EXCAVATION MANAGEMENT PLAN

REMOVAL ACTIONS IN WOLFE ROAD AND SEARS AREAS OF FORMER VALLCO MALL

DECEMBER 2020; Revised MARCH 2021

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10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

DECEMBER 2020
Revised MARCH 2021

PREPARED FOR:
SHPDM, LLC
965 PAGE MILL ROAD
PALO ALTO, CA 94304

PREPARED BY:
WSP USA INC.
2025 GATEWAY PLACE, SUITE 348
SAN JOSE, CA 95110

TEL: +1 408 453-6100
FAX: +1 408 453-0496
WSP.COM

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1 INTRODUCTION

WSP USA Inc. (WSP) has prepared this Excavation Management Plan on behalf of Vallco Property Owner, LLC (VPO) for the two select areas at the former Vallco Mall located at 10123 North Wolfe Road in Cupertino, California (the Site) (Figure 1). The Site Areas are located in the portion of the former Vallco Mall on the west side of Wolfe Road. The first area is in the eastern parking lot adjacent to Wolfe Road and the former Bay Club Fitness Center, herein referred to as the Wolfe Road area. The second area is within the former Sears Automotive Center is referred to as such below. Both areas lie within areas of the Site for mass excavation in connection with the planned redevelopment of the Site.

The Site is anticipated to be used for commercial and residential buildings, subsurface and surface parking areas, and landscaping. In September 2018, the City of Cupertino (the City) approved a project for the Site that will include 2,402 residential units, up to 485,912 square feet of retail/entertainment uses, and 1,981,447 square feet of office uses. Approximately 10,500 parking spaces will be provided in both above- and below ground structures.

Planned development includes extensive subsurface parking that will require excavation of soil to a depth of 20 to 30 ft-below ground surface (bgs) across much of the Site.

A single soil sample at the Site was found to contain polychlorinated biphenyls (PCBs) in the Wolfe Road Area based on a subsurface investigation conducted by Geosphere in 2016. The sample from a boring at one foot below ground surface (sample E5-1) contained PCBs at 0.523 mg/kg, above the residential screening level of 0.230 mg/kg (RSL) as established by the California Department of Toxic Substances Control (DTSC). Subsequent sampling in the Wolfe Road Area revealed additional soil samples containing PCBs including two soil samples with PCB concentrations over one mg/kg.

Appendix A contains a letter report prepared by WSP dated August 14, 2020 entitled "Investigation and Management of PCB Contaminated Soil, Former Vallco Mall, Cupertino, California ("Summary Report")" This Summary Report summarizes the investigations of the Wolfe Road Area and the Former Sears Automotive Area ("Sears Area") including analytical results and various figures depicting sample locations and proposed removal areas of PCB-contaminated soil.

The Santa Clara County Fire Department (SCCFD) required implementation of an approved closure plan for the former Sears Automotive Center as part of the redevelopment of the Site. Following demolition of the former Sears Automotive Center and removal of an oil-water separator and associated piping, three samples collected approximately 12 to 14 ft-bgs immediately beneath the separator and piping. Several of these samples yielded results that exceed the PCB RSL; two of three samples beneath the oil-water separator also exceeded the TSCA cleanup level of 1 mg/kg for PCBs. Two samples collected at a depth of nine ft-bgs, immediately below each of two (HL-4 and HL-6) former hydraulic lift cylinders, exceeded the RSL for diesel total petroleum hydrocarbons (TPH-d).

Based on information available in the California Geotracker database, the depth to groundwater beneath the Site is approximately 80 to 90 feet bgs; therefore, groundwater will not be encountered during the Site redevelopment activities.

Consistent with the Summary Report (Appendix A), this Plan describes the general procedures to be followed during the removal of soils contaminated by PCBs in two Areas and a small area with TPH-d in the Sears Area. The Plan will serve as a guide for measures to be conducted by the Devcon (Contractor) and WSP during soil excavation in accordance with applicable environmental regulations. WSP will be responsible for oversight of the Contractor in the implementation of the Plan.

The following supplemental plans developed by WSP are included as Appendices to this Excavation Management Plan for submission to the city of Cupertino on behalf of the Valco Properties (VPO):

- Health and Safety Plan (HASP)
- Dust and Vapor Control Plan (DVCP)

- Sampling and Analysis Plan (SAP)

The Contractor was awarded the excavation work by VPO and has prepared a comprehensive Construction Management Plan for Vallco Shopping Center Shoring and Mass Excavation (Devcon CMP) for submission to the City of Cupertino and will be largely responsible for the implementation of various environmental aspects contained in this EMP. Howver, under the oversight and direction of WSP, the ESMP and this EMP will cover management of investigation remediation activities at the Site..

The Contractor has also prepared a Storm Water Pollution Prevention Plan (SWPPP) which is included as part of this submission.

The following sections summarize the contents of each Plan. These Plans will assist in the management of the remedial activities by identifying actions/requirements of WSP and the Contractor to perform during the remedial activities. Copies of these Plans will be retained on the Site during all remedial phases of the project.

1.1 HEALTH AND SAFETY PLAN

The Site HASP (Appendix B) was prepared in accordance with California Occupational Safety and Health Administration (Cal OSHA) standards for hazardous waste operations (Title 8 California Code of Regulations [CCR] Section 5192 and federal OSHA standards for hazardous waste operations (29 CFR 1910.120). The Site HASP appended to this Plan covers the work activities to be conducted by WSP personnel. WSP will be responsible for the health and safety of its own employees. The Contractor awarded this remedial work has included their own HASP in the Devcon CMP for use by its employees and subcontractors.

1.2 DUST AND VAPOR CONTROL PLAN

The Dust and Vapor Control Plan (Appendix C) specifies the measures to be taken to limit the generation of dust and identify potential vapor contaminants and address associated problems encountered during execution of the work. The Contractor will be responsible for implementing the dust controls on the project and specifically references measures involving Air Quality in Section 2 Air Quality in the Devcon CMP.

1.3 STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

The SWPPP has been prepared by Sandis for implementation by the Contractor (Appendix D) for specific control measures to be implemented by the Contractor throughout the entire Vallco project. Because there is a reasonable potential for PCBs and petroleum hydrocarbons (limited to Sears Area) to be present, the primary control, as necessary, will be on-site retention of storm water and decontamination water with potential treatment and disposal at an appropriately licensed facility as described in Section 2.4 Transportation and Disposal of this document.

Currently, construction SWPPPs are subject to the general permit requirements of SWRCB Order 2009-0009 DWQ, effective July 1, 2010. Many details are dependent on the Contractor's proposed activities. The Contractor is responsible for implementing the SWPPP and Sandis is responsible for inspections, reporting, and filing any required applications and submittals with the State Water Resources Control Board.

1.4 SAMPLING AND ANALYSIS PLAN

WSP prepared the Sampling and Analysis Plan (SAP) (Appendix E) for this project. The SAP describes the specifications and procedures for collecting the environmental samples for post-excavation confirmation that PCB concentrations remaining in soil have met the residential screening level of 0.230 mg/kg. WSP will be responsible for implementing the SAP.

1.5 PERMITS

The Contractor will be required to procure the necessary permits for this project which may include, but are not limited to, City of Cupertino grading/excavation (including shoring) and encroachment permits.

1.6 NOISE

The Contractor addresses Noise Control measures in Section 7 of the Devcon CMP.

2 REMOVAL ACTIVITIES

There are a number of documents that were prepared for the city of Cupertino and the Santa Clara County Fire Department that describe the history of environmental issues as well as investigations and plans associated with areas of environmental concern at the former Vallco Mall.

The following documents are referenced for the reader's attention:

- Environmental Site Management Plan (ESMP) revised August 2019 and prepared by WSP.
  - Contained within the ESMP is Appendix A, Site Characterization Report (SCR) revised August 2019 and prepared by WSP which includes the following:
  - Appendix A of SCR, Sears Closure Report for the Fuel Leak site Case Closure dated December 6, 1999 and prepared by Santa Clara Valley Water District
  - Appendix C of SCR, Analytical Soil Sampling and Testing Study dated October 25, 2016 and prepared by Geosphere Consultants, Inc.
  - Appendix F of SCR, GPR Survey Report dated February 11, 2019 and prepared by WSP
  - Appendix H of SCR, Sears Automotive Center Closure Plan dated March 26, 2019 and prepared by WSP
  - Appendix I of SCR, Closure Letter report- West Side of Mall dated December 11, 2018 and prepared by WSP.

The Investigation and Management of PCB Contaminated Soil Summary Report (Appendix A of this document) details of the plans to address the PCB contamination in the Wolfe Road Area and the Sears Area. It summarizes the background and previous remedial investigations conducted at the Site and the proposed soil remedial goals for the site cleanup of the contaminants of concern (COCs), PCBs and TPH-d.

The project is being conducted as the initial step to accommodate planned redevelopment of the property. As a result, excavation of soil containing elevated concentrations of COCs will be required before extensive excavation of the Site for redevelopment purposes. The Areas and approximate depths of excavation are summarized in Figures 3 and 8 from the Summary Report in Appendix A. WSP will document and oversee the Contractor's activities during excavation, transport, and disposal of excavated materials.

2.1 SITE PREPARATION

Site preparation activities include mobilization and site set up activities that are non-invasive and will not include the handling of impacted soil and material. These activities include setting up field offices (as necessary), constructing a decontamination pad (as necessary), installing fencing (as appropriate), preparing dust control measures, and other pre-excavation activities. Other requirements not specifically provided herein, but necessary for the successful conduct and completion of the work, will be provided by the Contractor.

2.2 EXCAVATION

The planned excavation will result in soil removed in two separate areas:

- Wolfe Road Area
- Former Sears Automotive Center (Sears) Area

The depth of initial excavation/soil temoval will range from three feet bgs in the Wolfe Road Area to 20 feet bgs in the Sears Area. There may also be additional soil excavated if confirmation sampling reveals that additional soil removal is necessary. The groundwater elevation has been typically found to approximately 80-90 feet below ground surface and it is unlikely to be encountered during the excavation.

If stained, oily, or odorous soil is encountered during pavement removal or excavation activity, which could indicate significantly higher concentration of PCBs than have been detected in samples collected to date, the in- situ sampling, segregation, and management of the impacted soil would be performed in accordance with the guidelines of the ESMP.

In the Wolfe Road Area, the asphalt remains in place and sample locations are visibly marked on the asphalt and will be used to delineate the excavation limits. The initial activity will include the removal and disposal of the existing asphalt parking lot overlay. The asphalt portion of the cap will be removed and transported off-site for recycling. The aggregate base rock will be removed and disposed off-site at a landfill site selected by the Contractor. Removal of the cover material may occur in stages, to minimize the potential for erosion, sedimentation, or dust. The asphalt cover material will be segregated, and the contaminated soil excavation will commence. The soil excavation will be performed, and the exact excavation will be directed by WSP. Soil will be placed in stockpiles and managed as described in Section 2.3. Excavation and confirmation sampling of areas with known PCBs exceeding 1 mg/kg and the area of boring E5P-N, which could potentially contain PCBs exceeding 1 mg/kg, will occur prior to excavation of surrounding areas.

Post-excavation soil samples will be collected from the bottom and sidewalls of the excavation to provide a record of the quality of the soil that remains in place. The post-excavation soil sampling is described in the Summary Report and Appendix C.

The sequencing of the excavation will be determined by the Contractor in consultation with WSP to maximize efficiency and logistics of stockpile management. In the Sears Area, sample locations were measured from permanent landmarks and will be used to determine excavation limits. PCBs are being targeted at several depths and the excavation of soils not impacted by PCBs will be segregated..

2.3 STOCKPILE MANAGEMENT

Stockpiling of excavated soil will generally be eliminated with direct loading of soil onto trucks.

Where excavation of areas with PCBs exceeding 1mg/kg is conducted, stockpile management procedures may be employed and will include ensuring that stockpiles are segregated, clearly identified, and away from concentrated flows of storm water, drainage courses, and storm drain drop inlets. Stockpiles will be

protected from storm water run-on using temporary perimeter sediment barriers such as berms, dikes, fiber rolls, silt fences, sandbags, gravel bags, or straw bale barriers. A recommended method is to first lay plastic sheeting down where the stockpile is to be located. Excavated soil is then placed in a ring on the plastic, leaving several feet of free plastic around the edges such that the plastic can be folded over the soil ring to create a plastic-encased berm. The rest of the excavated soil can then be placed inside of the soil berm. Another plastic sheet is used to cover the stockpile such that dust and potential vapors do not escape, and water does not enter the stockpile. Additional stockpile management requirements are discussed in the Dust and Vapor Control Plan (Appendix B) and SWPPP (prepared by the Contractor and included as Appendix C in this transmittal).

Based on existing data, small isolated areas having concentrations of PCBs greater than 1 mg/kg will be segregated and placed into separate stockpiles (see Figures 2 and 8 in Appendix A for delineation of these areas). A one-day turnaround time for analytical data (or as soon as possible) will be requested for all confirmation soil samples from these isolated areas.

All soils assumed to exceed 1 mg/kg of PCBs based on previous *in situ* sampling will be disposed of as TSCA waste (assumed to be >50 mg/kg and disposed at the selected TSCA landfill in accordance with

waste disposal requirements of CFR 761.761 (b)). Soils containing less than 1 mg/kg based on previous *in situ* sampling will be disposed of an appropriately licensed selected landfill.

Asphalt cap material or other construction/demolition debris is not reasonably expected to be RCRA/non-RCRA hazardous or TSCA wastes and may be sent to a commercial recycler or approved landfill.

2.4 TRANSPORTATION AND DISPOSAL

This task consists of transportation and disposal of each type of waste material to the selected treatment/disposal facility. All material from the excavation has been characterized in place for PCBs and petroleum hydrocarbons (Sears Area only) prior to excavation. The Contractor (Devcon) shall be responsible for the transportation and disposal of the soil and material removed from the Site. As part of this role, the Contractor shall designate one person to act as the Transportation and Disposal Coordinator (TDC) during execution of this phase of the work. The TDC shall coordinate the transportation and disposal requirements associated with this project. The material will be disposed off-site based on data gathered during previous sampling.

As trucks designated for TSCA or non-hazardous waste facilities arrive onsite, they will be directed to a lining scaffold station to receive the fitted bed liners prior to loading. Loading of solid waste will be performed with the excavator and or front-end loader. Drivers will be instructed to remain in their truck cab at all times while on-site.

The decontamination process will involve the removal of contaminants such as accumulated soil, dust, and other contamination from excavation equipment and vehicles loaded with soil for offsite transport while these items are physically located in a decontamination station/pad constructed of plastic sheeting. Design and construction of the decontamination station/pad will be performed by the remedial contractor subject to review and approval by WSP. The final location or locations of the decontamination pad will be determined by the excavation contractor based on the sequence of excavation areas. The proper onsite management and offsite disposal of decontamination wastes such as wash water and contaminated protective equipment used by onsite personnel will also be required. Throughout the project as needed, gross contamination will be removed from heavy equipment used during the soil excavation activities even if it is not leaving the Site. The goal is to protect health and safety of the workers and to minimize the generation of dust, even when such equipment remains in the removal areas. Decontamination will entail the use of physical devices such as brushes, brooms, sponges, rags, and may include the use of rinse water. The use of water for decontamination will be minimized to the extent reasonable and such water will be contained and appropriately disposed..

Any equipment used during onsite activities (i.e., entering the removal areas) including but not limited to excavators, bulldozers, etc. and trucks transporting soils offsite will be decontaminated at the decontamination station/pad prior to departing the Site.

Before transport vehicles and construction equipment leave the Site, any soil that has accumulated on the outside of the truck/equipment or on the tires/tracks, will be brushed off using brooms, brushes, shovels, and/or plastic scrapers within the decontamination station/pad. Visible soil and dust will be removed from all accessible areas including truck tires, mud flaps and fenders. Soil that has accumulated on the plastic will be swept up and loaded into a truck for offsite disposal. To the extent possible, cleaning of the trucks will be performed on a “dry basis” to minimize the generation of wash water which would increase the risk of spreading contaminants and require further materials management. If water is used for decontamination purposes, any wash water generated in the decontamination station/pad area will need to be collected and properly contained and disposed of by the contractor.

The drainage system will be designed to prevent runoff. This may require the use of berms, curbs or some other type of impermeable barriers. The collection system may also include a sump to collect the wash water, which could then be pumped to an onsite storage tank or to drums. As needed, but no less frequently than once each operating day, decontamination water collected in the decontamination area will be removed and transferred to the designated tank or container.

The soil that is brushed off a truck will be shoveled and placed into a truck and off-hauled immediately. Soil and dust that has accumulated in the decontamination station will be frequently swept into a pile and loaded into a truck to be off-hauled. When the decontamination station is removed, the decontamination equipment will be cleaned before removal. Clean water may be required to rinse the decontamination equipment. The final decontamination and removal of the equipment may require careful sequencing so that the clean items and areas do not become recontaminated.

Tarps of loaded trucks will be rolled out and secured to cover the top of the truck bed. The Vehicle and Container Inspection Checklist will be completed by the truck inspector and maintained on site.

Appropriate placarding will be placed on all four sides of the container/vehicle in accordance with USDOT requirements. The trucks will then pass through the stabilized construction entrance/exit to remove excess dirt on tires.

The Contractor shall obtain approval from the disposal facilities using the existing database or, as necessary, coordinate additional characterization requirements with WSP to obtain approval before fieldwork begins..

2.4.1 TRANSPORTATION AND DISPOSAL COORDINATOR

The TDC shall serve as the single point of contact for transportation, disposal, and regulatory matters associated with waste management. The TDC shall be responsible for environmental compliance at the Site including, but not limited to:

- Determining proper shipping names,
- Identifying marking, labeling, and placard requirements,
- Completing appropriate waste profiles, hazardous waste manifests, and bills of lading for non-hazardous waste material, as necessary
- Obtaining disposal facility weigh slips
- Performing any other environmental documentation as required by local, state, and/or federal law

The TDC shall coordinate transportation and disposal activities with WSP's oversight representatives. The TDC will sign all transportation documentation on behalf of the generators.

2.4.2 LAWS AND REGULATIONS

The proposed work effort shall meet or exceed minimum requirements established by federal, state, and local laws and regulations, as applicable. These requirements are amended frequently, so the Contractor shall be responsible for complying with such amendments, as necessary.

2.4.3 TRANSPORTATION

The Contractor shall use manifests for transporting hazardous and PCB wastes as required by 40 CFR 263, 40 CFR 761, and any applicable state or local law or regulation. Transportation shall also comply with all applicable requirements in the Department of Transportation 49 CFR regulations. The Contractor shall provide WSP with the U. S. EPA identification numbers, names, locations, and telephone numbers of each proposed waste transporter along with the bid documents for this work. Only properly licensed transporters will be deemed acceptable for use. Alternate transporters may not be considered acceptable, depending on the justification for use. All non-hazardous waste shipments will be accompanied by a bill of lading that documents shipping information, including transporter and disposal facility names and locations.

A Waste Tracking Log will be developed and maintained to track each shipment of waste transported off site. The log will identify the waste type being transported, the date and time the material left the site, the facility, the truck identification number, the manifest or bill of lading (BOL) number accompanying the load and the recorded weight of each loaded truck.

A BOL will accompany each load and will be signed by WSP (as agent for VPO) before the material leaves the site; by the truck driver before leaving the site; and by a representative of disposal facility when the load is received. A copy of the signed Manifest or BOL will be retained by WSP. Upon arrival at the disposal facility, the BOL will be signed and a copy returned to the Contractor, complete with all applicable signatures as proof of delivery. The returned Manifest/BOL and Certificates of Disposal will be cross checked and matched with the original copy of the manifest already on file. The Waste Tracking Log will be used to track the volume of soil transported off site and the receipt of completed and signed manifest/bill of ladings.

REFERENCES

Analytical Soil Sampling and Testing Study dated October 25, 2016 and prepared by Geosphere Consultants, Inc.

Closure Letter report- West Side of Mall dated December 11, 2018 and prepared by WSP

Construction Management Plan for Vallco Shopping Center Shoring and Mass Excavation dated October 26, 2018 and prepared by Devcon Construction, Inc.

Environmental Site Management Plan (ESMP) revised August 2019 and prepared by WSP.

GPR Survey Report dated February 11, 2019 and prepared by WSP

Investigation and Management of PCB Contaminated Soil, Former Vallco Mall, Cupertino, California ("Summary Report")" dated August 14, 2020 and prepared by WSP

Regional Water Board, 2019 (San Francisco Bay Regional Water Quality Control Board). Environmental Screening Level (ESL) Workbook. January

Sears Automotive Center Closure Plan dated March 26, 2019 and prepared by WSP

Sears Closure Report for the Fuel Leak site Case Closure dated December 6, 1999 and prepared by Santa Clara Valley Water District

Site Characterization Report (SCXR) revised August 2019 and prepared by WSP

Stormwater Pollution Prevention Plan (SWPPP) revised April 14, 2020 and prepared by Sandis

ACRONYMS

1,1-DCA	1,1-dichloroethane
1,1-DCE	1,1-dichloroethene
1,2-DCE	1,2-dichloroethene
1,1,1-TCA	1,1,1-trichloroethane
bgs	below ground surface
COE	California-Olive-Emerson
COPC	chemical of potential concern
DQO	data quality objective
HVAC	heating, ventilation, and air conditioning
PCE	tetrachloroethene
PID	Photoionization detector
SIM	Selective ion monitoring
TCE	trichloroethene
USEPA	U.S. Environmental Protection Agency
VIMS	vapor intrusion mitigation system
VOC	volatile organic compound
WSP	WSP USA Inc.

APPENDIX

A INVESTIGATION AND MANAGEMENT OF PCB CONTAMINATED SOIL FORMER VALLCO MALL, CUPERTINO, CALIFORNIA

WSP USA
2025 Gateway Place
Suite 348
San Jose, CA 95110

Tel.:+1 408 453-6100
Fax: +1 408 453-0496
wsp.com

August 14, 2020

Revised March 11, 2021

Vallco Property Owner, LLC
965 Page Mill Road
Palo Alto, CA 94304
Attn: Reed Moulds

Subject: Post Closure Report: Investigation and Management of PCB Contaminated Soil
Former Vallco Mall, 10101 North Wolfe Road Cupertino, California

Dear Mr. Moulds,

Per the request of the Vallco Property Owner, LLC (VPO), WSP USA Inc. (WSP) provides this summary report documenting WSP's investigation of two select areas at the former Vallco mall located at 10123 North Wolfe Road in Cupertino, California (the Site) (Figure 1) and presenting an approach to the remediation and disposal of all impacted soils at the investigation areas. WSP investigated the two areas for polychlorinated biphenyls (PCBs), consistent with the Environmental Site Management Plan (WSP, August 2019) (ESMP). The first is an area in the eastern parking lot adjacent to Wolfe Road and the former Bay Club Fitness Center, herein referred to as the Wolfe Road area. The second area is within the former Sears Automotive Center and is referred to as such below.

BACKGROUND & INVESTIGATION APPROACH

WOLFE ROAD AREA

In September 2016, Vallco retained Geosphere to conduct a subsurface investigation to collect various discrete soil samples at the Site as part of an accompanying geotechnical investigation. Geosphere drilled a total of eight borings (E-1 through E-8) using a mobile direct push GeoProbe® DT-22. A single sample from Geosphere boring E-5 at one foot below ground surface (sample E5-1) contained PCBs at a concentration of 0.523 milligrams per kilogram (mg/kg), which is above the Environmental Screening Levels (ESLs) for residential human health risks (0.230 mg/kg) as established by the San Francisco Regional Water Quality Control Board (RWQCB), revision two, July 2019 and above the Regional Screening Levels (RSLs) for human health risks (0.230 mg/kg) as established by the Department of Toxic Substance Control (DTSC), revised April 2019. The detection of PCBs above the ESL/RSL was isolated to this single sample out of the 32 samples Geosphere collected across the former shopping mall area; however, in accordance with Section 3.3 of the ESMP, WSP performed step-out sampling for PCBs in the area of boring E-5 to delineate the lateral and vertical extent of PCB concentrations in that area. VPO provided the City of Cupertino with a workplan outlining the investigation approach in August 2019 (WSP, 2019a).

Pursuant to the workplan, WSP advanced soil borings to a depth of five feet below ground surface (ft-bgs) in a general grid fashion around boring E-5 (Figure 2). Initially, four soil borings were advanced in a square shape approximately 7.5 feet (ft) away from boring E-5 on each side, with one additional boring advanced adjacent to location E-5 (boring E5P-1) to confirm the original detection of PCBs. If there was a detection of PCBs above the ESL/RSL at the initial sampling location, additional step-out boring locations were advanced in five-foot increments outwards from perimeter borings. Eventually, a total of 29 additional step-out borings were advanced to fully delineate the lateral extent of PCB contamination.

The soil borings were advanced either by hand auger or by a direct push Geoprobe® Rig equipped with Macro Core® continuous core sample tooling. Soil samples were collected at depths of one, three, and five ft-bgs. Only soil samples collected at one and three ft-bgs were analyzed initially; five ft-bgs soil samples were archived and were only analyzed if there were detections of PCBs in the three ft-bgs samples, which occurred at only two of the 34 boring locations (E5P-N and E5P-W). Samples at three ft-bgs at E5P-N-3 had laboratory reporting limits for PCBs above the ESL/RSL and there were PCBs detected at E5P-W-3 (0.046 mg/kg) below the ESL/RSL Samples collected at 5 ft-bgs at these two locations did not detect PCBs. All soil samples were analyzed for PCBs by Environmental Protection Agency (EPA) method 8082 with 18 of the 29 step outs additionally undergoing the soxhlet extraction method preferred by the EPA.

FORMER SEARS AUTOMOTIVE CENTER

The Sears Automotive Center was constructed in 1970 on the southwest side of the Mall property and was later referenced as a closed Leaking Underground Storage Tank (LUST) site on the state Geotracker website. This designation was a result of the removal of six underground storage tanks (UST) in 1985 and dispenser island and product lines in 1994. The Santa Clara County Fire Department (SCCFD) required implementation of an approved closure plan for the demolition of the former Sears Automotive Center due to the presence of an oil-water separator, hydraulic lifts, petroleum fluid pipelines, battery storage area, and lead containing materials. A Closure Plan for the Former Sears Automotive Center was submitted to the SCCFD on March 25, 2019 and approved by the SCCFD by letter dated April 11, 2019 and included soil sampling under the oil-water separator, remnant piping and any other subsurface equipment for proper characterization and subsequent disposal.

Consistent with the Closure Plan, soil samples were collected beneath an oil-water separator, acid neutralization chamber, and 17 hydraulic lifts during building demolition in January through February 2020 to determine if these features had impacted surrounding soil. All soil samples collected were analyzed for the following list of compounds:

- Total petroleum hydrocarbons (TPH) as gasoline (TPH-g), TPH as diesel (TPH-D), and TPH as motor oil (TPH-MO) by EPA method 8015 (fuel scan)
- Hexane Extractable Materials (Oil and Grease) by EPA 1664
- Volatile Organic Compounds (VOCs), with chlorinated hydrocarbons (full scan) by EPA method 8260B
- PCB's by EPA method 8082A
- Cd, Cr, Pb, Ni, and Zn by EPA 6010B
- Semi Volatile Organic Compounds (SVOCs) including Polycyclic Aromatic Hydrocarbons (PAHs) by EPA method 8270

Samples collected from beneath the acid neutralization chamber and the base of 11 hydraulic lifts after their removal, all located on the basement level in the southern portion of the former Sears Automotive Center, did not contain any detections above the respective ESL/RSLs for any of the compounds included in the analysis listed above. After the removal of six hydraulic lift cylinders in the northern portion of the former Sears Automotive Center, samples were taken at three of the six cylinders (locations HL-1, HL-4, and HL-6 on Figure 4) at approximately nine ft-bgs, which is from the soils immediately beneath the base of three of these cylinders. After the removal of the oil-water separator and associated piping, three samples were taken approximately 12 to 14 ft-bgs which is immediately beneath the separator and piping. Several of these samples yielded results that exceed the PCB ESL/RSL; two of three samples beneath the oil-water separator also exceeded the TSCA cleanup level of 1 mg/kg for PCBs. Two samples collected at a depth of nine ft-bgs, immediately below each of two (HL-4 and HL-6) of the three former hydraulic lift

cylinders, exceeded the RSL for TPH-D. Soil sample locations are shown on Figure 4 and analytical results performed for this sampling event as part of the Closure Plan are included as Table 1.

In response to the detections of PCBs above the ESL/RSL, 22 step-out borings were advanced in the northern portion of the Center to delineate the extent of PCB impacted soil and to sample under the remaining three former hydraulic lifts, HL-2, HL-3, and HL-5 (Figure 5). All step-out borings were advanced with a direct push Geoprobe® Rig equipped with Macro Core® continuous core sample tooling. The base of the hydraulic lift cylinders extended to nine ft-bgs and step-out borings for the lifts were advanced to 20 ft-bgs and samples were collected at depths of 9, 12, and 15 ft-bgs. The bottom of the oil-water separator was 12 ft-bgs and step-out borings for the separator were advanced to 25 ft-bgs and samples were collected at depths of 12, 16, and 20 ft-bgs. Additional samples were collected if staining or odor was noted, which only occurred in one boring (HL-6N5). All soil samples were analyzed for PCBs by EPA method 8082 with the Soxhlet extraction method. Additionally, select soil sample depths were sampled for TPH-d and TPH-mo by EPA method 8015.

ANALYTICAL RESULTS

WOLFE ROAD AREA

Analytical results are summarized in Table 2 and are depicted on Figure 2. Total PCBs were found above the ESL/RSL of 0.230 mg/kg in a total of 14 of the 34 borings. The detections of total PCBs above the screening levels were isolated to samples collected from one ft-bgs. The PCB detections were primarily of Aroclor-1254, which was the only Aroclor that contained concentrations greater than the respective screening level. Aroclor-1260 was also detected in some of the one ft-bgs samples; no other aroclors were detected.

Of the borings that had exceedances of the screening levels, the PCB concentration of two boring locations (E5P-W and E5P-NW10) were just above the TSCA cleanup level of 1 mg/kg, with a maximum total PCB concentration of 1.046 mg/kg. In both borings, no singular Aroclor was detected above 1 mg/kg, but rather the sum of the detected aroclors (aroclor-1254 and aroclor-1260) was just above 1 mg/kg.

FORMER SEARS AUTOMOTIVE CENTER

Analytical results are summarized in Table 3 (TPH results) and Table 4 (PCB results) and are depicted on Figures 6 and 7. Of the twenty-two step-out borings, only three discrete samples contained detectable concentrations of PCBs. As discussed above, soil samples taken at approximately nine ft-bgs, which is from immediately beneath each of three of the hydraulic cylinders and three samples taken approximately 12 to 14 feet bgs immediately beneath the oil-water separator contained PCBs exceeding the RSL of 0.230 mg/kg PCBs. Additionally, two of the three samples beneath the oil-water separator exceeded 1 mg/kg of PCBs at 14 feet, with a maximum concentration of 1.9 mg/kg; however, none of the step-out borings detected concentrations of PCBs above the ESL/RSL.

Additionally, only one step out boring discrete sample (OWPI-W5-20) detected TPH-d above the ESL; however, the detection was qualified by the laboratory as not exhibiting the standard chromatographic pattern for TPH-d. However, this sample falls within the excavation area described below and soil will be removed to 21 ft-bgs, or one foot below the sample depth for OWPI-W5-20.

REMEDIAL APPROACH; SOIL EXCAVATION AND DISPOSAL; EPA REGULATORY COMPLIANCE

Under the ESMP, VPO must notify the City if the planned additional sampling finds PCB levels in excess of residential screening levels, and a determination will be made "as to whether a regulatory agency should be contacted to determine if regulatory oversight is required, prior to issuance of a permit that allows soil disturbance in the area of boring E-5."

Given that each of the areas contained PCBs above 1 mg/kg and are located within the footprint of the planned development, excavation that will extend to a depth of five ft-bgs and up to 32 ft-bgs at the Wolfe Road and former Sears Automotive Center areas, respectively. The project team contacted EPA on two occasions in March 2020 and February 2021 to identify an appropriate remedial approach that is consistent with TSCA. Steve Armann, EPA Region 9's PCB Program Coordinator, indicated the following through an e-mail dated February 10, 2021, responding to an e-mail on behalf of the VPO concerning specific conditions at the Former Vallco Mall site:

> "40 CFR 761.61(b) allows for disposal of PCB Remediation Waste without notification or approval from EPA. However, the remediation waste must be disposed of at a TSCA regulated facility...We recommend that you maintain sampling and disposal records. Otherwise there isn't any requirement to follow 761.61(a)."

Among other things, 40 CFR 761.61(b) requires soil containing PCBs above the TSCA threshold of 1 mg/kg to be disposed of as a TSCA waste at a TSCA landfill. In the interest of being consistent with 40 CFR 761.61(a), confirmation base of excavation will be generally performed with sampling using grids with sample spacing every 1.5 meters (approximately five feet) to verify that soil with PCB concentrations greater than 1 mg/kg and 0.230 mg/kg are removed from the previously characterized areas. Confirmation soil samples will generally be collected at the 1.5 meter spacing for excavation bottoms and serve as confirmation samples for the excavation of PCBs impacted soil above 0.230 mg/kg. Specific concerning sidewall sampling are covered in the sections below. The areas that have been identified to contain PCBs above the ESL/RSL of 0.230 mg/kg but are less than the TSCA threshold limit of 1 mg/kg, will be disposed of according to waste acceptance standards for soils containing PCBs at a licensed landfill.

WOLFE ROAD AREA

Based on the approach noted above, WSP estimates that approximately 7 cubic yards of soil, which may contain concentrations of PCBs that equal or exceed 1 mg/kg, will need to be removed from the Wolfe Road area for disposal to a TSCA landfill pursuant to 40 CFR 761.61(b). This total proposed excavation area will be approximately 60 square feet and will extend to three ft-bgs. The PCB excavation area is depicted in context with the project excavation area on Figure 3.

PCBs were not detected above the laboratory reporting limits (RLs) in sample E5P-N-3; however, the RLs for sample E5P-N-3 were high (RL of 1,300 mg/kg for PCB Aroclor 1221 and RL of 660 mg/kg for each of six other PCB Aroclors). The laboratory indicated that the source of the high RLs for sample E5P-N-3 resulted from a hydrocarbon-rich matrix and was therefore not necessarily the result of high PCBs in soil. PCBs were not detected in the soil sample (E5P-N-5) collected from 5 feet bgs at location E5P-N. However, based upon the uncertainties concerning PCB concentrations in the area of E5P-N-3, the soil excavated from the E5P-N area (within an area of 37.5 square feet and four feet deep;

approximately 5.5 cubic yards excavated soil volume)[1] will be segregated. Confirmation samples will be collected at a depth of four feet bgs, the planned excavation depth at the location of E5P-N-3 (see Figure 2A). The segregated soil will be disposed of with the other TSCA-landfill soil. If PCB concentrations in the confirmation samples are greater than 0.230 mg/kg mg/kg, the area will be over-excavated until the confirmation soil samples are less than 0.230 mg/kg, the residential ESL and the over-excavated soils will also be disposed of with the other TSCA-landfill soil. Similarly, sidewall confirmation samples will be collected at three feet and four feet bgs from the four sidewalls of the excavation surrounding E5P-N,(see Figure 2A) consistent with the approach for other excavation areas, to ensure that soils containing PCBs exceeding 0.230 mg/kg have been removed.

The remaining area with PCBs detected above the ESL/RSL of 0.230 mg/kg at one ft-bgs is approximately 714 square feet. Excavation for removal of the PCB contaminated soils to three ft-bgs of this area would yield approximately 73 cubic yards of soil. An outline of the proposed excavation areas is shown on Figures 2 and 3. As noted, confirmation sampling will utilize a grid of approximately 5 feet (1.5 meters) for base of excavation and sidewall samples on the walls of this completed excavation at one foot bgs and three feet bgs.

FORMER SEARS AUTOMOTIVE CENTER

In the area beneath the former oil-water separator where samples exceeded 1 mg/kg of PCBs, WSP proposes to excavate and remove soils from beneath the separator over an area of a 10 feet by 20 feet rectangle at a depth from 12 feet to 21 feet (Figure 8) and arrange for proper disposal of all PCB impacted soils at a TSCA landfill (approximately 66 cubic yards), consistent with 40 CFR 761.61(b). In the area beneath the three hydraulic lift cylinders where soil samples exceeded the PCB ESL/RSL (but are below 1 mg/kg), WSP proposes to excavate and remove soils from beneath each hydraulic cylinder from nine feet to 12 feet bgs and segregate these excavated soils for disposal according to waste acceptance standards for soils containing PCBs at an appropriately licensed landfill. Confirmation samples collected from the excavation around the hydraulic lifts (HL-4 and HL-6) will also be analyzed for TPH-d by EPA Method 8015 to confirm concentrations are below the ESL. The volume of soils to be excavated and segregated for excavation beneath the three former cylinders is estimated at nine cubic yards. Excavation profiles in the former Sears area are shown on Figure 8.

Select confirmation samples collected in the Sears Area (including beneath sample OWPI-W5-20) will be analyzed for VOCs and TPH-d by methods 8260B and 8015 (fuel scan), respectively in an abundance of caution to address some low-level detections of VOCs.

Bottom of excavation confirmation samples will be collected at a grid spacing of approximately five feet. Confirmation sidewall samples will be collected from sidewalls at 12 feet bgs, 16 feet bgs, 20 feet bgs, and 21 ft bgs along the four walls of the planned boundaries of the separator excavation.

