.

4.1.1 The notification placards shall be posted and maintained at the front of the building that is constructed with a Soil Vapor Barrier and/or Vent Piping.

4.1.2 The notification placard shall be uncovered and located in a conspicuous location.

4.1.3 When cast in floors, the placard shall also remain uncovered and in a conspicuous location.

5. Inspections

5.1 The inspection and periodic observations of the VIMS shall be performed by the Vapor Barrier Engineer (i.e. the Engineer or his Designee). At a minimum, inspection/observation shall take place at the following stages of the installation:

5.1.1 During the installation of the (sub-slab) vent piping.

5.1.2 After backfilling of the (sub-slab) vent piping.

5.1.3 During the installation of the (sub-slab) soil vapor barrier.

5.1.4 After the installation of the (sub-slab) soil vapor barrier but prior to backfilling. The vapor barrier shall be smoke tested at this time. These tests shall be documented in the as-built report.

5.1.5 During the placement of the protective course.

5.1.6 Prior to placing the concrete slab over the soil vapor barrier, the Vapor Barrier Installer shall certify in writing that the soil vapor barrier has been installed and tested in accordance with the manufacturer's specifications and is free of leaks.

5.1.7 During, and at the completion of, the vent riser installation for the (sub-slab) vent piping.

5.1.8 At the completion of construction prior to the issuance of the certification of occupancy.

5.2 As-built plans and the installer's final certification of the soil vapor barrier system shall be submitted to the Owner at the completion of the final inspection.

5.3 The Vapor Barrier Engineer/Engineer of Record shall provide a report of their periodic observations to the Owner at the conclusion of the installation.

Table 1: Specifications for Sand

SIEVE SIZE	PERCENTAGE PASSING SIEVE
3/8" (9.5 mm)	100
No.4 (4.75 mm)	90-100
No. 8 (2.36 mm)	75-90
No. 16 (1.18 mm)	55-75
No. 30 (600 um)	30-50
No. 50 (300 um)	10-25
No. 100 (150 um)	2-10
No. 200 (75 um)	0-5

LIVEWORK, NEW AA PRODUCT AND RETAIL "BUILDING A"

(MIXED LAND USE: – SINGLE FAMILY ATTACHED HOMES AND/OR RETAIL)

ATTACHMENT C-1
LIVEWORK, NEW AA PRODUCT AND RETAIL "BUILDING A"
(MIXED LAND USE: – SINGLE FAMILY ATTACHED HOMES AND/OR RETAIL)

1. Applicability

1.1 The standard vapor intrusion mitigation system (VIMS) components shall be installed during construction of residential and/or commercial buildings with slab-on-grade foundations and first-level occupants.

2. VIMS Components

2.1 Soil Vapor Barrier (Detail 1)

2.1.1 Materials. The soil vapor barrier shall consist of: 1) A sand layer; 2) Base Layer: such as EPRO e.BASE 205, Geo-Seal Base or equivalent; 3) Core Layer: EPRO e.spray, Geo-Seal Core or equivalent and 4) Bond Layer: EPRO e.SHIELD 205, Geo-Seal bond or equivalent. The soil vapor barrier components are shown on Detail 1.

2.1.1.1 Sand Layer. A sand layer shall be placed under the base layer and shall be a minimum of 2 inches.

2.1.1.2 BASE Layer. The BASE layer shall be comprised of a high strength laminated HDPE membrane that is thermally bonded to a polypropylene geotextile giving the BASE layer a high puncture resistance (Class A Rating) as well as high chemical resistance. The BASE layer shall be installed over the substrate with the HDPE side facing up.

2.1.1.3 CORE Layer. The CORE layer shall be an elastic water-based co-polymer modified asphaltic membrane spray applied to a minimum dry thickness of 60 mils.

2.1.1.4 BOND Layer. The BOND layer shall be comprised of a high strength laminated HDPE membrane that is thermally bonded to a polypropylene geotextile giving the BASE layer a high puncture resistance (Class A Rating) as well as high chemical resistance. The BOND layer shall be installed as a protection course over the BASE and CORE layers with the geotextile side facing up.

2.1.2 Submittals. The following product data for the soil vapor barrier shall be submitted to the architect/engineer no later than 30 days prior to construction: 1) manufacturer's printed instructions for evaluating and preparing the substrate; 2) product technical data, including tested physical and performance properties; 3) samples of soil vapor barrier components; and 4) certified installer certificates.

2.1.3 Pre-Installation Meeting. A pre-installation meeting shall be held prior to application of the soil vapor barrier system to assure proper site and installation conditions. The meeting shall include, at a minimum, the contractor, installer, architect/engineer, other trades influenced by soil vapor barrier installation and special inspector (if any).

2.1.4 Installation. The soil vapor barrier shall be installed below the entire building ground level floor slab.

2.1.4.1 Materials shall be delivered to the project site as specified by the manufacturer, labeled with manufacturer's name, product brand name and type, date of manufacture, shelf life, and directions for storing and mixing with other components.

2.1.4.2 Materials shall be stored as specified by the manufacturer in a clean, dry, protected location and within the temperature range required by manufacturer.

2.1.4.3 Stored materials shall be protected from direct sunlight.

2.1.4.4 Material that cannot be applied within its stated shelf life shall be removed and replaced.

2.1.4.5 Areas adjacent to installation area should be protected. Where necessary, masking shall be applied to prevent staining of surfaces to remain exposed wherever membrane abuts to other finish surfaces. Minimum clearance of 24 inches is required for application of product. For areas with less than 24-inch clearance, the membrane may be applied by hand.

2.1.4.6 Soil vapor barrier installation shall only be performed when existing and forecasted weather conditions are within manufacturer's recommendations for the material and application method used. Ambient temperature shall be within manufacturer's specifications. (Greater than +45°F/+7°C.) Consult manufacturer for the proper requirements when desiring to apply the CORE layer below 45°F/7°C.

2.1.4.7 All plumbing, electrical, mechanical and structural items to be under or passing through the soil vapor barrier system shall be positively secured in their proper positions and appropriately protected prior to membrane application, and smoke tested in accordance with soil vapor barrier manufacturer Quality Assurance Standards.

2.1.4.8 The soil vapor barrier shall be installed before placement of fill material and reinforcing steel. When not possible, all exposed reinforcing steel shall be masked by general contractor prior to CORE layer application.

2.1.4.9 Stakes used to secure the concrete forms shall not penetrate the soil vapor barrier system after it has been installed. If stakes need to puncture the soil vapor barrier system after it has been installed, the necessary repairs need to be made by a certified applicator. To confirm the staking procedure is in agreement with the manufacture's recommendation, contact the manufacturer.

2.1.4.10 The BASE layer shall be installed over substrate material in one direction with six-inch overlaps and the geotextile (fabric side) facing down.

2.1.4.11 The BASE seams shall be secured by applying 60 mils of CORE between the 6" overlapped sheets with the geotextile side down.

2.1.4.12 The Installer shall manually verify there are no gaps/fish mouths in seams.

For best results, an equal amount of BASE and CORE shall be installed in one day. Leaving unsprayed BASE overnight might allow excess moisture to collect on the BASE. If excess moisture collects, it shall be removed.

2.1.4.13 The film thickness of the CORE layer shall be verified every 500 ft^2. (46.45 m^2). The CORE layer will generally cure in 24 to 48 hours. As a rule, when temperature decreases or humidity increases, the curing of the membrane will be prolonged. The membrane does not need to be fully cured prior the placement of the BOND layer, provided 60 mil thickness has been verified and a smoke test conducted.

2.1.4.14 When applying to a vertical concrete wall, the CORE layer can be applied directly to the concrete surface using manufacturer's recommended protection material based on site specific conditions. NOTE: Care should be taken to not trap moisture between the layers of the CORE. Trapping moisture may occur from applying a second coat prior to the membrane prior to curing. Repairs and detailing may be done over the CORE layer when not fully cured.

2.1.4.15 The BOND layer protection course shall be installed perpendicular to the direction of the BASE layer with overlapped seams over the nominally cured CORE layer.

2.1.4.16 Any water that has collected on the surface of the CORE layer shall be removed prior to the placement of the BOND layer.

2.1.4.17 The seams of the BOND layer shall be overlapped in the same manner as the BASE layer.

2.1.5 Utility Pipe/Conduit Penetrations. Gas tight seals shall be provided at all pipe or conduit penetrations through the soil vapor barrier (as shown in Detail 10). Penetrations shall be field tested for Quality Assurance in accordance with this specification and soil vapor barrier manufacturer's specifications.

2.1.5.1 All pipe penetrations should be securely in place prior to the installation of the soil vapor barrier.

2.1.6 Foundation Seal. Gas tight seals shall be provided where the soil vapor barrier attaches to interior and perimeter footings.

2.1.7 Quality Assurance. The soil vapor barrier must be installed by a trained and certified installer and inspector(s) approved by the soil vapor barrier manufacturer.

2.1.7.1 As required by the warranty, the soil vapor barrier manufacturer will require a manufacturer's representative or certified 3rd party inspector to inspect and verify that the soil vapor barrier has been installed per the manufacturer's recommendations.

2.1.7.2 Smoke Testing shall be conducted per the smoke testing protocol provided by the soil vapor barrier manufacturer. Where leaks, are identified, repairs should be made and additional testing performed until no leaks are detected.

2.1.7.3 Visual inspections prior to placement of concrete, but after the installation of concrete reinforcing, shall be performed to identify any punctures that may have occurred during the installation of rebar, post tension cables, etc. Punctures in the system should be easy to identify due to the color contrasting layers in the system. Punctures shall be repaired in accordance with the manufacturer's recommendations.

2.2 Vent Piping (Detail 2)

2.2.1 Materials. Vent piping shall consist of minimum Schedule 40, minimum 3-inch diameter, rigid, slotted or perforated PVC pipe. Per plan details, corrugated PVC drain piping may be used for short bends below shallow footings and/or utility piping and shall be connected to solid PVC pipe using an appropriate fitting (see Details 3 and 4).

2.2.2 Vent Piping Trenches. Vent pipes shall be placed in trenches with a minimum of 2-inches of sand (see Table 1 for specifications) around the vent pipe. A geo-fabric to prevent sand from entering the vent pipes shall be placed around the vent pipe.

2.2.3 Installation. Vent piping shall be installed a minimum of 2-inches below the soil vapor barrier as shown in Detail 2.

2.2.3.1 The vent piping shall be located no greater than 25 feet apart.

2.2.3.2 Except where needed to accommodate shallow footings and/or utilities, undulations in the vent piping, which may impede the flow of gas, shall be avoided.

2.2.3.3 Vent piping shall be connected to Vent Risers which extend above the building.

2.3 Vent Risers (Detail 13)

2.3.1 Material. Vent risers and associated fittings shall be constructed of materials that comply with the Uniform Plumbing and Mechanical Codes. All joints shall be tightly sealed with approved materials.

2.3.2 Installation. Vent Risers shall be connected to vent piping and equipped with a shut-off valve as shown in these plans.

2.3.2.1 A minimum of one vent riser shall be installed for every 10,000 sf of building footprint area.

2.3.2.2 Where vent risers are cast-in-concrete, piping shall be wrapped with high density PVC Foam Tape [Closed Cell, Adhesive backed, ¼-inch thick (minimum) by 4-inch wide (minimum)].

2.3.2.3 Where vent risers transition through building footings, the penetration shall be accomplished in compliance with the Uniform Building Code and with the approval of the Project Structural Engineer.

2.3.2.4 Vent risers shall be properly secured with brackets a minimum of every 5 feet.

2.3.2.5 Vent riser pipe shall be clearly marked to indicate that the pipe may contain vapors. This may be accomplished through stencils, labels, or other permanent labeling method. Riser pipe shall be clearly and permanently labeled "Vapor", in ½" high letters, near their termination point and at 5-foot intervals along the remainder of the vent pipe. This includes sections encased within walls or other enclosures.

2.3.2.6 To prevent UV damage, vent risers shall be painted with a light-colored, water-based paint where exposed to sunlight.

2.3.3 Outlets. Vent Risers outlets attached to, or penetrating the sides of, buildings should be located at least 10 feet above ground level, at least one foot above the edge of the roof, and at least 10 feet away from any window, door or other opening.

2.3.3.1 Vent Riser outlets above the roof line should terminate above the highest roof of the building or ridge, where practicable. Each vent riser outlet should be equipped with a wind-driven turbine (such as a "spinner vent" or "vacu stack cap").

2.4 Sampling Ports (Detail 12)

2.4.1 Material. Sampling port piping and associated fittings shall be constructed of minimum Schedule 80 PVC and shall be no smaller than 3-inches in diameter. All joints shall be tightly sealed with approved materials.

2.4.2 Installation. Sampling port piping shall be connected to vent piping and equipped with a sampling port and a shut-off valve as shown in these plans.

2.4.2.1 A minimum of one sampling port shall be installed for every 10,000 sf of building footprint area.

2.4.2.2 Where sampling port piping is cast-in-concrete, piping shall be wrapped with high density PVC Foam Tape [Closed Cell, Adhesive backed, ¼-inch thick (minimum) by 4-inch wide (minimum)].

2.4.2.3 Where sampling port piping transitions through building footings, the penetration shall be accomplished in compliance with the Uniform Building Code and with the approval of the Project Structural Engineer.

2.4.2.4 Sampling port piping shall be installed in a manner that will allow it to be connected to an active venting system without modification of damage to the structure (e.g. Capped TEE fitting located near the foundation).

3. Utility Corridor Protection (Detail 11)

3.1 Installation. Trench dams shall be installed to protect utility corridors from the migration of underground gas into buildings or structures along the trench backfill. All piping and electrical conduits installed below ground shall be placed in trenches sealed with Trench Dams prior to entering the building.

3.2 Materials. Trench Dams shall be constructed of one of the following:

3.2.1 Bentonite Cement Slurry Trench Dam: a mixture of 4% Type II Cement and 2% Powdered Bentonite. The length of the bentonite slurry mix shall be a minimum of three feet for trenches that are 18 inches wide or less. For utility trenches that are wider than 18 inches, the length of the bentonite slurry mix trench dam shall be a minimum of 2 times the utility trench width.

3.2.2 Compacted Native Soils Backfill Trench Dam: Native soils shall be compacted at least 90% relative compaction in accordance with ASTM D-1557 Testing Procedures. The length of the compacted native soil trench dam shall be a minimum of five feet for trenches that are 18 inches wide or less. For utility trenches that are wider than 18 inches, the length of the trench dam shall be a minimum of 3 times the utility trench width.

3.2.3 Concrete Mixes other than Bentonite Cement Slurry may be used for utility trench dams provided that conduit or piping is wrapped with high density PVC Foam Tape [Closed Cell, Adhesive backed, ¼ inch thick (minimum) by ½ inch wide (minimum)] within the Trench Dam. The tape shall be applied to a clean surface with ends butted together. Conduit/piping protection requirements should be verified with utility provider standards. The length of the trench dam shall be a minimum of three feet for trenches that are 18 inches wide or less. For utility trenches that are wider than 18 inches, the length of the trench dam shall be a minimum of 2 times the utility trench width.

3.3 Corrosion Protection. Piping and conduit placed in Trench Dams shall be protected from corrosion and settlement as needed depending on the size and type of piping material and utility provider standards.

3.4 Conduit Seals. Conduit seals shall be provided at the termination of all utility conduits to reduce the potential for elevated concentrations of chemicals in soil vapor to migrate along the conduit to other non-impacted areas of the site. Seals shall be constructed of closed cell polyurethane foam, or other inert gas-impermeable material, extending a minimum of six conduit diameters, or six inches, whichever is greater, into the conduit. Electrical conduit should be provided with seals as required by the appropriate sections of the National Electrical Code.

4. Notification Placards (Details 14 and 15)

4.1 Permanent notification placards are required to indicate the presence of the Soil Vapor Barrier and/or Vent Piping.

4.1.1 The notification placards shall be posted and maintained at the front of the building that is constructed with a Soil Vapor Barrier and/or Vent Piping.

4.1.2 The notification placard shall be uncovered and located in a conspicuous location.

4.1.3 When cast in floors, the placard shall also remain uncovered and in a conspicuous location.

5. Inspections

5.1 The inspection and periodic observations of the VIMS shall be performed by the Vapor Barrier Engineer (i.e. the Engineer or his Designee). At a minimum, inspection/observation shall take place at the following stages of the installation:

5.1.1 During the installation of the (sub-slab) vent piping.

5.1.2 After backfilling of the (sub-slab) vent piping.

5.1.3 During the installation of the (sub-slab) soil vapor barrier.

5.1.4 After the installation of the (sub-slab) soil vapor barrier but prior to backfilling. The vapor barrier shall be smoke tested at this time. These tests shall be documented in the as-built report.

5.1.5 During the placement of the protective course.

5.1.6 Prior to placing the concrete slab over the soil vapor barrier, the Vapor Barrier Installer shall certify in writing that the soil vapor barrier has been installed and tested in accordance with the manufacturer's specifications and is free of leaks.

5.1.7 During, and at the completion of, the vent riser installation for the (sub-slab) vent piping.

5.1.8 At the completion of construction prior to the issuance of the certification of occupancy.

5.2 As-built plans and the installer's final certification of the soil vapor barrier system shall be submitted to the Owner at the completion of the final inspection.

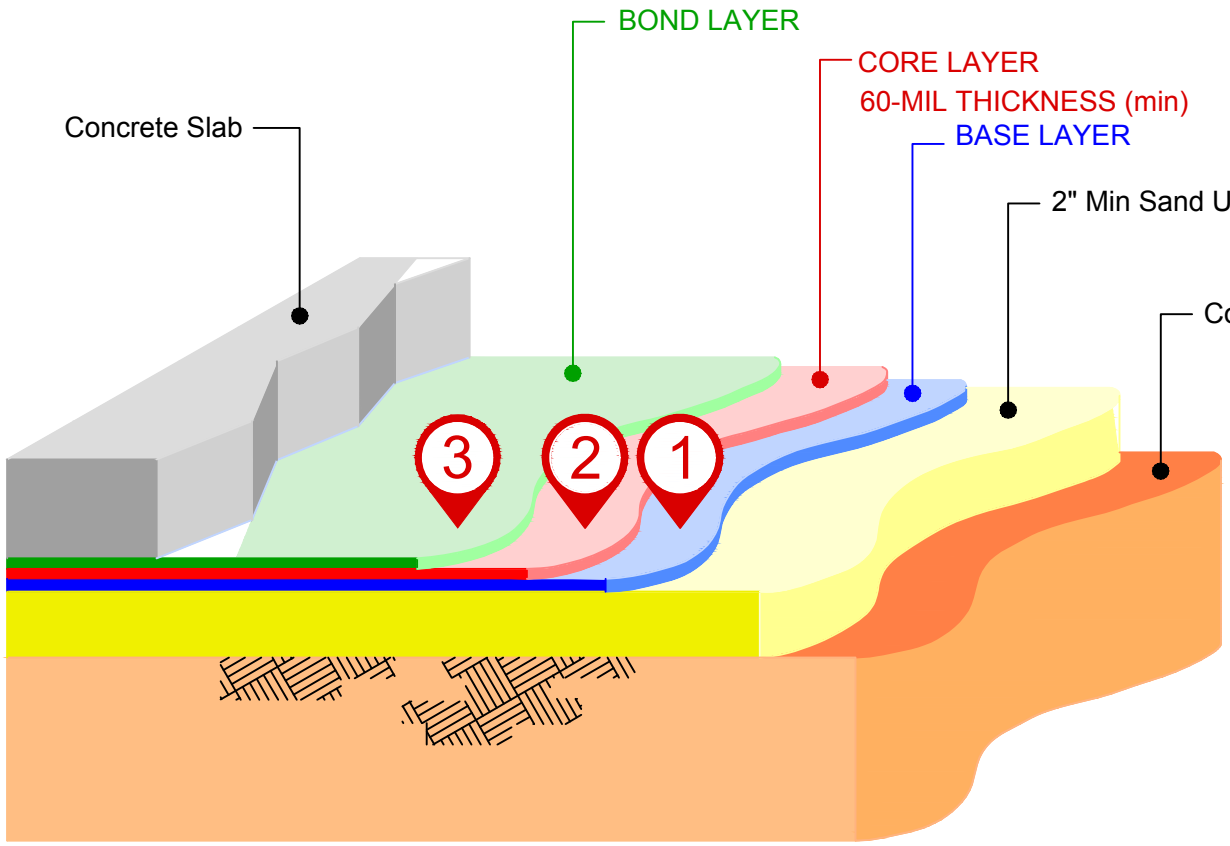
5.3 The Vapor Barrier Engineer/Engineer of Record shall provide a report of their periodic observations to the Owner at the conclusion of the installation.