Remediation of the former Sears Automotive Center was planned to be performed with oversight/review from the SCCFD under the approved Closure Plan. In August 2020, the SCCFD transferred this responsibility to the Santa Clara County Department of Environmental Health (SCCDEH). The SCCDEH indicated that it may not assume an active oversight role in the removal activities outlined herein but

[1] The closest sampling points to location E5P-N-3 are 5 feet away in three directions and 10 feet away to the south. Therefore, the segregated soil area will be 2.5 feet from location E5P-N-5 to the west, north, and east and 5 feet to the south, resulting in a 37.5 square foot area. The excavation area surrounding E5P-N is depicted on Figures 2 and 3 by a small rectangle located east of the larger excavation rectangle. Confirmation samples at the base of the excavation will be collected at the mid-point of each of the excavation walls and in the center of the excavation and on the four sidewalls as noted above.

would review the Completion Report for the removal activities (referenced below). A Soil Vapor Investigation Report prepared by WSP dated January 26, 2021 will be shared with the SCCDEH. The oversight issue with the SCCDEH is pending final resolution.

Per Section 4, Reporting Requirements, of the ESMP, a closure implementation report ("Completion Report") documenting the removal activities, soil disposal, and confirmation sample results will be generated with the removal of contaminated soils from the former Sears Automotive center and the Wolfe Road area with a copy provided to the SCCDEH for review, comment, and approval and a copy will be submitted to the City of Cupertino. If additional impacted soils are uncovered during subsequent mass excavation activities, the analysis and subsequent disposal of the impacted soil will also be documented in the ESMP Completion Report.

Sincerely,

Richard E. Freudenberger
Senior Director

408.206.3504

REFERENCES

WSP. 2019. Environmental Site Management Plan, Former Vallco Shopping Mall, 10123 North Wolfe Road, Cupertino, California. August.

WSP. 2019a. Workplan for Former Vallco Mall, Delineation of Extent of PCB Impact to Soil. August 20.

FIGURES

Figure 1 – PCB Investigation Areas
Figure 2 – Wolfe Road PCB Investigation Area
Figure 2A- Confirmation Sample Location- E5P-N-3
Figure 3 – Wolfe Road PCB Excavation Area
Figure 4 – Sears Automotive Center Closure Sample Locations
Figure 5 – Sears Automotive Center PCB Investigation Area
Figure 6 – Hydraulic Lift Step-Out Borings
Figure 7 – Oil-Water Separator Step-Out Borings
Figure 8 – Excavation Profiles

TABLES

Table 1 – Summary of Sears Closure Soil Data
Table 2 – Wolfe Road PCB Data
Table 3 – Sears Center TPH Data
Table 4 – Sears Center PCB Data

FIGURES

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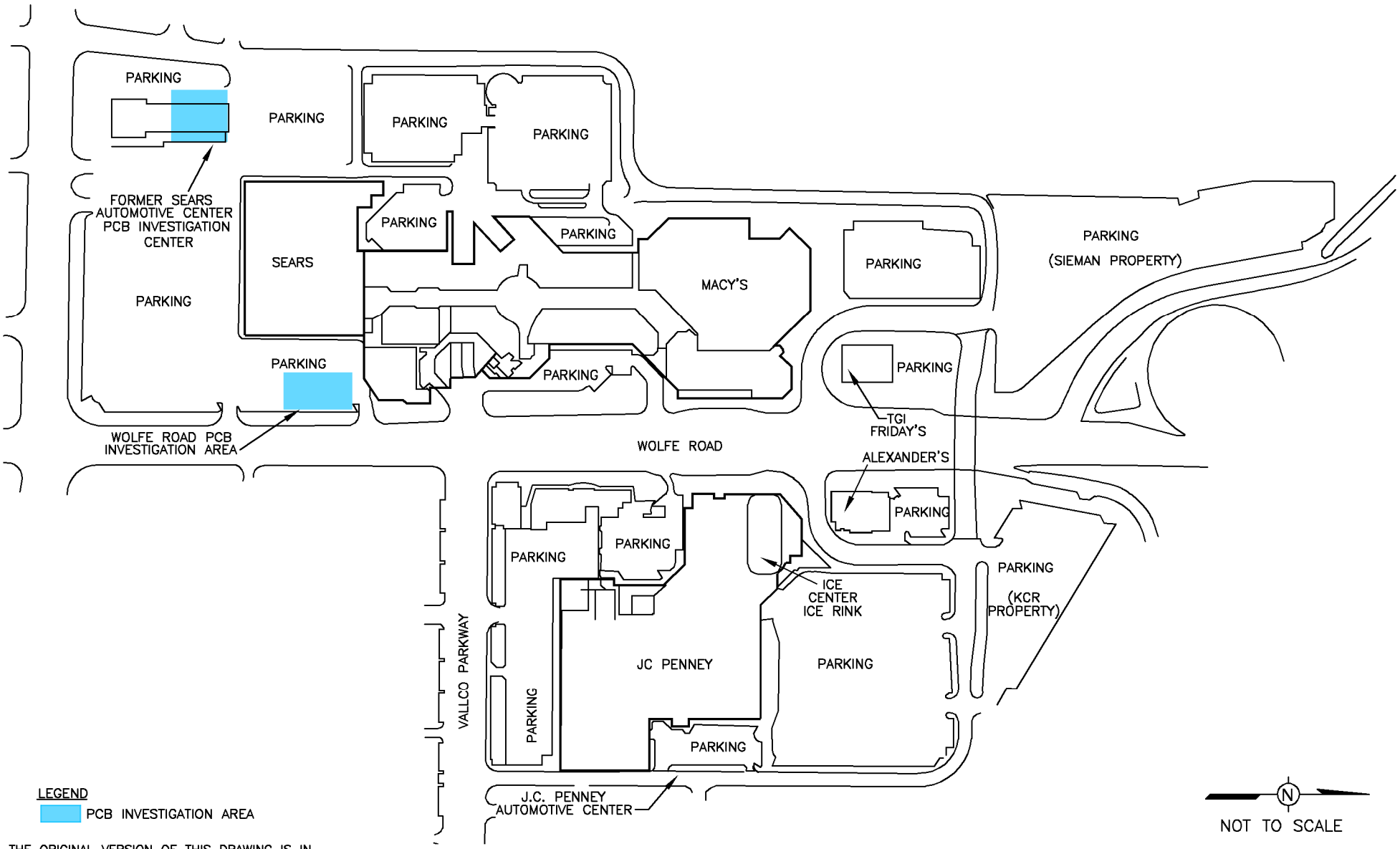

LEGEND

PCB INVESTIGATION AREA

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A

WSP USA Inc.
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SUITE 348
SAN JOSE, CA 95110
TEL: +1 408.453.6100

Figure 1

PCB INVESTIGATION AREAS

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

PREPARED FOR

VALLCO PROPERTY OWNER, LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	6/10/2020
Checked:	ER	6/10/2020
Approved:		
DWG Name: 314MN2265.000-003		

NORTH WOLFE ROAD

GRAPHIC SCALE

0 2 4 6 8 10

1 inch = 10 ft.

LEGEND

— — — —	EXISTING PROPERTY LINE
ESP-WW10-1	SAMPLE ID
232	TOTAL PCB CONCENTRATION (mg/kg) RESIDENTIAL PCB ESL = 0.23 (mg/kg)
●	SAMPLE LOCATION (APPROXIMATE LOCATIONS)
ND	NON-DETECT, COMPOUND WAS NOT DETECTED AT A CONCENTRATION GREATER THAN THE REPORTING LIMIT
J	COMPOUND WAS DETECTED AT A CONCENTRATION LESS THAN THE LABORATORY REPORTING LIMIT, BUT GREATER THAN THE METHOD DETECTION LIMIT
SO-NE1-1	SAMPLE ID'S IN ORANGE FONT INDICATE AN EXCEEDANCE OF THE PCB RESIDENTIAL ESL
ESP-NW10-1	SAMPLE ID'S IN RED FONT INDICATE AN EXCEEDANCE OF THE TOXIC SUBSTANCES CONTROL ACT (TSCA) CLEANUP LEVEL OF 1 mg/kg
●	CONFIRMATION SAMPLES (APPROXIMATE LOCATIONS)

SANDIS

Drawn By: SY 2/3/2021
Checked: ND 2/3/2021
Approved:
DWG Name: PCB EXHIBIT – EX-1

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFONIA

FIGURE 2

WOLFE ROAD PCB INVESTIGATION AREA

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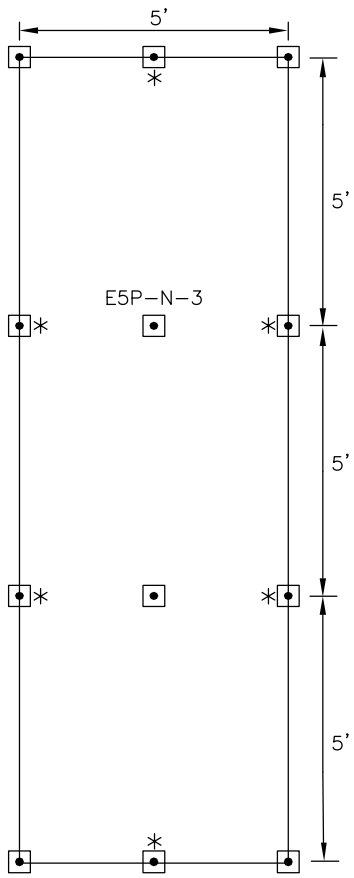
SAN JOSE, CA 95110
TEL: +1 408.453.6100

B

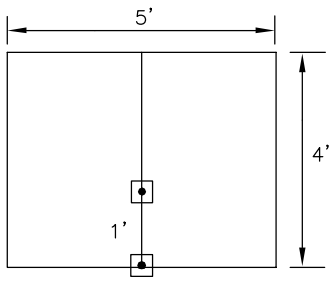
S:\215028\(4) ENGINEERING\(3) EXHIBITS\PCB Exhibits\PCB EXHIBIT - EX-1.dwg 2/3/2021 11:55 AM Lsolis

LEGEND
⊡ CONFIRMATION SAMPLE LOCATION

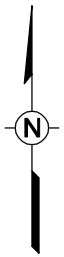
NOTE:
TWELVE (12) SIDEWALL SAMPLES WILL BE COLLECTED, AT TWO DEPTHS (3' AND 4' BGS) AT LOCATIONS WITH * ON SIDEWALL.



E5P-N-3-BASE OF EXCAVATION
WOLFE ROAD AREA



TYPICAL E5P-N-3-
SIDEWALL SAMPLES
FOR EACH SIDEWALL
WOLFE ROAD AREA



NOT TO SCALE

A

WSP USA Inc.
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SUITE 348
SAN JOSE, CA 95110
TEL: +1 408.453.6100

Figure 2A

CONFIRMATION SAMPLE LOCATION – EXCAVATION IN AREA OF E5P-N-3, WOLFE ROAD AREA

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER, LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	2/25/2021
Checked:	REF	2/25/2021
Approved:		
DWG Name:	314MN2265.000-012	

NORTH WOLFE ROAD

VEHICULAR ROAD

EXISTING PROPERTY LINE

PROPOSED LANDSCAPE AREA

PROPOSED CURB

AREA OF PROJECT EXCAVATION OF APPROXIMATLY 5'

BIKE LANE

PROPOSED CURB

VEHICULAR ROAD

PROPOSED CURB

PROPOSED PROPERTY LINE

SHORING LIMIT

PROPOSED DRIVEWAY

REMEDIAL EXCAVATION TO 3' BELOW EXISTING GRADE

SANDIS

GRAPHIC SCALE

0 2 4 6 8 10

1 inch = 10 ft.

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROJECT EXCAVATION
- PROJECT EXCAVATION (~5' DEPTH)
- PROJECT EXCAVATION (~20' DEPTH)

B

Drawn By: SY 2/3/2021

Checked: ND 2/3/2021

Approved:

DWG Name:PCB EXHIBIT – EX-2

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFONIA

FIGURE 3

WOLFE ROAD PCB EXCAVATION AREA

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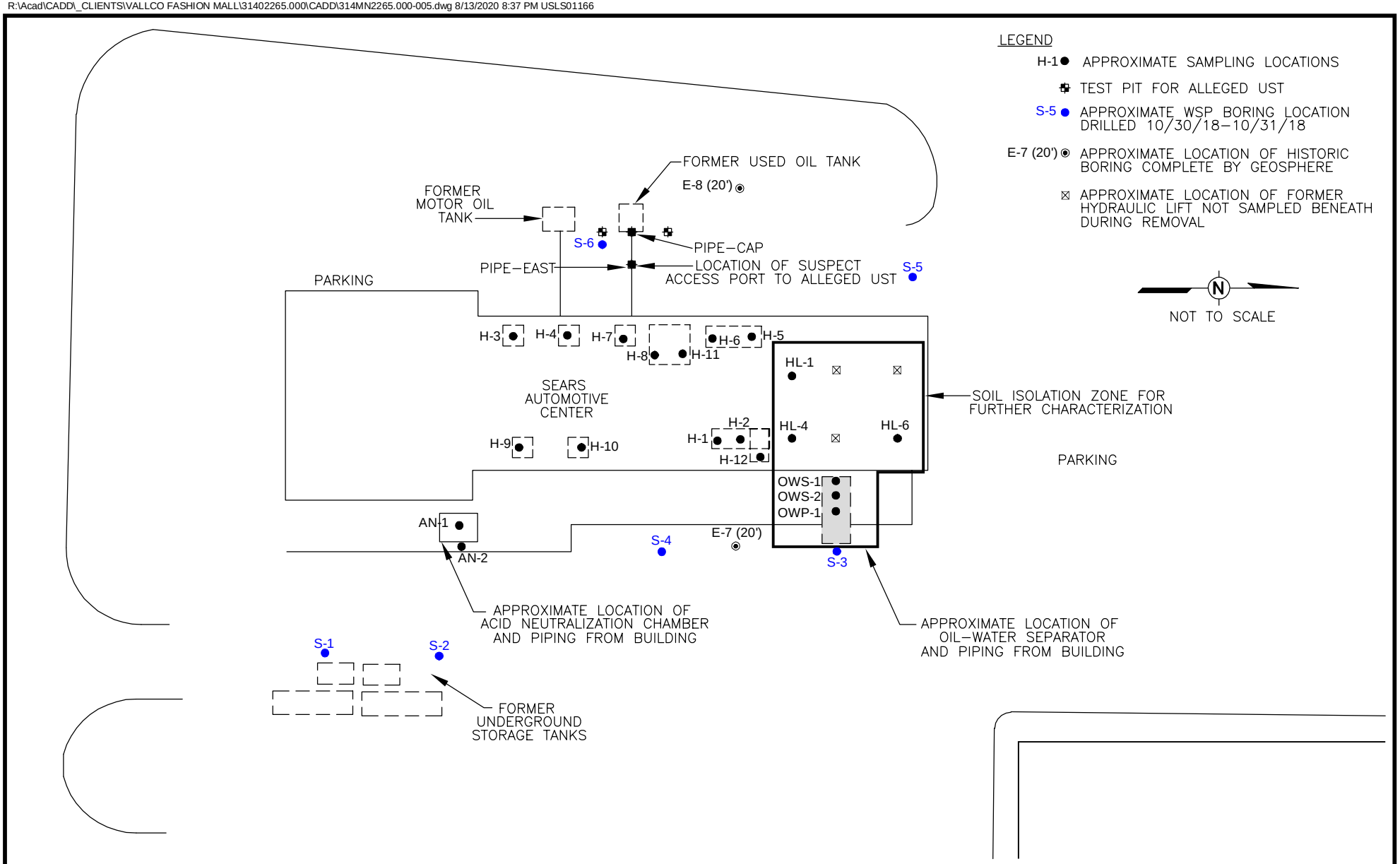

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DRAFT

A

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Figure 4

SAMPLING LOCATIONS – SEARS AUTOMOTIVE CENTER

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10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	6/10/2020
Checked:	ER	6/10/2020
Approved:		
DWG Name:	314MN2265.000–005	

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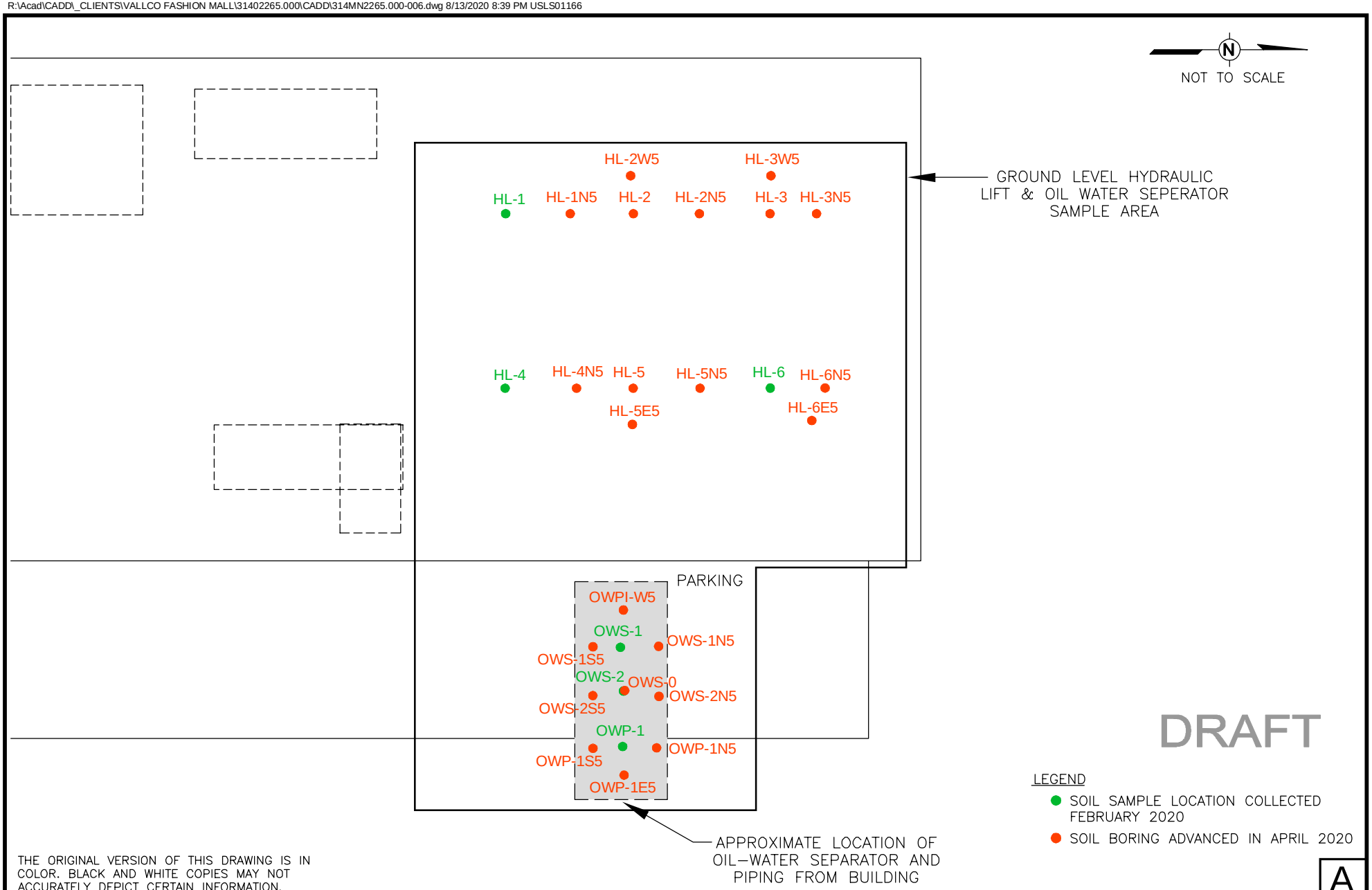

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A

WSP USA Inc.
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SUITE 348
SAN JOSE, CA 95110
TEL: +1 408.453.6100

Figure 5

PCB INVESTIGATION AREA – SEARS AUTOMOTIVE CENTER

VALLCO FASHION MALL
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CUPERTINO, CALIFORNIA
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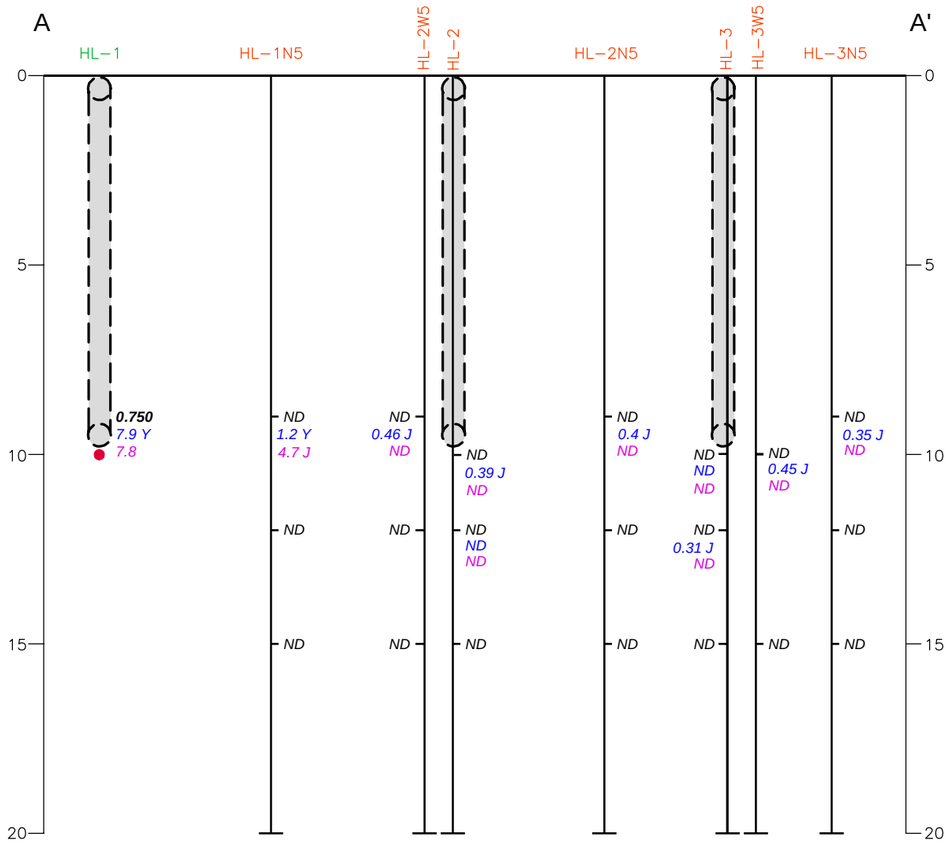
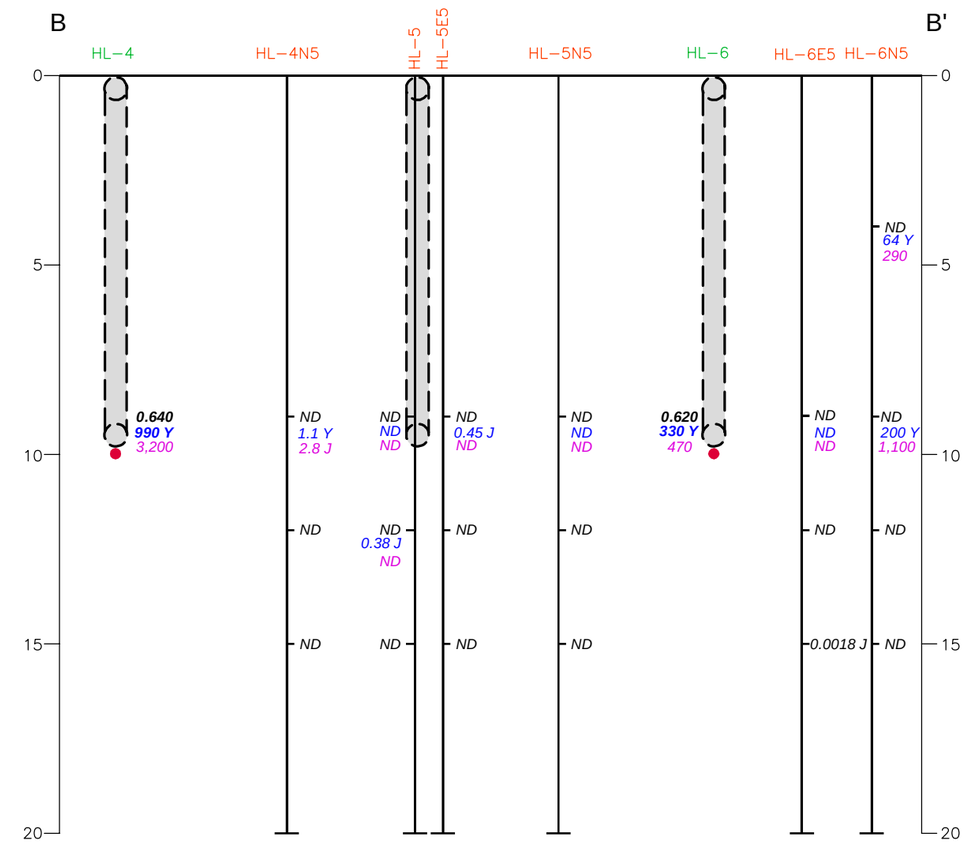
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFORNIA

Drawn By: LS	6/10/2020
Checked: ER	6/10/2020
Approved:	
DWG Name: 314MN2265.000–006	





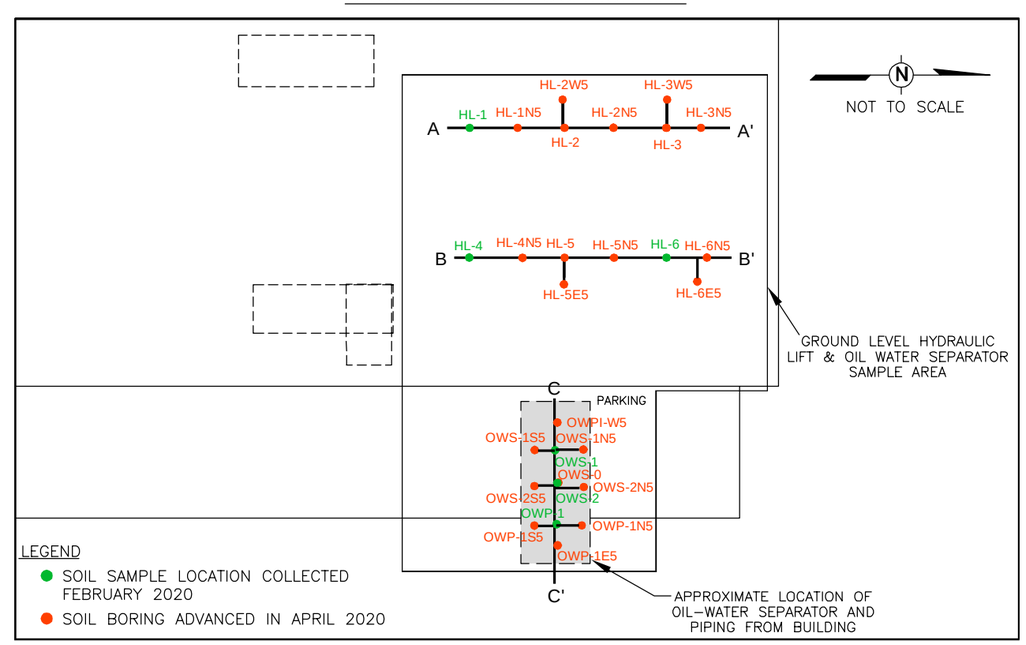
LEGEND

- VERTICAL BORING
- GRAB SAMPLE
- *ND* — NOT DETECTED
- HL–1 — SOIL SAMPLE LOCATION COLLECTED IN FEBRUARY 2020 FROM THE BUCKET OF AN EXCAVATOR
- HL–IN5 — SOIL BORING ADVANCED IN APRIL 2020 WITH GEOPROBE RIG EQUIPPED WITH CONTINUOUS SOIL SAMPLERS
- ALL RESULTS ARE IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg)
- *0.750* — POLYCHLORINATED BIPHENYLS (PCB), SUM
- *7.9* — TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL
- *7.8* — TPH AS MOTOR OIL
- *0.0018 J* — ESTIMATED CONCENTRATION DETECTED BELOW LABORATORY REPORTING LIMIT BUT ABOVE THE METHOD DETECTION LIMIT
- *7.9 Y* — SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN WHICH DOES NOT RESEMBLE STANDARD
- ***BOLD*** VALUES INDICATE AN EXCEEDANCE OF THE RESPECTIVE RESIDENTIAL ENVIRONMENTAL SCREENING LEVEL (ESL)
- APPROXIMATE PROFILE OF HYDRAULIC LIFT CYLINDERS (ALREADY REMOVED)

VERTICAL SCALE (IN FEET): 4

HORIZONTAL SCALE (IN FEET): 10

CROSS SECTION LOCATION MAP



Drawn By: LS 8/6/2020
Checked: ER 8/6/2020
Approved:
DWG Name: 314MN2265.000-001

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFORNIA

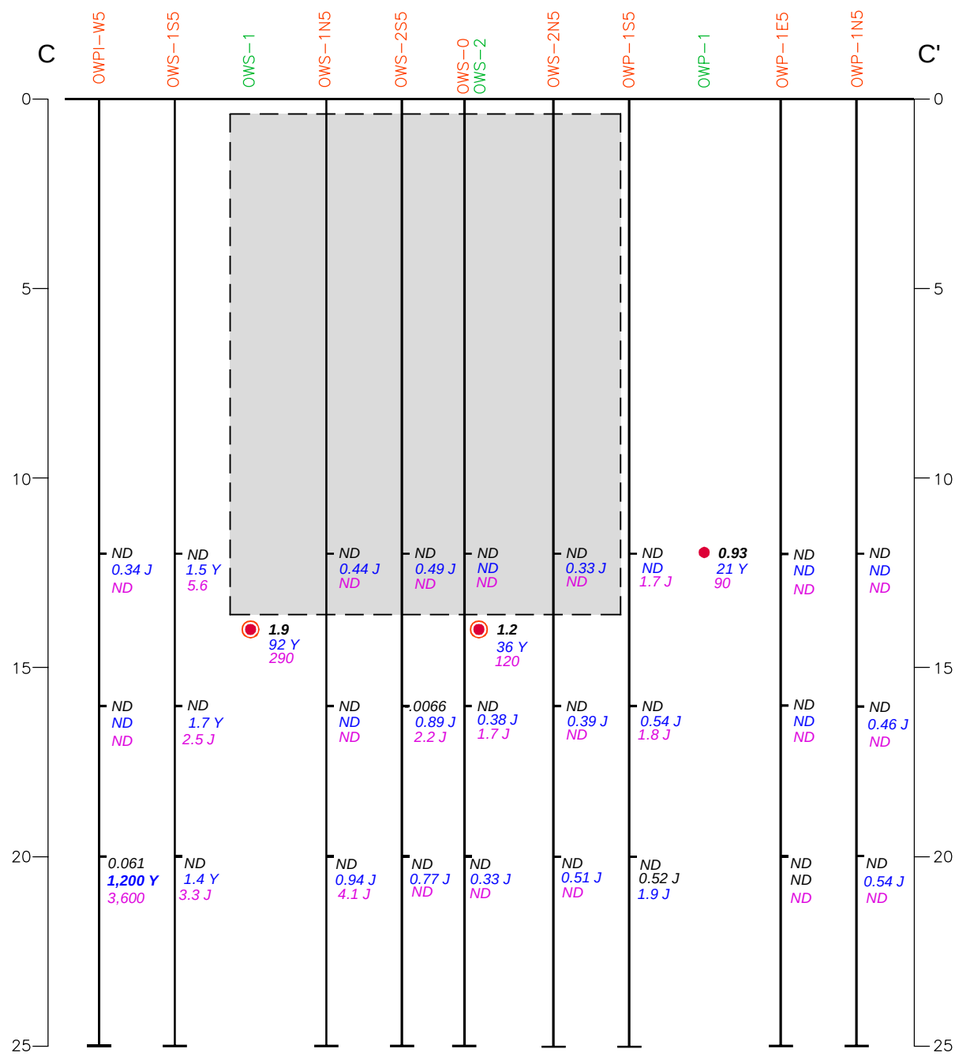
Figure 6

CROSS SECTIONS A–A' AND B–B'
SEARS AUTOMOTIVE CENTER

WSP USA Inc.
2025 GATEWAY PLACE
SUITE 348
SAN JOSE, CA 95110
TEL: +1 408.453.6100

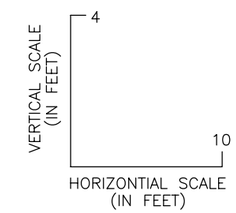
B

R:\Acad\CADD_CLIENTS\VALLCO FASHION MALL\31402265.000\CADD\314MN2265.000-001.dwg 8/13/2020 8:41 PM USLS01166

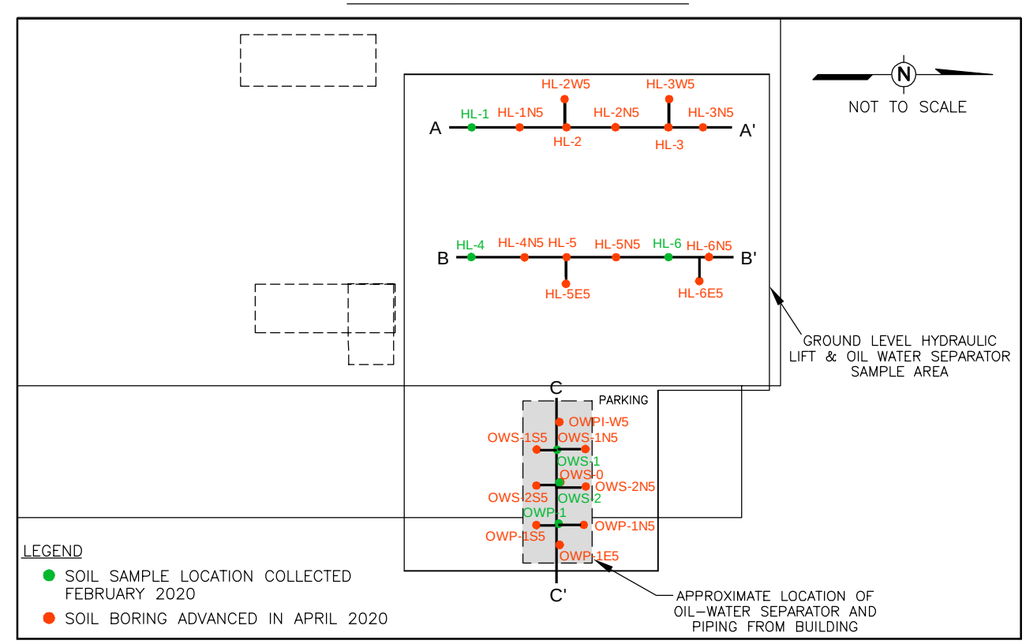


LEGEND

	VERTICAL BORING
●	GRAB SOIL SAMPLE
ND	NOT DETECTED
OWS–1	SOIL SAMPLE LOCATION COLLECTED IN FEBRUARY 2020 FROM THE BUCKET OF AN EXCAVATOR
OWS–1N5	SOIL BORING ADVANCED IN APRIL 2020 WITH GEOPROBE RIG EQUIPPED WITH CONTINUOUS SOIL SAMPLERS
	ALL RESULTS ARE IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg)
0.750	POLYCHLORINATED BIPHENYLS (PCB), SUM
7.9	TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL
7.8	AS MOTOR OIL
0.0018 J	ESTIMATED CONCENTRATION DETECTED BELOW LABORATORY REPORTING LIMIT BUT ABOVE THE METHOD DETECTION LIMIT
7.9 Y	SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN WHICH DOES NOT RESEMBLE STANDARD
	BOLD VALUES INDICATE AN EXCEEDANCE OF THE RESPECTIVE RESIDENTIAL ENVIRONMENTAL SCREENING LEVEL (ESL)
◉	SOIL SAMPLE PCB CONCENTRATION IS ABOVE THE TSCA CLEANUP LEVEL 1 mg/kg
	APPROXIMATE PROFILE OF OIL–WATER SEPARATOR (ALREADY REMOVED)



CROSS SECTION LOCATION MAP



Drawn By: LS 8/6/2020
Checked: ER 8/6/2020
Approved:
DWG Name: 314MN2265.000-002

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFONIA

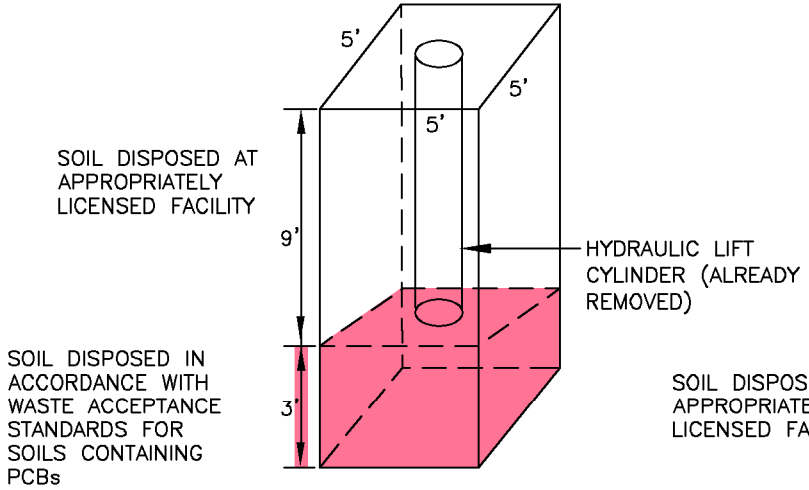
Figure 7

CROSS SECTIONS C–C'
SEARS AUTOMOTIVE CENTER

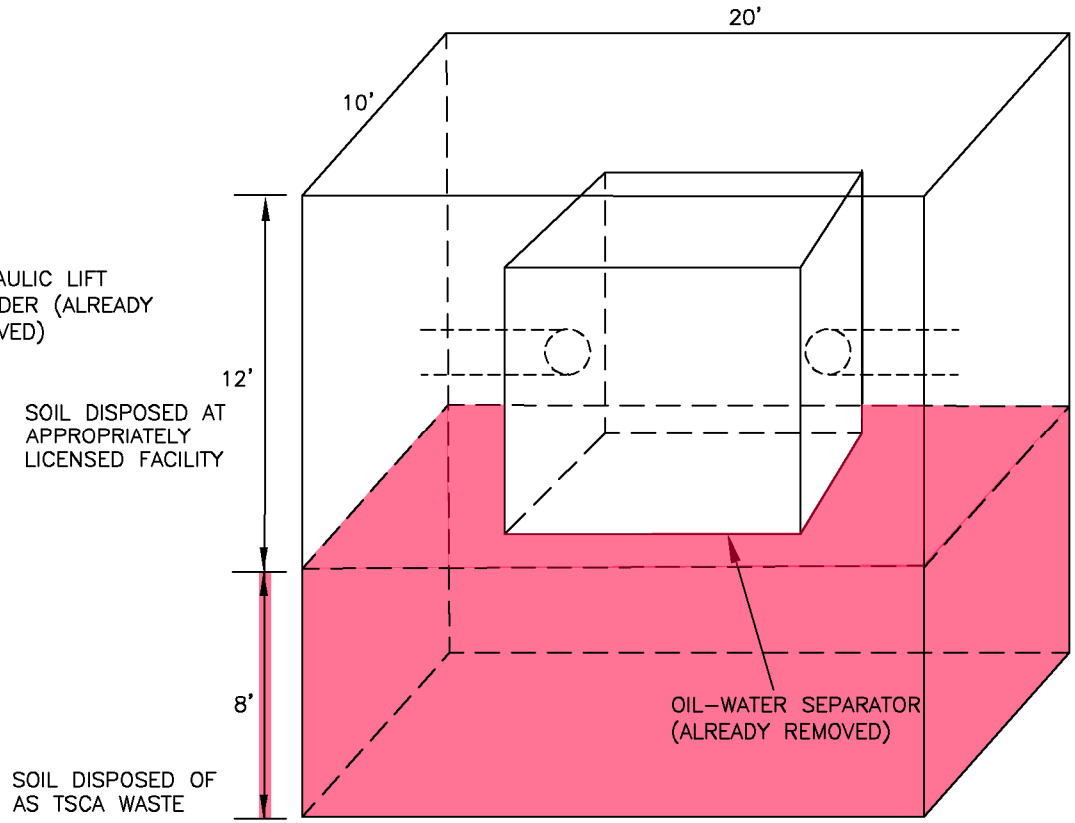
WSP USA Inc.
2025 GATEWAY PLACE
SUITE 348
SAN JOSE, CA 95110
TEL: +1 408.453.6100

B

Z:\Acad\CADD_CLIENTS\VALLCO FASHION MALL\31402265.000\CADD\314MN2265.000-002.dwg 8/13/2020 8:42 PM USLS01166

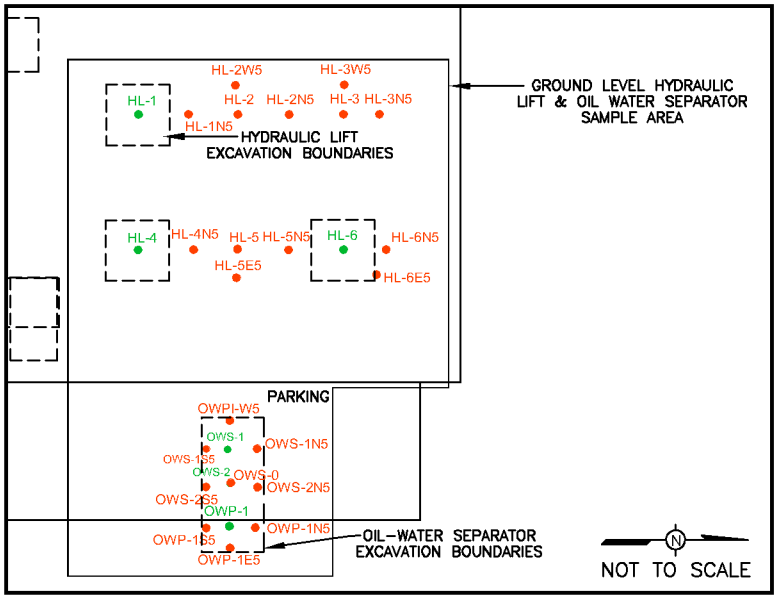


TYPICAL EXCAVATION PROFILES FOR HYDRAULIC LIFTS (HL–1, HL–4, HL–6)



OIL–WATER SEPARATOR EXCAVATION PROFILE

INSET MAP



NOT TO SCALE

A

WSP USA Inc.
2025 GATEWAY PLACE
SUITE 348
SAN JOSE, CA 95110
TEL: +1 408.453.6100

Figure 8

FORMER SEARS AUTOMOTIVE CENTER EXCAVATION PROFILES

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER, LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	8/6/2020
Checked:	ER	8/6/2020
Approved:		
DWG Name:	314MN2265.000–007	

TABLES

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Sample ID [1][2] / Sample Date		ESLs Residential	RSLs Residential	H-1 1/22/20		H-2 1/22/20		H-3 1/22/20		H-4 1/22/20		H-5 1/22/20		H-6 1/22/20		H-7 1/22/20	
Purgeable Aromatics & Total Petroleum Hydrocarbons																	
TPH-g	(mg/kg)	430	--	1	U	1	U	0.98	U	1	U	0.93	U	1	U	1	U
TPH-d	(mg/kg)	260	--	0.92	J	0.70	J	1.1	J	**27**	**Y**	2	U	**3.5**	**Y**	**4.4**	**Y**
TPH-mo	(mg/kg)	12,000	--	10	U	9.9	U	6.2	J	**86**		9.9	U	**15**		**19**	
Oil & Grease	(mg/kg)	--	--	500	U	500	U	500	U	500	U	500	U	500	U	500	U
SVOCs & PAHs [3]																	
bis(2-Ethylhexyl)phthalate	(µg/kg)	3.9E+04	3.9E+04	340	U	340	U	20	J	27	J	340	U	340	U	17	J
VOCs [3]																	
Acetone	(µg/kg)	6.1E+07	--	17	U	20	U	16	U	4.9	J	17	U	3.6	J	16	U
1,1-Dichloroethane	(µg/kg)	3.6E+03	3.6E+03	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
2-Butanone	(µg/kg)	--		8.3	U	10	U	8.2	U	8	U	8.3	U	9.2	U	8.1	U
1,1,1-Trichloroethane	(µg/kg)	1.7E+06	1.7E+06	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
4-Methyl-2-Pentanone	(µg/kg)	--	--	8.3	U	10	U	8.2	U	8	U	8.3	U	0.7	J	8.1	U
Toluene	(µg/kg)	1.1E+06	1.1E+06	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
Tetrachloroethene	(µg/kg)	5.9E+02	5.9E+02	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
Naphthalene	(µg/kg)	3.8E+03	2.0E+03	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
Metals																	
Cadmium	(mg/kg)	78	71	0.24	J	0.25	J	**0.34**		**0.37**		**0.35**		**0.33**		**0.30**	
Chromium	(mg/kg)	--	--	**55**		**47**		**52**		**55**		**51**		**54**		**57**	
Lead	(mg/kg)	80	80	**6.2**		**5.0**		**8.6**		**9.3**		**10**		**7.8**		**9.1**	
Nickel	(mg/kg)	820	820	**57**		**49**		**62**		**66**		**76**		**65**		**65**	
Zinc	(mg/kg)	23,000	23,000	**46**		**40**		**61**		**63**		**62**		**55**		**59**	
PCBs [2]																	
Aroclor-1254	(mg/kg)	0.230	0.240	0.012	U	0.012	U	**0.058**		**0.061**		0.012	U	0.012	U	**0.021**	

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Sample ID [1][2] / Sample Date		ESLs Residential	RSLs Residential	H-8 1/22/20		H-9 1/22/20		H-10 1/22/20		H-11 1/22/20		H-P-12 1/22/20		AN-1 1/22/20		AN-2 1/22/20	
Purgeable Aromatics & Total Petroleum Hydrocarbons																	
TPH-g	(mg/kg)	430	--	1.1	U	1.1	U	1.1	U	1.1	U	1	U	0.96	U	0.96	U
TPH-d	(mg/kg)	260	--	2	U	**9.2**	**Y**	**7.9**	**Y**	**2.2**	**Y**	**3.2**	**Y**	**2.8**	**Y**	**3.2**	**Y**
TPH-mo	(mg/kg)	12,000	--	10	U	**49**		**39**		10	U	6.0	J	3.1	J	3.9	J
Oil & Grease	(mg/kg)	--	--	500	U	500	U	500	U	500	U	500	U	500	U	500	U
SVOCs & PAHs [3]																	
bis(2-Ethylhexyl)phthalate	(µg/kg)	3.9E+04	3.9E+04	330	U	**5,900**		96	J	330	U	340	U	330	U	330	U
VOCs [3]																	
Acetone	(µg/kg)	6.1E+07	--	18	U	16	U	3.7	J	16	U	17	U	19	U	19	U
1,1-Dichloroethane	(µg/kg)	3.6E+03	3.6E+03	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
2-Butanone	(µg/kg)	--		8.8	U	8	U	8	U	8.2	U	8.4	U	9.6	U	9.6	U
1,1,1-Trichloroethane	(µg/kg)	1.7E+06	1.7E+06	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
4-Methyl-2-Pentanone	(µg/kg)	--	--	8.8	U	8	U	8	U	8.2	U	8.4	U	9.6	U	9.6	U
Toluene	(µg/kg)	1.1E+06	1.1E+06	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
Tetrachloroethene	(µg/kg)	5.9E+02	5.9E+02	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
Naphthalene	(µg/kg)	3.8E+03	2.0E+03	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
Metals																	
Cadmium	(mg/kg)	78	71	**0.29**		**0.39**		**0.30**		**0.31**		**0.34**		**0.32**		**1.8**	
Chromium	(mg/kg)	--	--	**52**		**59**		**55**		**56**		**54**		**78**		**97**	
Lead	(mg/kg)	80	80	**7.7**		**10**		**8.3**		**7.2**		**9.4**		**7.5**		**7.6**	
Nickel	(mg/kg)	820	820	**71**		**76**		**65**		**70**		**70**		**88**		**86**	
Zinc	(mg/kg)	23,000	23,000	**55**		**73**		**58**		**53**		**69**		**57**		**69**	
PCBs [2]																	
Aroclor-1254	(mg/kg)	0.230	0.240	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Sample ID [1][2] / Sample Date		ESLs Residential	RSLs Residential	OWS-1 2/7/20		OWS-2 2/7/20		OWP-1 2/7/20		HL-1 2/7/20		HL-4 2/7/20		HL-6 2/7/20	
Purgeable Aromatics & Total Petroleum Hydrocarbons															
TPH-g	(mg/kg)	430	--	0.16	JY	0.98	U	1	U	0.93	U	0.3	JY	1	U
TPH-d	(mg/kg)	260	--	**92**	**Y**	**36**	**Y**	**21**	**Y**	**7.9**	**Y**	**990**	**Y**	**330**	**Y**
TPH-mo	(mg/kg)	12,000	--	**290**		**120**		**90**		**7.8**		**3,200**		**470**	
Oil & Grease	(mg/kg)	--	--	500	U	500	U	500	U	500	U	**2,000**		500	U
SVOCs & PAHs [3]															
bis(2-Ethylhexyl)phthalate	(µg/kg)	3.9E+04	3.9E+04	30	J	330	U	330	U	340	U	**3,400**		74	J
VOCs [3]															
Acetone	(µg/kg)	6.1E+07	--	17	U	17	U	19	U	3.2	J	1,000	U	**26**	
1,1-Dichloroethane	(µg/kg)	3.6E+03	3.6E+03	4.3	U	4.4	U	4.7	U	3.9	U	**48**		3.6	U
2-Butanone	(µg/kg)	--		8.6	U	8.7	U	9.5	U	1.8	J	**16**		6.1	J
1,1,1-Trichloroethane	(µg/kg)	1.7E+06	1.7E+06	4.3	U	4.4	U	4.7	U	3.9	U	**11**		3.6	U
4-Methyl-2-Pentanone	(µg/kg)	--	--	8.6	U	8.7	U	9.5	U	7.8	U	**12**		7.2	U
Toluene	(µg/kg)	1.1E+06	1.1E+06	4.3	U	4.4	U	4.7	U	3.9	U	**8.1**		3.6	U
Tetrachloroethene	(µg/kg)	5.9E+02	5.9E+02	4.3	U	4.4	U	4.7	U	3.9	U	**41**		3.6	U
Naphthalene	(µg/kg)	3.8E+03	2.0E+03	4.3	U	4.4	U	4.7	U	3.9	U	**4.4**		3.6	U
Metals															
Cadmium	(mg/kg)	78	71	**0.32**		**0.3**		**0.41**		**0.46**		**0.32**		**0.27**	
Chromium	(mg/kg)	--	--	**80**		**57**		**84**		**93**		**86**		**89**	
Lead	(mg/kg)	80	80	**7.9**		**8.2**		**8.7**		**7.8**		**7.7**		**6.9**	
Nickel	(mg/kg)	820	820	**80**		**63**		**67**		**96**		**86**		**86**	
Zinc	(mg/kg)	23,000	23,000	**62**		**58**		**55**		**59**		**59**		**55**	
PCBs [2]															
Aroclor-1254	(mg/kg)	0.230	0.240	**1.9**		**1.2**		**0.93**		**0.75**		**0.64**		**0.62**	

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Notes:

mg/kg = milligram per kilogram
µg/kg = microgram per kilogram
U = not detected above the method detection limit; reporting limit shown
J = concentration detected between the method detection limit and the reporting limit and is considered an estimate
Y = sample exhibits chromatographic pattern which does not resemble standard
-- = not available
SVOCs = Semi-volatile organic compounds
PAHs = Polycyclic aromatic hydrocarbons
VOCs = Volatile organic compounds
PCBs = Polychlorinated biphenyl
ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019 (revision 2). Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.
RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

[1] = Bold values indicate a detection above the reporting limit. Shaded values indicate an exceedance of the screening levels.
[2] = Samples H-1 through H-11, including sample H-P-12 were collect beneath hydraulic lifts that extended in to the basement level on January 22, 2020. Samples AN-1 and AN-2 were collected beneath/ around the former acid neutralization chamber on January 22, 2020. Samples OW-1, OW-3, and OWP-1 were collect beneath/ around the former oil-water seperator on February 7, 2020. Samples HG-1 through HG-3 were collected beneath hydraulic lifts at ground level, in the northern portion of the building on February 7, 2020
[3] = Only analytes detected over the reporting limit in at least one sample are shown.

Table 2

Wolfe Rd PCB Summay Table
Former Vallco Mall
10123 North Wolfe Rd. Sunnyvale, CA

Sample ID [1][2]	Collection Date	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [4] (mg/kg)	
E5-1 [3]	9/6/2016	0.034	U	0.043	U	0.042	U	0.034	U	0.034	U	**0.523**		0.034	U	**0.523**	
E5-2 [3]	9/6/2016	0.0066	U	0.0084	U	0.0083	U	0.0066	U	0.0066	U	0.0079	U	0.0066	U	ND	
E5-3 [3]	9/6/2016	0.0066	U	0.0084	U	0.0083	U	0.0066	U	0.0066	U	0.0079	U	0.0066	U	ND	
E5P-1	10/4/2019	0.032	U	0.065	U	0.032	U	0.032	U	0.032	U	**0.75**		**0.13**		**0.88**	
E5P-3	10/4/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-N-1	10/4/2019	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	**0.83**		**0.11**		**0.94**	
E5P-N-3	10/4/2019	660	U	1,300	U	660	U	660	U	660	U	660	U	660	U	ND	
E5P-N-5 [5]	10/4/2019	0.034	U	0.067	U	0.034	U	0.034	U	0.034	U	0.034	U	0.034	U	ND	
E5P-S-1	10/4/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.043**		0.0078	J	**0.0508**	
E5P-S-3	10/4/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-E-1	10/4/2019	0.034	U	0.068	U	0.034	U	0.034	U	0.034	U	**0.15**		0.027	J	**0.177**	
E5P-E-3	10/4/2019	0.02	U	0.04	U	0.02	U	0.02	U	0.02	U	0.02	U	0.015	J	0.015	J
E5P-W-1	10/4/2019	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	**0.92**		**0.14**		**1.06**	
E5P-W-3	10/4/2019	0.02	U	0.041	U	0.02	U	0.02	U	0.02	U	0.02	U	**0.023**		**0.023**	
E5P-W-5 [5]	10/4/2019	0.033	U	0.065	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	ND	
E5P-NN5-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.24**		**0.044**		**0.284**	
E5P-NN5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-NN10-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.38**		**0.06**		**0.44**	
E5P-NN10-3	10/31/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-NE5-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.19**		**0.042**		**0.232**	
E5P-NE5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.008	J	0.008	J
E5P-NE10-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.15**		**0.037**		**0.187**	
E5P-NE10-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.010	J	10	J
E5P-NW5-1	10/30/2019	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	**0.75**		**0.091**		**0.841**	
E5P-NW5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-NW10-1	10/30/2019	0.013	U	0.026	U	0.013	U	0.013	U	0.013	U	**0.95**		**0.096**		**1.046**	
E5P-NW10-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WW5-1	10/30/2019	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	**0.67**		**0.082**		**0.752**	
E5P-WW5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WW10-1	10/30/2019	0.013	U	0.027	U	0.013	U	0.013	U	0.013	U	**0.18**		**0.028**		**0.208**	
E5P-WW10-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WS5-1	10/30/2019	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	**0.57**		**0.061**		**0.631**	
E5P-WS5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WS10-1	10/31/2019	0.013	U	0.026	U	0.013	U	0.013	U	0.013	U	**0.48**	B	**0.079**		**0.559**	
E5P-WS10-3	10/31/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	

Table 2

Wolfe Rd PCB Summay Table
Former Vallco Mall
10123 North Wolfe Rd. Sunnyvale, CA

Sample ID [1][2]	Collection Date	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [4] (mg/kg)	
SO-E1-1	2/14/2020	0.0066	U	0.013	U	0.0066	U	0.0066	U	0.0066	U	**0.025**		0.0066	U	**0.025**	
SO-E1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-E2-1	2/14/2020	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	**0.12**		0.033	U	**0.12**	
SO-E2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	
SO-N1-1	2/14/2020	0.034	U	0.067	U	0.034	U	0.034	U	0.034	U	**0.28**		0.034	U	**0.28**	
SO-N1-3	2/14/2020	0.0048	U	0.0097	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-N2-1	2/14/2020	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	0.014	J	0.033	U	0.014	J
SO-N2-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NE1-1	2/14/2020	0.01	U	0.02	U	0.01	U	0.01	U	0.01	U	**0.26**		0.01	U	**0.26**	
SO-NE1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NE2-1	2/14/2020	0.01	U	0.02	U	0.01	U	0.01	U	0.01	U	0.0089	J	0.01	U	0.0089	J
SO-NE2-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NW1-1	2/14/2020	0.01	U	0.02	U	0.01	U	0.01	U	0.01	U	**0.16**		0.01	U	**0.16**	
SO-NW1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NW2-1	2/14/2020	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	ND	
SO-NW2-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NW3-1	2/14/2020	0.0066	U	0.013	U	0.0066	U	0.0066	U	0.0066	U	**0.012**		0.0066	U	**0.012**	
SO-NW3-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	**0.038**		0.0067	U	**0.038**	
SO-S1-1	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	**0.022**		0.017	U	**0.022**	
SO-S1-3	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	ND	
SO-S2-1	2/14/2020	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	ND	
SO-S2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	
SO-SW1-1	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.015**		0.0048	U	**0.015**	
SO-SW1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-SW2-1	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	**0.27**		0.017	U	**0.27**	
SO-SW2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	

Table 2

Wolfe Rd PCB Summay Table
Former Vallco Mall
10123 North Wolfe Rd. Sunnyvale, CA

Sample ID [1][2]	Collection Date	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [4] (mg/kg)	
SO-SW3-1	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	ND	
SO-SW3-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-SW4-1	2/14/2020	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	ND	
SO-SW4-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-W1-1	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	**0.21**		0.0067	U	**0.21**	
SO-W1-3	2/14/2020	0.0066	U	0.013	U	0.0066	U	0.0066	U	0.0066	U	0.0066	U	0.0066	U	ND	
SO-W2-1	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	**0.0071**		0.0067	U	**0.0071**	
SO-W2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	
SO-W3-1	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.0059**		0.0048	U	**0.0059**	
SO-W3-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-W4-1	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0065	J	0.0067	U	0.0065	J
SO-W4-3	2/14/2020	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
ESLs Residential (mg/kg)		--		--		--		--		--		--		--		0.230	
RSLs Residential (mg/kg)		4		0.200		0.170		0.230		0.230		0.240		0.240		0.230	

Notes:

mg/kg = millograms per kilogram

ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019. Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.

RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

U = compound was not detected at a concentration greater than the reporting limit shown

J = compound was detected at a concentration less than the laboratory reporting limit, but greater than the method detection limit

B = analyte detected in the associated method blank and in the sample

-- = not applicable or not available

[1] Bold results indicate the concentration is greater than the reporting limit; results in red font indicate exceedance of screening levels. Gray gradient indicates increased depth within soil boring

[2] For samples with E5P identifier, sample nomenclature is as follows: "sample location - direction from original boring - sample depth". For samples with SO identifier, sample nomenclature is as follows: "sample type (SO=step-out boring) - relative direction-sample depth". All samples were collected by WSP excluding those qualified by note 3.

[3] Samples collected by Geosphere consultants, inc. on September 6, 2016. Sample E5-1 was collected at a depth of 1 foot below ground surface (ft-bgs), sample E5-2 was collected at 5 ft-bgs, and sample E5-3 was collected at 10 ft-bgs.

[4] The PCB-sum is the sum of any detected aroclor listed above method dection limit.

[5] Sample analyzed out-side of hold time; however, the laboratory has advised the data should be respresentative as the new analytical method update has extended the hold time to 1 year but California has not yet adopted the hold time.

Table 3

Sears Center Investigation Area - TPH Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	TPH-d (mg/kg)		TPH-mo (mg/kg)	
HL-1	**7.9**	**Y**	**7.8**	
HL-1N5-9	**1.2**	**Y**	4.7	J
HL-2-10	0.39	J	5	U
HL-2-12	1	U	5	U
HL-2N5-9	0.4	J	5	U
HL-2W5-9	0.46	J	5	U
HL-3-10	1	U	5	U
HL-3-12	0.31	J	5	U
HL-3N5-9	0.35	J	5	U
HL-3W5-10	0.45	J	5	U
HL-4	**990**	**Y**	**3200**	
HL-4N5-9	**1.1**	**Y**	2.8	J
HL-5-9	1	U	5	U
HL-5-12	0.38	J	5	U
HL-5N5-9	1	U	5	U
HL-5E5-9	0.45	J	5	U
HL-6	**330**	**Y**	**470**	
HL-6N5-4	**64**	**Y**	**290**	
HL-6N5-9	**200**	**Y**	**1100**	
HL-6E5-9	1	U	5	U
OWS-1	**92**	**Y**	**290**	
OWS-O-12	0.99	U	5	U
OWS-O-16	0.38	J	1.7	J
OWS-O-20	0.33	J	5	U
OWS-1N5-12	0.44	J	5	U
OWS-1N5-16	1	U	5	U
OWS-1N5-20	0.94	J	4.1	J
OWS-1S5-12	**1.5**	**Y**	**5.6**	
OWS-1S5-16	**1.7**	**Y**	2.5	J
OWS-1S5-20	**1.4**	**Y**	3.3	J
OWS-2	**36**	**Y**	**120**	
OWS-2N5-12	0.33	J	5	U
OWS-2N5-16	0.39	J	5	U
OWS-2N5-20	0.51	J	5	U
OWS-2S5-12	0.49	J	5	U
OWS-2S5-16	0.89	J	2.2	J
OWS-2S5-20	0.77	J	5	U

Table 3

Sears Center Investigation Area - TPH Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	TPH-d (mg/kg)		TPH-mo (mg/kg)	
OWP-1	**21**	**Y**	**90**	
OWP-1N5-12	1	U	5	U
OWP-1N5-16	0.46	J	5	U
OWP-1N5-20	0.54	J	5	U
OWP-1S5-12	1	U	1.7	J
OWP-1S5-16	0.54	J	1.8	J
OWP-1S5-20	0.52	J	1.9	J
OWP-1E5-12	1	U	5	U
OWP-1E5-16	0.99	U	5	U
OWP-1E5-20	1	U	5	U
OWPI-W5-12	0.34	J	5	U
OWPI-W5-16	1	U	5	U
OWPI-W5-20	**1200**	**Y**	**3600**	
Residential ESL	260		12,000	
Residential RSL	**--**		**--**	

Notes:

mg/kg = milligram per kilogram

J = concentration detected between the method detection limit and the reporting limit and is considered an estimate

Y = sample exhibits chromatographic pattern which does not resemble standard

-- = not available

TPH = total petroleum hydrocarbons (TPH) as diesel (TPH-d) and as motor oil (TPH-mo)

ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019 (revision 2). Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.

RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

[1] = Bold values indicate a detection above the reporting limit. Shaded values indicate an exceedance of the screening levels.

[2] = Sample nomenclature is sample area (HL = hydraulic lift; OWS = oil-water seperator; OWP = oil-water seperator pipe)- relative direction - sample depth (in feet below ground surface). Bold sample ID's were collected in Feburary 2020. All other samples were collected in April 2020 in an effort to delineate TPH-d,mo concentrations in soil in the area.

Table 4

Sears Center Investigation Area - PCB Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [3] (mg/kg)
HL-1	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**0.75**		0.067	U	**0.75**
HL-1N5-9	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-1N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-1N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2-10	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-2-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2-15	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-2N5-9	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2N5-15	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2W5-9	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-2W5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2W5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3-10	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3-12	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-3-15	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3N5-9	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3W5-10	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3W5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-4	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**0.64**		0.067	U	**0.64**
HL-4N5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-4N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-4N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5-12	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5N5-9	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND

Table 4

Sears Center Investigation Area - PCB Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [3] (mg/kg)	
HL-5E5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-5E5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-5E5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6	0.066	U	0.13	U	0.066	U	0.066	U	0.066	U	**0.62**		0.066	U	**0.62**	
HL-6N5-4	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6N5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6N5-15	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6E5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6E5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6E5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0018	J	0.0048	U	0.0018	J
OWS-O-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-O-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-O-20	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND	
OWS-1	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**1.9**		0.067	U	**1.9**	
OWS-1N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1N5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1N5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1S5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.01**		0.0048	U	**0.01**	
OWS-1S5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1S5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**1.2**		0.067	U	**1.2**	
OWS-2N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2N5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2N5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2S5-12	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND	
OWS-2S5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.0066**		0.0048	U	**0.0066**	
OWS-2S5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWP-1	0.066	U	0.13	U	0.066	U	0.066	U	0.066	U	**0.93**		0.066	U	**0.93**	
OWP-1N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWP-1N5-16	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWP-1N5-20	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	

Table 4

Sears Center Investigation Area - PCB Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [3] (mg/kg)
OWP-1S5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1S5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1S5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1E5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1E5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1E5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWPI-W5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWPI-W5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWPI-W5-20	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	**0.061**		0.0048	U	**0.061**
ESLs Residential (mg/kg)	--		--		--		--		--		--		--		0.230
RSLs Residential (mg/kg)	4		0.200		0.170		0.230		0.230		0.240		0.240		0.230

Notes:

mg/kg = millogram per kilogram

PCB = polychlorinated biphenyl

ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019. Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.

RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

U = compound was not detected at a concentration greater than the reporting limit shown

J = compound was detected at a concentration less than the laboratory reporting limit, but greater than the method detection limit

-- = not applicable or not available

[1] Bold results indicate the concentration is greater than the reporting limit; results in red font indicate exceedance of screening levels. Gray gradient indicates increased depth within soil boring

[2] Sample nomenclature is sample area (HL = hydraulic lift; OWS = oil-water seperator; OWP = oil-water seperator pipe)- relative direction - sample depth (in feet below ground surface). Bold sample ID's were collected in Feburary 2020. All other samples were collected in April 2020 in an effort to delineate PCB concentrations in soil in the area.

[3] The PCB-sum is the sum of any detected aroclor listed above method dection limit.

APPENDIX

B HEALTH AND SAFETY PLAN

VPO

HEALTH AND SAFETY PLAN

FORMER VALLCO MALL RE-DEVELOPMENT

DECEMBER 2020

HEALTH AND SAFETY PLAN

FORMER VALLCO MALL RE-DEVELOPMENT

10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

DECEMBER 2020

PREPARED FOR:
SHPDM, LLC
965 PAGE MILL ROAD
PALO ALTO, CA 94304

PREPARED BY:
WSP USA INC.
2025 GATEWAY PLACE, SUITE 348
SAN JOSE, CA 95110

TEL: +1 408 453-6100
FAX: +1 408 453-0496
WSP.COM

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1 INTRODUCTION

WSP USA Inc. (WSP) has prepared this Health and Safety Plan (HASP) on behalf of Vallco Property Owner, LLC (VPO) for the two select areas at the former Vallco Mall located at 10123 North Wolfe Road in Cupertino, California (the Site) (Figure 1). The Site Areas are located in the portion of the former Vallco Mall on the west side of Wolfe Road. The first area is in the eastern parking lot adjacent to Wolfe Road and the former Bay Club Fitness Center, herein referred to as the Wolfe Road area. The second area is within the former Sears Automotive Center is referred to as such below. These areas are within the planned redevelopment of the Site.

The Site is anticipated to be used for commercial and residential buildings, subsurface and surface parking areas, and landscaping. In September 2018, the City of Cupertino (the City) approved a project for the Site that will include 2,402 residential units, up to 485,912 square feet of retail/entertainment uses, and 1,981,447 square feet of office uses. Approximately 10,500 parking spaces will be provided in both above-and below ground structures.

Relevant to this investigation, planned development includes extensive subsurface parking that will require excavation of soil to a depth of 20 to 30 ft-below ground surface (bgs) across much of the Site

A single soil sample at the Site was found to contain polychlorinated biphenyls (PCBs) in the Wolfe Road area based on a subsurface investigation conducted by Geosphere in 2016. The sample from a boring at one foot below ground surface (sample E5-1) contained PCBs at 523 µg/kg, above the residential screening level of 230 µg/kg (RSL) as established by the California Department of Toxic Substances Control (DTSC). The Santa Clara County Fire Department (SCCFD) required implementation of an approved closure plan for the former Sears Automotive Center as part of the redevelopment of the Site. Following demolition of the former Sears Automotive Center and removal of an oil-water separator and associated piping, three samples collected approximately 12 to 14 ft-bgs immediately beneath the separator and piping. Several of these samples yielded results that exceed the PCB RSL; two of three samples beneath the oil-water separator also exceeded the TSCA cleanup level of 1 mg/kg for PCBs. Two samples collected at a depth of nine ft-bgs, immediately below each of two (HL-4 and HL-6) former hydraulic lift cylinders, exceeded the RSL for diesel total petroleum hydrocarbons (TPH-d).

Based on information available in the California Geotracker database, the depth to groundwater beneath the Site is approximately 80 to 90 feet below ground surface (bgs); therefore, groundwater will not be encountered during the Site redevelopment activities.

The Excavation Management Plan describes the general procedures to be followed during the soil removal of soils contaminated by PCBs and a small area with TPH-d in the Sears Area. The Plan will serve as a guide for measures to be conducted by the selected contractor and WSP during soil excavation in accordance with applicable environmental regulations. WSP will be responsible for oversight of the contractor in the implementation of the Plan.

During the development of the HASP, consideration was given to current safety standards as defined by the U.S. Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety and Health (NIOSH) and the California Division of Occupational Safety and Health (Cal/OSHA). The HASP conforms to the requirements of current applicable health and safety laws and regulations, including OSHA 29 CFR 1910.120 et seq. and 8 CCR 5192, Hazardous Waste Operations and Emergency Response.

A copy of this HASP will be onsite at all times during remediation activities in a location where it is accessible to all WSP personnel. The Contractor(s) awarded this remedial work will be required to prepare its own HASP for use by its employees and subcontractors. DTSC will review and comment on all contractor's HASPs before field activities commence.

1.1 SITE DESCRIPTION

The Site is located at 10123 North Wolfe Road in Cupertino, California (Figure 1). The Site is owned by VPO and is approximately 50 acres that is occupied by the mostly vacant Vallco Shopping Mall (the Mall). The former shopping Mall with 1,115,000 square feet of floor space was constructed between 1974 and 1979 and renovated in 1988 and 2006. The Mall had approximately 110 tenant spaces and was anchored by Macy's, Sears, and J.C. Penney.

The former Sears Automotive Center was constructed at the property in 1970 on the southwest side of the Mall property. Four gasoline and two motor oil underground storage tanks (USTs) were removed from the Sears Automotive Center site in 1985. Dispenser islands and product lines were removed from the site in 1994. Seven borings were installed and sampling was conducted in soil and groundwater in 1999 to assess hydrocarbon concentrations at the site. Concentrations of ethylbenzene, total xylenes, and lead were reported below regulatory action levels and the site was granted case closure on December 6, 1999, with the Santa Clara Valley Water District (SCVWD) concluding that any residual contamination in the subsurface relating to the former USTs is minimal.

1.2 CHEMICALS OF POTENTIAL CONCERN

Chemicals of potential concern detected in soil samples collected at the Site Areas are PCBs and TPH-d. PCBs are the chemicals detected most frequently and in the highest concentrations in soil samples. TPH-d was only detected at low levels in two soil samples

The basic elements of the soil removal action include installation of shoring, soil excavation, dewatering, post-excavation soil sampling, soil disposal, and preparation of the excavation bottom for subsequent structure construction, as described below:

- The upper approximately three (3) feet of soil and materials will be excavated in the Wolfe Road. The upper 20 feet of soil will be excavated in the Sears Area.
- Post-excavation soil sampling of the base of the excavation will be performed at the completion of the excavation activities. Due to the presence of the shoring, soil samples will not be collected from the excavation sidewalls. The soil sample data will be used to determine additional excavation requirements.
- Excavated soil will be transported offsite for disposal at appropriately permitted disposal facilities based on the concentrations of PCBs in the soil.

1.3 OBJECTIVE

The purpose of this HASP is to provide a detailed description of the hazards and risks associated with the proposed removal activities and the health and safety practices and procedures to be employed at the Site. In addition, this HASP also describes the health effects and standards for known constituents at the Site.

This HASP will only provide health and safety procedures for WSP employees for the tasks explained in detail herein. Any changes to the known or potential risks, monitoring procedures, or protection levels that are necessary to ensure the health and safety of WSP employees will be documented in an addendum to this HASP. Remediation contractors will be required to develop their own health and safety plans before conducting work on the site. This plan provides information on the objectives, project organization and specific procedures that will be required for all activities conducted during the remediation and redevelopment activities. The following topics are addressed in the proceeding sections:

- key site personnel
- planned site activities
- risk evaluation
- personal protective equipment and uses
- monitoring and sampling techniques
- site control measures
- emergency response procedures
- standard operating procedures at the site
- medical surveillance and training requirements

2 KEY HEALTH AND SAFETY PERSONNEL

WSP, on behalf of VPO, will oversee the excavation, sampling and soil removal activities at the two Site Areas at the former Vallco Mall. Other personnel potentially onsite during the removal activities will include representatives from Sand Hill Property Company, the City of Cupertino, (City), the City's consultant, Baseline, and VPO's Contractor, Devcon Construction Inc. (Devcon). WSP will not be responsible for the direction of, or the health and safety of any non-WSP personnel onsite. Any WSP subcontractors will be responsible for developing their own HASP that meets or exceeds the requirements contained herein.

Any contractor working in the excavation would be required to be 40-hour OSHA HAZWOPER-trained and use appropriate engineering controls and PPE.

2.1 KEY PERSONNEL

2.1.1 PROJECT DIRECTOR

Elena Robertson, Rick Freudenberger

All WSP activities will be carried out under the overall direction of the project director. The project director's responsibilities include, but are not limited to, overall project coordination and implementation and review of all project reports. Ms. Robertson has the authority to commit the firm's resources to accomplish the project objectives. She has ultimate responsibility for WSP and the excavation contractor's implementation of the Excavation Management Plan.

The Project Director will also be a designated competent person onsite while excavation activities are progressing.

2.1.2 SITE SAFETY OFFICER AND FIELD SITE SAFETY OFFICER

Elena Robertson, Bailey Sam

Ms. Robertson will be the designated Site Safety Officer (SSO) for the soil excavation project. In the absence of the SSO during field activities, a member of the onsite project team (Bailey Sam) will be designated as the Field Site Safety Officer (FSSO). The SSO or FSSO will be responsible for observing field activities for compliance with this HASP and maintaining the onsite documentation of WSP employees' medical clearances and emergency medical treatment programs. Additionally, the SSO or FSSO will assist in onsite emergencies, if any and modify the health and safety protocols or terminate field work when unsafe work conditions exist. The SSO or FSSO will familiarize personnel with health and safety protocols and observe that field personnel wear appropriate personal protective equipment. Data from direct reading instruments, hazards evaluation, and any occurrence of site injury or illness will be recorded by the SSO or FSSO. Decontamination procedures will also be monitored by the SSO or FSSO.

If unsafe conditions are encountered, if illness or injury occurs, or if the level of protection needs to be changed, the SSO or FSSO will consult in a timely manner with the Project Director, and/or other authorized individuals.

3 PLANNED SITE ACTIVITIES

WSP will conduct oversight of the excavation activities at the two Site Areas within the former Vallco Mall Site to ensure that contaminated soil is properly transported to the appropriate disposal facility. The basic elements of the removal actions covered in this HASP include soil excavation and disposal, and post-excavation soil sampling. WSP will not be responsible for the direction of, or the health and safety of any non-WSP personnel onsite.