Table 1: Specifications for Sand

SIEVE SIZE	PERCENTAGE PASSING SIEVE
3/8" (9.5 mm)	100
No.4 (4.75 mm)	90-100
No. 8 (2.36 mm)	75-90
No. 16 (1.18 mm)	55-75
No. 30 (600 um)	30-50
No. 50 (300 um)	10-25
No. 100 (150 um)	2-10
No. 200 (75 um)	0-5

PRELIMINARY
NOT FOR CONSTRUCTION

STANDARD DETAILS AND SCHEMATICS FOR VAPOR MITIGATION SYSTEMS



1. BASE LAYER is a high strength laminated HDPE membrane that is thermally bonded to a polypropylene geotextile, which allows Core Layer to be applied directly to the base.

2. CORE LAYER is an elastic water-based co-polymer modified asphaltic membrane spray applied to a minimum dry thickness of 60 mils.

3. BOND LAYER is a high strength laminated HDPE membrane that is thermally bonded to a polypropylene geotextile placed over the Core Layer to enhance the curing of the membrane and increase puncture resistance.

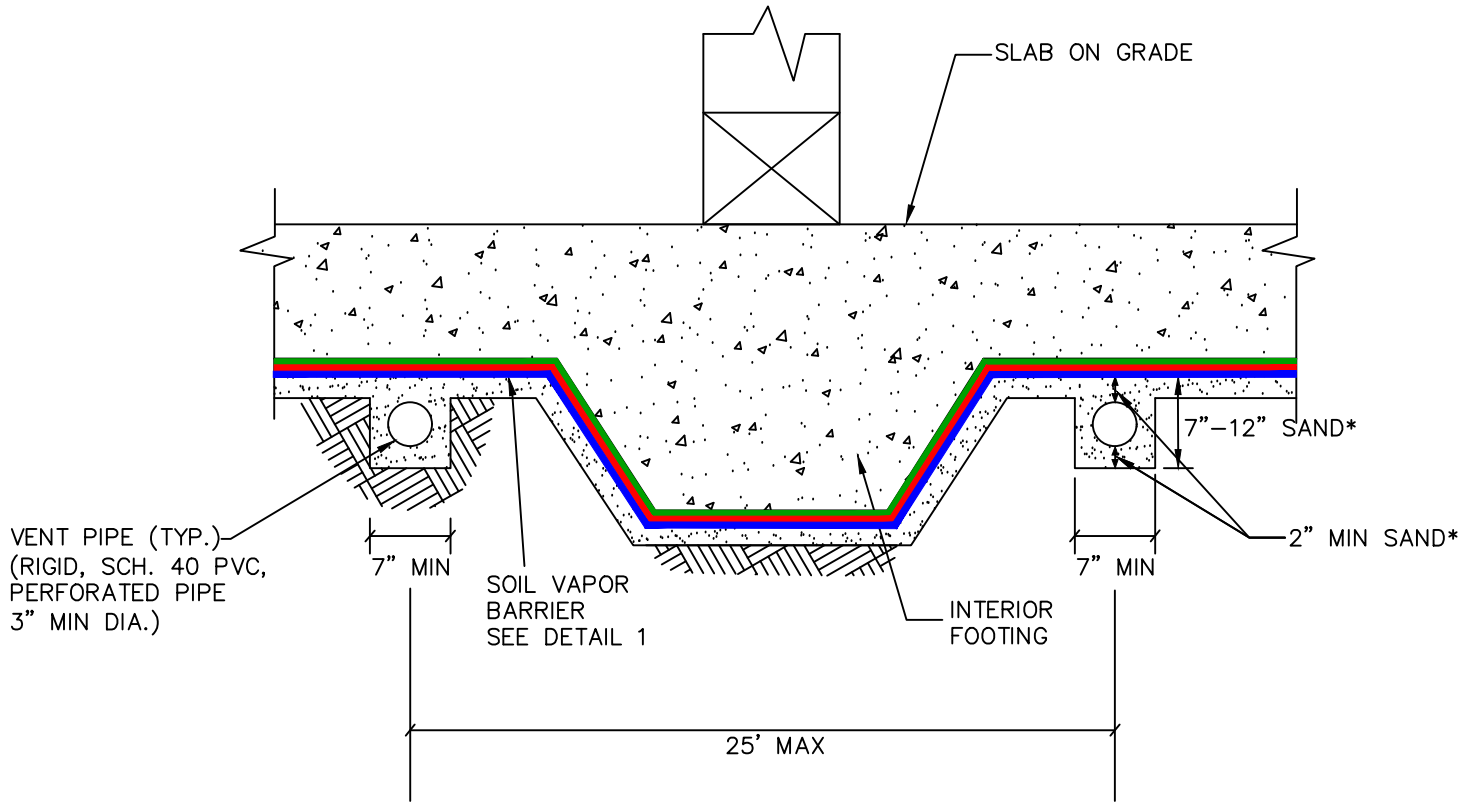
RAMBOLL

DRAFTED BY: RS | DATE: 10/30/18

SOIL VAPOR BARRIER CONFIGURATION
DETAIL VIMS STANDARD DETAILS (TYPICAL)

1

PROJECT:1690006343



* SEE TABLE 1 (ATTACHMENT A OR C)

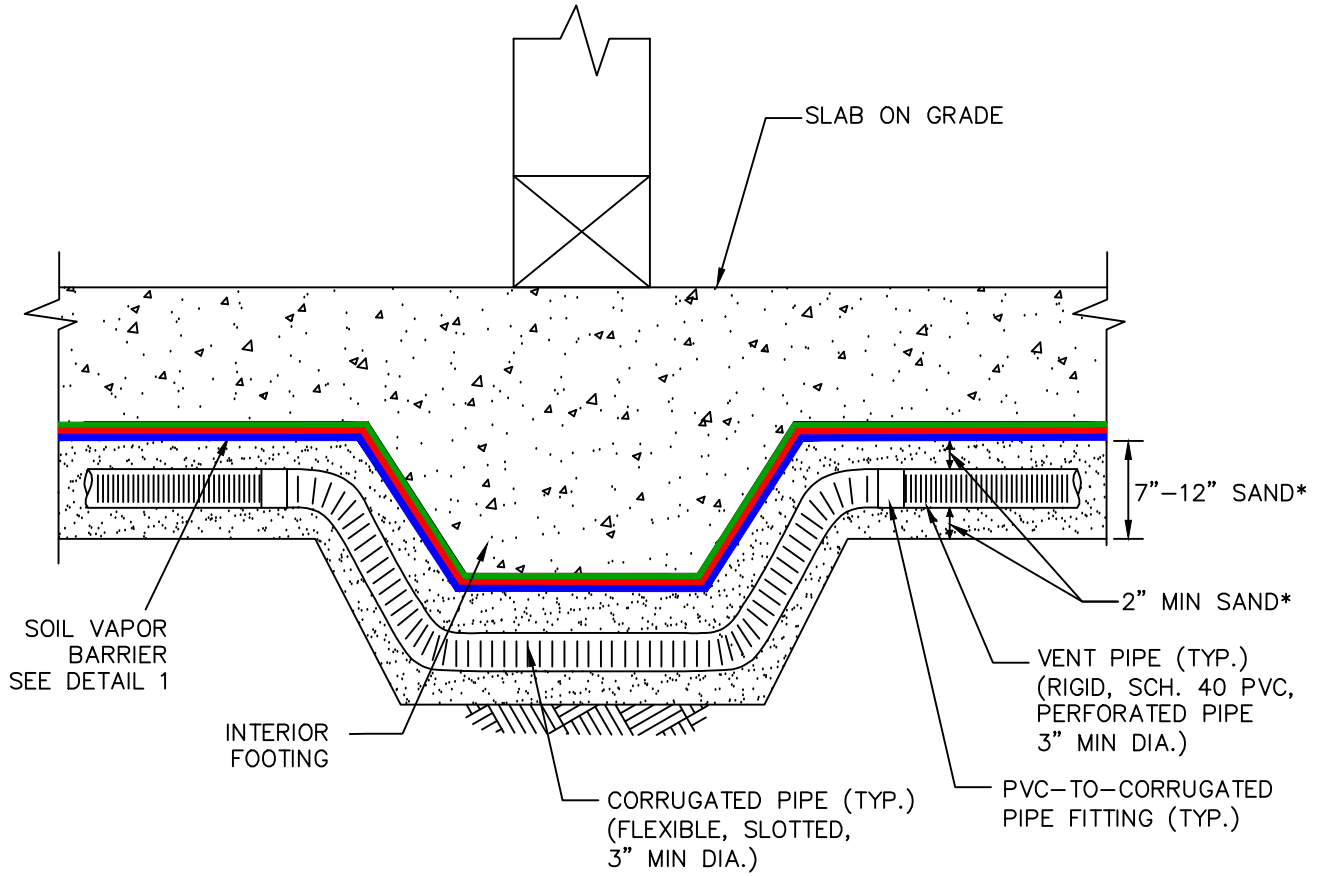
(NOT TO SCALE)

RAMBOLL

VENT PIPE AND INTERIOR FOOTING DETAILS
VIMS STANDARD DETAILS (TYPICAL)

2

DRAFTED BY: RS | DATE: 10/30/18 | PROJECT:1690006343



* SEE TABLE 1 (ATTACHMENT A OR C)

(NOT TO SCALE)