3.1 EXCAVATION AND CONSTRUCTION OVERSIGHT

Construction of the structure will require excavation within the limits of the property to a depth of approximately 3 feet bgs in the Wolfe Road Area and 20 feet bgs in the Sears Area. The materials likely to be removed include the following:

- the asphalt and soil cover,
- contaminated soil and debris,

3.1.1 CONSTRUCTION OVERSIGHT AND SCREENING

WSP will conduct oversight and screening of the excavation to ensure that contaminated soil is properly transported to the appropriate disposal facility. These duties will include continuously monitoring the breathing space of WSP personnel within and surrounding the excavation and calibrating and using a photoionization detector (PID).

3.1.2 SOIL STOCKPILING, SAMPLING AND DISPOSAL

Stockpiles of excavated soil may be created and designated for disposal. WSP will coordinate with the removal contractor to temporarily stockpile soil in designated areas.

Samples will be collected in accordance with WSP Standard Operating Procedures (SOPs). For the purposes of this excavation and disposal process, it will be assumed that all material equals or exceeds 50 milligrams per kilogram (mg/kg) concentration of PCBs. Based on sample results, the soil will be disposed of at one of the following appropriately permitted land disposal facilities:

- RCRA Subtitle D landfill (cap materials and miscellaneous non-hazardous debris only)
- TSCA-approved Chemical Waste Landfill permitted to accept up to over 50 mg/kg of total PCBs
- RCRA -approved Chemical Waste facility permitted to accept up to 50 mg/kg of total PCBs with

The removal contractor will act as the Transportation and Disposal Coordinator (TDC). The TDC shall serve as the single point of contact responsible for proper transportation, disposal, and regulatory matters associated with waste management. Characterization methods are described in the RDIP Sampling and Analysis Plan (SAP).

3.1.3 EXCAVATION SHORING AND WORKING MAT INSTALLATION

Shoring may be installed along the perimeter of the proposed excavation in the Sears Areato act as a structural soil retaining system during soil removal.

After excavation of the soil to the target depth, post excavation sampling will be completed as described in Section 3.3 below. The excavation contractor will provide a California licensed professional engineer to oversee and approve any shoring operations.

3.2 DEWATERING OPERATIONS

3.2.1 DEWATERING AND SAMPLE COLLECTION

In the unlikely event that storm water accumulates in excavations, it will be removed per the Site's Storm Water Pollution and Prevention Plan (SWPPP)

3.3 POST-EXCAVATION SAMPLING

As excavation of soil is completed to the target depth in each portion of the Site, soil samples will be collected with a trowel from the floor of the excavation to document chemical concentrations in accessible in-situ soil. The soil sample data will be used to trigger additional excavation requirements. Soil samples will be collected as described in the Sampling and Analysis Plan (SAP).

Depending on how safely the sampling location can be accessed, soil samples from the bottom of the excavation will be collected in two possible ways. If WSP personnel can safely access the bottom of the excavation, a small trowel will be used to scoop up enough soil to fill the sample containers. If the sample location is inaccessible, the sample will be collected by filling containers with soil brought to the surface using the excavator bucket. Details of the sampling procedure are included in the SAP.

4 HAZARD ASSESSMENT

Sections 4.1 through 4.2 below list the physical and chemical hazards associated with each task that WSP will be responsible for performing onsite. Detailed information about each type of physical and chemical hazard is provided in Sections 4.3 and 4.4.

4.1 TASK 1: EXCAVATION OVERSIGHT

WSP personnel responsible for excavation oversight could be presented with the following physical and chemical hazards. Further details are provided in proceeding sections for each of the listed hazards.

Physical Hazards:

- Slipping, tripping, and falling hazards
- Hazards presented by working with and near heavy equipment
- Working within and near excavations
- Hazards presented by hand tools (e.g., steam cleaning spray wands)
- Overhead hazards
- Heat stress
- Cold exposure
- Noise

Chemical Hazards:

- Direct contact with COCs in soil, soil gas or storm water
- Inhalation of dusts
- Inhalation of organic chemical vapors

4.2 TASK 2: POST-EXCAVATION SAMPLING

The following list presents the physical and chemical hazards inherent to the post-excavation sampling process:

Physical Hazards:

- Slipping, tripping, and falling hazards
- Hazards presented by working with and near heavy equipment
- Working within and near excavations
- Overhead hazards
- Noise

Chemical Hazards:

- Direct contact with COCs in soil and soil gas Inhalation of dusts
- Inhalation of organic chemical vapors

4.3 DETAILED DESCRIPTIONS OF PHYSICAL HAZARDS

4.3.1 SLIPPING, TRIPPING, AND FALLING HAZARDS

Uneven, wet, or slick surfaces present an increased risk of injury. The key to preventing injuries due to these hazards is to recognize and correct situations where insecure footing or trip hazards exist.

4.3.2 HEAVY EQUIPMENT

Field personnel should be cognizant of potential physical hazards associated with use of heavy equipment, train traffic, and electrical equipment during field operations. Working with, or being near, heavy equipment such as excavators, cranes, dozers, trucks, and backhoes presents a risk of injury due to being struck or crushed by moving machine parts, and excessive noise. Heavy equipment shall contain the original manufacturer's machine guarding and safety apparatus such as shrouds, guards, backup warnings, emergency kill switches, mufflers, and spark arresters. Site workers must be aware of the location of working heavy equipment. Machine operators must be made aware of the presence of all workers nearby before beginning operation. Other appropriate precautions include the following:

- Use of ANSI-approved hardhats, safety glasses or goggles, and steel-toe boots will be required at all times onsite.
- Loose clothing that may catch in moving parts will not be worn.
- Hearing protection will be worn if a preliminary noise survey or past experience indicates that maximum noise levels will exceed 85 decibels at any time during site operations.
- Use of brightly colored clothing, such as orange vests with applied reflective tape.

4.3.3 OVERHEAD HAZARDS

Overhead hazards will be encountered when working near heavy equipment. Working near heavy equipment such as cranes, excavators, dozers, and backhoes presents a risk of injury due to being struck by falling objects or moving pieces of machinery. Site workers must be aware at all times of the location of working heavy equipment. Machine operators must be made aware of the presence of all workers nearby before beginning operation.

4.3.4 EXCAVATION

Although underground utilities are not expected to be present within the Site, as a precaution prior to initiating excavation, a qualified underground utility locator will be retained to identify the locations of underground utilities at the Site. Underground Service Alert will be notified at least 48 hours prior to initiating excavation.

Working within or near unsupported excavations presents hazards of engulfment within the excavation due to the collapse of sidewalls and falling into the excavation. No WSP personnel will be allowed to enter in an excavation greater than 4 feet deep unless the excavation sidewalls are properly stabilized with shoring or sloping. Excavations will be sloped, shored, and marked in accordance with OSHA regulations. Health and safety requirements for excavations that can be classified as a confined space must conform to applicable OSHA regulations on confined space operations. No attempt will be made by WSP personnel to enter any type of permit-required confined space. The Project Director will act as a competent person and will evaluate onsite hazards associated with the excavation, shoring and sloped side wall.

4.3.5 CONFINED SPACE ENTRY

Confined spaces and confined space entry are not anticipated as part of this project. However, if confined space conditions are identified, then a Confined Space Entry Plan will be prepared for the work activities in accordance with applicable laws and regulations. No WSP employee may conduct permit required confined space entries. No attempt will be made by WSP personnel to enter any type of confined space.

4.3.6 HEAT STRESS

Part of the soil excavation work is anticipated to be performed during summer months. Average high temperatures during this time of year are typically mild (approximately 60°F to 75°F). If unusual temperature conditions occur, heat stress or, less likely, heat stroke could occur. Preventative measures should include the following:

- Drinking of non-alcoholic fluids will be encouraged but will be done away from work areas and outside of any designated exclusion zones
- Workers will be encouraged to take rest periods in the shade when heat and/or humidity is high
- Suitable acclimation periods will be provided for workers to gradually establish their resistance to heat stress

Personnel exhibiting symptoms of heat stress (nausea, cramps, dizziness, clammy skin) will be removed from the work area, cooled, fluids will be administered, and the personnel will be observed. Personnel exhibiting symptoms of heat stroke (hot dry skin, mental confusion, unconsciousness) will be immediately cooled and taken to the hospital.

4.3.7 NOISE

Regulations require that hearing protection be used when noise levels exceed 85 decibels (dBA) averaged over an 8-hour work day. Sources of noise that may exceed 85 dBA during the work at the Site include the following:

- Working around internal combustion engines (e.g., steam wand) and
- Working near heavy equipment.

Hearing protection will be worn when any activities are performed that produce noise loud enough to make conversation difficult without raising the voice at a distance of 3 feet. Foam insert ear plugs or protective ear muffs capable of providing a 25-dBA noise reduction rating is considered minimum protection.

4.3.8 FLOODING

Because the Storm Water Pollution Prevention Plan (SWPPP) will prescribe that all storm water be contained on site, there is some potential for these waters to collect in the deeper parts of the site, possibly resulting in standing water. It is not anticipated that WSP employees will enter the deeper parts of the site except to sample; however, sampling personnel should remain aware of the volume of stored water, if any, and weather conditions.

4.4 DETAILED DESCRIPTIONS OF CHEMICAL HAZARDS

Various subsurface investigations have been performed by different consultants at the Site since the early 1980s. Soil samples collected from the Site Areas included detections of low levels of PCBs, and TPH-d.

4.4.1 CHEMICALS DETECTED IN SOIL

Chemicals detected in soil samples collected from the ground surface at the Site to the proposed excavation bottom include TPH-d and PCBs.

PCBs detected at the Site appear to consist primarily of the Aroclor 1254 compound.

4.4.2 POTENTIAL EXPOSURE ROUTES AND CONTROLS

Field personnel could potentially be exposed to these chemicals at the Site by direct contact with soil through inhalation of dusts, or through inhalation of organic chemical vapors. Field personnel will minimize potential chemical hazards by (1) avoiding direct contact with soil, (2) performing air monitoring to avoid inhalation exposures, and (3) avoiding generation of

and ingestion or inhalation of dust. PCBs are generally encountered at relatively low levels in soil samples collected from the Site, are non-volatile and are likely to be associated with soil particles. Therefore, reducing the generation of dust and controlling fugitive dust during the earthmoving activities will be particularly important to reduce the potential exposure of onsite workers to PCBs.

Safe work practices, including restriction of eating, drinking, or smoking to certain times and places will be enforced during excavation activities at the Site. No smoking will be allowed at the Site.

5 PROTECTIVE ACTIONS

Based on the chemical and physical hazards assessed in Section 4, engineering controls and/or personal protective equipment (PPE) will be available to WSP field personnel to ensure that all predictable hazards are controlled below the most stringent health and safety limits (e.g., PELs, TLVs, and/or RELs). Engineering controls will be implemented as necessary by the project director and maintained onsite or readily available. Constant monitoring will be conducted to ensure that engineering controls continue to reduce potential exposure to chemical and physical hazards to WSP personnel. Should engineering controls prove unable to reduce potential chemical and physical hazards below acceptable levels, PPE will be assigned for each field task. The selection and use of PPE will be according to the hazard assessments described in Section 4, hazards that become apparent in the field, and the requirements of the WSP PPE Program.

The WSP PPE Program was prepared to provide information regarding personnel training; hazard assessments; PPE selection; PPE use, effectiveness, maintenance, replacement, and storage; PPE limitations; and PPE disposal. The program complies with the requirements of the OSHA standard (29 CFR 1910 Subpart I) and the California Code of Regulations (8 CCR 5192(g). At a minimum, WSP employees will don Level D Modified protection for ALL field activities at the Site. Level D Modified PPE to be used will include:

- ANSI-approved hard hat
- Chemical resistant nitrile gloves (for sampling and screening activities)
- Work (i.e., leather palm) gloves (for maneuvering materials or equipment around the site)
- Safety toed boots
- Reflective safety vest
- ANSI-approved safety glasses (for excavation and construction activities)
- Disposable hearing protection (for high-noise activities)

The level of protection employed may be upgraded, as deemed necessary, based on air quality monitoring and any other conditions identified during the work. Note that WSP does not permit employees to work in conditions requiring Level B protection. If air monitoring indicates the need to upgrade to Level B protection (i.e. if vinyl chloride is detected), WSP personnel will cease operations and the oversight work will be conducted by a subcontractor with the appropriate personal protection.

If non-routine field activities are initiated, the level of protection will be specified in an activity-specific health and safety addenda.

NO CHANGES TO THE SPECIFIED LEVEL OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE SITE HEALTH AND SAFETY OFFICER AND THE PROJECT DIRECTOR.

5.1 TASK 1: EXCAVATION OVERSIGHT

When WSP personnel are conducting excavation oversight, all of the Level D PPE listed at the beginning of Section 5 should be donned.

Due to the nature of the excavation work and potential for chemical exposure routes, each of the monitoring procedures described in detail in Section 5.3 will be conducted to include potential organic vapor.

5.2 TASK 2: POST-EXCAVATION SAMPLING

WSP personnel will conduct post-excavation sampling while donning Level D PPE including: hard hat, nitrile gloves, safety toed boots, work clothes, safety vest, safety glasses and hearing protection.

Each of the monitoring procedures described in Section 5.3 should be considered while conducting post-excavation sampling.

5.3 DETAILED INFORMATION REGARDING MONITORING PROCEDURES

Monitoring of organic vapors will be conducted using a PID with the capability to detect concentrations in parts per billion (ppb). All readings will be recorded in field logs. All direct-reading instruments will be calibrated daily according to the manufacturer's specifications.

5.3.1 ORGANIC VAPORS

Concentrations of organic vapor will be monitored in the breathing space of WSP personnel using a 10.6 electron-volt PID with the capability to detect concentrations in parts per billion (ppb). Real-time monitoring for organic vapors in the breathing zone of onsite workers will be conducted continuously during work that will likely generate airborne vapors. The monitoring will be conducted by the SSO or FSSO. The following tasks require organic vapor monitoring as described in the Dust and Vapor Control Plan:

- Task 1: Excavation Oversight
- Task 2: Post-Excavation Sampling

5.3.2 AIRBORNE PARTICULATES

Dust control measures are addressed in the Site's Dust and Vapor Control Plan.

5.3.3 NOISE

Field personnel will initially monitor noise levels associated with equipment and machinery with a direct reading portable noise level monitor unless based on experience, it is known that hearing protection is not necessary. The following tasks might require noise level monitoring:

- Task 1: Excavation Oversight
- Task 2: Post-Excavation Sampling

Readings will be taken within the normal worker hearing zone. If maximum noise levels exceed 85 decibels at any time during site operations, hearing protection will be worn.

6 SITE CONTROLS AND DECONTAMINATION

6.1 SITE SECURITY

During any planned soil excavation, a fence around the entire perimeter of excavation will be locked overnight and anytime project personnel are not at the Site. The fence will be posted with placards or markings to restrict entrance to only authorized personnel. In addition, warning signs will be posted on the fence to provide notification regarding the presence of chemicals regulated under California's Proposition 65. The following wording will be included on the warning signs:

WARNING
This area contains chemicals known to the State of California to cause cancer and reproductive harm.

Any stockpiles of excavated soil will be located in a secured area. The stockpiles will be placed on plastic and will be securely covered with plastic.

6.2 SITE CONTROL

The Site will be controlled to reduce the possibility of (1) unauthorized entry and unintended contact with contaminants and (2) removal of contaminants by personnel or equipment leaving the Site. The possibility of exposure to or offsite transportation of COCs will be reduced by:

- Excluding unauthorized personnel by establishing site security procedures;
- Establishing work zones within the Site;
- Establishing access control points to regulate access to work zones;
- Minimizing the number of personnel and equipment onsite, consistent with effective and efficient operations;
- Sampling in a manner to reduce the exposure of personnel, contamination of equipment, and to reduce the potential for airborne and surface water runoff dispersion; and
- Implementing decontamination procedures.

Work zones will be established onsite as follows:

- Exclusion/Work Zone: All excavation areas and a buffer area of at least 20 feet surrounding the excavation will be considered an exclusion/work zone where all employees will don appropriate PPE and atmospheric monitoring will be conducted to determine worker exposure. The area will be separated from the rest of the site by caution tape, temporary fencing, or other demarcations to ensure that all site personnel are aware of areas requiring safety training and PPE. As the work progresses, the exclusion/work zone will be moved and marked as appropriate.
- Contamination Reduction Zone: All decontamination procedures will be conducted within the contamination reduction zone (CRZ), which will be a designated area attached to the exclusion/work zone that leads to a support zone. As with the exclusion/work zone, the CRZ will be moved to ensure that the movement of drums, containers, and contaminated equipment is minimized and that no contamination enters the support zone.
- Support Zone: All areas of the site not demarcated as an exclusion/work zone or a CRZ will be considered a support zone. The support zones change as work progresses. Barriers and/or signs will demarcate the edges of the exclusion/work zones will be clearly marked.

Access to the Site will be through walk-through or drive-through gates. All personnel and vehicles leaving the Site will pass through the gates. Cars will be parked in a designated parking area outside the excavation fence during the day. Project personnel and visitors must report to the Field Office trailer and log-in prior to entering any other portion of the Site. Project personnel will don the necessary PPE before entering the excavation area.

6.3 DECONTAMINATION PROCEDURES

Contact by Site workers with COCs can be minimized through good work practices. At the completion of the work task, all personnel will enter the decontamination area through the contaminant reduction zone for general (Level D Modified) decontamination. At the conclusion of each day or work shift, disposable gloves will be removed and disposed of in onsite containers.

7 EMERGENCY RESPONSE PLAN

Hazard recognition is an essential part of the Emergency Response Plan. Initiation of the contingency plan relies on the employee's ability to recognize an emergency or potential for an emergency. The following is a list of events that will immediately initiate emergency response procedures:

- Explosion
- Fire
- Release of organic vapors or particulates above the action levels
- Personal injury
- Failure or expected failure of run-on/run-off control measures
- Natural occurrences (i.e., lightning, tornado, high winds, etc.)
- Spills of hazardous materials

7.1 EMERGENCY COMMUNICATIONS

Emergency communication systems will be developed by the onsite employers and will be internally consistent. The onsite communication system will include the following four methods.

7.1.1 VERBAL COMMUNICATION

Verbal communication will be the primary method of emergency communication between onsite personnel, distance and noise levels permitting.

7.1.2 HAND SIGNALS

- Hands clasped on wrists will indicate personnel to stop work and exit Exclusion Zone.
- Hands on throat indicates inability to breathe.
- Hands on top of head will indicate that the personnel is in need of assistance
- Thumbs up indicates OK.
- Thumbs down indicates not OK.

7.1.3 AIR HORN/VEHICLE HORN

As appropriate, air horns will be carried by personnel entering any established Exclusion Zone and stationed in the Support Zone. If air horns fail or are lost, vehicle horns may be used as a substitute. Air horns will be the primary alarm system and used in the following manner:

One long blast: Evacuate Exclusion Zone by nearest exit. Proceed to assembly area located at the decontamination station.

Two short blasts: Localized problem. Avoid area, move to Decontamination Reduction Zone for further instruction.

Four short blasts: All clear, resume work.

7.1.4 TELEPHONES

Telephones are used for routine communication and to notify offsite agencies of incidents and request assistance. Emergency telephone numbers are identified below in Section 7.3.

7.2 EMERGENCY PROCEDURES

When an event recognized as an emergency occurs, the alarm system (see Section 7.1.3 above) will be used to notify personnel. As soon as the alarm system is activated, the SSO or FSSO will be notified. If the SSO or FSSO is not available, the task manager or appropriate field personnel will assume these responsibilities.

The SSO or FSSO will take into account the following information:

- Nature of emergency
- Wind direction
- Location of personnel
- Monitoring results
- Emergency equipment available
- Offsite population

Based on this information, the SSO or FSSO will direct appropriate emergency action and agency notification. After the emergency has been controlled and the Site is considered safe to re-enter, the SSO or FSSO will direct remedial action to restore the Site to full operating condition.

The SSO or FSSO will investigate the nature and cause of the incident so that work procedures can be modified to minimize the likelihood of the incident's recurrence. All incidents must be reported in a timely, appropriate manner. An incident is any unplanned event resulting in injury, damage, loss of assets, adverse publicity, or which requires notification of a regulatory agency, regardless of severity. All personnel should report an incident to the SSO or FSSO. The SSO or FSSO will report to the project manager. Each incident will be investigated, and a written report should be received by the project manager and the regional safety supervisor within five days of the incident.

If work zones are established, the Exclusion Zone will have several emergency exits which will allow safe egress in multiple directions from any point onsite. The exit selection will be based on the emergency location, type of emergency, and wind direction. Upon hearing the evacuation signal or otherwise being notified of an evacuation, employees will immediately travel to the assembly area located at the decontamination station.

Employees will follow a route that avoids locations downwind from the emergency. If emergency exits are used, employees will proceed to the assembly area by the quickest route possible, staying close to the perimeter of the Exclusion Zone. When the assembly area is reached, employees will immediately check in with the SSO or FSSO. The Site will remain evacuated until the all clear signal has been given.

7.3 EMERGENCY INFORMATION AND TELEPHONE NUMBERS

EMERGENCY RESPONSE	CONTACT NAME	CONTACT INFO
Ambulance Company (non-emergency)	Royal Ambulance	1191 N 5th St, San Jose, CA 95112 Tel: 911 or 877-995-6161
Hospital/Emergency Room (open 24 hours)	Kaiser Permanente Santa Clara Medical Center	700 Lawrence Expy, Santa Clara, CA 95051 Tel: 911 or 408-851-1000

Local Police Department	Sunnyvale Police Department	700 All America Way, Sunnyvale, CA 94086 Tel: 911 or 408-730-7100
Local Fire Department	Cupertino Fire Department	20215 Stevens Creek Blvd, Cupertino, CA 95014 Tel: 911 or 408-299-3144
State Poison Control Center (24 hours)	California Poison Control System - UCSF School of Pharmacy	3333 California St Ste 420, San Francisco CA 94143 Tel: 800-222-1222 (main line) or 415-345-0820 (admin calls only)

7.4 DIRECTIONS TO THE NEAREST HOSPITAL

1. Continue to Vallco Pkwy, heading SOUTH – 131 ft
2. Turn LEFT toward PERIMETER ROAD – 0.1 mi
3. Turn RIGHT onto PERIMETER ROAD – 194 mi
4. Turn RIGHT at the first cross street onto Vallco Pkwy – 0.1 mi
5. Use the right 2 lanes to turn RIGHT onto N. WOLFE ROAD – 0.8 mi
6. Turn RIGHT onto E. HOMESTEAD ROAD –1.0 mi
7. Turn RIGHT onto Lawrence Expy – 0.2 mi
8. Turn RIGHT at LEHIGH DRIVE – 259 ft
9. Turn RIGHT – 95 ft
10. Turn LEFT – 0.1 mi
11. The hospital will be on the RIGHT at **700 Lawrence Expy**

Total Estimated Time: 9 minutes

Total Estimated Distance: 2.5 miles

7.5 EMERGENCY MEDICAL TREATMENT PROCEDURES

In an emergency, the primary concern is to prevent the loss of life or severe injury to site personnel. If immediate medical treatment is required, decontamination will be delayed until the condition of the victim has stabilized. If decontamination can be performed without interfering with first aid or if a worker has been contaminated with an extremely toxic or corrosive material that could cause severe injury, decontamination will be performed immediately. If an emergency caused by a heat-related illness develops, protective clothing will be removed from the victim as soon as possible to reduce heat stress.

The standard emergency procedures in outlined in the following sections will be used by onsite personnel. The SSO shall be notified of any onsite emergencies and be responsible for ensuring that the appropriate procedures are followed. These procedures shall be rehearsed regularly as part of the overall program for the site.

7.5.1 MINOR INJURIES

If the injury or illness is minor, full decontamination should be completed and first aid administered before the injured is transported to the designated emergency hospital location.

7.5.2 MAJOR INJURIES

If the patient's condition is serious, call 911 for ambulance and paramedic support. At least partial decontamination should be completed. (i.e., complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket). First aid should be administered while awaiting an ambulance or paramedics. The choice of hospital shall be made by the ambulance personnel. If an injury takes place within in the excavation and is such that the person cannot be moved, the paramedics will need to be notified to provide additional support for reaching the patient.

Any person being transported to a clinic or hospital for treatment should take with them information of the chemical or chemicals they have been exposed to at the site.

7.6 MEDICAL EMERGENCIES

Four medical emergencies have been identified as requiring implementation of emergency procedures. These emergencies are cardio-pulmonary emergencies, physical injuries, heat-related injuries, cold-related injuries, and chemical exposures.

7.6.1 CARDIO-PULMONARY EMERGENCIES

Cardio-pulmonary emergencies are life-threatening situations requiring immediate response of trained individuals to prevent death. At no time will these emergencies be considered less than life-threatening. These emergencies include heart attack, cardiac arrest, or respiratory arrest. Response and emergency treatment will be rendered without regard to protective equipment or decontamination procedures. As a precaution, and if necessary, a representative from the site will accompany the worker to the hospital in order to advise on matters of decontamination.

7.6.2 PHYSICAL INJURIES

Physical injuries can range from minor sprains, to internal injuries, to an open compound fracture. Depending on the severity of the injury, treatment may be delayed for decontamination procedures to be performed. The level of decontamination will be directly related to the seriousness of the injury and will be determined by the SSO or FSSO.

The outside garments can be removed (depending on the weather) if they do not cause delays, interfere with treatment, or aggravate the injury. Respiratory masks and chemically-resistant clothing should be removed from the injured person. If the outer contaminated garments cannot be safely removed, the individual should be wrapped in blankets to help prevent contaminating the inside of the ambulance or medical personnel. Outside garments are then removed at the medical facility. One exception would be if it is known that the individual has been contaminated with an extremely toxic or corrosive material which could also cause severe injury of loss or life.

If an employee working in a contaminated area is physically injured, appropriate first aid procedures will be followed. Depending on the severity of the injury, emergency medical response may be sought. If the employee can be moved, he/she will be taken to the edge of the work area (on a stretcher, if needed) where contaminated clothing will be removed, additional emergency first aid will be administered, and transportation to a local emergency medical facility will be arranged.

7.6.3 CHEMICAL EXPOSURE

Exposure to chemicals can be divided into two categories:

- injuries from direct contact, such as acid burns or inhalation of toxic chemicals
- potential injury due to gross contamination on clothing or equipment

For the inhaled contaminant, treatment can only be provided by qualified physicians. If the contaminant is on the skin or in the eyes, immediate measures must be taken to counteract the substance's effect. First aid treatment usually is flooding the affected area with water; however, for a select few chemicals, water may cause more severe problems.

When protective clothing is grossly contaminated, the constituents may be transferred to treatment personnel or the wearer and cause injuries. Unless severe medical problems have occurred simultaneously with splashes, the protective clothing should be washed off as rapidly as possible and carefully removed. Portable eye washes will be available to provide a means of flushing and washing such contamination.

If the injury to the worker results from a chemical splash or uncontrolled release, the following first aid procedures are to be instituted:

- Eye Exposure - If contaminated solids or liquids get into the eyes, wash eyes immediately at the emergency eyewash station using large amounts of water and lifting the lower and upper lids occasionally. Obtain medical attention immediately. Contact lenses will not be worn when working onsite.
- Skin Exposure - If contaminated solids or liquids get on the skin, promptly wash the contaminated skin using soap or mild detergent and water. Obtain medical attention immediately when exposed to concentrated solids or liquids.
- Breathing - If a person breathes in large amounts of contaminants, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration immediately. Keep the affected person warm and at rest. Obtain medical attention as soon as possible.
- Swallowing - When contaminated solids or liquids have been swallowed and the person is conscious, attempt to obtain information from the person to aid in identifying the substance swallowed. Contact the poison control center immediately. Under their direction, one or two glasses of milk or water may be administered to dilute the swallowed material. The poison control center may direct responder to induce vomiting. Do not induce vomiting if: the person is unconscious or semiconscious, or convulsing; if a strong corrosive has been swallowed or if a petroleum product has been swallowed. Vomiting is best induced by administering 1 tablespoon of Syrup of Ipecac. Transport the person to the hospital and monitor the airway constantly.

7.7 FIRE/EXPLOSION

On notification of a fire or explosion onsite, the designated emergency signal of a series of three extended horn blasts shall be sounded and all site personnel will move to the designated meeting location. The fire department shall be alerted and all personnel moved to a safe distance from the emergency area.

Fire extinguishers will be present at the site. If a small, localized fire breaks out, chemical fire extinguishers will be used to bring the occurrence under control. If necessary and feasible, a fire blanket, soil, or other inert materials will be placed on the burning area to extinguish the flames and minimize the potential for spreading. If appropriate, local fire-fighting authorities will be contacted for notification and assistance.

If an uncontrolled fire develops releasing potentially toxic gases, onsite personnel and the public in the immediate vicinity will be evacuated. Only personnel trained in fire-fighting and outfitted with proper protective equipment will be allowed in the immediate fire area. The SSO or FSSO will alert local fire-fighting companies.

7.8 PERSONAL PROTECTIVE EQUIPMENT FAILURE

If any site worker experiences a failure or alteration of protective equipment that affects the protection factor that person and his/her buddy shall immediately leave the work area. Re-entry shall not be permitted until the equipment has been repaired or replaced.

7.9 OTHER EQUIPMENT FAILURE

If any other equipment onsite fails to operate properly, the SSO or FSSO shall be notified to determine the effect of this failure on continuing operations onsite. If the failure affects worker safety or prevents completion of the activity, all personnel shall evacuate the work area until the situation is evaluated and appropriate actions taken.

In all situations when an emergency results in the evacuation of a work area, personnel shall not re-enter the area until the following conditions have been met:

- the conditions resulting in the emergency have been corrected
- the hazards have been reassessed
- the HASP has been reviewed
- site personnel have been briefed on any changes in the HASP

7.10 NOTIFICATION OF NEARBY BUSINESSES

Although an emergency requiring notification of nearby businesses and residents is not anticipated, prior to initiating the soil excavation activities, efforts will be made to notify these businesses and residents regarding the planned activities.

As part of that courtesy notification, efforts will be made to obtain emergency contact information such as the emergency contact person's name and telephone numbers. The list of emergency contacts in the nearby buildings will be retained onsite, and a copy retained with an offsite project manager, so that in the unlikely event of a more significant emergency during excavation at the Site, the nearby businesses can be notified quickly and in the pre-selected manner.

7.11 WSP STANDARD OPERATING PROCEDURES FOR FIELD WORK

1. Whenever possible, use the buddy system
2. Conduct a pre-entry briefing before beginning site activities each day and record in field book
3. Practice contamination avoidance. Never sit down or kneel, never lay equipment on the ground, avoid obvious sources of contamination such as puddles, and avoid unnecessary contact with onsite objects
4. Do not eat, drink, or use tobacco products outside the designated support zone
5. Whenever possible, do not use contact lenses while onsite
6. Thoroughly wash hands and face before eating, drinking, etc.
7. Keep copies of the health and safety plan available in the support zone
8. In the event PPE is ripped or torn, stop work and remove and replace PPE as soon as possible
9. In the event of direct skin contact, immediately wash the affected area with soap and water
10. Ensure that all subcontractors have a site specific HASP that is maintained onsite
11. Report all accidents, injuries, and environmental releases as required by WSP Environmental Global Directives 3 and 4

7.12 EMERGENCY SUPPLIES

Onsite emergency equipment will include equipment used during operations (heavy equipment) and reserved items stored at the decontamination/assembly area and at strategic areas onsite. The following is a partial list of emergency equipment that will be available onsite during the soil excavation activities.

- Portable emergency eye wash
- Tarps/space blankets to reduce contamination potential while transporting injured personnel to medical facilities.
- Twenty-pound ABC fire extinguishers
- First aid supplies
- Absorbent spill control
- Extra batteries for radios, monitoring equipment, etc.

All personnel will have a thorough understanding of the Emergency Response Plan before starting work. It will be reviewed periodically and updated as needed to keep it current with new or changing site conditions or information.

7.13 SANITATION AND ILLUMINATION

Portable sanitation and potable water supplies will be provided for the use of onsite workers during the soil excavation activities. These facilities will be serviced at least weekly.

No eating, drinking, smoking or gum chewing will be allowed in restricted areas.

Activities will primarily take place during daylight hours. Because natural illumination (approximately 50- to 200-foot candles) will be sufficient to meet the 5-foot candle requirement for general site areas, no additional illumination will be required.

8 TRAINING AND MEDICAL MONITORING REQUIREMENTS

8.1 TRAINING REQUIREMENTS

Personnel participating in field activities during soil excavation at the Site will have completed training as required by the WSP Environment Health and Safety Program. As required by the program, all WSP employees who may be exposed to hazardous materials will receive 40 hours of initial training and 8 hours of refresher training annually. The training program complies with the requirements of the Hazardous Waste Operations and Emergency Response (HAZWOPER) sections of the OSHA standard (29 CFR 1910.120) and the California Code of Regulations (8 CCR 5192(e). At a minimum, the training program includes:

- site safety plan development and interpretation
- safe work practices
- nature of anticipated hazards (physical and chemical)
- emergency and self-rescue procedures
- safe use of field equipment
- hazardous materials handling, storage, and transportation
- employees' rights and responsibilities
- personnel protective clothing and equipment use, care, and limitations
- site surveillance
- instruments used to measure organic vapor concentrations, explosivity, and radioactivity and other site conditions.

Additionally, daily pre-entry briefings will provide site-specific exposure hazards expected before ANY work begins. All on-site personnel will be required to provide evidence of current training. including certifications for all WSP onsite personnel including valid HAZWOPER refresher, First Aid/CPR, and Respirator Fit Test information. Prior to each day of work, a meeting will be held at the Site to familiarize personnel with health and safety issues, protective equipment, emergency information and supplies, and to discuss special topics.

8.2 MEDICAL MONITORING

In accordance with the applicable requirements of 29 CFR 1910.120, all personnel participating in field activities are included in WSP's medical monitoring program. The program includes a baseline physical examination, pulmonary function test, and blood and urine tests. Annual follow up examinations are included. The medical clearance, including potential respirator use, for onsite employees must be current.

9 SIGNATURES

All site personnel ***MUST*** sign this page to acknowledge the requirements of this HASP.

NAME	SIGNATURE

Project Manager Review/Sign-off: _____

APPENDIX

C DUST AND VAPOR CONTROL PLAN (DVCP)

DUST AND VAPOR CONTROL PLAN

REMOVAL ACTIONS IN WOLFE ROAD AND SEARS AREAS OF FORMER VALLCO MALL

December 2020 Revised MARCH 2021

DUST AND VAPOR CONTROL PLAN

REMOVAL ACTIONS IN WOLFE ROAD AND SEARS AREAS OF FORMER VALLCO MALL

10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

DECEMBER 2020
REVISED MARCH 2021

PREPARED FOR:
SHPDM, LLC
965 PAGE MILL ROAD
PALO ALTO, CA 94304

PREPARED BY:
WSP USA INC.
2025 GATEWAY PLACE, SUITE 348
SAN JOSE, CA 95110

TEL: +1 408 453-6100
FAX: +1 408 453-0496
WSP.COM

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APPENDIX

APPENDIX A- INVESTIGATION AND MANAGEMENT OF PCB CONTAMINATED SOIL, FORMER VALLCO MALL, CUPERTINO, CALIFORNIA, AUGUST 14, 2020, REVISED MARCH 11, 2021

APPENDIX B- SOIL VAPOR INVESTIGATION REPORT, FORMER VALLCO MALL, CUPERTINO, CALIFORNIA, JANUARY 26, 2021

1 INTRODUCTION

WSP USA Inc. (WSP) has prepared this Dust and Vapor Control Plan (DVCP) on behalf of Vallco Property Owner, LLC (VPO) for the two select areas at the former Vallco Mall located at 10123 North Wolfe Road in Cupertino, California (the Site) (Figure 1 in Appendix A). The Site Areas are located in the portion of the former Vallco Mall on the west side of Wolfe Road. The first area is in the eastern parking lot adjacent to Wolfe Road and the former Bay Club Fitness Center, herein referred to as the Wolfe Road area. The second area is within the former Sears Automotive Center is referred to as such below. These areas are within the planned redevelopment of the Site.

Appendix A contains a letter report prepared by WSP dated August 14, 2020 entitled "Investigation and Management of PCB Contaminated Soil, Former Vallco Mall, Cupertino, California ("Summary Report")" This Summary Report summarizes the investigations of the Wolfe Road Area and the Former Sears Automotive Area ("Sears Area") including analytical results and various figures depicting sample locations and proposed removal areas of PCB-contaminated soil.

This Plan describes the dust and vapor control procedures to be followed during the soil removal of soils contaminated by PCBs and a small area with TPH-d in the Sears Area. The DVCP will serve as a guide for measures to be conducted by the selected contractor and WSP during soil excavation in accordance with applicable environmental regulations. WSP will be responsible for oversight of the contractor in the implementation of the DVCP.

1.1 SITE DESCRIPTION AND BACKGROUND

The Site is located at 10123 North Wolfe Road in Cupertino, California (Figure 1 in Appendix A). The Site is owned by VPO and is approximately 50 acres that is occupied by the mostly vacant Vallco Shopping Mall (the Mall). The former shopping Mall with 1,115,000 square feet of floor space was constructed between 1974 and 1979 and renovated in 1988 and 2006. The Mall had approximately 110 tenant spaces and was anchored by Macy's, Sears, and J.C. Penney.

The former Sears Automotive Center was constructed at the property in 1970 on the southwest side of the Mall property. Four gasoline and two motor oil underground storage tanks (USTs) were removed from the Sears Automotive Center site in 1985. Dispenser islands and product lines were removed from the site in 1994. Seven borings were advanced and sampling was conducted in soil and groundwater in 1999 to assess hydrocarbon concentrations at the site. Concentrations of ethylbenzene, total xylenes, and lead were reported below regulatory action levels and the site was granted case closure on December 6, 1999, with the Santa Clara Valley Water District (SCVWD) concluding that any residual contamination in the subsurface relating to the former USTs is minimal.