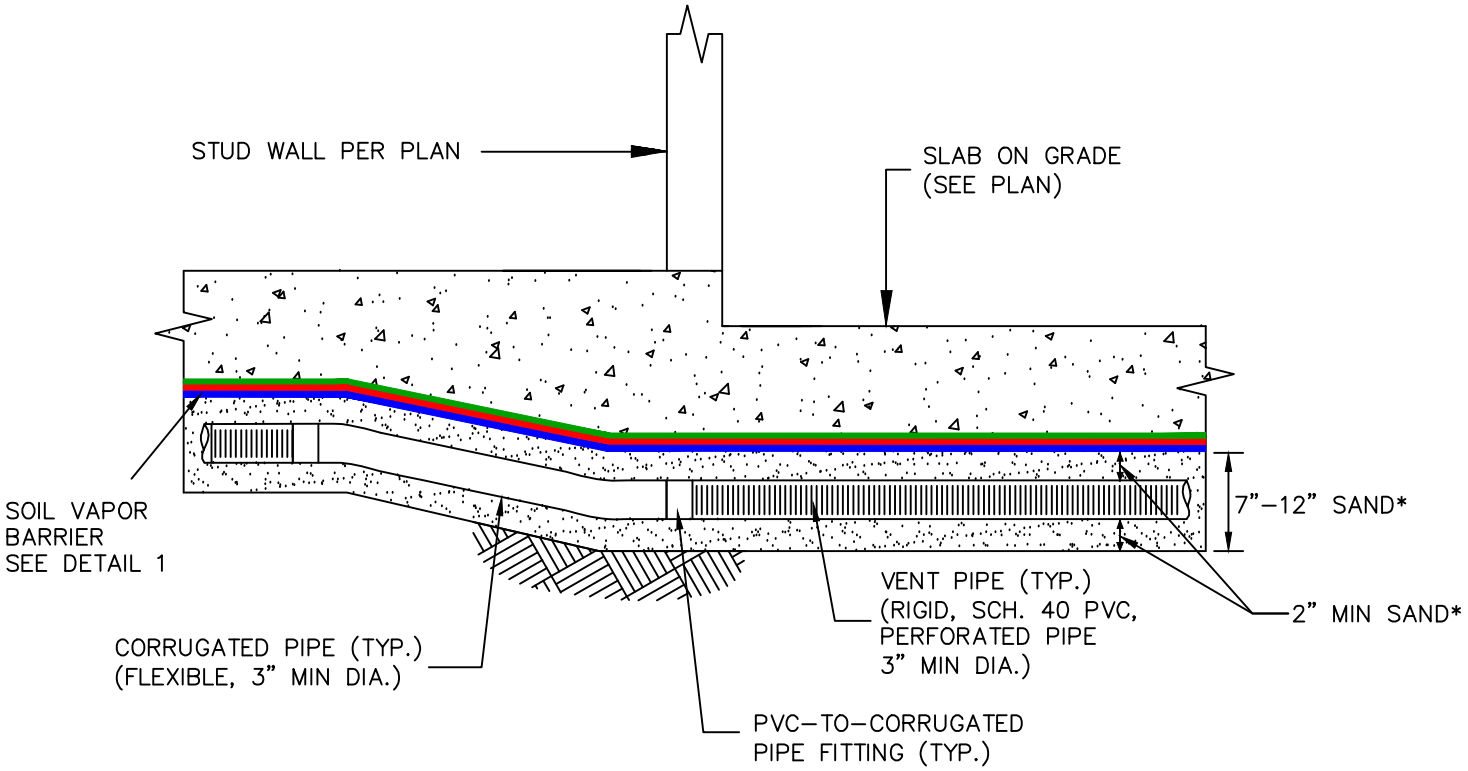
RAMBOLL

DRAFTED BY: RS | DATE: 10/30/18

VENT PIPE CROSSING INTERIOR FOOTING
VIMS STANDARD DETAILS (TYPICAL)

3

PROJECT:1690006343



* SEE TABLE 1 (ATTACHMENT A OR C)

(NOT TO SCALE)

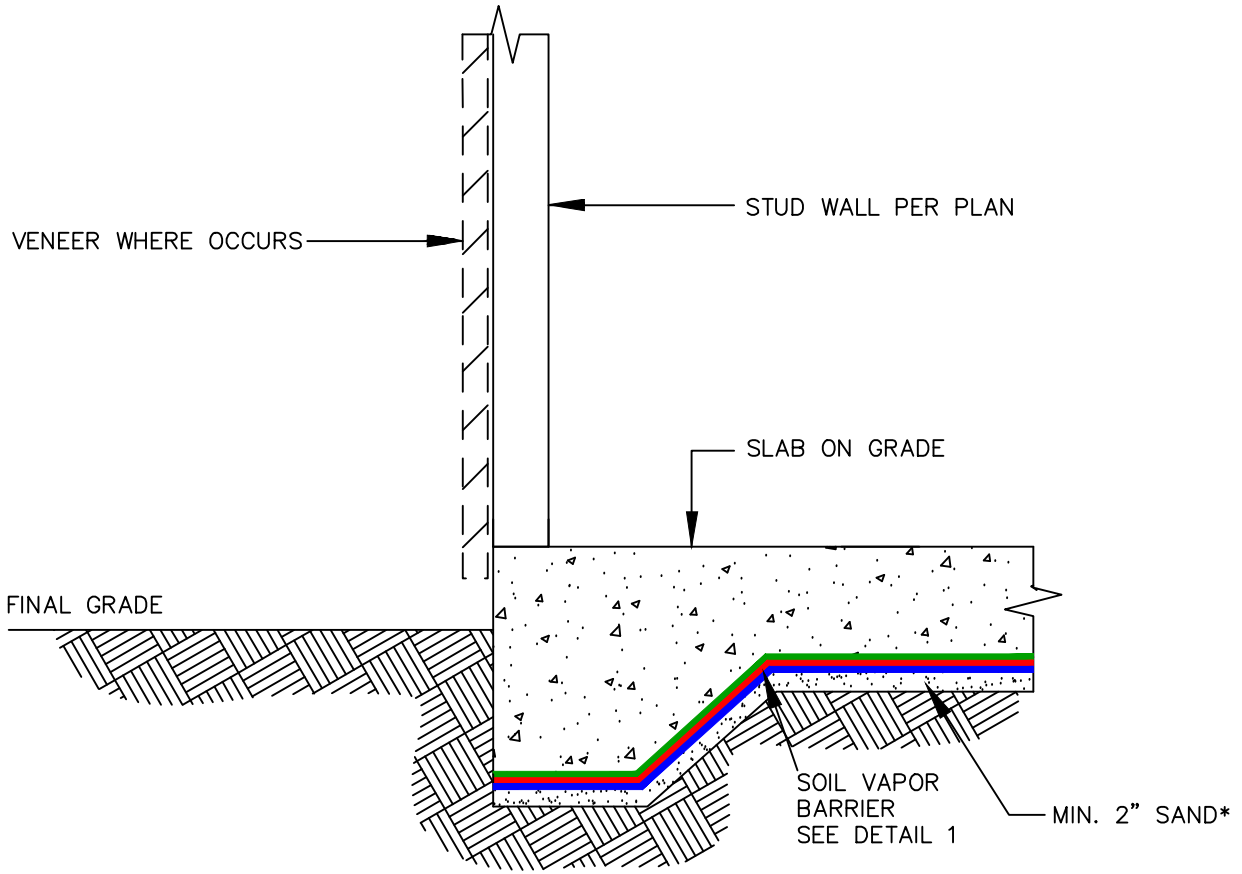
RAMBOLL

DRAFTED BY: RS | DATE:10/30/18

VENT PIPE CROSSING INTERIOR STEP FOOTING
VIMS STANDARD DETAILS (TYPICAL)

4

PROJECT:1690006343



* SEE TABLE 1 (ATTACHMENT A OR C)

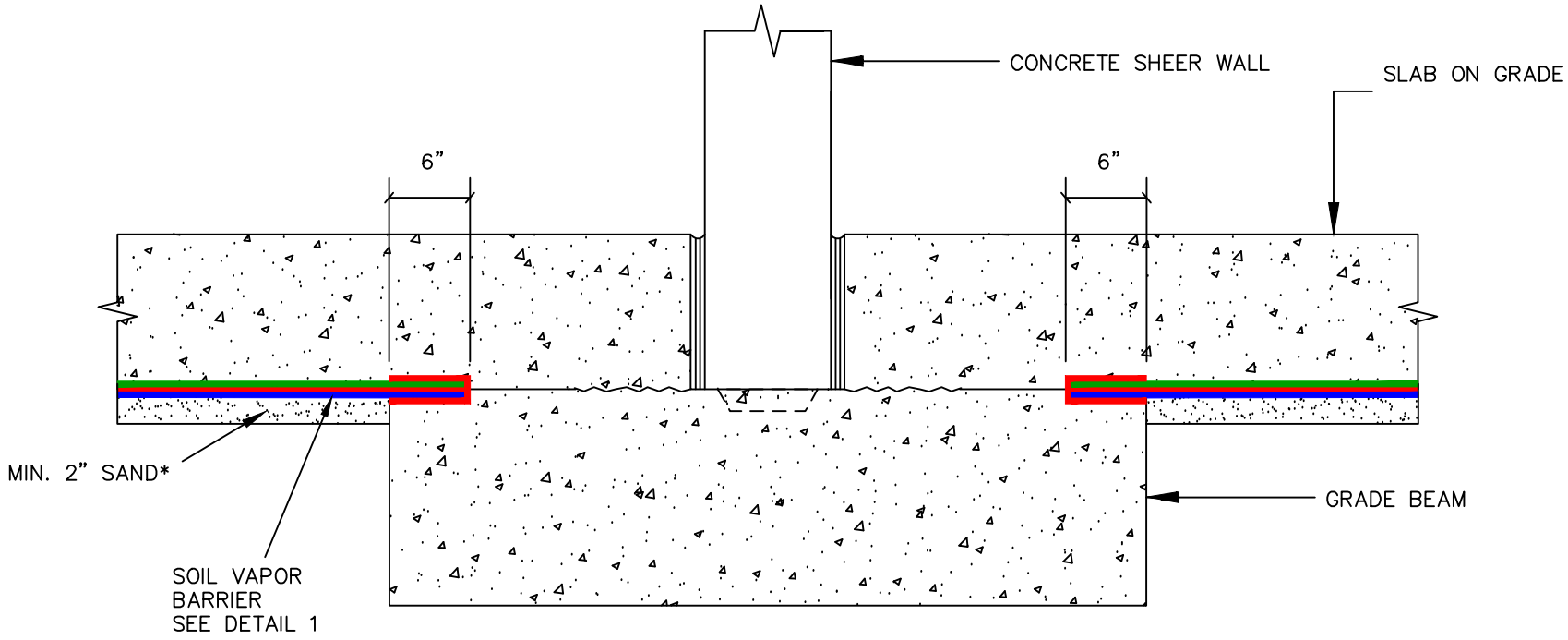
(NOT TO SCALE)

RAMBOLL

EXTERIOR FOOTING DETAIL
VIMS STANDARD DETAILS (TYPICAL)

5

DRAFTED BY: RS | DATE: 10/30/18 | PROJECT:1690006343



* SEE TABLE 1 (ATTACHMENT A OR C)

(NOT TO SCALE)

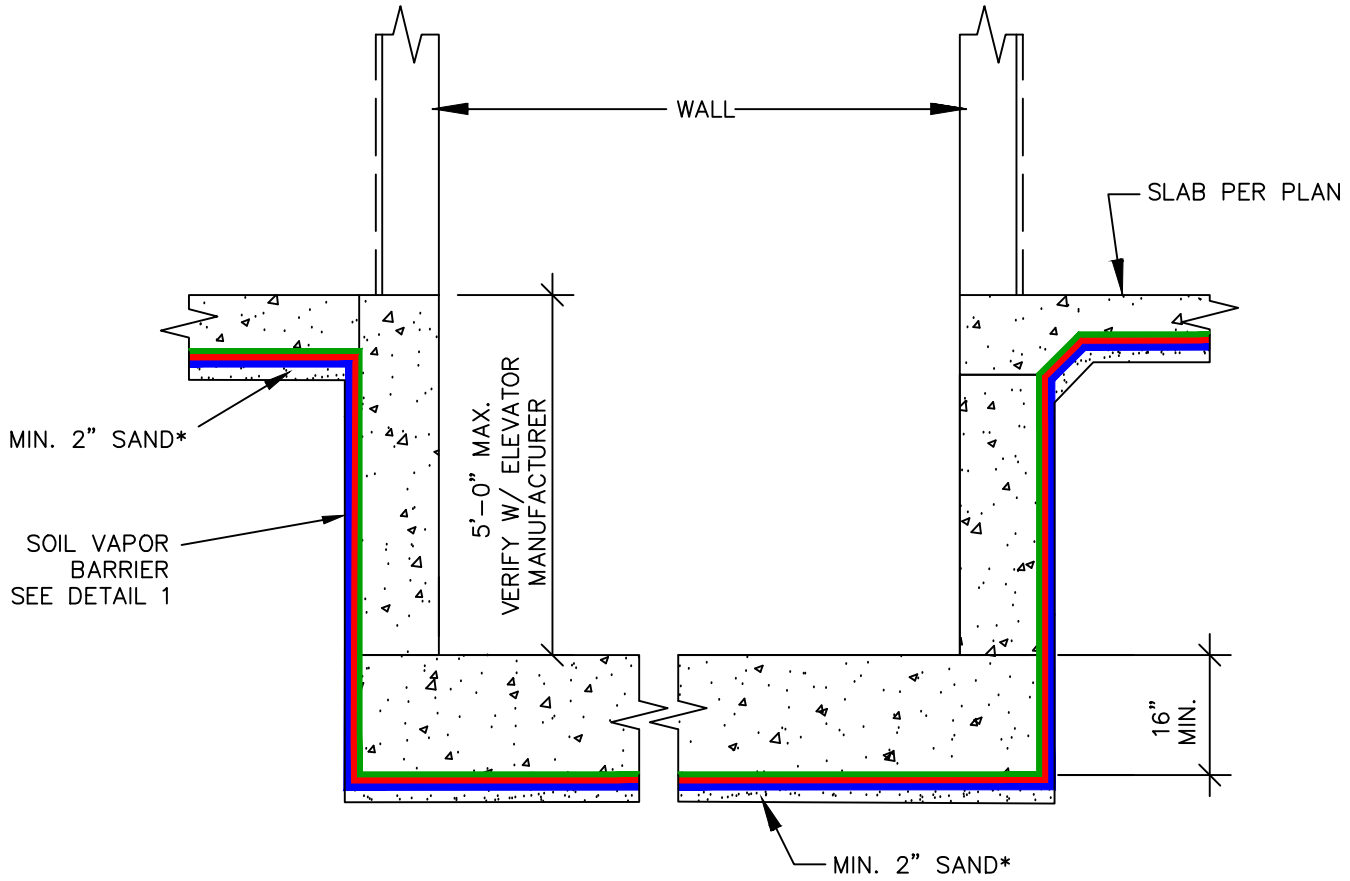
RAMBOLL

DRAFTED BY: RS | DATE: 10/30/18

SHEER WALL FOOTING
VIMS STANDARD DETAILS (TYPICAL)

6

PROJECT:1690006343



* SEE TABLE 1 (ATTACHMENT A OR C)

(NOT TO SCALE)

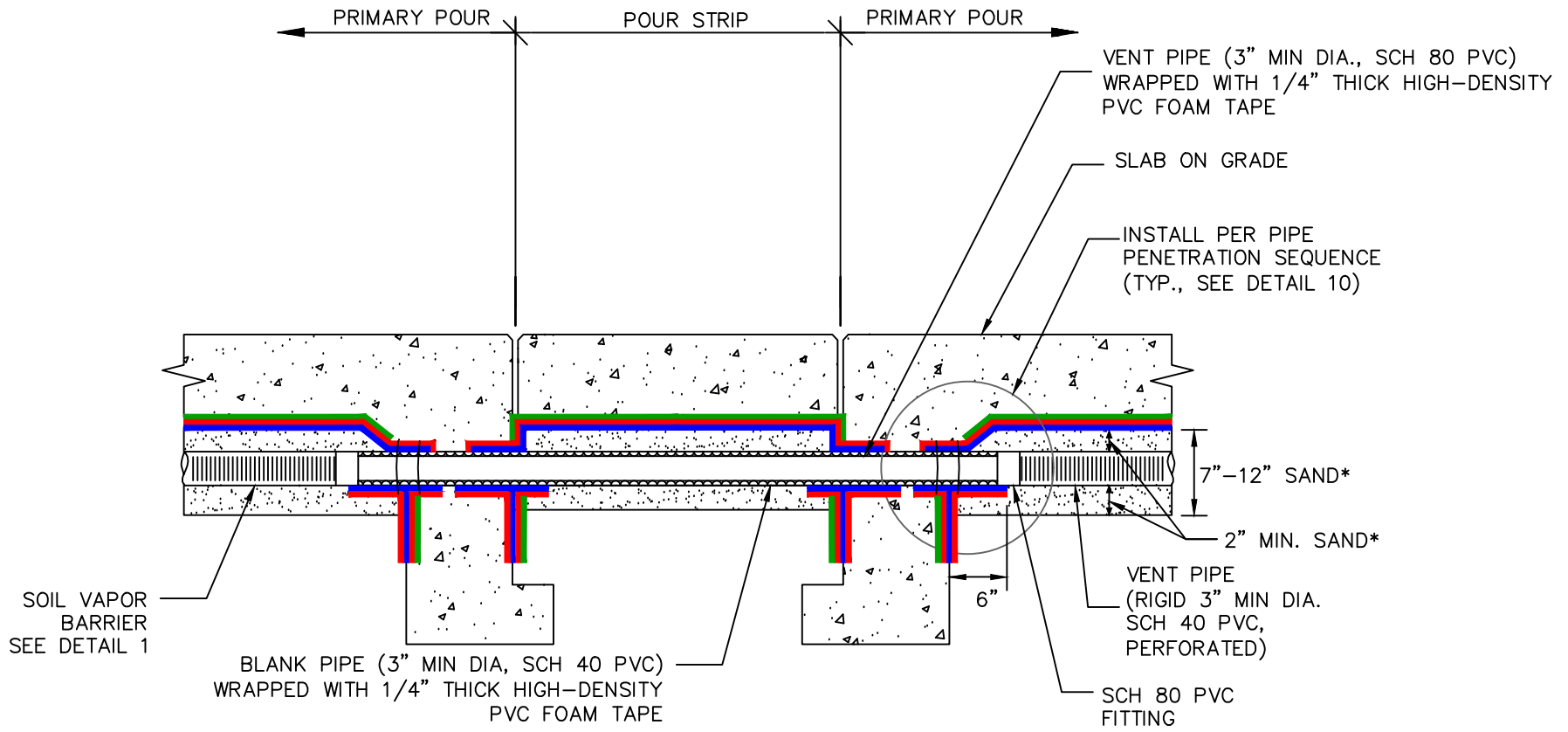
RAMBOLL

DRAFTED BY: RS | DATE: 10/30/18

ELEVATOR
VIMS STANDARD DETAILS (TYPICAL)

7

PROJECT:1690006343



* SEE TABLE 1 (ATTACHMENT A OR C)

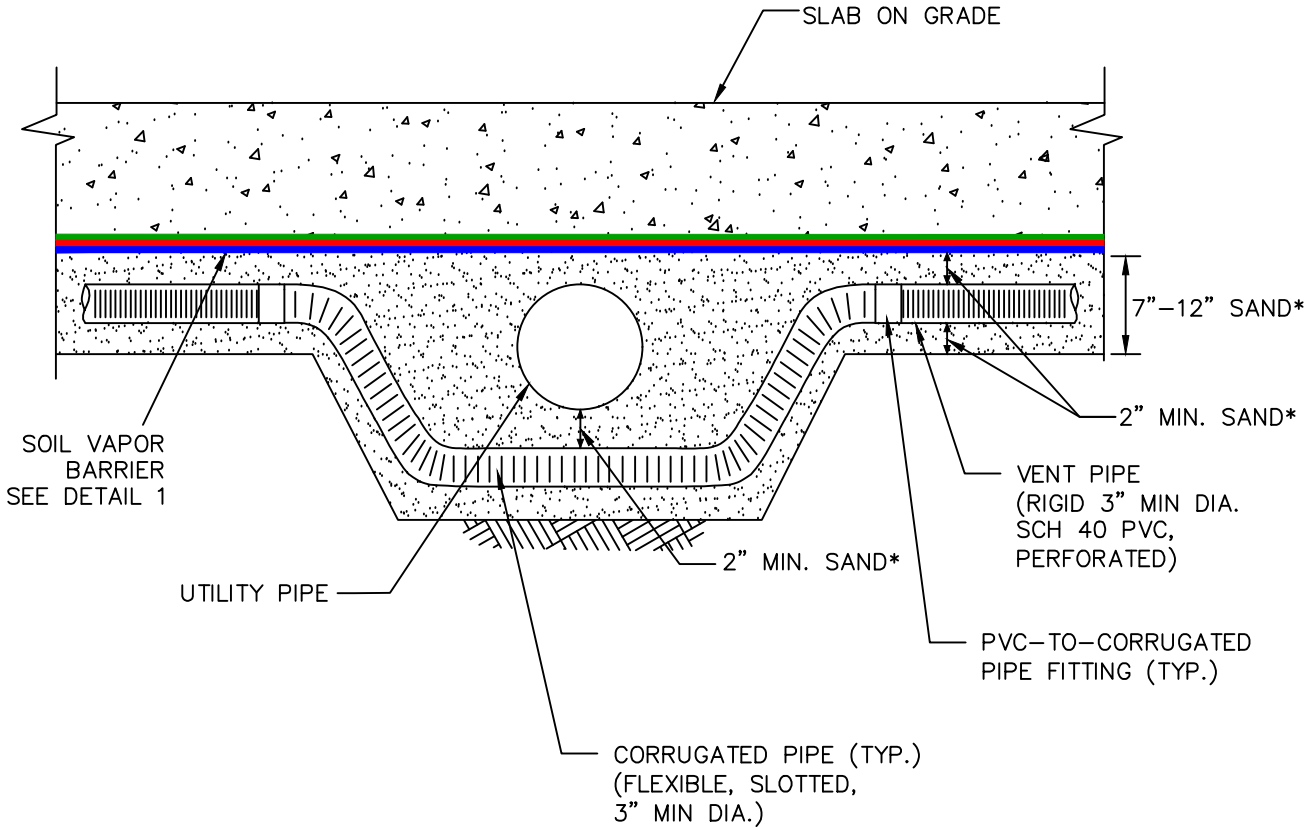
(NOT TO SCALE)