The Santa Clara County Fire Department (SCCFD) required implementation of an approved closure plan for the former Sears Automotive Center as part of the redevelopment of the Site. Following demolition of the former Sears Automotive Center and removal of an oil-water separator and associated piping, three samples collected approximately 12 to 14 ft-bgs immediately beneath the separator and piping. Several of these samples yielded results that exceed the PCB RSL; two of three samples beneath the oil-water separator also exceeded the TSCA cleanup level of 1 mg/kg for PCBs. Two samples collected at a depth of nine ft-bgs, immediately below each of two (HL-4 and HL-6) former hydraulic lift cylinders, exceeded the RSL for diesel total petroleum hydrocarbons (TPH-d).

A single soil sample at the Site was found to contain polychlorinated biphenyls (PCBs) in the Wolfe Road area based on a subsurface investigation conducted by Geosphere in 2016. The sample from a boring at one foot below ground surface (bgs) (sample E5-1) contained PCBs at 0.523 mg/kg, above the residential screening level of 0.230 mg/kg (RSL) as established by the California Department of Toxic Substances Control (DTSC). Subsequent sampling was performed to characterize the Wolfe Road Area and PCBs up to 1.046 mg/kg were detected in soil from a depth of 1 foot below ground surface.

1.2 CHEMICALS OF CONCERN

Figures 2 and 4 in Appendix A present the locations of previous samples collected in the Wolfe Road Area and the Sears Area, respectively. Figures 3 and 8 in Appendix depict the proposed excavations for the removal activities in the Wolfe Road

Area and the Sears Area, respectively. PCBs are the chemicals detected most frequently and in the highest concentrations in soil samples from both Areas. Other constituents detected in soil samples in the Sears Area include TPH-d

The PCBs detected in soil samples as well as the TPH-d detected in soil are considered COCs at the Site.

In addition, soil samples collected in the Sears Area also contained detections of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) which may result in emissions of vapors during excavation activities .(Table 1 in Appendix A; note that these detections were all below ESLs and RSLs in soil for the detected VOCs and SVOCs). Further, soil vapor sampling from four borings in the Sears Area in November 2020 (Appendix B, Soil Vapor Investigation Report, dated January 26, 2021) revealed evidence of the presence of several compounds (most notably benzene and tetrachloroethene, which exceeded the ESLs in several soil vapor samples) that may also result in emissions during excavation activities (Table 1 in Appendix B). These detections are addressed in Section 4.1 of this Report.

1.3 REDEVELOPMENT PLAN AND EXCAVATION ACTIVITIES

The proposed redevelopment at the Site includes the construction of a parking structure along with commercial and/or residential units. The redevelopment process will involve excavation in the Wolfe Road Area to approximately five feet bgs and excavation and potential shoring of the soil to approximately 30 feet bgs over the Sears Area. While some of the soil contains PCBs and petroleum hydrocarbons, available data indicate that the soil to be excavated contains less than or equal to a maximum of 1.9 mg/kg of PCBs and is without other chemical contamination.

The basic elements of the soil removal action include soil excavation, post-excavation soil sampling and offsite disposal of soil.

For excavation activities,

- The upper approximately three feet of soil and materials will be excavated in the Wolfe Road Area; the upper approximately 20 feet of soil will be excavated in a portion of the Sears Area;
- Post-excavation soil sampling of the base and sidewalls of the excavation will be performed at the completion of the excavation activities as described in the Sampling and Analysis Plan (SAP); and
- Excavated soil will be transported offsite for disposal at appropriately permitted disposal facilities based on the concentrations of PCBs in the soil.

1.4 OBJECTIVE

Dust, as discussed herein, refers to airborne particulates that are associated with or result from the removal activities. Of particular concern is dust associated with (1) mechanical actions of soil excavation, grading, transport vehicle loading, and vehicle movement, and (2) ambient wind traversing excavations or stockpiles of debris and excavated soil. Dust may include non-hazardous airborne material and airborne chemicals of potential concern.

Vapor, as discussed herein, includes airborne mist, fumes, or volatilized compounds that are associated with or result from the removal activities. Of particular concern is vapor potentially associated with (1) soil excavation and transport, (2) transport vehicle loading activities, (3) decontamination activities, and (4) ambient wind traversing work areas and excavations.

This Dust and Vapor Control Plan (DVCP) covers requirements for dust and vapor control during removal activities at the Site. Dust and vapor control activities will primarily be associated with soil excavation and transport vehicle loading operations; however, dust and vapor control shall cover all operations, throughout the duration of the soil excavation project. The Contractor covers similar air quality protection measures in Section 2, Air Quality of the Devcon Construction Management Plan (CMP).

This DVCP addresses the specific methods and activities that the selected excavation contractor will use for dust and vapor control while performing the removal activities onsite. WSP will be responsible for the oversight of these activities. Although the total maximum VOC concentrations in soil to be excavated do not exceed any screening levels, per the ESMP,

this Plan was made consistent with applicable requirements of the Bay Area Air Quality Management District's Regulation 8, Rule 40, Aeration of Contaminated Soil and Removal of Underground Storage Tanks (BAAQMD 2005).

2 ONSITE DUST CONTROL

The soil to be excavated contains PCBs and could potentially contain VOCs from TPH compounds. As necessary to mitigate the potential fugitive emissions of dust particles including these compounds and based on present conditions of Approval 12 (Dust Control), it is assumed that exposed soil surfaces will be kept moist using water spray or other dust suppressant. Water spray will be applied to Areas actively being excavated and to soil being placed into stockpiles (as necessary) and loaded into trucks for offsite transportation. Available data from soil borings advanced at the Site indicate that almost all of the soil below is wet or moist. These subsurface conditions are likely to reduce the magnitude of the potential fugitive dust emissions during soil excavation and handling and reduce the need for application of moisture or other dust control measures.

2.1 WORK PRACTICES

Although the excavated soil is expected to be moist or wet, and less likely to result in dust emissions, it is prudent to plan for differing conditions, including potential drying of exposed soil surfaces. Additional potential control measures to reduce dust emissions are described below and are similar to measures presented in Section 2 of the Devcon CMP.

2.1.1 LIMIT VEHICLE SPEED

Soil removal equipment will be operating within the excavation footprint. Vehicles will be transporting soil from the excavation to either a small stockpile or directly to trucks for loading and off hauling. The speed of any vehicle carrying soil, equipment, or personnel on the Site or around the vicinity will be limited to 15 mph to minimize the generation of dust.

To the extent practicable, motorized equipment shall be selected and operated in a manner which minimizes dust generation. This may include the use of rubber-tired vehicles on paved surfaces.

2.1.2 MAINTAIN PAVED SURFACES

Paved surfaces within and adjacent to the Site will be vacuumed or swept to remove accumulated soil and dust. The Sears Site Area is bare ground with adjacent roadways surfaced with asphalt, and as the excavation of the Site proceeds, soil and dust could potentially accumulate on this asphalt surface. The Wolfe Road Area is currently covered with asphalt which will be removed when excavation activities begin.

2.1.3 VEHICLE LOADING

During transport vehicle loading, excavated soil shall be deposited in the transport vehicle using the minimum practicable drop heights (less than 10 feet). The transport vehicle's windows will be closed during the loading activities. Once a truck is loaded with soil, a tarp will be used immediately to cover the soil and remain during transport.

2.1.4 DECONTAMINATION

Any equipment used during onsite activities including but not limited to excavators, bulldozers, and any vehicles that enter the Site will be decontaminated prior to leaving the Site. The decontamination process will entail the physical and mechanical removal of dust, soil, and debris. The decontamination processes are further detailed in Section 2.4, Transportation and Disposal of the EMP.

2.2 PHYSICAL BARRIERS

Physical barriers may be used to limit the migration of dust from the Site. If visible emissions cannot be adequately controlled through water spray, an additional wind barrier could be placed around the existing Site Areas to limit wind-

generated airborne particulates. Soil and debris stockpiles (if established) will be provided with weighted plastic covers to reduce dust generation.

2.3 APPLICATION OF MOISTURE OR DUST SUPPRESSANTS

Misting and spraying water will be conducted during soil excavation and transport loading operations. Misting and spraying water will be performed for exposed excavations, exposed soil surfaces, soil stockpiles, or other dust generation sites, at the frequency necessary to minimize dust generation. It is assumed that water obtained for dust control purposes will be municipally supplied or otherwise free of COCs and will be approved for onsite use prior to initial application. In addition, commercially available dust suppressants and sealants may be applied to dust generating surfaces to control dust emissions. Details about decontamination procedures during removal activities are included in the EMP in Section 2.4 Transportation and Disposal.

2.4 STOCKPILE MANAGEMENT

Excavated soil is then placed in a ring on the plastic, leaving several feet of free plastic around the edges such that the plastic can be folded over the soil ring to create a plastic-encased berm. If runoff from the pile and berm may exit the perimeter containment, the bermed soil must be uncontaminated. The rest of the excavated soil will then be placed inside of the soil berm. Another plastic sheet will be used to cover the stockpile such that dust and vapors do not escape and water does not enter the stockpile. If there will be more than one hour of inactivity at a stockpile, per Section 2.2, it must be covered.

2.5 PERSONAL PROTECTIVE EQUIPMENT

Proper personal protective equipment (PPE) will be used by onsite personnel to reduce exposure to dust and COCs adhered to the dust particles. At a minimum, Level D Modified protection will be required for excavation activities at the Site.

- Safety toed boots
- Safety goggles or a face shield should be used when a foreseeable splash hazard exists

3 ONSITE VAPOR CONTROL

During the excavation activities at the Site, monitoring of organic vapor levels in the air will be performed. If necessary, control measures to reduce organic vapor concentrations in the air will be utilized.

3.1 WORK PRACTICES

Excavation activities may contribute to odor and vapor emissions. Low levels of VOCs (below health screening levels) were detected in the former Sears Automotive Center area. Therefore, mitigation measures to minimize vapor emissions and associated hazards are described in the following sections.

At a minimum, the applicable requirements of BAAQMD Regulation 8 Rule 40 will be followed during excavation and management of onsite soils. Contaminated soil, as defined in Regulation 8 Rule 40 (total VOCs greater than 50 ppm), has not been detected at the Site. Applicable requirements could include advance notification to BAAQMD regarding the soil excavation activities. Work practices include limiting emissions of VOCs by promptly and thoroughly covering inactive (greater than one hour) soil stockpiles, applying water spray or vapor suppressants to working surfaces, applying water spray or vapor suppressants to active soil stockpiles and evaluating aggregate VOC emissions and covering exposed surfaces during periods of inactivity. Stockpile areas shall not exceed 6,000 square feet.

3.1.1 MAINTAIN PAVED SURFACES

It is anticipated that organic vapors will not originate from paved surfaces in the absence of any deposited or spilled soil excavated from the Site that contains elevate levels of VOCs. Therefore, the dust prevention measures described in Section 2.1.3 of this DVCP should be sufficient to control potential sources of organic vapors associated with paved surfaces.

3.1.2 DECONTAMINATION

To the extent that equipment or personnel working at the Site are identified as secondary sources of organic vapors (e.g., soil on equipment or protective clothing), As necessary, contaminated clothing will be discarded in the decontamination facility described in Section 2.4 of the EMP.

3.2 VAPOR SUPPRESSANTS AND FOAM

Application of vapor suppressants and foam may be considered for use during soil excavation, soil backfill and compaction, and transport loading operations (per monitoring outlined in Section 4 of this Plan). Application of suppressants and foam may be performed for exposed soil surfaces, soil stockpiles, debris stockpiles, or other vapor generation sites, at the frequency necessary to prevent vapor concentrations from exceeding action limits. Suppressants shall be at least as effective as water alone, be free of hazardous materials and petroleum hydrocarbons, and are subject to approval by WSP prior to use on the Site.

3.3 PERSONAL PROTECTIVE EQUIPMENT

The project Health and Safety Plan (Appendix A) discusses personal protective equipment. For consistency purposes, the information will not be reiterated here.

4 AIR MONITORING ACTIVITIES

Within the work zone, air monitoring will be conducted for the purpose of measuring dust and organic vapors. The air monitoring will be conducted (a) prior to mobilization to the Site in order to characterize background conditions, and (b) during the early stages of soil excavation to either confirm the effectiveness of dust/vapor control measures or to identify the need for more stringent measures. If air monitoring results do not meet regulatory agency requirements or protective action levels, more stringent dust/vapor control measures will be implemented. Dust monitoring will include visual assessment by the Environmental Professional for visible dust. If visible dust is observed, dust control measures will be increased.

4.1 MONITORING FOR ORGANIC VAPORS

During excavation of the soil in the Sears Area, vapor monitoring will be performed using a photo ionization detector (PID) to provide real time measurements of VOC concentrations in the breathing zone of workers. The PID readings will also be used to establish, as necessary, data for upgrading PPE.

Real time air monitoring of vapors in air will be conducted using a PID outfitted with a 10.6 electron Volt (eV) lamp and calibrated with 100 ppmv isobutylene gas. The PID should be used to monitor vapors within the workers breathing zone and at the perimeter of the Area excavation. As noted in Section 1.2, VOCs were detected in soil and soil vapor samples collected in the Sears Area. The compound detected of most concern was benzene. During the PID monitoring, the action level for organic vapors will be 0.5 ppm, based on half the PEL for benzene of 1 ppm. Site work will be initiated in modified Level D protection. The breathing zone of the workers before and during all proposed activities will be monitored using a PID calibrated to monitor levels of organic vapors. If necessary, compound-specific monitoring will be performed for benzene with colorimetric tubes (or similar) if the action level of 0.5 ppm is exceeded. Work will be temporarily halted if benzene is detected above 0.5 ppm in the colorimetric tube analysis or PID readings continue to exceed 0.5 ppm. If conditions warrant, additional PID monitoring at the closest site boundary to the area where PID detections exceed 0.5 ppm will be implemented to ensure that no emissions of concern are affecting the surrounding community

5 CONTINGENCY MEASURES

WSP and the selected excavation contractor will implement the dust and vapor control measures described in Sections 2 and 3 of this DVCP. Although not anticipated, it is possible that these measures may not sufficiently control fugitive dust and/or vapor emissions. The Contractor will maintain equipment and materials onsite to immediately respond to incidents requiring more extensive dust and/or vapor control.

If (1) air monitoring, observations or measurements made by WSP personnel, onsite workers or regulatory agencies; or (2) complaints from the public indicate that more stringent dust/vapor or odor control measures are required, the following will be performed:

1. Increase the dosage of dust/vapor or odor controls.
2. Increase the frequency of dust/vapor or odor controls.
3. Modify the composition or type of suppressants and foam.

If further dust/vapor control measures are needed, one of the following measures may be required:

4. Suspension of certain operations (anticipated only during abnormally high wind conditions or if highly odorous soils are encountered during excavation).
5. Enclosure of transport vehicle loading operations.

Typically, dust/vapor control methods which result in ponded water will not be employed. Methods which result in runoff, especially runoff to storm drains, will not be employed. In addition, contamination of underlying or surface soils, surface erosion, or a material increase in the weight of excavated soil will be prohibited.

REFERENCES

Analytical Soil Sampling and Testing Study dated October 25, 2016 and prepared by Geosphere Consultants, Inc.

Bay Area Air Quality Management District (BAAQMD) 2005. Bay Area Air Quality Management District Rules and Regulations, Regulation 8, Organic Compounds – Rule 40, Aeration of Contaminated Soil and Removal of Underground Storage Tanks. 15 July 2005.

Closure Letter report- West Side of Mall dated December 11, 2018 and prepared by WSP

Construction Management Plan for Vallco Shopping Center Shoring and Mass Excavation dated October 26, 2018 and prepared by Devcon Construction, Inc.

Environmental Site Management Plan (ESMP) revised August 2019 and prepared by WSP.

GPR Survey Report dated February 11, 2019 and prepared by WSP

Investigation and Management of PCB Contaminated Soil, Former Vallco Mall, Cupertino, California ("Summary Report")" dated August 14, 2020 and prepared by WSP

Sears Automotive Center Closure Plan dated March 26, 2019 and prepared by WSP

Sears Closure Report for the Fuel Leak site Case Closure dated December 6, 1999 and prepared by Santa Clara Valley Water District

Site Characterization Report (SCXR) revised August 2019 and prepared by WSP

Stormwater Pollution Prevention Plan (SWPPP) revised April 14, 2020 and prepared by Sandis

ACRONYMS

1,1-DCA	1,1-dichloroethane
1,1-DCE	1,1-dichloroethene
1,2-DCE	1,2-dichloroethene
1,1,1-TCA	1,1,1-trichloroethane
bgs	below ground surface
COE	California-Olive-Emerson
COPC	chemical of potential concern
DQO	data quality objective
HVAC	heating, ventilation, and air conditioning
PCE	tetrachloroethene
PID	Photoionization detector
SIM	Selective ion monitoring
TCE	trichloroethene
USEPA	U.S. Environmental Protection Agency
VIMS	vapor intrusion mitigation system
VOC	volatile organic compound
WSP	WSP USA Inc.

APPENDIX

A INVESTIGATION AND MANAGEMENT OF PCB CONTAMINATED SOIL FORMER VALLCO MALL, CUPERTINO, CALIFORNIA

WSP USA
2025 Gateway Place
Suite 348
San Jose, CA 95110

Tel.:+1 408 453-6100
Fax: +1 408 453-0496
wsp.com

August 14, 2020

Revised March 11, 2021

Vallco Property Owner, LLC
965 Page Mill Road
Palo Alto, CA 94304
Attn: Reed Moulds

Subject: Post Closure Report: Investigation and Management of PCB Contaminated Soil
Former Vallco Mall, 10101 North Wolfe Road Cupertino, California

Dear Mr. Moulds,

Per the request of the Vallco Property Owner, LLC (VPO), WSP USA Inc. (WSP) provides this summary report documenting WSP's investigation of two select areas at the former Vallco mall located at 10123 North Wolfe Road in Cupertino, California (the Site) (Figure 1) and presenting an approach to the remediation and disposal of all impacted soils at the investigation areas. WSP investigated the two areas for polychlorinated biphenyls (PCBs), consistent with the Environmental Site Management Plan (WSP, August 2019) (ESMP). The first is an area in the eastern parking lot adjacent to Wolfe Road and the former Bay Club Fitness Center, herein referred to as the Wolfe Road area. The second area is within the former Sears Automotive Center and is referred to as such below.

BACKGROUND & INVESTIGATION APPROACH

WOLFE ROAD AREA

In September 2016, Vallco retained Geosphere to conduct a subsurface investigation to collect various discrete soil samples at the Site as part of an accompanying geotechnical investigation. Geosphere drilled a total of eight borings (E-1 through E-8) using a mobile direct push GeoProbe® DT-22. A single sample from Geosphere boring E-5 at one foot below ground surface (sample E5-1) contained PCBs at a concentration of 0.523 milligrams per kilogram (mg/kg), which is above the Environmental Screening Levels (ESLs) for residential human health risks (0.230 mg/kg) as established by the San Francisco Regional Water Quality Control Board (RWQCB), revision two, July 2019 and above the Regional Screening Levels (RSLs) for human health risks (0.230 mg/kg) as established by the Department of Toxic Substance Control (DTSC), revised April 2019. The detection of PCBs above the ESL/RSL was isolated to this single sample out of the 32 samples Geosphere collected across the former shopping mall area; however, in accordance with Section 3.3 of the ESMP, WSP performed step-out sampling for PCBs in the area of boring E-5 to delineate the lateral and vertical extent of PCB concentrations in that area. VPO provided the City of Cupertino with a workplan outlining the investigation approach in August 2019 (WSP, 2019a).

Pursuant to the workplan, WSP advanced soil borings to a depth of five feet below ground surface (ft-bgs) in a general grid fashion around boring E-5 (Figure 2). Initially, four soil borings were advanced in a square shape approximately 7.5 feet (ft) away from boring E-5 on each side, with one additional boring advanced adjacent to location E-5 (boring E5P-1) to confirm the original detection of PCBs. If there was a detection of PCBs above the ESL/RSL at the initial sampling location, additional step-out boring locations were advanced in five-foot increments outwards from perimeter borings. Eventually, a total of 29 additional step-out borings were advanced to fully delineate the lateral extent of PCB contamination.

The soil borings were advanced either by hand auger or by a direct push Geoprobe® Rig equipped with Macro Core® continuous core sample tooling. Soil samples were collected at depths of one, three, and five ft-bgs. Only soil samples collected at one and three ft-bgs were analyzed initially; five ft-bgs soil samples were archived and were only analyzed if there were detections of PCBs in the three ft-bgs samples, which occurred at only two of the 34 boring locations (E5P-N and E5P-W). Samples at three ft-bgs at E5P-N-3 had laboratory reporting limits for PCBs above the ESL/RSL and there were PCBs detected at E5P-W-3 (0.046 mg/kg) below the ESL/RSL Samples collected at 5 ft-bgs at these two locations did not detect PCBs. All soil samples were analyzed for PCBs by Environmental Protection Agency (EPA) method 8082 with 18 of the 29 step outs additionally undergoing the soxhlet extraction method preferred by the EPA.

FORMER SEARS AUTOMOTIVE CENTER

The Sears Automotive Center was constructed in 1970 on the southwest side of the Mall property and was later referenced as a closed Leaking Underground Storage Tank (LUST) site on the state Geotracker website. This designation was a result of the removal of six underground storage tanks (UST) in 1985 and dispenser island and product lines in 1994. The Santa Clara County Fire Department (SCCFD) required implementation of an approved closure plan for the demolition of the former Sears Automotive Center due to the presence of an oil-water separator, hydraulic lifts, petroleum fluid pipelines, battery storage area, and lead containing materials. A Closure Plan for the Former Sears Automotive Center was submitted to the SCCFD on March 25, 2019 and approved by the SCCFD by letter dated April 11, 2019 and included soil sampling under the oil-water separator, remnant piping and any other subsurface equipment for proper characterization and subsequent disposal.

Consistent with the Closure Plan, soil samples were collected beneath an oil-water separator, acid neutralization chamber, and 17 hydraulic lifts during building demolition in January through February 2020 to determine if these features had impacted surrounding soil. All soil samples collected were analyzed for the following list of compounds:

- Total petroleum hydrocarbons (TPH) as gasoline (TPH-g), TPH as diesel (TPH-D), and TPH as motor oil (TPH-MO) by EPA method 8015 (fuel scan)
- Hexane Extractable Materials (Oil and Grease) by EPA 1664
- Volatile Organic Compounds (VOCs), with chlorinated hydrocarbons (full scan) by EPA method 8260B
- PCB's by EPA method 8082A
- Cd, Cr, Pb, Ni, and Zn by EPA 6010B
- Semi Volatile Organic Compounds (SVOCs) including Polycyclic Aromatic Hydrocarbons (PAHs) by EPA method 8270

Samples collected from beneath the acid neutralization chamber and the base of 11 hydraulic lifts after their removal, all located on the basement level in the southern portion of the former Sears Automotive Center, did not contain any detections above the respective ESL/RSLs for any of the compounds included in the analysis listed above. After the removal of six hydraulic lift cylinders in the northern portion of the former Sears Automotive Center, samples were taken at three of the six cylinders (locations HL-1, HL-4, and HL-6 on Figure 4) at approximately nine ft-bgs, which is from the soils immediately beneath the base of three of these cylinders. After the removal of the oil-water separator and associated piping, three samples were taken approximately 12 to 14 ft-bgs which is immediately beneath the separator and piping. Several of these samples yielded results that exceed the PCB ESL/RSL; two of three samples beneath the oil-water separator also exceeded the TSCA cleanup level of 1 mg/kg for PCBs. Two samples collected at a depth of nine ft-bgs, immediately below each of two (HL-4 and HL-6) of the three former hydraulic lift

cylinders, exceeded the RSL for TPH-D. Soil sample locations are shown on Figure 4 and analytical results performed for this sampling event as part of the Closure Plan are included as Table 1.

In response to the detections of PCBs above the ESL/RSL, 22 step-out borings were advanced in the northern portion of the Center to delineate the extent of PCB impacted soil and to sample under the remaining three former hydraulic lifts, HL-2, HL-3, and HL-5 (Figure 5). All step-out borings were advanced with a direct push Geoprobe® Rig equipped with Macro Core® continuous core sample tooling. The base of the hydraulic lift cylinders extended to nine ft-bgs and step-out borings for the lifts were advanced to 20 ft-bgs and samples were collected at depths of 9, 12, and 15 ft-bgs. The bottom of the oil-water separator was 12 ft-bgs and step-out borings for the separator were advanced to 25 ft-bgs and samples were collected at depths of 12, 16, and 20 ft-bgs. Additional samples were collected if staining or odor was noted, which only occurred in one boring (HL-6N5). All soil samples were analyzed for PCBs by EPA method 8082 with the Soxhlet extraction method. Additionally, select soil sample depths were sampled for TPH-d and TPH-mo by EPA method 8015.

ANALYTICAL RESULTS

WOLFE ROAD AREA

Analytical results are summarized in Table 2 and are depicted on Figure 2. Total PCBs were found above the ESL/RSL of 0.230 mg/kg in a total of 14 of the 34 borings. The detections of total PCBs above the screening levels were isolated to samples collected from one ft-bgs. The PCB detections were primarily of Aroclor-1254, which was the only Aroclor that contained concentrations greater than the respective screening level. Aroclor-1260 was also detected in some of the one ft-bgs samples; no other aroclors were detected.

Of the borings that had exceedances of the screening levels, the PCB concentration of two boring locations (E5P-W and E5P-NW10) were just above the TSCA cleanup level of 1 mg/kg, with a maximum total PCB concentration of 1.046 mg/kg. In both borings, no singular Aroclor was detected above 1 mg/kg, but rather the sum of the detected aroclors (aroclor-1254 and aroclor-1260) was just above 1 mg/kg.

FORMER SEARS AUTOMOTIVE CENTER

Analytical results are summarized in Table 3 (TPH results) and Table 4 (PCB results) and are depicted on Figures 6 and 7. Of the twenty-two step-out borings, only three discrete samples contained detectable concentrations of PCBs. As discussed above, soil samples taken at approximately nine ft-bgs, which is from immediately beneath each of three of the hydraulic cylinders and three samples taken approximately 12 to 14 feet bgs immediately beneath the oil-water separator contained PCBs exceeding the RSL of 0.230 mg/kg PCBs. Additionally, two of the three samples beneath the oil-water separator exceeded 1 mg/kg of PCBs at 14 feet, with a maximum concentration of 1.9 mg/kg; however, none of the step-out borings detected concentrations of PCBs above the ESL/RSL.

Additionally, only one step out boring discrete sample (OWPI-W5-20) detected TPH-d above the ESL; however, the detection was qualified by the laboratory as not exhibiting the standard chromatographic pattern for TPH-d. However, this sample falls within the excavation area described below and soil will be removed to 21 ft-bgs, or one foot below the sample depth for OWPI-W5-20.

REMEDIAL APPROACH; SOIL EXCAVATION AND DISPOSAL; EPA REGULATORY COMPLIANCE

Under the ESMP, VPO must notify the City if the planned additional sampling finds PCB levels in excess of residential screening levels, and a determination will be made "as to whether a regulatory agency should be contacted to determine if regulatory oversight is required, prior to issuance of a permit that allows soil disturbance in the area of boring E-5."

Given that each of the areas contained PCBs above 1 mg/kg and are located within the footprint of the planned development, excavation that will extend to a depth of five ft-bgs and up to 32 ft-bgs at the Wolfe Road and former Sears Automotive Center areas, respectively. The project team contacted EPA on two occasions in March 2020 and February 2021 to identify an appropriate remedial approach that is consistent with TSCA. Steve Armann, EPA Region 9's PCB Program Coordinator, indicated the following through an e-mail dated February 10, 2021, responding to an e-mail on behalf of the VPO concerning specific conditions at the Former Vallco Mall site:

> "40 CFR 761.61(b) allows for disposal of PCB Remediation Waste without notification or approval from EPA. However, the remediation waste must be disposed of at a TSCA regulated facility...We recommend that you maintain sampling and disposal records. Otherwise there isn't any requirement to follow 761.61(a)."

Among other things, 40 CFR 761.61(b) requires soil containing PCBs above the TSCA threshold of 1 mg/kg to be disposed of as a TSCA waste at a TSCA landfill. In the interest of being consistent with 40 CFR 761.61(a), confirmation base of excavation will be generally performed with sampling using grids with sample spacing every 1.5 meters (approximately five feet) to verify that soil with PCB concentrations greater than 1 mg/kg and 0.230 mg/kg are removed from the previously characterized areas. Confirmation soil samples will generally be collected at the 1.5 meter spacing for excavation bottoms and serve as confirmation samples for the excavation of PCBs impacted soil above 0.230 mg/kg. Specific concerning sidewall sampling are covered in the sections below. The areas that have been identified to contain PCBs above the ESL/RSL of 0.230 mg/kg but are less than the TSCA threshold limit of 1 mg/kg, will be disposed of according to waste acceptance standards for soils containing PCBs at a licensed landfill.

WOLFE ROAD AREA

Based on the approach noted above, WSP estimates that approximately 7 cubic yards of soil, which may contain concentrations of PCBs that equal or exceed 1 mg/kg, will need to be removed from the Wolfe Road area for disposal to a TSCA landfill pursuant to 40 CFR 761.61(b). This total proposed excavation area will be approximately 60 square feet and will extend to three ft-bgs. The PCB excavation area is depicted in context with the project excavation area on Figure 3.

PCBs were not detected above the laboratory reporting limits (RLs) in sample E5P-N-3; however, the RLs for sample E5P-N-3 were high (RL of 1,300 mg/kg for PCB Aroclor 1221 and RL of 660 mg/kg for each of six other PCB Aroclors). The laboratory indicated that the source of the high RLs for sample E5P-N-3 resulted from a hydrocarbon-rich matrix and was therefore not necessarily the result of high PCBs in soil. PCBs were not detected in the soil sample (E5P-N-5) collected from 5 feet bgs at location E5P-N. However, based upon the uncertainties concerning PCB concentrations in the area of E5P-N-3, the soil excavated from the E5P-N area (within an area of 37.5 square feet and four feet deep;

approximately 5.5 cubic yards excavated soil volume)[1] will be segregated. Confirmation samples will be collected at a depth of four feet bgs, the planned excavation depth at the location of E5P-N-3 (see Figure 2A). The segregated soil will be disposed of with the other TSCA-landfill soil. If PCB concentrations in the confirmation samples are greater than 0.230 mg/kg mg/kg, the area will be over-excavated until the confirmation soil samples are less than 0.230 mg/kg, the residential ESL and the over-excavated soils will also be disposed of with the other TSCA-landfill soil. Similarly, sidewall confirmation samples will be collected at three feet and four feet bgs from the four sidewalls of the excavation surrounding E5P-N,(see Figure 2A) consistent with the approach for other excavation areas, to ensure that soils containing PCBs exceeding 0.230 mg/kg have been removed.

The remaining area with PCBs detected above the ESL/RSL of 0.230 mg/kg at one ft-bgs is approximately 714 square feet. Excavation for removal of the PCB contaminated soils to three ft-bgs of this area would yield approximately 73 cubic yards of soil. An outline of the proposed excavation areas is shown on Figures 2 and 3. As noted, confirmation sampling will utilize a grid of approximately 5 feet (1.5 meters) for base of excavation and sidewall samples on the walls of this completed excavation at one foot bgs and three feet bgs.

FORMER SEARS AUTOMOTIVE CENTER

In the area beneath the former oil-water separator where samples exceeded 1 mg/kg of PCBs, WSP proposes to excavate and remove soils from beneath the separator over an area of a 10 feet by 20 feet rectangle at a depth from 12 feet to 21 feet (Figure 8) and arrange for proper disposal of all PCB impacted soils at a TSCA landfill (approximately 66 cubic yards), consistent with 40 CFR 761.61(b). In the area beneath the three hydraulic lift cylinders where soil samples exceeded the PCB ESL/RSL (but are below 1 mg/kg), WSP proposes to excavate and remove soils from beneath each hydraulic cylinder from nine feet to 12 feet bgs and segregate these excavated soils for disposal according to waste acceptance standards for soils containing PCBs at an appropriately licensed landfill. Confirmation samples collected from the excavation around the hydraulic lifts (HL-4 and HL-6) will also be analyzed for TPH-d by EPA Method 8015 to confirm concentrations are below the ESL. The volume of soils to be excavated and segregated for excavation beneath the three former cylinders is estimated at nine cubic yards. Excavation profiles in the former Sears area are shown on Figure 8.

Select confirmation samples collected in the Sears Area (including beneath sample OWPI-W5-20) will be analyzed for VOCs and TPH-d by methods 8260B and 8015 (fuel scan), respectively in an abundance of caution to address some low-level detections of VOCs.

Bottom of excavation confirmation samples will be collected at a grid spacing of approximately five feet. Confirmation sidewall samples will be collected from sidewalls at 12 feet bgs, 16 feet bgs, 20 feet bgs, and 21 ft bgs along the four walls of the planned boundaries of the separator excavation.

Remediation of the former Sears Automotive Center was planned to be performed with oversight/review from the SCCFD under the approved Closure Plan. In August 2020, the SCCFD transferred this responsibility to the Santa Clara County Department of Environmental Health (SCCDEH). The SCCDEH indicated that it may not assume an active oversight role in the removal activities outlined herein but

[1] The closest sampling points to location E5P-N-3 are 5 feet away in three directions and 10 feet away to the south. Therefore, the segregated soil area will be 2.5 feet from location E5P-N-5 to the west, north, and east and 5 feet to the south, resulting in a 37.5 square foot area. The excavation area surrounding E5P-N is depicted on Figures 2 and 3 by a small rectangle located east of the larger excavation rectangle. Confirmation samples at the base of the excavation will be collected at the mid-point of each of the excavation walls and in the center of the excavation and on the four sidewalls as noted above.

would review the Completion Report for the removal activities (referenced below). A Soil Vapor Investigation Report prepared by WSP dated January 26, 2021 will be shared with the SCCDEH. The oversight issue with the SCCDEH is pending final resolution.

Per Section 4, Reporting Requirements, of the ESMP, a closure implementation report ("Completion Report") documenting the removal activities, soil disposal, and confirmation sample results will be generated with the removal of contaminated soils from the former Sears Automotive center and the Wolfe Road area with a copy provided to the SCCDEH for review, comment, and approval and a copy will be submitted to the City of Cupertino. If additional impacted soils are uncovered during subsequent mass excavation activities, the analysis and subsequent disposal of the impacted soil will also be documented in the ESMP Completion Report.

Sincerely,

Richard E. Freudenberger
Senior Director

408.206.3504

REFERENCES

WSP. 2019. Environmental Site Management Plan, Former Vallco Shopping Mall, 10123 North Wolfe Road, Cupertino, California. August.

WSP. 2019a. Workplan for Former Vallco Mall, Delineation of Extent of PCB Impact to Soil. August 20.

FIGURES

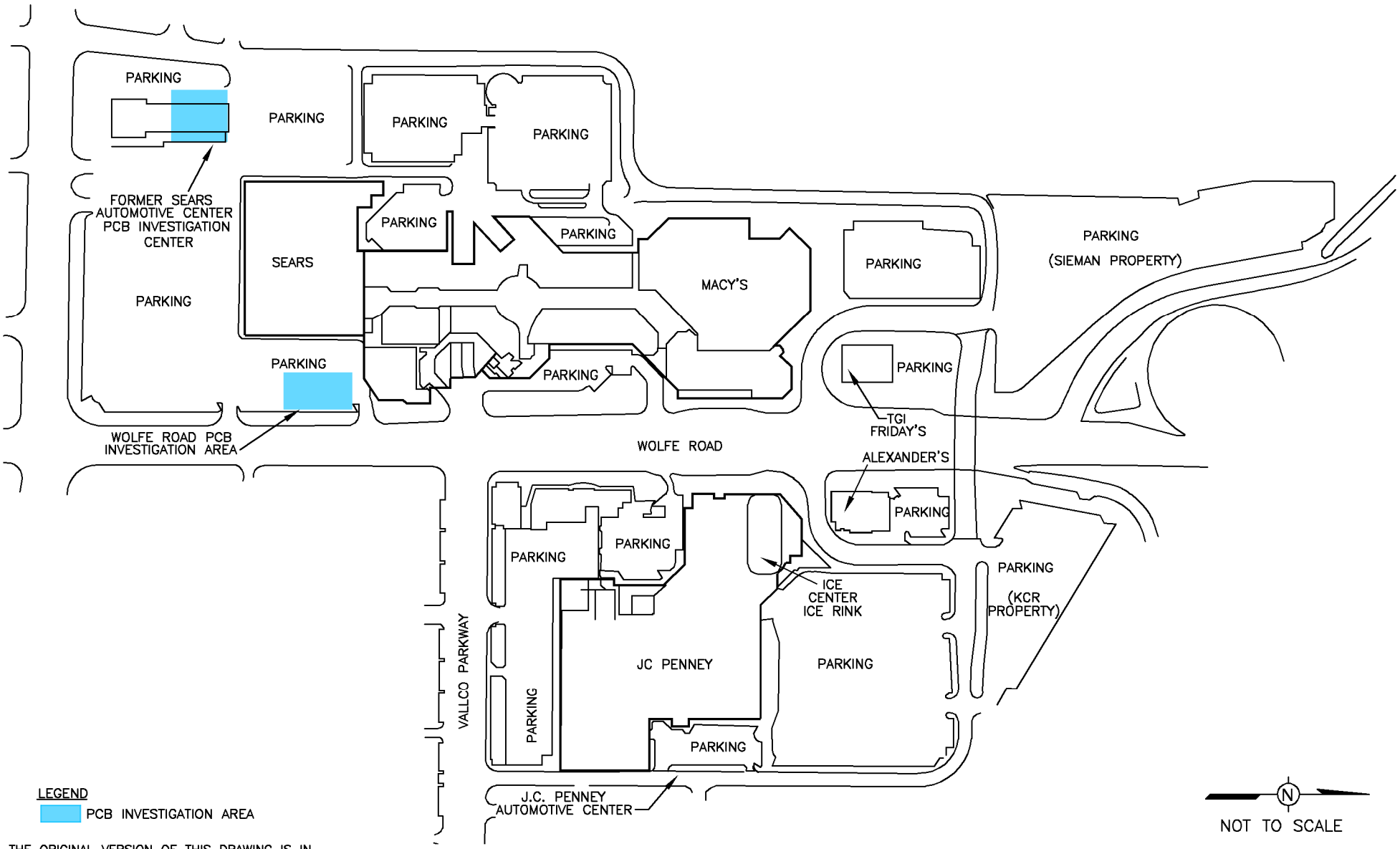
Figure 1 – PCB Investigation Areas
Figure 2 – Wolfe Road PCB Investigation Area
Figure 2A- Confirmation Sample Location- E5P-N-3
Figure 3 – Wolfe Road PCB Excavation Area
Figure 4 – Sears Automotive Center Closure Sample Locations
Figure 5 – Sears Automotive Center PCB Investigation Area
Figure 6 – Hydraulic Lift Step-Out Borings
Figure 7 – Oil-Water Separator Step-Out Borings
Figure 8 – Excavation Profiles

TABLES

Table 1 – Summary of Sears Closure Soil Data
Table 2 – Wolfe Road PCB Data
Table 3 – Sears Center TPH Data
Table 4 – Sears Center PCB Data

FIGURES

R:\Acad\CADD_CLIENTS\VALLCO FASHION MALL\31402265.000\CADD\314MN2265.000-003.dwg 6/10/2020 8:55 PM USLS01166



LEGEND

PCB INVESTIGATION AREA

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A

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SAN JOSE, CA 95110
TEL: +1 408.453.6100

Figure 1

PCB INVESTIGATION AREAS

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

PREPARED FOR

VALLCO PROPERTY OWNER, LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	6/10/2020
Checked:	ER	6/10/2020
Approved:		
DWG Name: 314MN2265.000-003		

NORTH WOLFE ROAD

GRAPHIC SCALE

0 2 4 6 8 10

1 inch = 10 ft.

LEGEND

— — — —	EXISTING PROPERTY LINE
ESP-WW10-1	SAMPLE ID
232	TOTAL PCB CONCENTRATION (mg/kg) RESIDENTIAL PCB ESL = 0.23 (mg/kg)
●	SAMPLE LOCATION (APPROXIMATE LOCATIONS)
ND	NON-DETECT, COMPOUND WAS NOT DETECTED AT A CONCENTRATION GREATER THAN THE REPORTING LIMIT
J	COMPOUND WAS DETECTED AT A CONCENTRATION LESS THAN THE LABORATORY REPORTING LIMIT, BUT GREATER THAN THE METHOD DETECTION LIMIT
SO-NE1-1	SAMPLE ID'S IN ORANGE FONT INDICATE AN EXCEEDANCE OF THE PCB RESIDENTIAL ESL
ESP-NW10-1	SAMPLE ID'S IN RED FONT INDICATE AN EXCEEDANCE OF THE TOXIC SUBSTANCES CONTROL ACT (TSCA) CLEANUP LEVEL OF 1 mg/kg
●	CONFIRMATION SAMPLES (APPROXIMATE LOCATIONS)

SANDIS

Drawn By: SY 2/3/2021
Checked: ND 2/3/2021
Approved:
DWG Name: PCB EXHIBIT – EX-1

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFONIA

FIGURE 2

WOLFE ROAD PCB INVESTIGATION AREA

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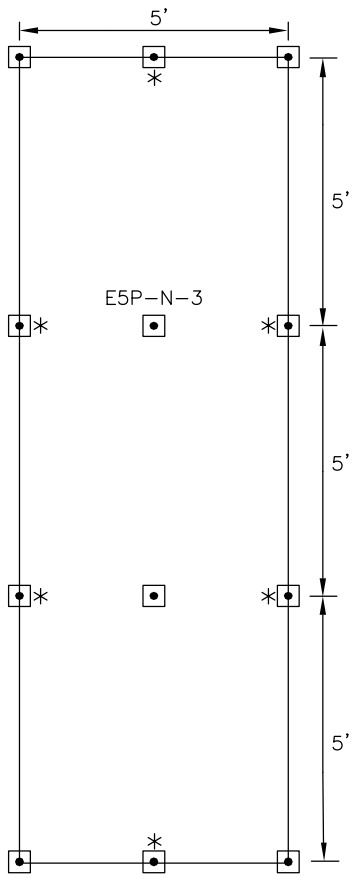
B

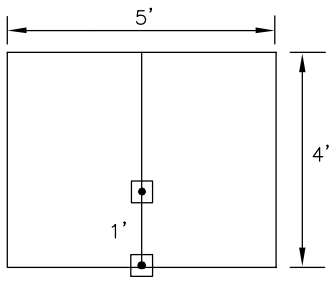
S:\215028\(4) ENGINEERING\(3) EXHIBITS\PCB Exhibits\PCB EXHIBIT - EX-1.dwg 2/3/2021 11:55 AM Lsolis

LEGEND
⊡ CONFIRMATION SAMPLE LOCATION

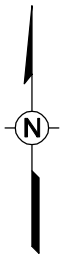
NOTE:
TWELVE (12) SIDEWALL SAMPLES WILL BE COLLECTED, AT TWO DEPTHS (3' AND 4' BGS) AT LOCATIONS WITH * ON SIDEWALL.



E5P-N-3-BASE OF EXCAVATION
WOLFE ROAD AREA



TYPICAL E5P-N-3-
SIDEWALL SAMPLES
FOR EACH SIDEWALL
WOLFE ROAD AREA



NOT TO SCALE

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Figure 2A

CONFIRMATION SAMPLE LOCATION – EXCAVATION IN AREA OF E5P-N-3, WOLFE ROAD AREA

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER, LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	2/25/2021
Checked:	REF	2/25/2021
Approved:		
DWG Name:	314MN2265.000-012	

NORTH WOLFE ROAD

VEHICULAR ROAD

EXISTING PROPERTY LINE

PROPOSED LANDSCAPE AREA

PROPOSED CURB

AREA OF PROJECT EXCAVATION OF APPROXIMATLY 5'

BIKE LANE

PROPOSED CURB

VEHICULAR ROAD

PROPOSED CURB

PROPOSED PROPERTY LINE

SHORING LIMIT

PROPOSED DRIVEWAY

REMEDIAL EXCAVATION TO 3' BELOW EXISTING GRADE

SANDIS

GRAPHIC SCALE

0 2 4 6 8 10

1 inch = 10 ft.

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROJECT EXCAVATION
- PROJECT EXCAVATION (~5' DEPTH)
- PROJECT EXCAVATION (~20' DEPTH)

B

Drawn By: SY 2/3/2021

Checked: ND 2/3/2021

Approved:

DWG Name:PCB EXHIBIT – EX-2

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

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VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFONIA

FIGURE 3

WOLFE ROAD PCB EXCAVATION AREA

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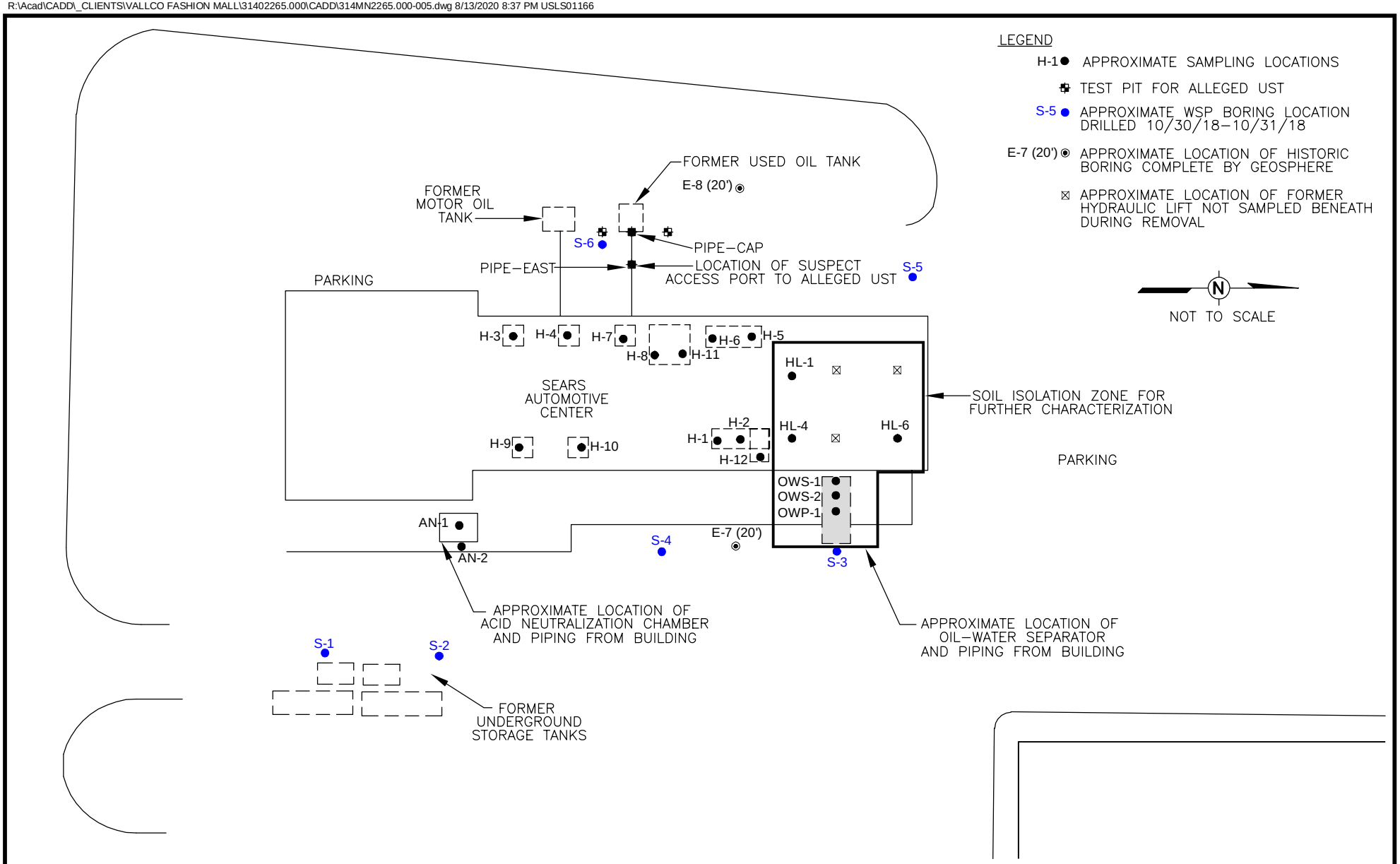

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Figure 4

SAMPLING LOCATIONS – SEARS AUTOMOTIVE CENTER

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	6/10/2020
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Approved:		
DWG Name:	314MN2265.000–005	

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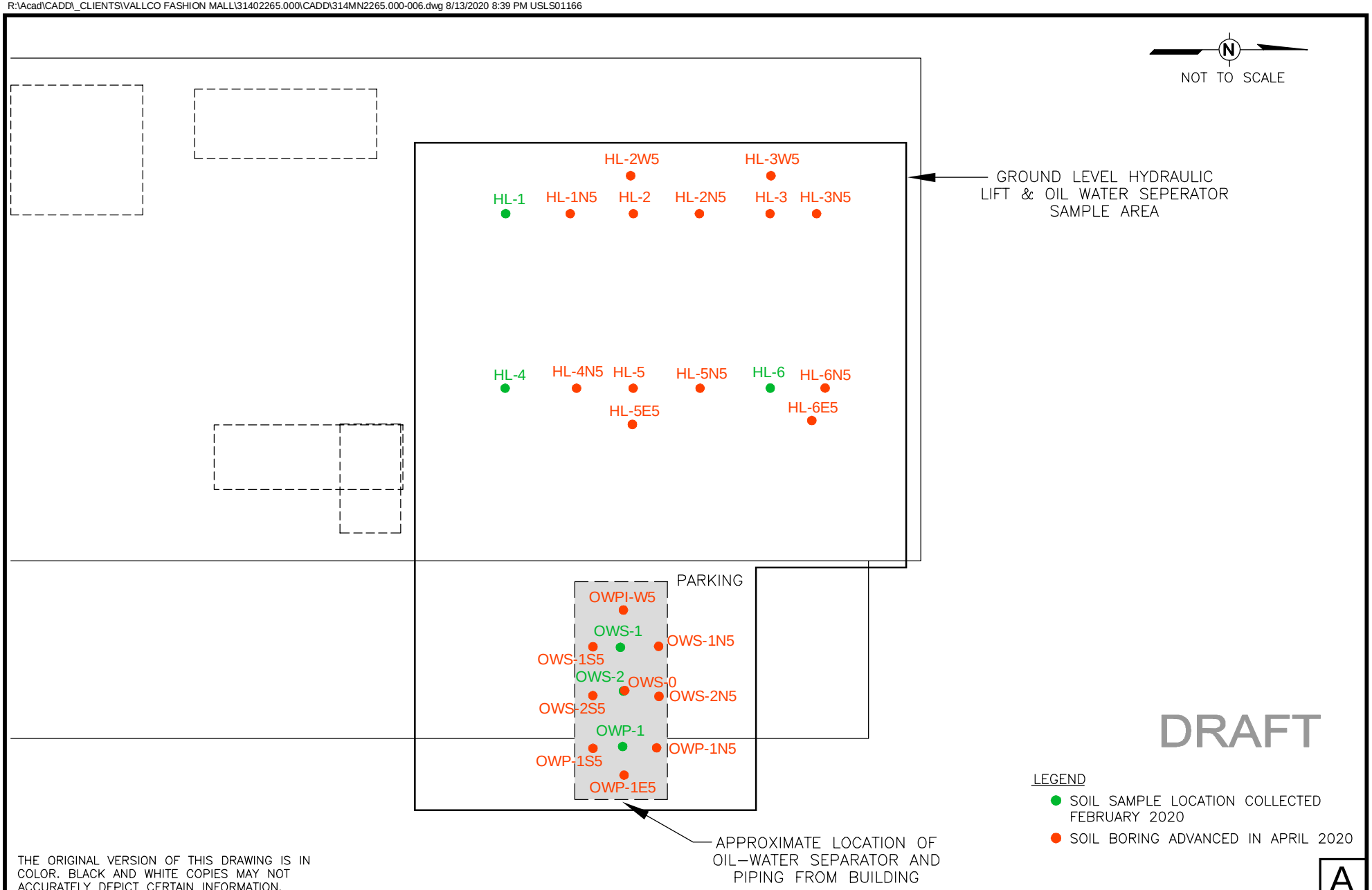

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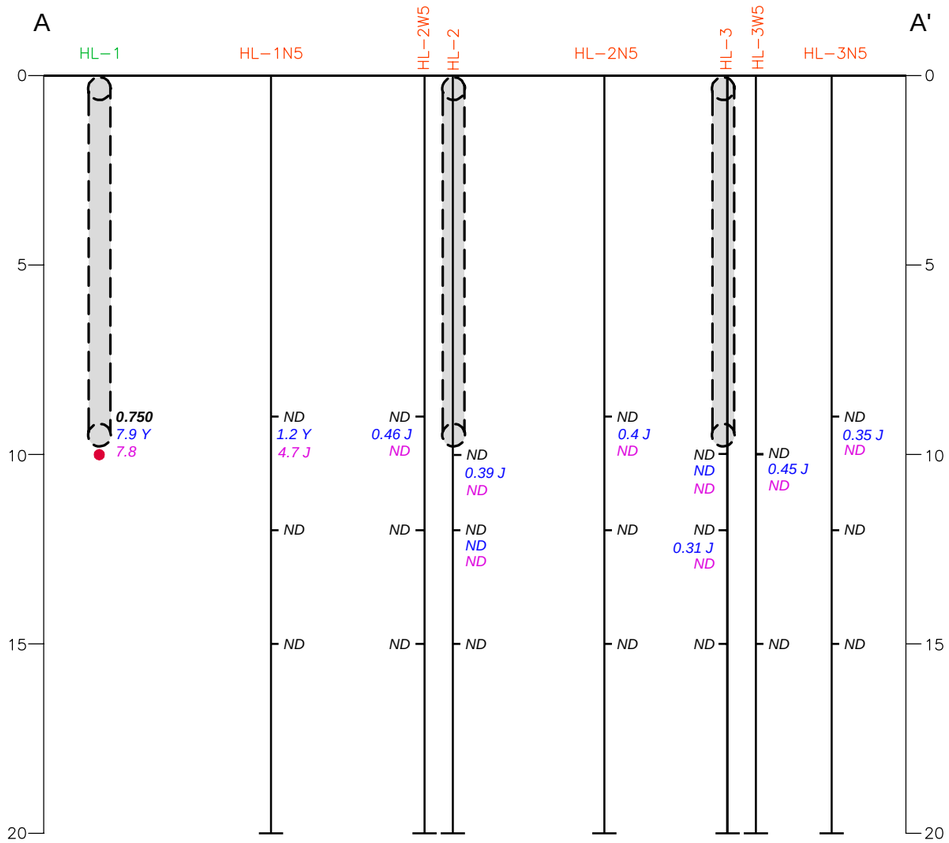
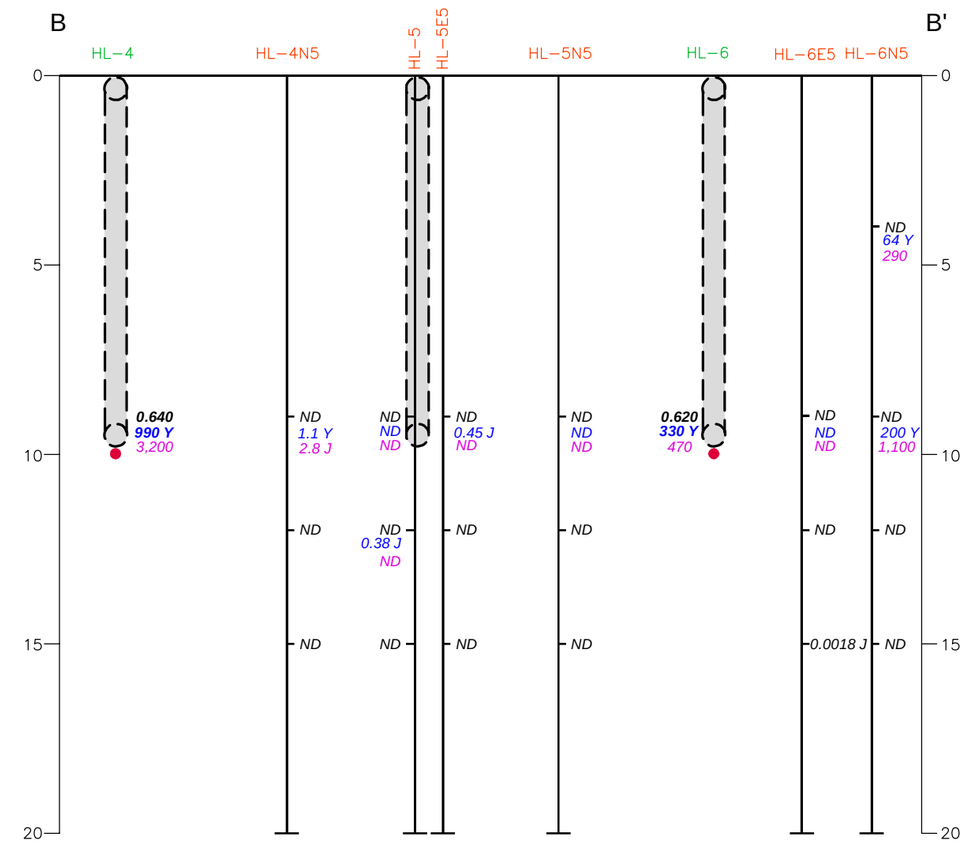
Figure 5

PCB INVESTIGATION AREA – SEARS AUTOMOTIVE CENTER

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFORNIA

Drawn By: LS	6/10/2020
Checked: ER	6/10/2020
Approved:	
DWG Name: 314MN2265.000–006	





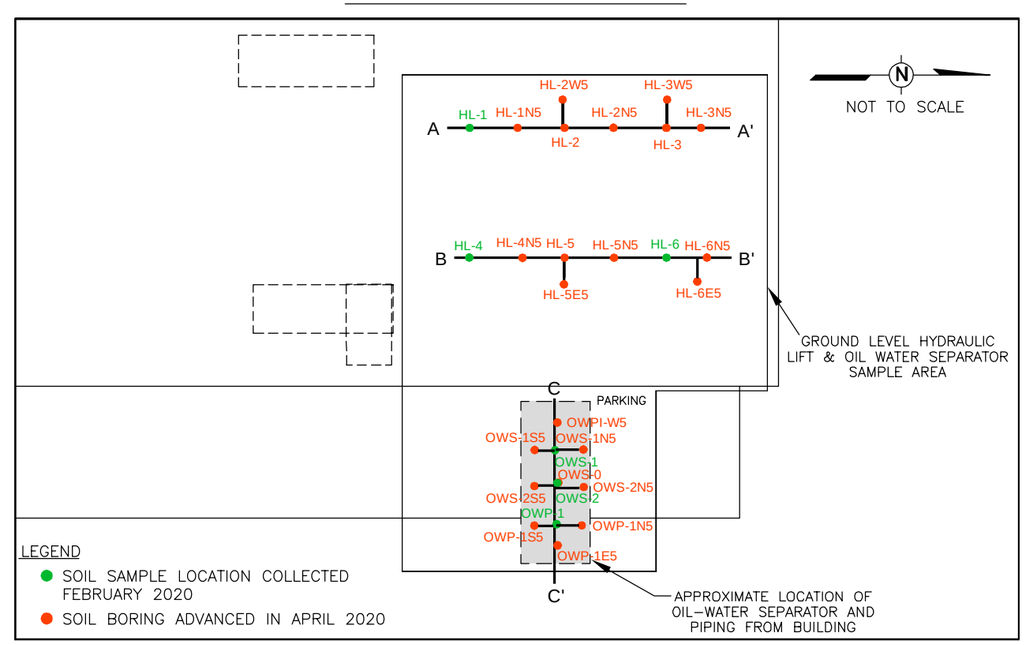
LEGEND

- VERTICAL BORING
- GRAB SAMPLE
- *ND* — NOT DETECTED
- HL–1 — SOIL SAMPLE LOCATION COLLECTED IN FEBRUARY 2020 FROM THE BUCKET OF AN EXCAVATOR
- HL–IN5 — SOIL BORING ADVANCED IN APRIL 2020 WITH GEOPROBE RIG EQUIPPED WITH CONTINUOUS SOIL SAMPLERS
- ALL RESULTS ARE IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg)
- *0.750* — POLYCHLORINATED BIPHENYLS (PCB), SUM
- *7.9* — TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL
- *7.8* — TPH AS MOTOR OIL
- *0.0018 J* — ESTIMATED CONCENTRATION DETECTED BELOW LABORATORY REPORTING LIMIT BUT ABOVE THE METHOD DETECTION LIMIT
- *7.9 Y* — SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN WHICH DOES NOT RESEMBLE STANDARD
- ***BOLD*** VALUES INDICATE AN EXCEEDANCE OF THE RESPECTIVE RESIDENTIAL ENVIRONMENTAL SCREENING LEVEL (ESL)
- APPROXIMATE PROFILE OF HYDRAULIC LIFT CYLINDERS (ALREADY REMOVED)

VERTICAL SCALE (IN FEET): 4

HORIZONTAL SCALE (IN FEET): 10

CROSS SECTION LOCATION MAP



Drawn By: LS 8/6/2020
Checked: ER 8/6/2020
Approved:
DWG Name: 314MN2265.000-001

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFORNIA

Figure 6

CROSS SECTIONS A–A' AND B–B'
SEARS AUTOMOTIVE CENTER

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TEL: +1 408.453.6100

B

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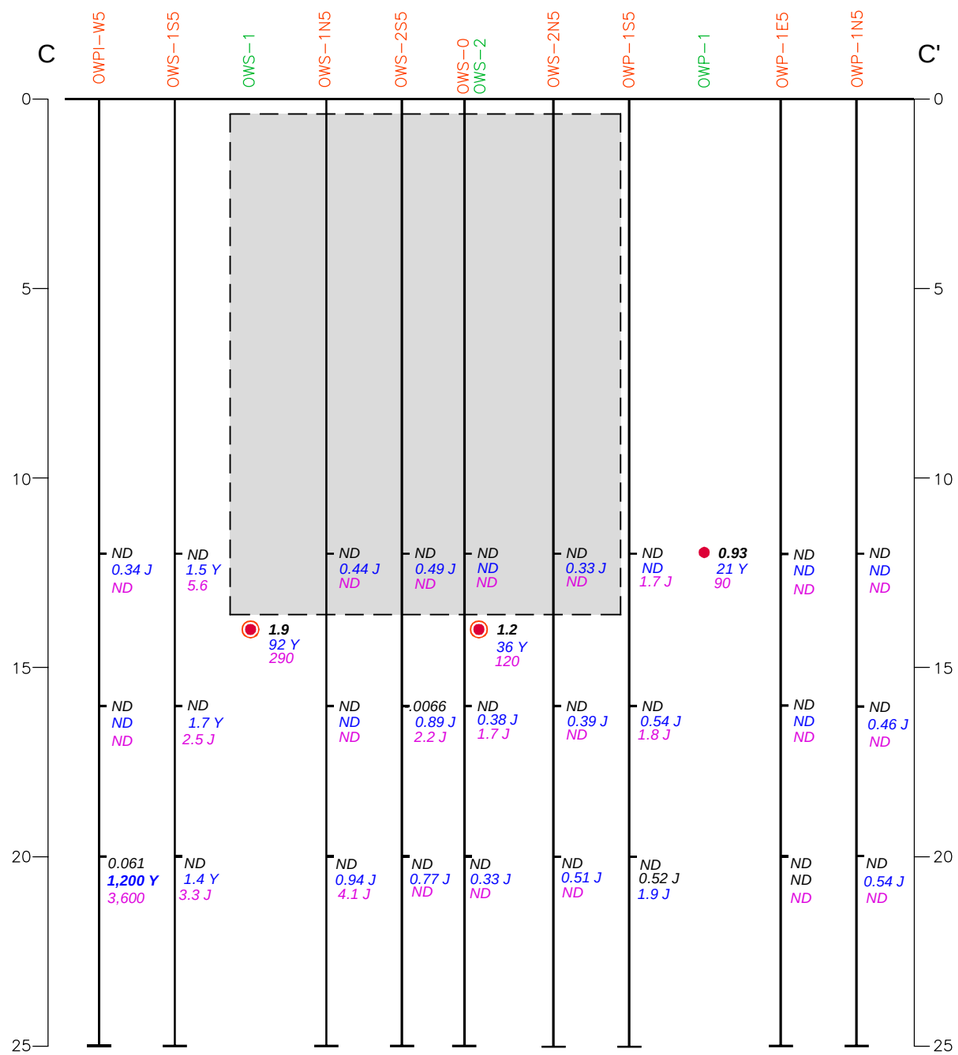
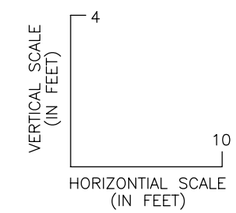
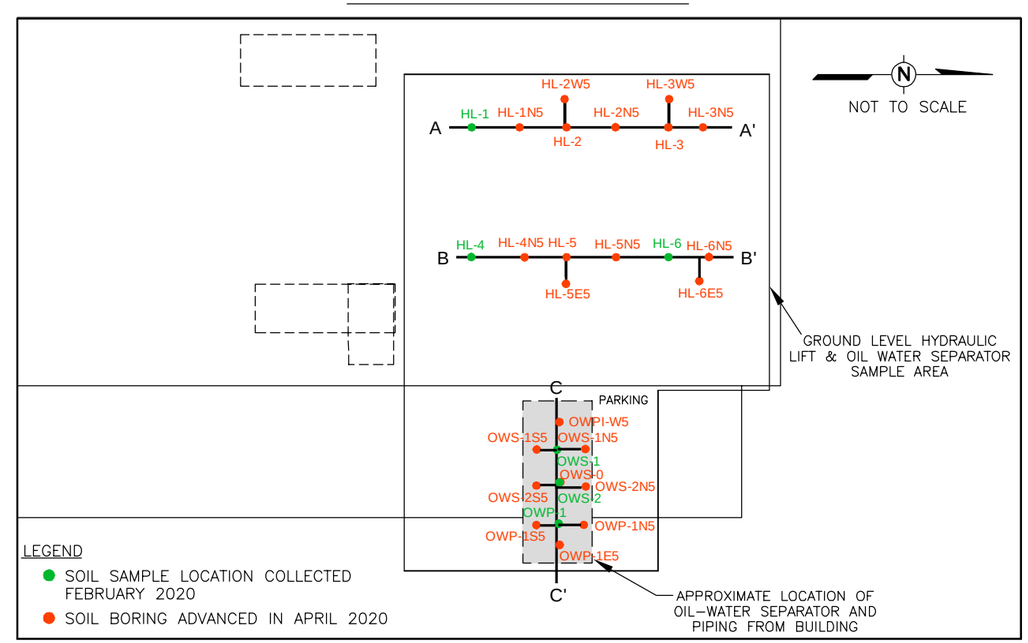


LEGEND

	VERTICAL BORING
●	GRAB SOIL SAMPLE
ND	NOT DETECTED
OWS–1	SOIL SAMPLE LOCATION COLLECTED IN FEBRUARY 2020 FROM THE BUCKET OF AN EXCAVATOR
OWS–1N5	SOIL BORING ADVANCED IN APRIL 2020 WITH GEOPROBE RIG EQUIPPED WITH CONTINUOUS SOIL SAMPLERS
	ALL RESULTS ARE IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg)
0.750	POLYCHLORINATED BIPHENYLS (PCB), SUM
7.9	TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL
7.8	AS MOTOR OIL
0.0018 J	ESTIMATED CONCENTRATION DETECTED BELOW LABORATORY REPORTING LIMIT BUT ABOVE THE METHOD DETECTION LIMIT
7.9 Y	SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN WHICH DOES NOT RESEMBLE STANDARD
	BOLD VALUES INDICATE AN EXCEEDANCE OF THE RESPECTIVE RESIDENTIAL ENVIRONMENTAL SCREENING LEVEL (ESL)
◉	SOIL SAMPLE PCB CONCENTRATION IS ABOVE THE TSCA CLEANUP LEVEL 1 mg/kg
	APPROXIMATE PROFILE OF OIL–WATER SEPARATOR (ALREADY REMOVED)



CROSS SECTION LOCATION MAP



Drawn By: LS 8/6/2020
Checked: ER 8/6/2020
Approved:
DWG Name: 314MN2265.000-002

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFONIA

Figure 7

CROSS SECTIONS C–C'
SEARS AUTOMOTIVE CENTER

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B

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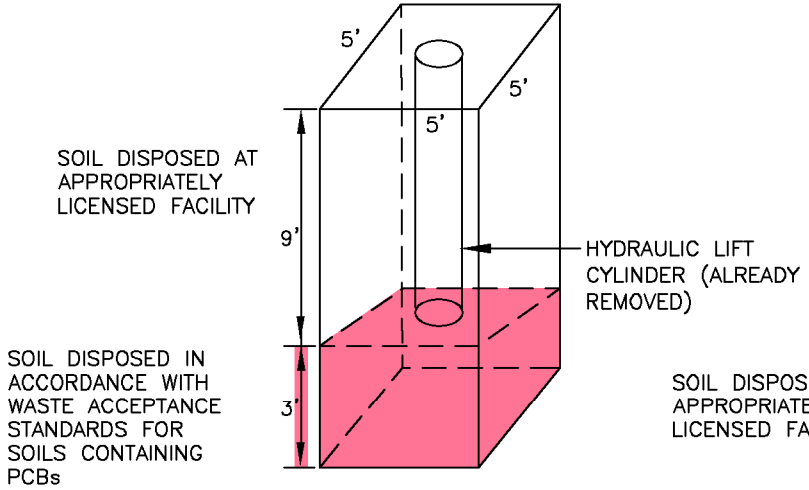
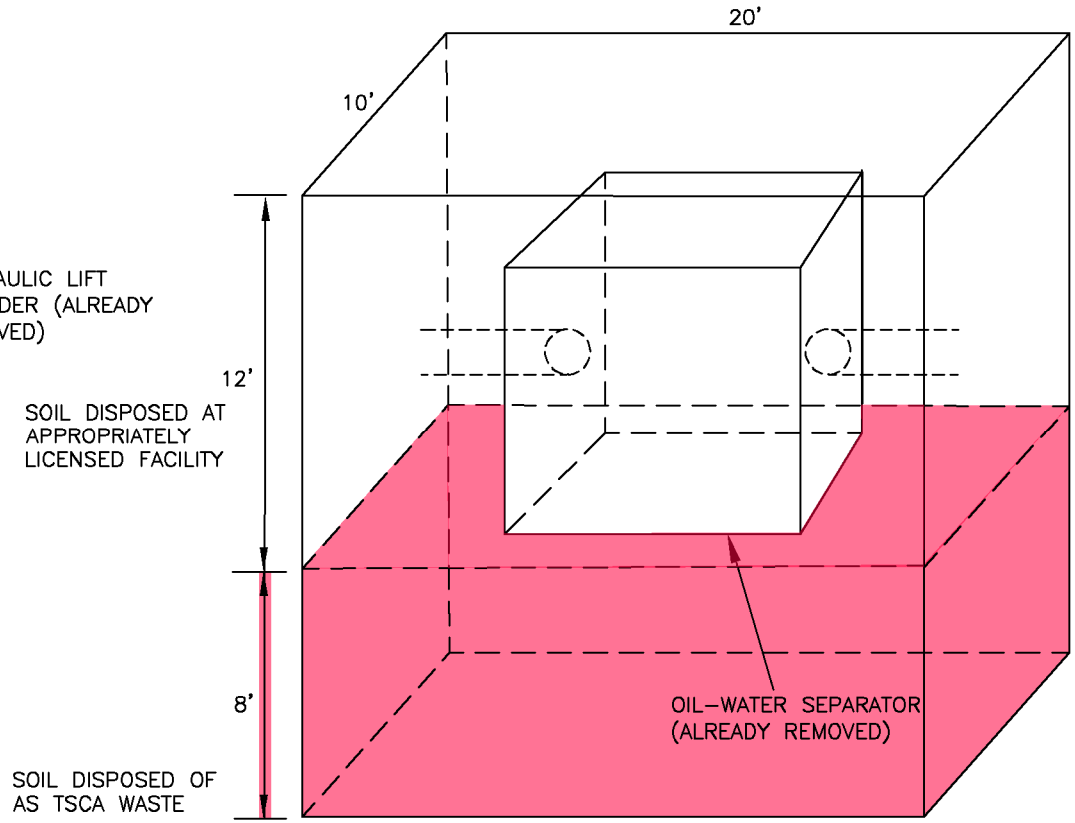
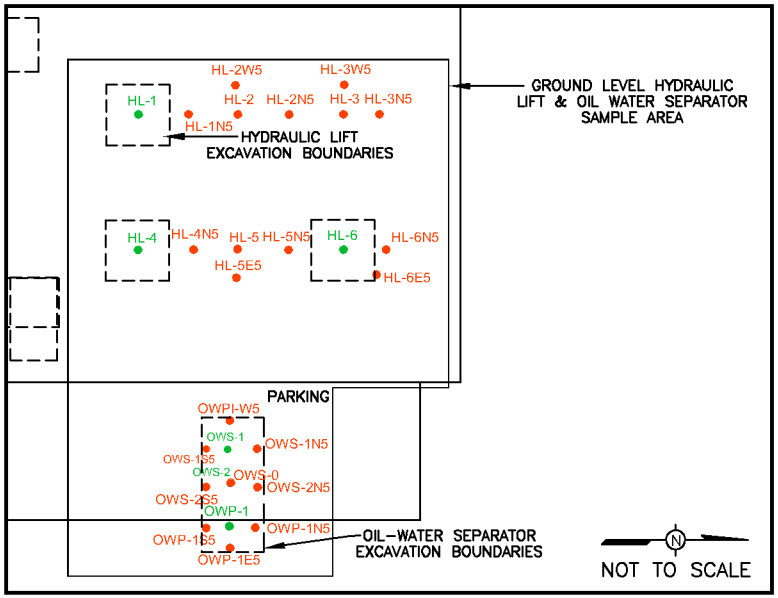


TYPICAL EXCAVATION PROFILES FOR HYDRAULIC LIFTS (HL–1, HL–4, HL–6)



OIL–WATER SEPARATOR EXCAVATION PROFILE

INSET MAP



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SAN JOSE, CA 95110
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Figure 8

FORMER SEARS AUTOMOTIVE CENTER EXCAVATION PROFILES

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
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VALLCO PROPERTY OWNER, LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	8/6/2020
Checked:	ER	8/6/2020
Approved:		
DWG Name:	314MN2265.000–007	

TABLES

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Sample ID [1][2] / Sample Date		ESLs Residential	RSLs Residential	H-1 1/22/20		H-2 1/22/20		H-3 1/22/20		H-4 1/22/20		H-5 1/22/20		H-6 1/22/20		H-7 1/22/20	
Purgeable Aromatics & Total Petroleum Hydrocarbons																	
TPH-g	(mg/kg)	430	--	1	U	1	U	0.98	U	1	U	0.93	U	1	U	1	U
TPH-d	(mg/kg)	260	--	0.92	J	0.70	J	1.1	J	**27**	**Y**	2	U	**3.5**	**Y**	**4.4**	**Y**
TPH-mo	(mg/kg)	12,000	--	10	U	9.9	U	6.2	J	**86**		9.9	U	**15**		**19**	
Oil & Grease	(mg/kg)	--	--	500	U	500	U	500	U	500	U	500	U	500	U	500	U
SVOCs & PAHs [3]																	
bis(2-Ethylhexyl)phthalate	(µg/kg)	3.9E+04	3.9E+04	340	U	340	U	20	J	27	J	340	U	340	U	17	J
VOCs [3]																	
Acetone	(µg/kg)	6.1E+07	--	17	U	20	U	16	U	4.9	J	17	U	3.6	J	16	U
1,1-Dichloroethane	(µg/kg)	3.6E+03	3.6E+03	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
2-Butanone	(µg/kg)	--		8.3	U	10	U	8.2	U	8	U	8.3	U	9.2	U	8.1	U
1,1,1-Trichloroethane	(µg/kg)	1.7E+06	1.7E+06	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
4-Methyl-2-Pentanone	(µg/kg)	--	--	8.3	U	10	U	8.2	U	8	U	8.3	U	0.7	J	8.1	U
Toluene	(µg/kg)	1.1E+06	1.1E+06	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
Tetrachloroethene	(µg/kg)	5.9E+02	5.9E+02	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
Naphthalene	(µg/kg)	3.8E+03	2.0E+03	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
Metals																	
Cadmium	(mg/kg)	78	71	0.24	J	0.25	J	**0.34**		**0.37**		**0.35**		**0.33**		**0.30**	
Chromium	(mg/kg)	--	--	**55**		**47**		**52**		**55**		**51**		**54**		**57**	
Lead	(mg/kg)	80	80	**6.2**		**5.0**		**8.6**		**9.3**		**10**		**7.8**		**9.1**	
Nickel	(mg/kg)	820	820	**57**		**49**		**62**		**66**		**76**		**65**		**65**	
Zinc	(mg/kg)	23,000	23,000	**46**		**40**		**61**		**63**		**62**		**55**		**59**	
PCBs [2]																	
Aroclor-1254	(mg/kg)	0.230	0.240	0.012	U	0.012	U	**0.058**		**0.061**		0.012	U	0.012	U	**0.021**	

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Sample ID [1][2] / Sample Date		ESLs Residential	RSLs Residential	H-8 1/22/20		H-9 1/22/20		H-10 1/22/20		H-11 1/22/20		H-P-12 1/22/20		AN-1 1/22/20		AN-2 1/22/20	
Purgeable Aromatics & Total Petroleum Hydrocarbons																	
TPH-g	(mg/kg)	430	--	1.1	U	1.1	U	1.1	U	1.1	U	1	U	0.96	U	0.96	U
TPH-d	(mg/kg)	260	--	2	U	**9.2**	**Y**	**7.9**	**Y**	**2.2**	**Y**	**3.2**	**Y**	**2.8**	**Y**	**3.2**	**Y**
TPH-mo	(mg/kg)	12,000	--	10	U	**49**		**39**		10	U	6.0	J	3.1	J	3.9	J
Oil & Grease	(mg/kg)	--	--	500	U	500	U	500	U	500	U	500	U	500	U	500	U
SVOCs & PAHs [3]																	
bis(2-Ethylhexyl)phthalate	(µg/kg)	3.9E+04	3.9E+04	330	U	**5,900**		96	J	330	U	340	U	330	U	330	U
VOCs [3]																	
Acetone	(µg/kg)	6.1E+07	--	18	U	16	U	3.7	J	16	U	17	U	19	U	19	U
1,1-Dichloroethane	(µg/kg)	3.6E+03	3.6E+03	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
2-Butanone	(µg/kg)	--		8.8	U	8	U	8	U	8.2	U	8.4	U	9.6	U	9.6	U
1,1,1-Trichloroethane	(µg/kg)	1.7E+06	1.7E+06	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
4-Methyl-2-Pentanone	(µg/kg)	--	--	8.8	U	8	U	8	U	8.2	U	8.4	U	9.6	U	9.6	U
Toluene	(µg/kg)	1.1E+06	1.1E+06	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
Tetrachloroethene	(µg/kg)	5.9E+02	5.9E+02	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
Naphthalene	(µg/kg)	3.8E+03	2.0E+03	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
Metals																	
Cadmium	(mg/kg)	78	71	**0.29**		**0.39**		**0.30**		**0.31**		**0.34**		**0.32**		**1.8**	
Chromium	(mg/kg)	--	--	**52**		**59**		**55**		**56**		**54**		**78**		**97**	
Lead	(mg/kg)	80	80	**7.7**		**10**		**8.3**		**7.2**		**9.4**		**7.5**		**7.6**	
Nickel	(mg/kg)	820	820	**71**		**76**		**65**		**70**		**70**		**88**		**86**	
Zinc	(mg/kg)	23,000	23,000	**55**		**73**		**58**		**53**		**69**		**57**		**69**	
PCBs [2]																	
Aroclor-1254	(mg/kg)	0.230	0.240	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Sample ID [1][2] / Sample Date		ESLs Residential	RSLs Residential	OWS-1 2/7/20		OWS-2 2/7/20		OWP-1 2/7/20		HL-1 2/7/20		HL-4 2/7/20		HL-6 2/7/20	
Purgeable Aromatics & Total Petroleum Hydrocarbons															
TPH-g	(mg/kg)	430	--	0.16	JY	0.98	U	1	U	0.93	U	0.3	JY	1	U
TPH-d	(mg/kg)	260	--	**92**	**Y**	**36**	**Y**	**21**	**Y**	**7.9**	**Y**	**990**	**Y**	**330**	**Y**
TPH-mo	(mg/kg)	12,000	--	**290**		**120**		**90**		**7.8**		**3,200**		**470**	
Oil & Grease	(mg/kg)	--	--	500	U	500	U	500	U	500	U	**2,000**		500	U
SVOCs & PAHs [3]															
bis(2-Ethylhexyl)phthalate	(µg/kg)	3.9E+04	3.9E+04	30	J	330	U	330	U	340	U	**3,400**		74	J
VOCs [3]															
Acetone	(µg/kg)	6.1E+07	--	17	U	17	U	19	U	3.2	J	1,000	U	**26**	
1,1-Dichloroethane	(µg/kg)	3.6E+03	3.6E+03	4.3	U	4.4	U	4.7	U	3.9	U	**48**		3.6	U
2-Butanone	(µg/kg)	--		8.6	U	8.7	U	9.5	U	1.8	J	**16**		6.1	J
1,1,1-Trichloroethane	(µg/kg)	1.7E+06	1.7E+06	4.3	U	4.4	U	4.7	U	3.9	U	**11**		3.6	U
4-Methyl-2-Pentanone	(µg/kg)	--	--	8.6	U	8.7	U	9.5	U	7.8	U	**12**		7.2	U
Toluene	(µg/kg)	1.1E+06	1.1E+06	4.3	U	4.4	U	4.7	U	3.9	U	**8.1**		3.6	U
Tetrachloroethene	(µg/kg)	5.9E+02	5.9E+02	4.3	U	4.4	U	4.7	U	3.9	U	**41**		3.6	U
Naphthalene	(µg/kg)	3.8E+03	2.0E+03	4.3	U	4.4	U	4.7	U	3.9	U	**4.4**		3.6	U
Metals															
Cadmium	(mg/kg)	78	71	**0.32**		**0.3**		**0.41**		**0.46**		**0.32**		**0.27**	
Chromium	(mg/kg)	--	--	**80**		**57**		**84**		**93**		**86**		**89**	
Lead	(mg/kg)	80	80	**7.9**		**8.2**		**8.7**		**7.8**		**7.7**		**6.9**	
Nickel	(mg/kg)	820	820	**80**		**63**		**67**		**96**		**86**		**86**	
Zinc	(mg/kg)	23,000	23,000	**62**		**58**		**55**		**59**		**59**		**55**	
PCBs [2]															
Aroclor-1254	(mg/kg)	0.230	0.240	**1.9**		**1.2**		**0.93**		**0.75**		**0.64**		**0.62**	

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Notes:

mg/kg = milligram per kilogram
µg/kg = microgram per kilogram
U = not detected above the method detection limit; reporting limit shown
J = concentration detected between the method detection limit and the reporting limit and is considered an estimate
Y = sample exhibits chromatographic pattern which does not resemble standard
-- = not available
SVOCs = Semi-volatile organic compounds
PAHs = Polycyclic aromatic hydrocarbons
VOCs = Volatile organic compounds
PCBs = Polychlorinated biphenyl
ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019 (revision 2). Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.
RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

[1] = Bold values indicate a detection above the reporting limit. Shaded values indicate an exceedance of the screening levels.
[2] = Samples H-1 through H-11, including sample H-P-12 were collect beneath hydraulic lifts that extended in to the basement level on January 22, 2020. Samples AN-1 and AN-2 were collected beneath/ around the former acid neutralization chamber on January 22, 2020. Samples OW-1, OW-3, and OWP-1 were collect beneath/ around the former oil-water seperator on February 7, 2020. Samples HG-1 through HG-3 were collected beneath hydraulic lifts at ground level, in the northern portion of the building on February 7, 2020
[3] = Only analytes detected over the reporting limit in at least one sample are shown.

Table 2

Wolfe Rd PCB Summay Table
Former Vallco Mall
10123 North Wolfe Rd. Sunnyvale, CA

Sample ID [1][2]	Collection Date	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [4] (mg/kg)	
E5-1 [3]	9/6/2016	0.034	U	0.043	U	0.042	U	0.034	U	0.034	U	**0.523**		0.034	U	**0.523**	
E5-2 [3]	9/6/2016	0.0066	U	0.0084	U	0.0083	U	0.0066	U	0.0066	U	0.0079	U	0.0066	U	ND	
E5-3 [3]	9/6/2016	0.0066	U	0.0084	U	0.0083	U	0.0066	U	0.0066	U	0.0079	U	0.0066	U	ND	
E5P-1	10/4/2019	0.032	U	0.065	U	0.032	U	0.032	U	0.032	U	**0.75**		**0.13**		**0.88**	
E5P-3	10/4/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-N-1	10/4/2019	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	**0.83**		**0.11**		**0.94**	
E5P-N-3	10/4/2019	660	U	1,300	U	660	U	660	U	660	U	660	U	660	U	ND	
E5P-N-5 [5]	10/4/2019	0.034	U	0.067	U	0.034	U	0.034	U	0.034	U	0.034	U	0.034	U	ND	
E5P-S-1	10/4/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.043**		0.0078	J	**0.0508**	
E5P-S-3	10/4/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-E-1	10/4/2019	0.034	U	0.068	U	0.034	U	0.034	U	0.034	U	**0.15**		0.027	J	**0.177**	
E5P-E-3	10/4/2019	0.02	U	0.04	U	0.02	U	0.02	U	0.02	U	0.02	U	0.015	J	0.015	J
E5P-W-1	10/4/2019	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	**0.92**		**0.14**		**1.06**	
E5P-W-3	10/4/2019	0.02	U	0.041	U	0.02	U	0.02	U	0.02	U	0.02	U	**0.023**		**0.023**	
E5P-W-5 [5]	10/4/2019	0.033	U	0.065	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	ND	
E5P-NN5-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.24**		**0.044**		**0.284**	
E5P-NN5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-NN10-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.38**		**0.06**		**0.44**	
E5P-NN10-3	10/31/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-NE5-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.19**		**0.042**		**0.232**	
E5P-NE5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.008	J	0.008	J
E5P-NE10-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.15**		**0.037**		**0.187**	
E5P-NE10-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.010	J	10	J
E5P-NW5-1	10/30/2019	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	**0.75**		**0.091**		**0.841**	
E5P-NW5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-NW10-1	10/30/2019	0.013	U	0.026	U	0.013	U	0.013	U	0.013	U	**0.95**		**0.096**		**1.046**	
E5P-NW10-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WW5-1	10/30/2019	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	**0.67**		**0.082**		**0.752**	
E5P-WW5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WW10-1	10/30/2019	0.013	U	0.027	U	0.013	U	0.013	U	0.013	U	**0.18**		**0.028**		**0.208**	
E5P-WW10-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WS5-1	10/30/2019	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	**0.57**		**0.061**		**0.631**	
E5P-WS5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WS10-1	10/31/2019	0.013	U	0.026	U	0.013	U	0.013	U	0.013	U	**0.48**	B	**0.079**		**0.559**	
E5P-WS10-3	10/31/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	

Table 2

Wolfe Rd PCB Summay Table
Former Vallco Mall
10123 North Wolfe Rd. Sunnyvale, CA

Sample ID [1][2]	Collection Date	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [4] (mg/kg)	
SO-E1-1	2/14/2020	0.0066	U	0.013	U	0.0066	U	0.0066	U	0.0066	U	**0.025**		0.0066	U	**0.025**	
SO-E1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-E2-1	2/14/2020	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	**0.12**		0.033	U	**0.12**	
SO-E2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	
SO-N1-1	2/14/2020	0.034	U	0.067	U	0.034	U	0.034	U	0.034	U	**0.28**		0.034	U	**0.28**	
SO-N1-3	2/14/2020	0.0048	U	0.0097	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-N2-1	2/14/2020	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	0.014	J	0.033	U	0.014	J
SO-N2-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NE1-1	2/14/2020	0.01	U	0.02	U	0.01	U	0.01	U	0.01	U	**0.26**		0.01	U	**0.26**	
SO-NE1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NE2-1	2/14/2020	0.01	U	0.02	U	0.01	U	0.01	U	0.01	U	0.0089	J	0.01	U	0.0089	J
SO-NE2-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NW1-1	2/14/2020	0.01	U	0.02	U	0.01	U	0.01	U	0.01	U	**0.16**		0.01	U	**0.16**	
SO-NW1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NW2-1	2/14/2020	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	ND	
SO-NW2-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NW3-1	2/14/2020	0.0066	U	0.013	U	0.0066	U	0.0066	U	0.0066	U	**0.012**		0.0066	U	**0.012**	
SO-NW3-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	**0.038**		0.0067	U	**0.038**	
SO-S1-1	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	**0.022**		0.017	U	**0.022**	
SO-S1-3	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	ND	
SO-S2-1	2/14/2020	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	ND	
SO-S2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	
SO-SW1-1	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.015**		0.0048	U	**0.015**	
SO-SW1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-SW2-1	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	**0.27**		0.017	U	**0.27**	
SO-SW2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	

Table 2

Wolfe Rd PCB Summay Table
Former Vallco Mall
10123 North Wolfe Rd. Sunnyvale, CA

Sample ID [1][2]	Collection Date	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [4] (mg/kg)	
SO-SW3-1	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	ND	
SO-SW3-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-SW4-1	2/14/2020	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	ND	
SO-SW4-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-W1-1	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	**0.21**		0.0067	U	**0.21**	
SO-W1-3	2/14/2020	0.0066	U	0.013	U	0.0066	U	0.0066	U	0.0066	U	0.0066	U	0.0066	U	ND	
SO-W2-1	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	**0.0071**		0.0067	U	**0.0071**	
SO-W2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	
SO-W3-1	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.0059**		0.0048	U	**0.0059**	
SO-W3-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-W4-1	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0065	J	0.0067	U	0.0065	J
SO-W4-3	2/14/2020	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
ESLs Residential (mg/kg)		--		--		--		--		--		--		--		0.230	
RSLs Residential (mg/kg)		4		0.200		0.170		0.230		0.230		0.240		0.240		0.230	

Notes:

mg/kg = millograms per kilogram

ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019. Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.

RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

U = compound was not detected at a concentration greater than the reporting limit shown

J = compound was detected at a concentration less than the laboratory reporting limit, but greater than the method detection limit

B = analyte detected in the associated method blank and in the sample

-- = not applicable or not available

[1] Bold results indicate the concentration is greater than the reporting limit; results in red font indicate exceedance of screening levels. Gray gradient indicates increased depth within soil boring

[2] For samples with E5P identifier, sample nomenclature is as follows: "sample location - direction from original boring - sample depth". For samples with SO identifier, sample nomenclature is as follows: "sample type (SO=step-out boring) - relative direction-sample depth". All samples were collected by WSP excluding those qualified by note 3.

[3] Samples collected by Geosphere consultants, inc. on September 6, 2016. Sample E5-1 was collected at a depth of 1 foot below ground surface (ft-bgs), sample E5-2 was collected at 5 ft-bgs, and sample E5-3 was collected at 10 ft-bgs.

[4] The PCB-sum is the sum of any detected aroclor listed above method dection limit.

[5] Sample analyzed out-side of hold time; however, the laboratory has advised the data should be respresentative as the new analytical method update has extended the hold time to 1 year but California has not yet adopted the hold time.

Table 3

Sears Center Investigation Area - TPH Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	TPH-d (mg/kg)		TPH-mo (mg/kg)	
HL-1	**7.9**	**Y**	**7.8**	
HL-1N5-9	**1.2**	**Y**	4.7	J
HL-2-10	0.39	J	5	U
HL-2-12	1	U	5	U
HL-2N5-9	0.4	J	5	U
HL-2W5-9	0.46	J	5	U
HL-3-10	1	U	5	U
HL-3-12	0.31	J	5	U
HL-3N5-9	0.35	J	5	U
HL-3W5-10	0.45	J	5	U
HL-4	**990**	**Y**	**3200**	
HL-4N5-9	**1.1**	**Y**	2.8	J
HL-5-9	1	U	5	U
HL-5-12	0.38	J	5	U
HL-5N5-9	1	U	5	U
HL-5E5-9	0.45	J	5	U
HL-6	**330**	**Y**	**470**	
HL-6N5-4	**64**	**Y**	**290**	
HL-6N5-9	**200**	**Y**	**1100**	
HL-6E5-9	1	U	5	U
OWS-1	**92**	**Y**	**290**	
OWS-O-12	0.99	U	5	U
OWS-O-16	0.38	J	1.7	J
OWS-O-20	0.33	J	5	U
OWS-1N5-12	0.44	J	5	U
OWS-1N5-16	1	U	5	U
OWS-1N5-20	0.94	J	4.1	J
OWS-1S5-12	**1.5**	**Y**	**5.6**	
OWS-1S5-16	**1.7**	**Y**	2.5	J
OWS-1S5-20	**1.4**	**Y**	3.3	J
OWS-2	**36**	**Y**	**120**	
OWS-2N5-12	0.33	J	5	U
OWS-2N5-16	0.39	J	5	U
OWS-2N5-20	0.51	J	5	U
OWS-2S5-12	0.49	J	5	U
OWS-2S5-16	0.89	J	2.2	J
OWS-2S5-20	0.77	J	5	U

Table 3

Sears Center Investigation Area - TPH Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	TPH-d (mg/kg)		TPH-mo (mg/kg)	
OWP-1	**21**	**Y**	**90**	
OWP-1N5-12	1	U	5	U
OWP-1N5-16	0.46	J	5	U
OWP-1N5-20	0.54	J	5	U
OWP-1S5-12	1	U	1.7	J
OWP-1S5-16	0.54	J	1.8	J
OWP-1S5-20	0.52	J	1.9	J
OWP-1E5-12	1	U	5	U
OWP-1E5-16	0.99	U	5	U
OWP-1E5-20	1	U	5	U
OWPI-W5-12	0.34	J	5	U
OWPI-W5-16	1	U	5	U
OWPI-W5-20	**1200**	**Y**	**3600**	
Residential ESL	260		12,000	
Residential RSL	**--**		**--**	

Notes:

mg/kg = milligram per kilogram

J = concentration detected between the method detection limit and the reporting limit and is considered an estimate

Y = sample exhibits chromatographic pattern which does not resemble standard

-- = not available

TPH = total petroleum hydrocarbons (TPH) as diesel (TPH-d) and as motor oil (TPH-mo)

ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019 (revision 2). Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.

RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

[1] = Bold values indicate a detection above the reporting limit. Shaded values indicate an exceedance of the screening levels.

[2] = Sample nomenclature is sample area (HL = hydraulic lift; OWS = oil-water seperator; OWP = oil-water seperator pipe)- relative direction - sample depth (in feet below ground surface). Bold sample ID's were collected in Feburary 2020. All other samples were collected in April 2020 in an effort to delineate TPH-d,mo concentrations in soil in the area.

Table 4

Sears Center Investigation Area - PCB Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [3] (mg/kg)
HL-1	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**0.75**		0.067	U	**0.75**
HL-1N5-9	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-1N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-1N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2-10	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-2-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2-15	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-2N5-9	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2N5-15	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2W5-9	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-2W5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2W5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3-10	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3-12	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-3-15	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3N5-9	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3W5-10	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3W5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-4	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**0.64**		0.067	U	**0.64**
HL-4N5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-4N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-4N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5-12	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5N5-9	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND

Table 4

Sears Center Investigation Area - PCB Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [3] (mg/kg)	
HL-5E5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-5E5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-5E5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6	0.066	U	0.13	U	0.066	U	0.066	U	0.066	U	**0.62**		0.066	U	**0.62**	
HL-6N5-4	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6N5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6N5-15	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6E5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6E5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6E5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0018	J	0.0048	U	0.0018	J
OWS-O-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-O-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-O-20	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND	
OWS-1	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**1.9**		0.067	U	**1.9**	
OWS-1N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1N5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1N5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1S5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.01**		0.0048	U	**0.01**	
OWS-1S5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1S5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**1.2**		0.067	U	**1.2**	
OWS-2N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2N5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2N5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2S5-12	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND	
OWS-2S5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.0066**		0.0048	U	**0.0066**	
OWS-2S5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWP-1	0.066	U	0.13	U	0.066	U	0.066	U	0.066	U	**0.93**		0.066	U	**0.93**	
OWP-1N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWP-1N5-16	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWP-1N5-20	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	

Table 4

Sears Center Investigation Area - PCB Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [3] (mg/kg)
OWP-1S5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1S5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1S5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1E5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1E5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1E5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWPI-W5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWPI-W5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWPI-W5-20	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	**0.061**		0.0048	U	**0.061**
ESLs Residential (mg/kg)	--		--		--		--		--		--		--		0.230
RSLs Residential (mg/kg)	4		0.200		0.170		0.230		0.230		0.240		0.240		0.230

Notes:

mg/kg = millogram per kilogram

PCB = polychlorinated biphenyl

ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019. Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.

RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

U = compound was not detected at a concentration greater than the reporting limit shown

J = compound was detected at a concentration less than the laboratory reporting limit, but greater than the method detection limit

-- = not applicable or not available

[1] Bold results indicate the concentration is greater than the reporting limit; results in red font indicate exceedance of screening levels. Gray gradient indicates increased depth within soil boring

[2] Sample nomenclature is sample area (HL = hydraulic lift; OWS = oil-water seperator; OWP = oil-water seperator pipe)- relative direction - sample depth (in feet below ground surface). Bold sample ID's were collected in Feburary 2020. All other samples were collected in April 2020 in an effort to delineate PCB concentrations in soil in the area.

[3] The PCB-sum is the sum of any detected aroclor listed above method dection limit.

B SOIL VAPOR INVESTIGATION REPORT, FORMER VALLCO MALL, CUPERTINO, CALIFORNIA

JANUARY 26, 2021

January 26, 2021

Vallco Property Owner, LLC
2600 El Camino Real
Palo Alto, CA 94304
Attn: Reed Moulds

Subject: Soil Vapor Investigation Report
Former Vallco Mall, Cupertino, California

Dear Mr. Moulds,

On behalf of Vallco Property Owner LLC (VPO), WSP USA Inc. (WSP) has prepared this Soil Vapor Investigation Report for an area within the Former Sears Automotive Center on the Former Vallco Mall Site (the Vallco Site) located at 10123 North Wolfe Road in Cupertino, California. The purpose of this investigation was to assess concentrations of potential volatile organic compounds (VOCs) in soil vapors in the northern portion of the former Sears Automotive Center. This report documents investigation activities that took place on November 22-23, 2020 and presents analytical results from the investigation, as well as steps going forward to address these results as part of the redevelopment of the Vallco Site.

BACKGROUND & INVESTIGATION APPROACH

The Vallco Site is anticipated to be used for commercial and residential buildings, subsurface and surface parking areas, and landscaping. In September 2018, the City of Cupertino (the City) approved a project for the Site that will include 2,402 residential units, up to 485,912 square feet of retail/entertainment uses, and 1,981,447 square feet of office uses. Approximately 10,500 parking spaces will be provided in both above-and below ground structures.

Planned development includes extensive subsurface parking that will require excavation of soil to a depth of 20 to 32 ft-below ground surface (bgs) across much of the Site. Specifically, the excavation within the Former Sears Automotive Center (Sears Area) will be to a depth of 32 ft bgs. Buildings above an underground parking structure will be constructed within the Sears Area.

The Sears Automotive Center was constructed in 1970 on the southwest side of the Mall property and was later referenced as a closed Leaking Underground Storage Tank (LUST) site on the state Geotracker website. This designation was a result of the removal of six underground storage tanks (UST) in 1985 and dispenser island and product lines in 1994. The Santa Clara County Fire Department (SCCFD) required implementation of an approved closure plan for the demolition of the former Sears Automotive Center due to the presence of an oil-water separator, hydraulic lifts, petroleum fluid pipelines, battery storage area, and lead containing materials. A Closure Plan for the Former Sears Automotive Center was submitted to the SCCFD on March 25, 2019 and approved by the SCCFD by letter dated April 11, 2019 and included soil sampling under the oil-water separator, remnant piping and any other subsurface equipment for proper characterization and subsequent disposal.

Consistent with the Closure Plan, soil samples were collected beneath an oil-water separator, acid neutralization chamber, and 17 hydraulic lifts during building demolition in January through February 2020 to determine if these features had impacted surrounding soil. All soil samples collected were analyzed for the following list of compounds:

- Total petroleum hydrocarbons (TPH) as gasoline (TPH-g), TPH as diesel (TPH-D), and TPH as motor oil (TPH-MO) by U.S. Environmental Protection Agency (EPA) method 8015 (fuel scan)
- Hexane Extractable Materials (Oil and Grease) by EPA method 1664
- Volatile Organic Compounds (VOCs), with chlorinated hydrocarbons (full scan) by EPA method 8260B
- Polychlorinated biphenyls (PCB) by EPA method 8082A
- Cadmium (Cd), Chromium (Cr), Lead (Pb), Nickel (Ni), and Zinc (Zn) by EPA method 6010B
- Semi Volatile Organic Compounds (SVOCs) including Polycyclic Aromatic Hydrocarbons (PAHs) by EPA method 8270

Samples collected from beneath the acid neutralization chamber and the base of 11 hydraulic lifts after their removal, all located on the basement level in the southern portion of the former Sears Automotive Center, did not contain any detections above the respective ESL/RSLs for any of the compounds included in the analysis listed above. After the removal of six hydraulic lift cylinders in the northern portion of the former Sears Automotive Center, samples were taken at three of the six cylinders (locations HL-1, HL-4, and HL-6 and all soil sample locations are shown on Figure 1) at approximately nine ft-bgs, which is from the soils immediately beneath the base of three of these cylinders. After the removal of the oil-water separator and associated piping, three samples were taken approximately 12 to 14 ft-bgs which is immediately beneath the separator and piping. Several of these samples yielded results that exceed the PCB ESL/RSL; two of three samples beneath the oil-water separator also exceeded the TSCA cleanup level of 1 mg/kg for PCBs. Two samples collected at a depth of nine ft-bgs, immediately below each of two (HL-4 and HL-6) of the three former hydraulic lift cylinders, exceeded the RSL for TPH-D. Soil samples from HL-4 also contained 1,1-dichloroethane (48 µg/kg) and tetrachloroethene (41 µg/kg), well below their respective ESL/RTSLs (3,600 µg/kg and 590 µg/kg).

In response to the detections of PCBs above the ESL/RSL, 22 step-out borings were advanced in the northern portion of the Center to delineate the extent of PCB impacted soil and to sample under the remaining three former hydraulic lifts, HL-2, HL-3, and HL-5 (Figure 1). Details concerning the results of the step-out sampling and the proposed removal actions associated with the PCB detections are detailed in the Appendix A of the Excavation Management Plan, Revised January 2021.

Although the VOCs detected in soil at HL-4 were below residential ESLs/RSLs and recognizing that the area will be excavated as part of development, in discussion with the Santa Clara County Department of Environmental Health (SCCDEH) and the City of Cupertino in December 2020, it was agreed that it would be prudent to collect soil vapor samples in the Sears Area to better understand if potential VOC source soils may be present. Thus, four multi-depth soil vapor borings (SV-1 through SV-4 in Figure 1) were installed on November 22-23, 2020 to a maximum depth of 29 to 30 feet bgs within the Sears Area planned for excavation.

SOIL STRATIGRAPHY AND GROUNDWATER OCCURRENCE

The four soil borings drilled for the soil gas probes encountered silts and clays with varying percentages of sand from ground surface to approximately 17 ft-bgs (Appendix A). A zone of coarser grained soils (i.e., sand and gravel) was encountered between approximately 17 and 21 ft-bgs, below which was another clayey zone that extended to a depth of approximately 28 ft-bgs. A second coarse-grained unit

comprised of well-graded sand and gravel was encountered at 28 ft-bgs and continued to the bottom of the borings, which were terminated at 31 ft-bgs. Two of the four nested soil gas probes installed in each boring were installed in the two coarse-grained units, in additional to the finer-grained material that occurred in the upper 15 feet of the soil profile.

Groundwater was not encountered during the drilling of the soil borings. Historic information for the Site indicates that groundwater is found between 80 to 90 ft-bgs.

DESCRIPTION OF FIELD ACTIVITIES

On November 22 and November 23, 2020, WSP retained Trinity Drilling to install four nested multi-depth soil gas monitoring wells (SV-1 to SV-4) in order to develop an understanding of conditions beneath the current northern area of the former Sears Automotive Center (Figure 1).

Before intrusive activities began, the boring locations were cleared for underground utilities and an underground service alert was contacted to locate underground utilities and to mark utility trenches coming onto the property. The drilling work was conducted by Trinity Drilling of Santa Cruz who is a California C-57 licensed driller. The investigation was performed under the direction of a licensed California professional geologist.

SOIL GAS PROBE INSTALLATION

Soil gas probes were installed generally at the following depth intervals: 5-6 ft-bgs, 12-14 ft-bgs, 19-21 ft-bgs, and 29-30 ft-bgs.

DRILLING PROCEDURES

A GeoProbe® 5400 direct push drill rig was used to advance each boring down to the desired depth. The drill rig was equipped with a 4-foot Macro Core® continuous core sampler with acetate sleeves, which created a 2.5-inch diameter hole.

At each sampling location, a boring was advanced and the remaining multi-depth probes were installed. The target depths for the well screens were sometimes adjusted slightly based on the observations made from the soil core.

DECONTAMINATION PROCEDURES

All subsurface drilling equipment was decontaminated before use at the site. During the course of the investigation, the drillers utilized both wet and dry techniques to decontaminate equipment. Disposable equipment intended for one-time use was not decontaminated but was packaged for appropriate disposal by Trinity Drilling.

The sampling rod went through a wet decontamination between each boring location and either a wet or dry decontamination between each boring run advancement depending on whether soil was sticking to the inside of the sampling rod. The shoe of the sampling rod went through a wet decontamination after each run and between boring locations.

A wet decontamination was completed by scrubbing the equipment in a non-phosphate detergent followed by two separate tap-water rinses. Dry decontamination was completed by scrubbing the equipment with a dry wire brush.

SOIL GAS WELL CONSTRUCTION DETAILS

The nested soil gas monitoring wells were constructed using ¼-inch diameter Nylaflow™ sample tubing with a one-inch long stainless steel filter screen inserted at the bottom. The tubing was inserted into the open boring by hand. Approximately 6-inches of clean, graded, kiln dried, #3 silica sand was poured 0.5 foot above and below the screened tip. Bentonite granules (Benseal Sealing and Plugging Agent) were placed within the annular space above the sand pack and between the screened intervals (*e.g.*, for nested wells). The bentonite granules were hydrated every 1 to 1.5 feet using a tremie pipe for probes deeper than 10 feet bgs. At the top of the soil gas well, the remaining annulus was filled with 1 to 5% bentonite-cement slurry with some fine sand added for strength.

At the well head, a two-way polycarbonate stop valve was attached to the sample tubing on each individual well to create a seal and facilitate sample collection. As each probe was installed, the end of the sampling tube was capped to prevent outside contamination until the stop valve could be attached.

INVESTIGATION DERIVED WASTE

All soil cuttings, decontamination and rinse water, cement cores, and disposable equipment were contained in separate Department of Transportation authorized drums. The drums were temporarily placed in a secure area on-site. The waste was disposed of in accordance with applicable local, state, and federal regulations.

SOIL GAS SAMPLE COLLECTION AND ANALYSIS

Soil gas samples were collected in Summa canisters following a minimum of two hours of equilibration between installation of the probe and sampling These sampling protocols were in general accordance with the California Environmental Protection Agency's (CalEPA) Active Soil Gas Investigation Advisory, dated July 2015 (CalEPA, 2015). Summa canisters were batch-certified as clean at the specified reporting limits. The Soil Vapor Monitoring Field Sheets are included in Appendix A.

A shut-in test of the sampling manifold was performed before sampling each probe. Helium gas was used during sampling as a leak check compound to determine if the soil gas probes were compromised. A helium shroud was constructed over top of the well head of each probe using plastic sheeting. An atmosphere of at least 20 % helium was maintained inside the shroud during sampling. A helium meter was used to measure the concentration of helium in the shroud. The concentrations of helium were documented on the Soil Vapor Monitoring Field Sheets included in Appendix A.

Soil gas borings were purged at a flow rate of either 100 or 200 milliliters per minute and a vacuum of less than 100 inches of water was maintained during purging and sampling. Three probe (well) volumes were purged from each boring before collecting the soil gas sample. Samples were collected in 1-liter Summa canisters.

Immediately following collection, the samples were packaged and shipped to Enthalpy Laboratories for analysis for VOCs using EPA Method TO-15 and helium by ASTM D1946.

SOIL GAS ANALYTICAL RESULTS AND DISCUSSION

A summary of soil gas analytical results for VOCs is presented in Table 1. Results were compared to the existing applicable residential screening levels (ESLs).

The compounds noted with bold type in Table 1 were detected in at least one sample at a concentration greater than the laboratory method detection limit (MDL). The compounds noted in bold type with yellow shading indicate that the detected concentration exceeded the RSL.

The compounds with exceedances, showing the residential ESL, SV-boring number-depth, and exceedance result include the following:

- Methylene Chloride: (ESL 34 µg/m³), SV-3-21, 52 µg/m³
- Chloroform (ESL 4.1 µg/m³): SV-2-14, 93 µg/m³; SV-3-4, 140 µg/m³; SV-3-15, 160 µg/m³; SV-4-5, 9.5 µg/m³; SV-4-12, 370 µg/m³; and SV-4-20, 5 µg/m³
- Benzene (ESL 3.2 µg/m³): SV-2-14, 61 µg/m³; SV-2-30, 6 µg/m³; SV-3-12, 20 µg/m³; SV-4-12, 27 µg/m³
- Tetrachloroethene (ESL 15 µg/m³): SV-3-12, 30 µg/m³; SV-3-21,190 µg/m³; SV-4-30, 19 µg/m³

  Ethylbenzene (ESL 37 µg/m³): SV-2-14, 100 µg/m³

Of these compounds, only PCE was detected in the soil sample at location HL-4 and the highest soil vapor concentrations were near HL-4 and the oil-water separator. Overall, these ESL exceedances are consistent with low VOC levels found in one soil sample from HL-4 and are not indicative of source level VOCs in the subsurface (notably benzene and PCE are at multiple depths in two borings). Methylene chloride and ethyl benzene were isolated results in two different borings and chloroform could be an artifact from potable water.

It should also be noted that that the MDLs for one or more samples shown as “undetected” for the following compounds exceeded the respective ESL for these compounds:

- 1,4-Dioxane
- Vinyl Chloride
- 1,1-Dichloroethane
- Chloroform
- Carbon Tetrachloride
- Benzene
- 1,2-Dichloroethane
- Trichloroethene
- 1,2-Dichloropropane
- Bromodichloromethane
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,2-Dibromoethane
- Hexachlorobutadiene

– Naphthalene

REMOVAL ACTIONS AND VERIFICATION SAMPLING

As noted, as part of the redevelopment of the Sears Area per VOP's development plan, excavation and disposition of removed soils will be performed to a depth of 32 ft bgs in this Area. This excavation should effectively remove soils containing soil vapors that exceed ESLs. To verify residual VOC concentrations in soil vapor in the soils below 32 ft bgs, soil vapor samples will be collected on a grid over the 10 foot by 20 foot excavation rectangle to a depth of 5 feet below the base of the removal excavation (a total of approximately four to six samples is anticipated) and analyzed for soil vapors using USEPA Method 8260B (gas chromatograph/mass spectrometer [GC/MS]) modified for soil gas. Based on the available soil vapor data, significant vapor intrusion is not anticipated to occur in the planned development due to the presence of the ventilated underground garage structure below all of the occupied residential space. However, if the soil vapor verification samples exhibit levels of concern (exceeding ESLs) for any compound, indoor air monitoring will be conducted within the garage to determine if significant soil vapor intrusion is occurring within the garage.

Please don't hesitate to contact us if you have any questions or need additional information.

Sincerely,

Richard E. Freudenberger
Managing Director, Regional
408.206.3504

Figure

Figure 1 – Sears Investigation Areas and Soil Vapor Borings

Table

Table 1 – Soil Gas Analytical Results

Appendix A

Soil Vapor Monitoring Field Sheets and Boring Logs

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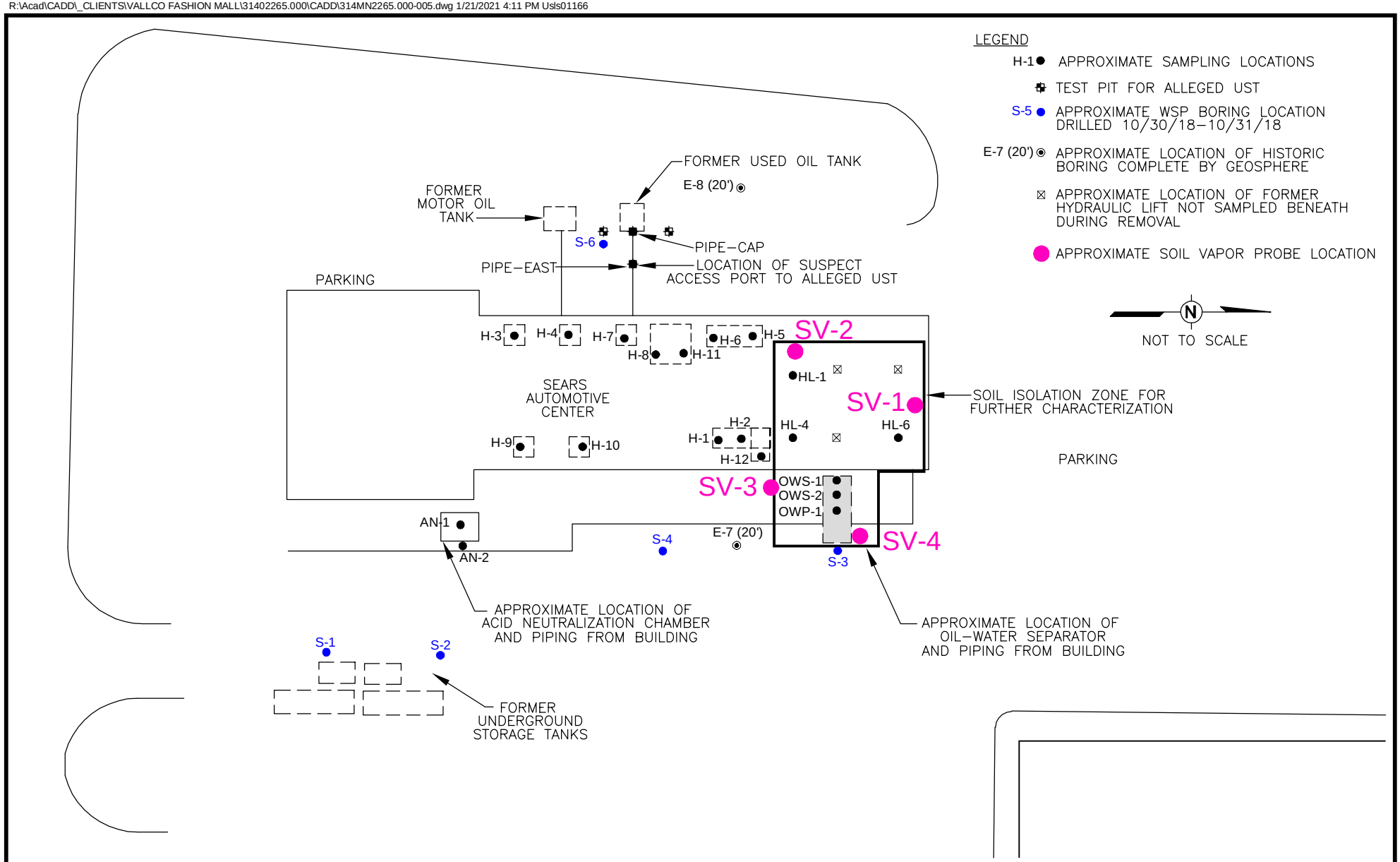

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DRAFT

A

WSP USA Inc.
2025 GATEWAY PLACE
SUITE 348
SAN JOSE, CA 95110
TEL: +1 408.453.6100

Figure 1

SAMPLING LOCATIONS – SEARS AUTOMOTIVE CENTER

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	1/21/2021
Checked:	ER	1/21/2021
Approved:		
DWG Name:	314MN2265.000–005	

Table 1

Summary of Sears Closure Soil Vapor Data
Soil Vapor Investigation Report
Former Vallco Mall, Cupertino, California

Analyte [1][2]	CAS No.	Sample ID [3] ESLs [4]	SV-1-5 (µg/m³)	SV-1-13 (µg/m³)	SV-1-19 (µg/m³)	SV-1-30 (µg/m³)	SV-2-4 (µg/m³)	SV-2-14 (µg/m³)	SV-2-20 (µg/m³)	SV-2-30 (µg/m³)	SV-3-4 (µg/m³)	SV-3-12 (µg/m³)	SV-3-21 (µg/m³)	SV-3-30 (µg/m³)	SV-4-5 (µg/m³)	SV-4-12 (µg/m³)	SV-4-20 (µg/m³)	SV-4-30 (µg/m³)	SV-4-300 (µg/m³)
1,4-Dioxane	123-91-1	1.2E+01	58 U	58 U	0.48 U	58 U	58 U	58 U	0.24 U	0.3 U	58 U	0.48 U	0.96 U	0.48 U	0.12 U	1.2 U	0.24 U	0.48 U	0.48 U
Propylene	115-07-1	--	2500	4200	0.22 U	5.5 U	3500	6700	0.11 U	0.14 U	1600	0.22 U	0.44 U	0.22 U	0.055 U	0.55 U	0.11 U	0.22 U	0.22 U
Freon 12	75-71-8	--	16 U	16 U	0.46 U	16 U	16 U	4.6 U	15	11	16 U	0.46 U	0.91 U	17	2.5	1.1 U	0.23 U	12	12
Freon 114	76-14-2	--	22 U	22 U	1.2 U	22 U	22 U	12 U	0.58 U	0.72 U	22 U	1.2 U	2.3 U	1.2 U	0.29 U	2.9 U	0.58 U	1.2 U	1.2 U
Chloromethane	74-87-3	3.1E+03	6.6 U	6.6 U	0.62 U	6.6 U	6.6 U	6.2 U	0.31 U	0.39 U	6.6 U	0.62 U	1.2 U	0.62 U	0.15 U	1.5 U	0.31 U	0.62 U	0.62 U
Vinyl Chloride	75-01-4	3.2E-01	8.2 U	8.2 U	0.25 U	8.2 U	8.2 U	2.5 U	0.13 U	0.16 U	8.2 U	0.25 U	0.51 U	0.25 U	0.064 U	0.64 U	0.13 U	0.25 U	0.25 U
1,3-Butadiene	106-99-0	--	7.1 U	7.1 U	0.23 U	7.1 U	7.1 U	2.3 U	0.12 U	0.15 U	7.1 U	0.23 U	0.47 U	0.23 U	0.058 U	0.58 U	0.12 U	0.23 U	0.23 U
Bromomethane	74-83-9	1.7E+02	12 U	12 U	0.75 U	12 U	12 U	7.5 U	0.38 U	0.47 U	12 U	0.75 U	1.5 U	0.75 U	0.19 U	1.9 U	0.38 U	0.75 U	0.75 U
Chloroethane	75-00-3	3.5E+05	8.4 U	8.4 U	0.89 U	8.4 U	8.4 U	8.9 U	0.44 U	0.55 U	8.4 U	0.89 U	1.8 U	0.89 U	0.22 U	2.2 U	0.44 U	0.89 U	0.89 U
Trichlorofluoromethane	75-69-4	--	18 U	18 U	520	390	18 U	6.9 U	240	63	300	830	1500	960	46	1.7 U	550	900	910
1,1-Dichloroethene	75-35-4	2.4E+03	13 U	13 U	1 U	13 U	13 U	10 U	0.52 U	0.65 U	13 U	1 U	2.1 U	1 U	0.26 U	2.6 U	0.52 U	1 U	1 U
Freon 113	76-13-1	--	25 U	25 U	0.83 U	25 U	25 U	8.3 U	0.41 U	0.52 U	25 U	0.83 U	1.7 U	0.83 U	0.21 U	2.1 U	0.41 U	0.83 U	0.83 U
Acetone	67-64-1	1.1E+06	95 U	640	76	2900	95 U	9.5 U	0.47 U	69	2800	110	1.9 U	60	17	210	30	41	43
Carbon Disulfide	75-15-0	--	64	110	0.28 U	10 U	410	180	0.14 U	4.8	10 U	94	0.57 U	0.28 U	2.6	28	8.1	0.28 U	0.28 U
Isopropanol (IPA)	67-63-0	--	98 U	98 U	0.61 U	98 U	98 U	6.1 U	0.31 U	0.38 U	98 U	40	1.2 U	0.61 U	0.15 U	1.5 U	0.31 U	0.61 U	36
Methylene Chloride	75-09-2	3.4E+01	11 U	11 U	0.51 U	11 U	11 U	5.1 U	0.25 U	0.32 U	11 U	14	52	0.51 U	4.9	1.3 U	0.25 U	14	0.51 U
trans-1,2-Dichloroethene	156-60-5	2.8E+03	13 U	13 U	0.47 U	13 U	13 U	4.7 U	0.23 U	0.29 U	13 U	0.47 U	0.93 U	0.47 U	0.12 U	1.2 U	0.23 U	0.47 U	0.47 U
MTBE	1634-04-4	3.6E+02	12 U	12 U	0.27 U	12 U	12 U	2.7 U	0.14 U	0.17 U	12 U	0.27 U	0.54 U	0.27 U	0.068 U	0.68 U	0.14 U	0.27 U	0.27 U
n-Hexane	110-54-3	--	11 U	230	9.5	11 U	450	740	0.18 U	75	240	60	0.72 U	0.36 U	3.6	190	0.18 U	0.36 U	0.36 U
1,1-Dichloroethane	75-34-3	5.8E+01	13 U	13 U	0.47 U	13 U	13 U	4.7 U	0.24 U	0.3 U	13 U	0.47 U	0.95 U	0.47 U	0.12 U	1.2 U	0.24 U	35	35
Vinyl Acetate	108-05-4	--	140 U	140 U	0.27 U	140 U	140 U	2.7 U	0.14 U	0.17 U	140 U	0.27 U	0.54 U	0.27 U	0.068 U	0.68 U	0.14 U	0.27 U	0.27 U
cis-1,2-Dichloroethene	156-59-2	2.8E+02	13 U	13 U	0.38 U	13 U	13 U	3.8 U	0.19 U	0.24 U	13 U	0.38 U	0.76 U	0.38 U	0.095 U	0.95 U	0.19 U	28	28
2-Butanone	78-93-3	1.7E+05	120 U	120 U	1.3 U	120 U	120 U	13 U	0.66 U	21	120 U	1.3 U	2.7 U	1.3 U	7.6	65	16	1.3 U	1.3 U
Ethyl Acetate	141-78-6	--	140 U	140 U	1.1 U	140 U	140 U	11 U	0.54 U	58	180	270	340	33	0.27 U	2.7 U	0.54 U	48	1.1 U
Chloroform	67-66-3	4.1E+00	16 U	16 U	0.4 U	16 U	16 U	93	0.2 U	0.25 U	140	160	0.8 U	0.4 U	9.5	370	5	0.4 U	0.4 U
1,1,1-Trichloroethane	71-55-6	3.5E+04	17 U	17 U	0.77 U	17 U	17 U	7.7 U	0.39 U	0.48 U	17 U	0.77 U	1.5 U	30	0.19 U	1.9 U	5.6	50	51
Cyclohexane	110-82-7	--	11 U	11 U	0.66 U	11 U	1300	3000	6.2	59	11 U	32	1.3 U	0.66 U	0.16 U	48	0.33 U	0.66 U	0.66 U
Carbon Tetrachloride	56-23-5	1.6E+01	20 U	20 U	0.57 U	20 U	20 U	5.7 U	0.29 U	0.36 U	20 U	0.57 U	1.1 U	0.57 U	0.14 U	1.4 U	0.29 U	0.57 U	0.57 U
Benzene	71-43-2	3.2E+00	10 U	10 U	0.24 U	10 U	10 U	61	0.12 U	6	10 U	20	0.48 U	0.24 U	2.6	27	2.8	0.24 U	0.24 U
1,2-Dichloroethane	107-06-2	3.6E+00	13 U	13 U	0.59 U	13 U	13 U	5.9 U	0.3 U	0.37 U	13 U	0.59 U	1.2 U	0.59 U	0.15 U	1.5 U	0.3 U	0.59 U	0.59 U
n-Heptane	142-82-5	--	13 U	72	7.8	13 U	13 U	180	0.22 U	20	94	85	0.88 U	0.44 U	0.11 U	180	0.22 U	0.44 U	0.44 U
Trichloroethene	79-01-6	1.6E+01	17 U	17 U	0.69 U	17 U	17 U	6.9 U	0.34 U	0.43 U	17 U	0.69 U	1.4 U	0.69 U	0.17 U	1.7 U	0.34 U	0.69 U	0.69 U
1,2-Dichloropropane	78-87-5	9.4E+00	15 U	15 U	0.57 U	15 U	15 U	5.7 U	0.28 U	0.35 U	15 U	0.57 U	1.1 U	0.57 U	0.14 U	1.4 U	0.28 U	0.57 U	0.57 U
Bromodichloromethane	75-27-4	2.5E+00	21 U	21 U	0.51 U	21 U	21 U	5.1 U	0.25 U	0.32 U	21 U	0.51 U	1 U	0.51 U	0.13 U	1.3 U	0.25 U	0.51 U	0.51 U
cis-1,3-Dichloropropene	10061-01-5	--	15 U	15 U	0.85 U	15 U	15 U	8.5 U	0.43 U	0.53 U	15 U	0.85 U	1.7 U	0.85 U	0.21 U	2.1 U	0.43 U	0.85 U	0.85 U
4-Methyl-2-Pentanone	108-10-1	1.0E+05	13 U	13 U	0.66 U	13 U	13 U	6.6 U	0.33 U	11	13 U	0.66 U	1.3 U	0.66 U	0.17 U	1.7 U	0.33 U	0.66 U	0.66 U
Toluene	108-88-3	1.0E+04	12 U	12 U	9.1	12 U	150	470	11	17	12 U	53	18	14	11	78	28	9.4	7.9
trans-1,3-Dichloropropene	10061-02-6	--	15 U	15 U	1.4 U	15 U	15 U	14 U	0.68 U	0.85 U	15 U	1.4 U	2.7 U	1.4 U	0.34 U	3.4 U	0.68 U	1.4 U	1.4 U
1,1,2-Trichloroethane	79-00-5	5.8E+00	17 U	17 U	0.28 U	17 U	17 U	2.8 U	0.14 U	0.17 U	17 U	0.28 U	0.55 U	0.28 U	0.069 U	0.69 U	0.14 U	0.28 U	0.28 U
Tetrachloroethene	127-18-4	1.5E+01	22 U	22 U	0.66 U	22 U	22 U	6.6 U	0.33 U	0.41 U	22 U	30	190	86	2.8	1.7 U	15	19	19
2-Hexanone	591-78-6	--	66 U	66 U	0.4 U	66 U	66 U	4 U	0.2 U	0.25 U	66 U	0.4 U	0.81 U	0.4 U	0.1 U	1 U	0.2 U	13	0.4 U
Dibromochloromethane	124-48-1	--	27 U	27 U	0.65 U	27 U	27 U	6.5 U	0.33 U	0.41 U	27 U	0.65 U	1.3 U	0.65 U	0.16 U	1.6 U	0.33 U	0.65 U	0.65 U
1,2-Dibromoethane	106-93-4	1.6E-01	25 U	25 U	0.89 U	25 U	25 U	8.9 U	0.44 U	0.55 U	25 U	0.89 U	1.8 U	0.89 U	0.22 U	2.2 U	0.44 U	0.89 U	0.89 U
Chlorobenzene	108-90-7	1.7E+03	15 U	15 U	0.48 U	15 U	15 U	4.8 U	0.24 U	0.3 U	15 U	0.48 U	0.95 U	0.48 U	0.12 U	1.2 U	0.24 U	0.48 U	0.48 U
Ethylbenzene	100-41-4	3.7E+01	14 U	14 U	0.57 U	14 U	14 U	100	0.28 U	5.6	14 U	8.7	1.1 U	10	2	1.4 U	0.28 U	0.57 U	0.57 U
m,p-Xylenes	179601-23-1	3.5E+03	2 U	2 U	0.77 U	2 U	2 U	200	7.3	20	2 U	21	1.5 U	39	6.2	1.9 U	7.3	0.77 U	0.77 U
o-Xylene	95-47-6	3.5E+03	14 U	14 U	0.4 U	14 U	14 U	94	0.2 U	6.3	14 U	8.4	0.81 U	27	2.9	1 U	3.7	0.4 U	0.4 U
Styrene	100-42-5	3.1E+04	14 U	14 U	0.62 U	14 U	14 U	6.2 U	0.31 U	0.39 U	14 U	0.62 U	1.2 U	0.62 U	0.15 U	1.5 U	0.31 U	0.62 U	0.62 U
Bromoform	75-25-2	8.5E+01	33 U	33 U	1.3 U	33 U	33 U	13 U	0.66 U	0.83 U	33 U	1.3 U	2.6 U	1.3 U	0.33 U	3.3 U	0.66 U	1.3 U	1.3 U

Table 1

Summary of Sears Closure Soil Vapor Data
Soil Vapor Investigation Report
Former Vallco Mall, Cupertino, California

		Sample ID [3]	SV-1-5	SV-1-13	SV-1-19	SV-1-30	SV-2-4	SV-2-14	SV-2-20	SV-2-30	SV-3-4	SV-3-12	SV-3-21	SV-3-30	SV-4-5	SV-4-12	SV-4-20	SV-4-30	SV-4-300
Analyte [1][2]	**CAS No.**	**ESLs [4]**	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)
1,1,2,2-Tetrachloroethane	79-34-5	1.6E+00	22 U	22 U	0.35 U	22 U	22 U	3.5 U	0.18 U	0.22 U	22 U	0.35 U	0.71 U	0.35 U	0.088 U	0.88 U	0.18 U	0.35 U	0.35 U
4-Ethyltoluene	622-96-8	--	16 U	16 U	0.23 U	16 U	16 U	2.3 U	0.12 U	0.14 U	16 U	0.23 U	0.46 U	**11**	0.058 U	0.58 U	0.12 U	0.23 U	0.23 U
1,3,5-Trimethylbenzene	108-67-8	--	16 U	16 U	0.35 U	16 U	16 U	3.5 U	0.18 U	0.22 U	16 U	0.35 U	0.7 U	**34**	0.088 U	0.88 U	0.18 U	0.35 U	0.35 U
1,2,4-Trimethylbenzene	95-63-6	--	16 U	16 U	0.38 U	16 U	16 U	3.8 U	0.19 U	0.24 U	16 U	**9.1**	0.76 U	**47**	**4.2**	0.95 U	0.19 U	0.38 U	0.38 U
1,3-Dichlorobenzene	541-73-1	--	19 U	19 U	0.64 U	19 U	19 U	6.4 U	0.32 U	0.4 U	19 U	0.64 U	1.3 U	0.64 U	0.16 U	1.6 U	0.32 U	0.64 U	0.64 U
1,4-Dichlorobenzene	106-46-7	8.5E+00	19 U	19 U	0.53 U	19 U	19 U	5.3 U	0.27 U	0.33 U	19 U	0.53 U	1.1 U	0.53 U	0.13 U	1.3 U	0.27 U	0.53 U	0.53 U
Benzyl chloride	100-44-7	--	17 U	17 U	0.34 U	17 U	17 U	3.4 U	0.17 U	0.21 U	17 U	0.34 U	0.69 U	0.34 U	0.086 U	0.86 U	0.17 U	0.34 U	0.34 U
1,2-Dichlorobenzene	95-50-1	7.0E+03	19 U	19 U	0.37 U	19 U	19 U	3.7 U	0.19 U	0.23 U	19 U	0.37 U	0.74 U	0.37 U	0.093 U	0.93 U	0.19 U	0.37 U	0.37 U
1,2,4-Trichlorobenzene	120-82-1	7.0E+01	24 U	24 U	2 U	24 U	24 U	20 U	1 U	1.3 U	24 U	2 U	4 U	2 U	0.5 U	5 U	1 U	2 U	2 U
Hexachlorobutadiene	87-68-3	4.3E+00	34 U	34 U	1.6 U	34 U	34 U	16 U	0.79 U	0.99 U	34 U	1.6 U	3.2 U	1.6 U	0.4 U	4 U	0.79 U	1.6 U	1.6 U
Naphthalene	91-20-3	2.8E+00	420 U	420 U	0.61 U	420 U	420 U	6.1 U	0.3 U	0.38 U	420 U	0.61 U	1.2 U	0.61 U	0.15 U	1.5 U	0.3 U	0.61 U	0.61 U
Helium	7440-59-7	--	**1.3**	**3.8**	0.2 U	0.2 U	**2.4**	**5.5**	0.2 U	0.2 U	**0.6**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.3**	0.2 U

Notes:

[1] Bold results indicate the concentration is greater than the laboratory reporting limit; results highlighted yellow indicate exceedance of screening levels.
[2] Results highlighted salmon indicate the method detection limit exceeded screening levels.
[3] Samples collected by WSP on 11/20/20 & 11/23/20. Sample nomenclature is as follows: "soil vapor-sample location-sample depth".
[4] Environmental Screening Levels (ESLs) in $\mu g/m^3$ for direct exposure to human health for residential shallow soil exposure as established by the San Francisco Bay Regional Water Control Board, revised July 2019.

Abbreviations and Acronyms:

$\mu g/m^3$ = micrograms per cubic meters
U = compound was not detected at a concentration greater than the method detection limit (MDL) shown
-- = not applicable or not available

SOIL VAPOR MONITORING LOG – VALLCO, CUPERTINO, CALIFORNIA

Date: 11/22/20 Sampled by: Bailey Sam Signature: _____

Weather: Sunny Subcontractor: _____ Signature: _____

SOIL VAPOR SAMPLE ID:	SV-1-5	SV-1-13	SV-1-19	SV-1-30		CRITERIA
WELL PURGE WITH PUMP						
Well purge start time =	1508	1418	1357	1323		
Purge pump flow setting (ml/min) =	200	200	200	200		> 100 ml/min
Purge volume required (ml) =	1047	1181	1281	1465		See purge volume calcs
Time required to remove 3 purge volumes (min) =	5	6	6.5	7		Vol required / flow
Well purge end time =	1513	1424	1406	1330		
Total volume purged =	1047	1181	1281	1465		
SYSTEM SETUP						
Enter sample can manifold number on COC	A10069	A10033	A10034	A10070		
Enter sample can SN number on COC	447	439	423	442		
PURGE SHROUD WITH HELIUM						
Helium concentration in shroud (%) =	30.1	24.6	27.3	30		> 20% Helium
(Record every 2 minutes during sampling)	22.3	27.5	22.3	30		
(Record every 2 minutes during sampling)	24.5	23.4	24.5	25		
(Record every 2 minutes during sampling)			20.0	30		
(Record every 2 minutes during sampling)						
(Record every 2 minutes during sampling)						
(Record every 2 minutes during sampling)						
SHUT-IN TEST AND BOREHOLE SEAL LEAK CHECK						
Manifold Gauge Pressure =	29	29	27	30		
Borehole seal leak check: Helium concentration (%) =	-0.07	-1.5	-3.5	-3.1		<1% Helium
COLLECT SAMPLE						
Record start time and initial canister vacuum on COC	1514/29	1424/29	1406/27	1340/30		
Record end time and final canister vacuum on COC	1546/11	1500/11	1412/5	1347/5		Vacuum of 5 inch Hg or less in sample canister
Well Inspection Obervations						

NOTES :

Collect duplicate sample at monitoring point SV-4. Duplicate sample ID = SV-4-300.

SV-1-30 – hissing noise when purging at the purge can connection, sound dissipates after a purging for a while – ambient air prior to puring, helium level at 1.7

SV-1-19 – SAA

SV-1-13 @ 1435 psi was at 11, @1500 psi remianed at 11 and sample was collected

SV-1-5 @ 1523 psi was at 11, @1546 psi remianed at 11 and sample was collected

SOIL VAPOR MONITORING LOG – VALLCO, CUPERTINO, CALIFORNIA

Date: 11/23/20 Sampled by: Bailey Sam Signature: _____

Weather: Sunny Subcontractor: _____ Signature: _____

SOIL VAPOR SAMPLE ID:	SV-2-4	SV-2-14	SV-2-20	SV-2-30		CRITERIA
WELL PURGE WITH PUMP						
Well purge start time =	0936	0858	0840	1503		
Purge pump flow setting (ml/min) =	200	200	200	200		> 100 ml/min
Purge volume required (ml) =	1030	1197	1298	1465		See purge volume calcs
Time required to remove 3 purge volumes (min) =	5	6	6.5	7		Vol required / flow
Well purge end time =	0941	0904	0846	1509		
Total volume purged =	1030	1197	1298	1465		
SYSTEM SETUP						
Enter sample can manifold number on COC	A10063	A10031	A10022	A10073		
Enter sample can SN number on COC	247	438	C10441	435		
PURGE SHROUD WITH HELIUM						
Helium concentration in shroud (%) =	23.7	23.7	22.4	44.0		> 20% Helium
(Record every 2 minutes during sampling)	25.0	28.2	24.6	36.0		
(Record every 2 minutes during sampling)	21.1	22.3	22.5	25.6		
(Record every 2 minutes during sampling)	20.5	20.9	22.9	21.4		
(Record every 2 minutes during sampling)				20.5		
(Record every 2 minutes during sampling)						
(Record every 2 minutes during sampling)						
SHUT-IN TEST AND BOREHOLE SEAL LEAK CHECK						
Manifold Gauge Pressure =	29	29	29	30		
Borehole seal leak check: Helium concentration (%) =	0.02	-1.9	-2.3	-1.9		<1% Helium
COLLECT SAMPLE						
Record start time and initial canister vacuum on COC	0943/29	0905/29	0847/29	1610/29		
Record end time and final canister vacuum on COC	0950/5	0935/5	0855/5	1618/5		Vacuum of 5 inch Hg or less in sample canister
Well Inspection Obervations						

NOTES :

Collect duplicate sample at monitoring point SV-4. Duplicate sample ID = SV-4-300.

SOIL VAPOR MONITORING LOG – VALLCO, CUPERTINO, CALIFORNIA

Date: 11/23/20 Sampled by: Bailey Sam Signature: _____

Weather: Cloudy Subcontractor: _____ Signature: _____

SOIL VAPOR SAMPLE ID:	SV-3-4	SV-3-12	SV-3-21	SV-3-30		CRITERIA
WELL PURGE WITH PUMP						
Well purge start time =	1225	1042	1025	1005		
Purge pump flow setting (ml/min) =	200	200	200	200		> 100 ml/min
Purge volume required (ml) =	1030	1164	1314	1465		See purge volume calcs
Time required to remove 3 purge volumes (min) =	5	5.8	6.5	7		Vol required / flow
Well purge end time =	1230	1048	1031	1012		
Total volume purged =	1030	1164	1314	1465		
SYSTEM SETUP						
Enter sample can manifold number on COC	AI0064	AI0035	AI0042	AI0072		
Enter sample can SN number on COC	443	421	440	409		
PURGE SHROUD WITH HELIUM						
Helium concentration in shroud (%) =	30.2	22.0	23.9	33.8		> 20% Helium
(Record every 2 minutes during sampling)	23.9	25.7	21.5	30.5		
(Record every 2 minutes during sampling)	22.3	28.2	21.4	30.0		
(Record every 2 minutes during sampling)	25.0	24.2	23.3	26.9		
(Record every 2 minutes during sampling)				21.7		
(Record every 2 minutes during sampling)						
(Record every 2 minutes during sampling)						
SHUT-IN TEST AND BOREHOLE SEAL LEAK CHECK						
Manifold Gauge Pressure =	28	28	27	29		
Borehole seal leak check: Helium concentration (%) =	-2.5	-0.05	-1.9	-2.6		<1% Helium
COLLECT SAMPLE						
Record start time and initial canister vacuum on COC	1236/28	1042/28	1033/27	1013/29		
Record end time and final canister vacuum on COC	1242/5	1056/5	1030/5	1021/5		Vacuum of 5 inch Hg or less in sample canister
Well Inspection Obervations						

NOTES :

Collect duplicate sample at monitoring point SV-4. Duplicate sample ID = SV-4-300.

SOIL VAPOR MONITORING LOG – VALLCO, CUPERTINO, CALIFORNIA

Date: 11/23/20 Sampled by: Bailey Sam Signature: _____

Weather: Cloudy Subcontractor: _____ Signature: _____

SOIL VAPOR SAMPLE ID:	SV-4-5	SV-4-12	SV-4-20	SV-4-30	SV-4-300	CRITERIA
WELL PURGE WITH PUMP						
Well purge start time =	1417	1358	1339	1258	1258	
Purge pump flow setting (ml/min) =	200	200	200	200	200	> 100 ml/min
Purge volume required (ml) =	1047	1164	1298	1465	1465	See purge volume calcs
Time required to remove 3 purge volumes (min) =	5	5.8	6.5	7	7	Vol required / flow
Well purge end time =	1422	1404	1346	1305	1305	
Total volume purged =	1047	1164	1298	1465	1465	
SYSTEM SETUP						
Enter sample can manifold number on COC	AI0071	AI0021	AI0039	AI0057	AI0057	
Enter sample can SN number on COC	148	153	195	444	155	
PURGE SHROUD WITH HELIUM						
Helium concentration in shroud (%) =	30.2	25.1	25.0	41.5	41.5	> 20% Helium
(Record every 2 minutes during sampling)	27.6	23.1	27.9	31.4	31.4	
(Record every 2 minutes during sampling)	26.1	23.3	29.9	26.9	26.9	
(Record every 2 minutes during sampling)	25.4	22.7	28.1	25.4	25.4	
(Record every 2 minutes during sampling)			24.1	20.2	20.2	
(Record every 2 minutes during sampling)						
(Record every 2 minutes during sampling)						
SHUT-IN TEST AND BOREHOLE SEAL LEAK CHECK						
Manifold Gauge Pressure =	29	29	29	29	29	
Borehole seal leak check: Helium concentration (%) =	-0.07	-0.09	-2.6	-1.3	-1.3	<1% Helium
COLLECT SAMPLE						
Record start time and initial canister vacuum on COC	1424/29	1405/29	1347/29	1306/29	1306/29	
Record end time and final canister vacuum on COC	1435/5	1414/5	1354/5	1327/5	1327/5	Vacuum of 5 inch Hg or less in sample canister
Well Inspection Obervations						

NOTES :

Collect duplicate sample at monitoring point SV-4. Duplicate sample ID = SV-4-300.

BORING LOG WSP USA 2025 Gateway Place, Suite 348 San Jose, CA 95110	Project Name: Former Vallco Mall Location: 10123 N Wolfe Rd. Cupertino Project #: 31402265.001	Boring No. SV-1 Sheet 1 of 2 Date(s) Drilled 11/19/20 Logged By: Elena Robertson
Drilling Co.: Trinity Drilling Driller: Henry, Jeff	Soil Vapor Probe Depths: 5, 13, 19, 30	First Encountered Groundwater ▽: N/A Depth to Water in Boring ▼: Depth to Water in Well:
Boring Drilling Method: direct push Hole Diameter: 2.5" Hole Depth: 31' Backfill method: construct SV probe	Sand pack intervals: 4.5-5.5 24.5-30.5 12.5-13.5 #3 sand 18.5-19.5 Seal intervals: 5.5-6.5 - dry bent 6.5-11.5 - hydrated bent. 0-3.5 cement grout 11.5-12.5 - dry bent. Seal types: Bent. crumbles #8	**Soil Sampling** Method(s): CC Sampler Length: 5' Sampler Diameter: 2"

Sample Id/ Time	Sampler Type	PID/FID (ppm)	Blows/6"	Recovery (ft/ft)	Sample Interval	Depth (ft)	USCS Symbol	Graphic Log	Soil Description
				4.5/5		0	CL		SANDY LEAN CLAY (CL), brownish yellow (10YR 4/6), med. plast. fines, 20% f-c sand, 10% f-c gravel, hard, moist
						-1-			
						-2-	CL		@1.4' LEAN CLAY (CL), dark brown (10YR 4/3), med. plast. fines, 10% f-m sand, hard, moist
						-3-			@4.2' SAA @1.4 color change to v. dark gray (10YR 3/1), no odor
						-4-			
probe @5'						-5-			
				3.2/3		-6-			@5' SAA @ 4.2', note ~0.5' of slough at top that was wet (sandy clay material)
						-7-			
						-8-			@8' SAA @ 1.4'
				2/2		-9-			
						-10-			@10' SAA @ 1.4', some dissiminated caliche
				~~1/4~~ 4/5		-11-			@12.7' SANDY LEAN CLAY (CL), dark yellowish brown (10YR 4/6), med. plast. fines, 35% f-c sand, firm, moist
						-12-	CL		
probe @13'						-13-			
				3.5/2		-14-			@13' SAA @12.7'
						-15-	ML		@15' SANDY SILT (ML), yellowish brown (10YR 5/6), med. plast. fines, 40% f-m sand, firm, moist
				3.2/3		-16-			
						17	GW		

BORING LOG WSP USA 2025 Gateway Place, Suite 348 San Jose, CA 95110	Project Name: Former Vallco Mall Location: 10123 N Wolfe Rd. Cupertino Project #: 31402265.001	Boring No. SV-1 Sheet 2 of 2 Date(s) Drilled 11/19/20 Logged By: Elena Robertson

Sample Id/ Time	Sampler Type	PID/FID (ppm)	Blows/6"	Recovery (ft/ft)	Sample Interval	Depth (ft)	USCS Symbol	Graphic Log	Soil Description
						17	GW		@17.2' WELL GRADED GRAVEL w/ SAND (GW), brownish yellow (10YR 6/6), f-c gravel, 30% f-c sand, trace fines
				1.8/2		18			
						19			
probe @ 19'									@18' SAA @17.2', 40% f-c sand
				2.3/3		20	ML		@20' SAA @15' 30% f-m sand, wet from 20.8-21.3'
						21	CL		@21.3' SANDY LEAN CLAY (CL), dark yellowish brown (10YR 4/6), med. plast. fines, 45% f-c sand, hard, moist.
						22			
				4.2/3		23			@23' SAA @ 21.3', 30% f-c sand
						24			
						25			
				2.5/2		26			@26' SAA @ 23', 5-10% f-c gravel
						27			@27.4' WELL GRADED SAND w/ GRAVEL (SW), pale brown (10YR 6/3), f-c sand, 20% f-c gravel, trace fines, moist
						28	SW		
						29			
probe @ 30'						30			
						31			BOB @ 31'
						32			
						33			
						34			
						35			
						36			
						37			
						38			

BORING LOG WSP USA 2025 Gateway Place, Suite 348 San Jose, CA 95110	Project Name: Former Valico Mall Location: 10123 N Wolfe Rd. Cupertino Project #: 31402265.001	Boring No. SV-2 Sheet 1 of Date(s) Drilled 11/19/20 Logged By: Elena Robertson
Drilling Co.: Trinity Drilling Driller:	Soil Vapor Probe Depths:	First Encountered Groundwater ▽: Depth to Water in Boring ▼: Depth to Water in Well:
Boring Drilling Method: Hole Diameter: Hole Depth: Backfill method:	Sand pack intervals: Seal intervals: Seal types:	**Soil Sampling** Method(s): Sampler Length: Sampler Diameter:

Sample Id/ Time	Sampler Type	PID/FID (ppm)	Blows/6"	Recovery (ft/ft)	Sample Interval	Depth (ft)	USCS Symbol	Graphic Log	Soil Description
				5/5		0	CL		SANDY LEAN CLAY w/ GRAVEL (CL), dark yellowish brown (10YR 4/6), med. plast. fines, 15% f-c sand, 15% f-c gravel, dry, hard
						-1-			
						-2-			@4' LEAN CLAY w/ SAND (CL), dark yellowish brown (10YR 4/6), 15% f-c sand, trace f. gravel, dry, hard, black color @ 4-4.2, no odor
						-3-			
probe @ 4'						-4-	CL		@5' LEAN CLAY (CL), dark yellowish brown (10YR 3/4), 5% f-c sand, med. plast. fines, moist, hard
				2.7/5 3		-5-	CL		
						-6-			@8' LEAN CLAY w/ SAND (CL), dark yellowish brown (10YR 3/4), 15% f-c sand, 5% f. gravel, moist, hard
						-7-			
						-8-	CL		@9' SAA @ 5' mottled w/ v. dark grayish brown (10YR 3/2), 10% f-c sand
				2.4/2					
						-9-	CL		@11' clayey sand lense w/ gravel @11.8' gravel lense
						-10-			@12' seams of f-m sand
				3.7/3					@13' SAA @ 8' @13.9' SANDY LEAN CLAY (CL), yellowish brown (10YR 5/6), 45% f-c sand, med. plast. fines, moist, hard
						-11-			
						-12-			
						-13-			@17.5' CLAYEY SAND (SC), dark yellowish brown (10YR 4/4), f-c sand, 20% med plast. fines, moist
				2.9/3			CL		
						-14-	CL		
probe @ 14'									
						-15-			
				3.7/3					
						-16-			
						17			

BORING LOG
WSP USA
2025 Gateway Place, Suite 348
San Jose, CA 95110

Project Name: Former Vallco Mall
Location: 10123 N Wolfe Rd. Cupertino
Project #: 31402265.001

Boring No. SV-2 Sheet 2 of
Date(s) Drilled 11/19/20
Logged By: Elena Robertson

Sample Id/ Time	Sampler Type	PID/FID (ppm)	Blows/6"	Recovery (ft/ft)	Sample Interval	Depth (ft)	USCS Symbol	Graphic Log	Soil Description
						17	SC		@18' SAA, 15% med. plast. fines
						18			@19.5' transition to POORLY
				2/2					GRADED SAND (SP), brownish
						19			yellow (10YR 6/6), f-c sand,
									trace fines, moist
probe	@ 20'					20	SP		@ 20' SAA @ 18'
				2.8/3			SC		@21' SILT, 10YR 4/6, med. plast.,
						21	ML		trace f. sand, soft, wet
						22	CL		@22' LEAN CLAY W/ SAND (CL), dark
									yellowish brown (10YR 4/6), med.
						23			plast. fines, 20% f-c sand, hard,
				3.2/2					moist
						24			
									@26.8' SAA @ 22', 5% f-c
						25			gravel
				4.5/3		26			@27.3' CLAYEY GRAVEL W/ SAND (GC),
									10YR 4/4, 20% med. plast