RAMBOLL

VENT PIPE CROSSING POUR STRIP DETAIL
VIMS STANDARD DETAILS (TYPICAL)

8

DRAFTED BY: RS | DATE: 10/30/18 | PROJECT:1690006343



* SEE TABLE 1 (ATTACHMENT A OR C)

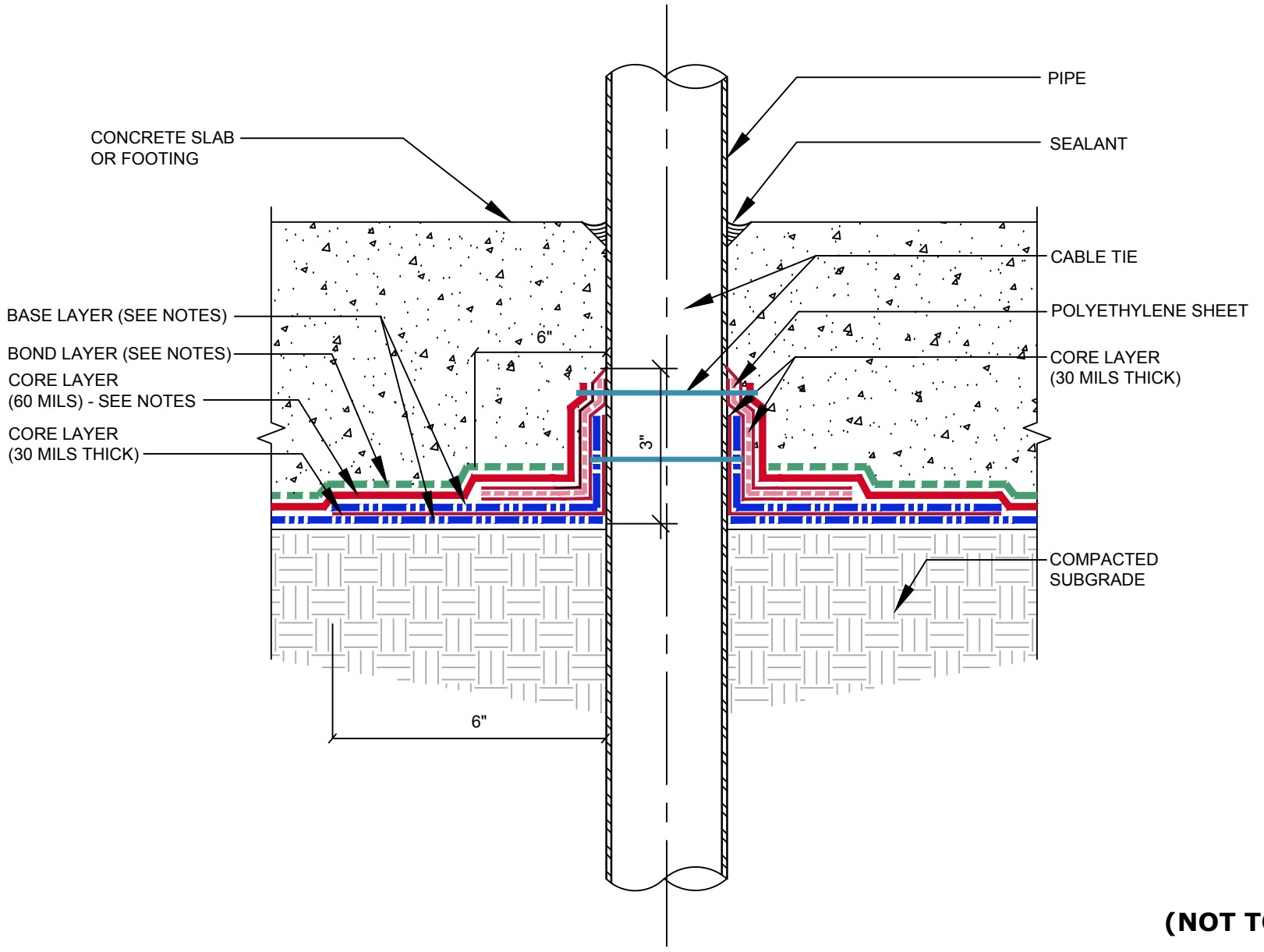
(NOT TO SCALE)

RAMBOLL

VENT PIPE CROSSING UTILITY PIPE
VIMS STANDARD DETAILS (TYPICAL)

9

DRAFTED BY: RS | DATE: 10/30/18 | PROJECT:1690006343



(NOT TO SCALE)

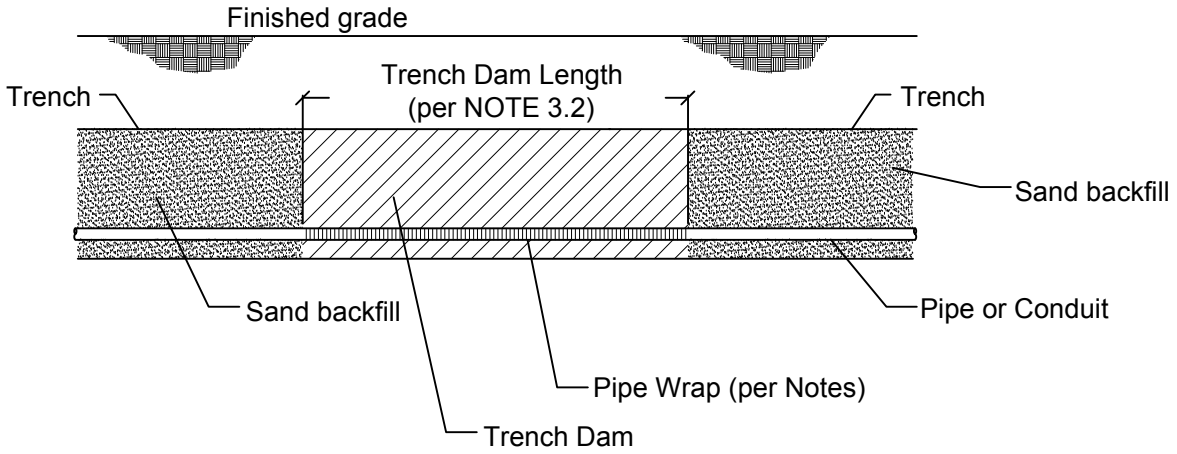
RAMBOLL

PENETRATION DETAIL
VIMS STANDARD DETAILS (TYPICAL)

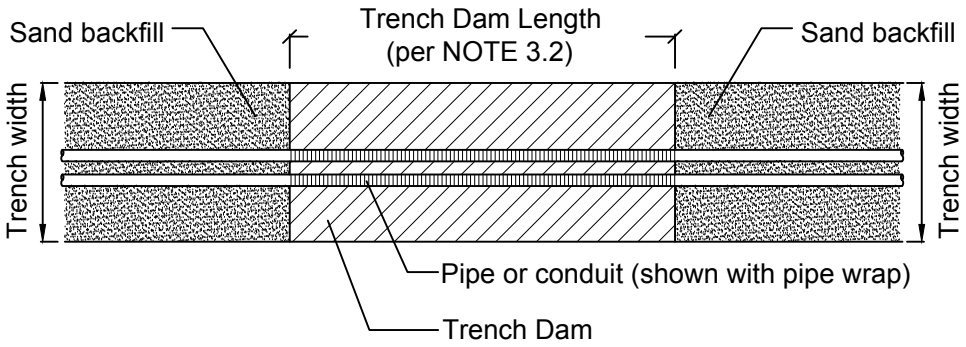
10

DRAFTED BY: RS | DATE: 10/30/18 | PROJECT:1690006343

Section:



Plan View:



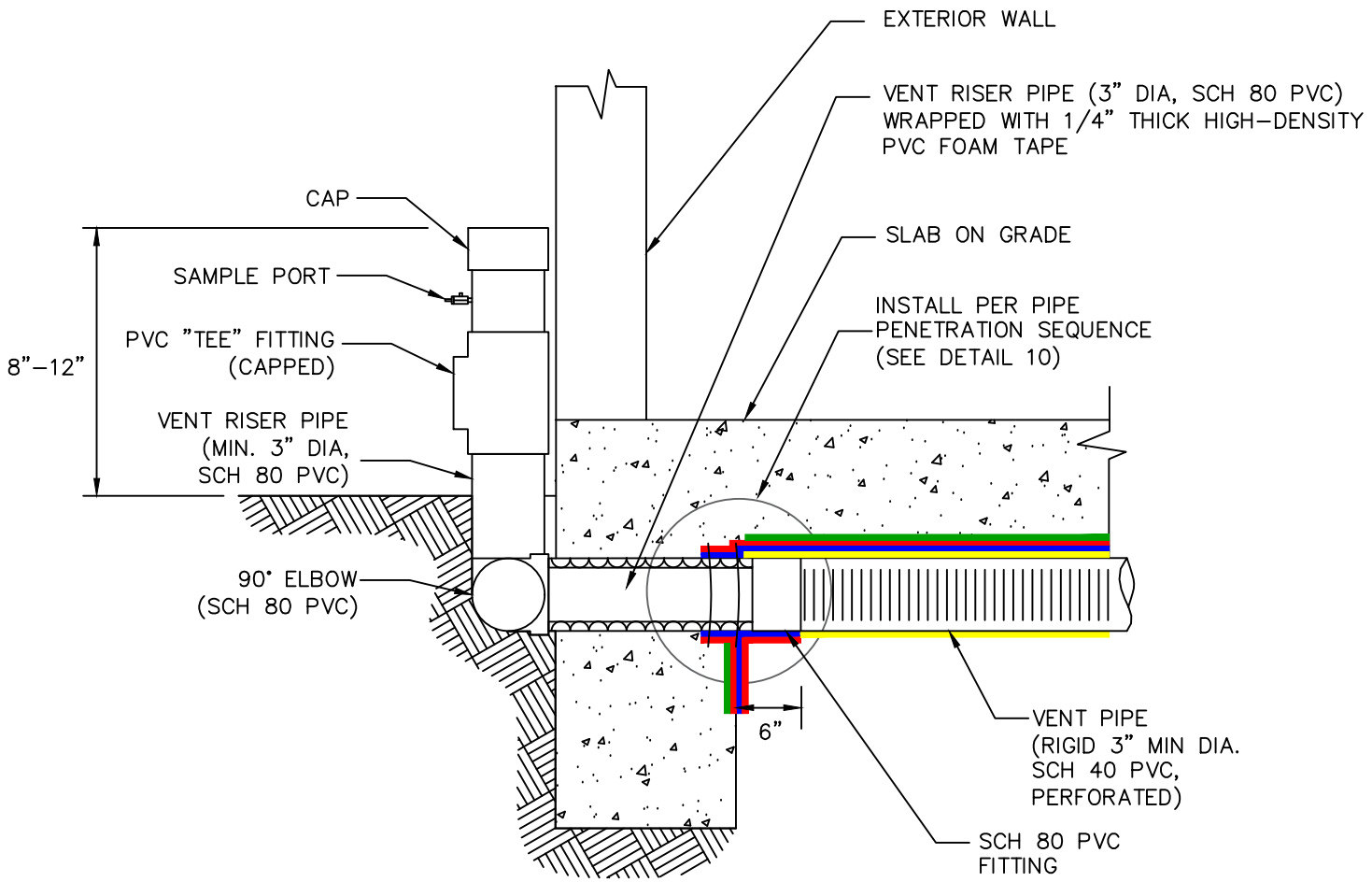
(NOT TO SCALE)

RAMBOLL

UTILITY CORRIDOR PROTECTION - TYPICAL TRENCH DAM
VIMS STANDARD DETAILS (TYPICAL)

11

DRAFTED BY: RS | DATE: 10/30/18 | PROJECT:1690006343



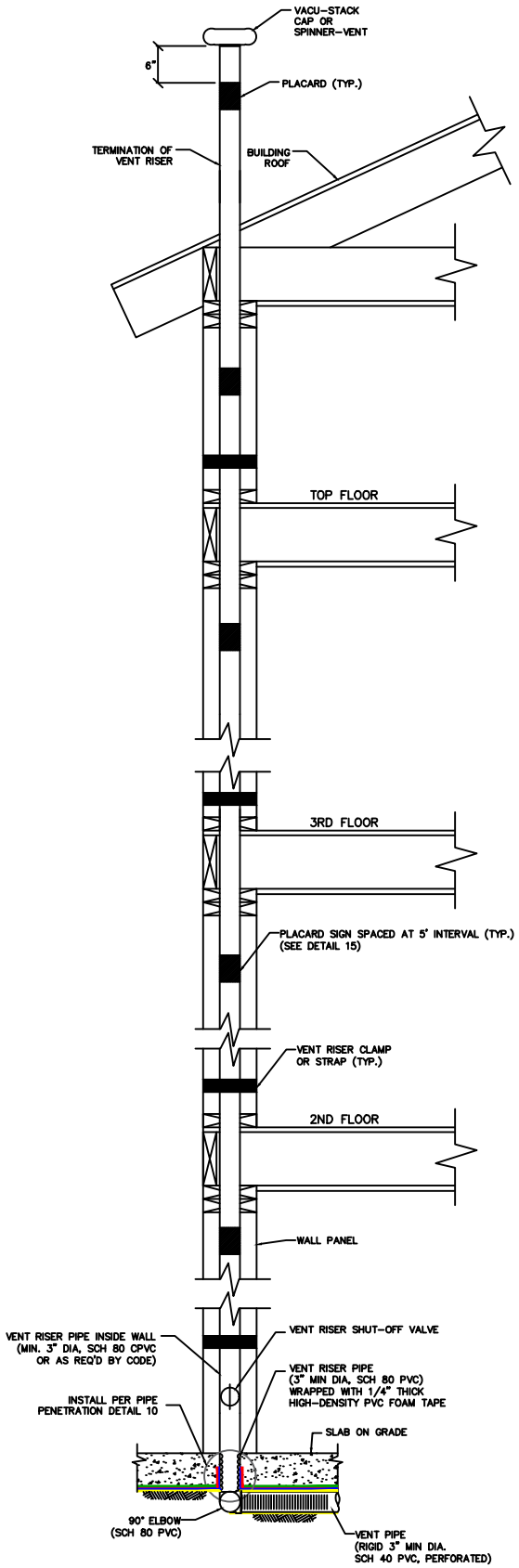
(NOT TO SCALE)

RAMBOLL

VENT PIPE TO EXTERIOR SAMPLE PIPE TRANSITION
VIMS STANDARD DETAILS (TYPICAL)

12

DRAFTED BY: RS | DATE: 10/30/18 | PROJECT:1690006343



(NOT TO SCALE)

RAMBOLL

VENT PIPE TO RISER PIPE TRANSITION
VIMS STANDARD DETAILS (TYPICAL)

13

DRAFTED BY: RS | DATE: 10/31/18 | PROJECT:1690006343

RMSO 10/31/18 Q:\DRAWINGS\1690006343\VIMS < 1690006343_VIMS DETAILS-8X11 >

WARNING

THIS BUILDING IS PROTECTED WITH
A VAPOR CONTROL BARRIER.
ANY PROPOSED PENETRATION OR
ALTERATION OF FLOOR SLAB
REQUIRES NOTIFICATION OF THE
BUILDING OFFICIAL AND INSPECTION
BY A QUALIFIED ENGINEER

This Notification is to be Permanently Stamped or Etched in the Surface of the Slab at the Time it is Poured or a Placard Permanently Adhered to Completed Slab.

Location of Notification to be determined by Project Superintendent and Building Official

Alt Letters 1/2” (Min.) in Height

1 Required Per Building

Vapor

SUB-SLAB VENT PIPE

IF DAMAGED

IMMEDIATELY NOTIFY

BUILDING OWNER

3"x4" Wide

All Signs Plastic With Adhesive Backing

Large Letters Min. ½" High

Red Letter on White or Yellow Background

3 Min. Required Per Interior Vent Riser

This Sign Shall Be Posted On Each Vent Riser at Approximately 5-Foot Vertical Intervals (Max.) and at Roof Outlet

RAMBOLL

TYPICAL PLACARD AT VENT PIPING OUTLET
VIMS STANDARD DETAILS (TYPICAL)

15

DRAFTED BY: RS | DATE: 10/30/18 | PROJECT:1690006343

APPENDIX D
PCB CERTIFICATION

ATTACHMENT D CERTIFICATION

APPLICATION FOR RISK-BASED PCB CLEANUP
2101 and 2129 West Rosecrans Avenue
Gardena, CALIFORNIA

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

In accordance with 40 CFR 761.61(a)(3), all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the presence and extent of polychlorinated biphenyls (PCBs) at 2101 and 2129 West Rosecrans Avenue, Gardena, California are available for USEPA inspection at the following location:

U.S. EPA - Region 9 75
Hawthorne Street
San Francisco, California 94105

Property Owner

Signed

Jordan Gardner
Print Name

For **Rosecrans Place, LLC**

May 12, 2020
Date

Party Conducting the Cleanup

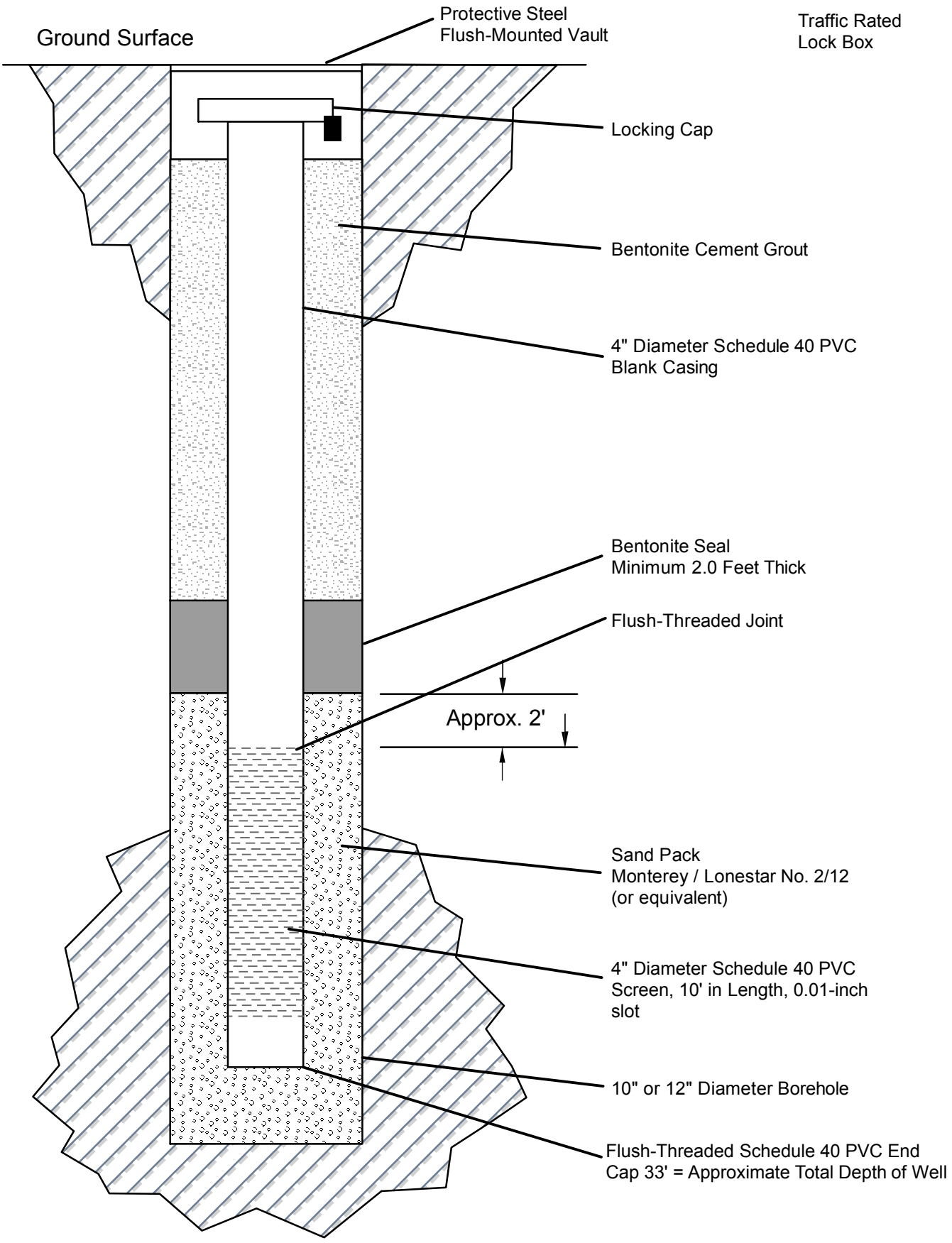
Signed

Leo Rebele
Print Name

For **Ramboll US Corporation**

May 12, 2020
Date

APPENDIX E
WELL CONSTRUCTION DIAGRAMS



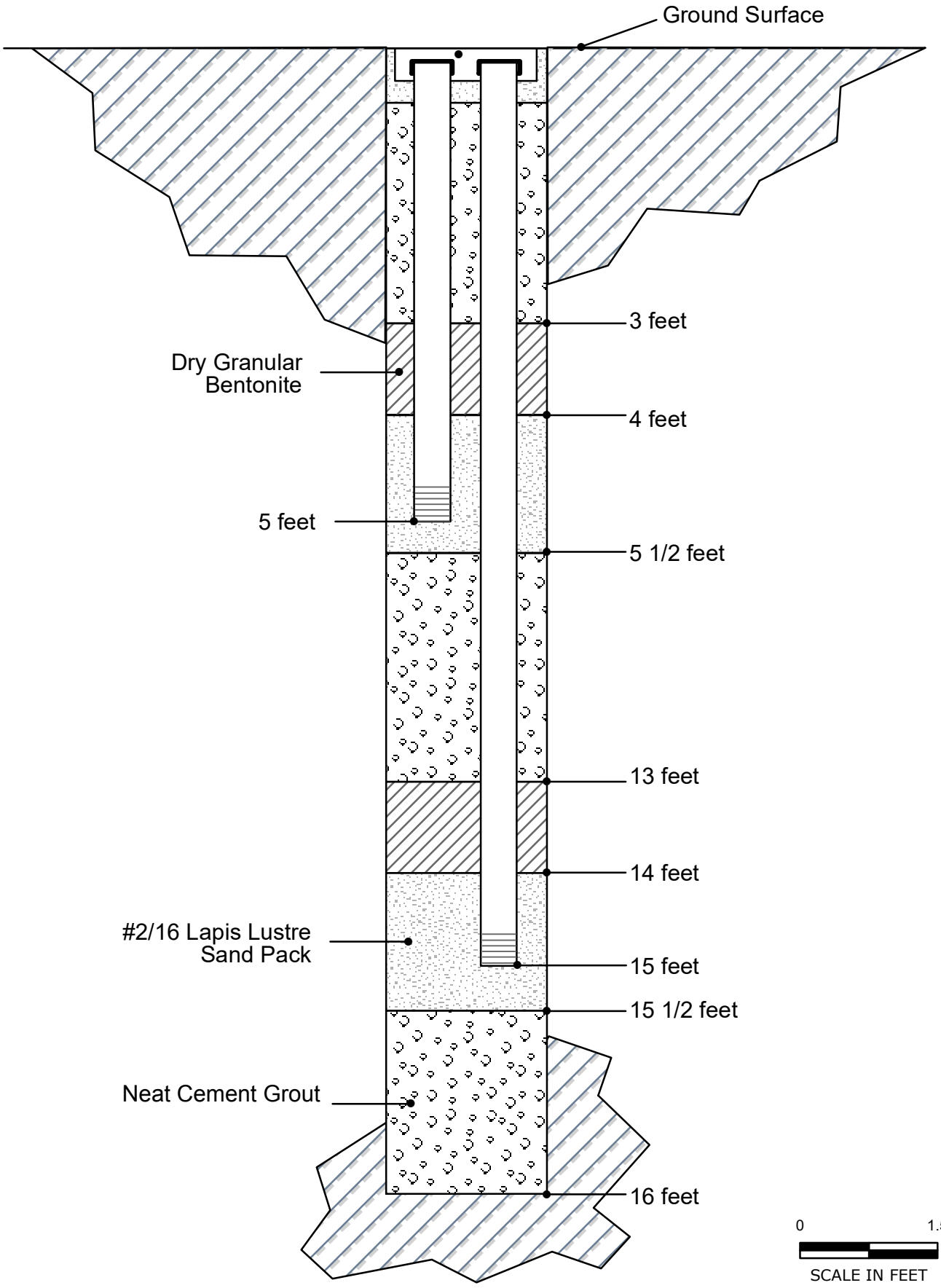
Proposed Groundwater Monitoring Well Schematic

FIGURE
E-1

DRAFTED BY: C.Enslin

DATE: 3/26/2018

Z:\01_Projects\Raytheon\03_GIS\042660OB - El Segundo DTSC Order\2018 Permit\Figure 2 -Proposed Groundwater Monitoring Well Schematic 2018-03-26.mxd



RAMBOLL

Typical Nested Vapor Probe Construction Diagram

FIGURE **E-2**

DRAFTED BY: M KNEALE | DATE: 9/30/2019 | PROJECT:

Z:\05_Operations\GSS_Standards\Typical Well Diagrams\2019-09-30 - Typical Nested Vapor Probe Construction Diagram\Typical Nested Vapor Probe Construction Diagram.mxd

APPENDIX F
CEQA NOE

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION

To: Office of Planning and Research
State Clearinghouse
P.O. Box 3044, 1400 Tenth Street, Room 212
Sacramento, CA 95812-3044

From: Department of Toxic Substances Control
Site Mitigation and Restoration Program
9211 Oakdale Avenue
Chatsworth, CA 91311

Project Title: Rosecrans Place Response Plan

Project Location: 2101 and 2129 West Rosecrans Avenue, Gardena, California 90249

County: Los Angeles

Project Applicant: Rosecrans Place, LLC

Approval Action Under Consideration by DTSC: Response Plan

Statutory Authority: California Health and Safety Code, Chapter 6.8

Project Description: The Project involves the excavation of approximately 2,500 cubic yards of soil contaminated with polychlorinated biphenyls, metals and total petroleum hydrocarbons in shallow soil, primarily shallower than 5 feet below ground surface. In addition, a Vapor Intrusion Mitigation System (VIMS) consisting of passive sub-slab depressurization system coupled with a vapor barrier system will be installed under all the proposed residential development on the Project Site to reduce the potential for vapor intrusion into indoor air from the subsurface. The Department of Toxic Substances Control (DTSC) determined remediation of the Project Site was required to address the contaminates in soil, soil vapor and groundwater at the Project Site. This determination was based upon the findings of the Response Plan which included previous Site Investigations and the selection of the appropriate remedial measures to address the onsite contamination. DTSC approved the Response Plan, prepared by Ramboll, US Corporation.

Background: The Project Site is located at 2101 and 2129 West Rosecrans Avenue in Gardena, California. In the 1960s and 1970s, the western portion of the Site was used for automobile storage and automobile parts salvage, while the eastern portion was used for metal salvage. Metal salvage appeared site-wide by the late 1970s and early 1980s. The office building was constructed by 1976. The remaining onsite building and attached building appeared onsite in 1988 and 1989. The Site use changed from automobile parts salvage to taxi services in the late 1980s and early 1990s. The Site appears in its present-day configuration by 1989. Historical aerial photographs indicate the Site was part of a larger area used for agricultural purposes from the 1920s to the early 1950s. By the early 1970s, the vicinity of the Site appears to have been largely developed for industrial uses. The City of Gardena is contemplating a mixed-use development on the Project known as Rosecrans Place. This exemption is proposed to cover the activities in the Response Plan due to the limited nature of the cleanup activities and the determination that these activities will not have a significant impact on the environment.

Project Activities: The project activities consist of excavation and offsite disposal of contaminated soil, in conjunction with a Land Use Covenant to address impacted soils left in place at the Project Site to prevent residents from exposure to soil concentrations that may be above residential screening levels. The remedy to address soil vapor will consist of a passive Sub Slab Depressurization (SSD) System coupled with a vapor barrier system. The Vapor Intrusion Mitigation System will be installed under the proposed residences, including garage areas.

The Response Plan will be implemented during the fourth quarter of 2020. Specific enforceable environmental safeguards and monitoring procedures will be made a condition of project approval to ensure that impacts to the environment are less than significant. Dust control measures and monitoring activities will be implemented at the Site.

In the event biological, cultural or historical resources are discovered during project activities, work will be suspended while a qualified biologist, cultural or historical specialist assesses the area and arrangements are made to protect or preserve any resources that are discovered. If human remains are discovered, no further disturbance will occur in the location where the remains are found, and the County Coroner will be notified pursuant to Health and Safety Code Chapter 2, Section 7050.5.

An analysis of project activities upon existing environmental conditions indicates that implementation of environmental safeguards and monitoring procedures are enforceable and made a condition of project approval and will ensure that impacts to the environment will be less than significant.

Name of Public Agency Approving Project: Department of Toxic Substances Control

Name of Person or Agency Carrying Out Project: Rosecrans Place, LLC

Exempt Status: Categorical Exemption: Section 15330, Class 30

Reasons Why Project is Exempt: Minor Actions to Prevent, Minimize, Stabilize, Mitigate or Eliminate the Release or Threat of Release of Hazardous Waste or Hazardous Substances

1. The project is a minor action designed to prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release of hazardous waste or hazardous substances.
2. The project will not exceed $1 million in cost.
3. The project will be consistent with applicable State and local environmental permitting requirements.
4. The project does not involve the onsite use of a hazardous waste incinerator or thermal treatment unit.
5. The project does not involve the relocation of residences or businesses.
6. The project does not involve the potential release into the air of volatile organic compounds as defined in Health and Safety Code Section 25123. (Exception: Small-scale in situ soil vapor extraction and treatment systems which have been permitted by the local Air Pollution Control District or Air Quality Management District.)
7. The exceptions pursuant to California Code of Regulations, Title 14, Section 15300.2 have been addressed as follows:
    a. Cumulative Impact. The project will not result in cumulative impacts because it is designed to be a short-term final remedy that would not lead to a succession of projects of the same type in the same place over time.
    b. Significant Effect. The environmental safeguards and monitoring procedures that are enforceable and made a condition of project approval will prevent unusual circumstances from occurring so that there is no possibility that the project will have a significant effect on the environment.
    c. Scenic Highways. The project will not damage scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, because it is not located within a highway officially designated as a state scenic highway.
    d. Hazardous Waste Sites. The project is not located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code. (http://calepa.ca.gov/sitecleanup/corteselist/default.htm

The administrative record for this project is available to the public by appointment at the following location:

Department of Toxic Substances Control
Site Mitigation and Restoration Program
9211 Oakdale Avenue
Chatsworth, CA 9311

Additional project information is available on EnviroStor:
https://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60002809

Contact Person	Contact Title	Phone Number
Luis Garcia	Hazardous Substances Engineer	(818) 717-6611

Approver's Signature:

Date:

05/20/2020
Click or tap to enter a date.

Approver's Name	Approver's Title	Approver's Phone Number
Haissam Y. Salloum, P.E.	Supervising Hazardous Substances Engineer II	(818) 717-6538

TO BE COMPLETED BY OPR ONLY

Date Received for Filing and Posting at OPR: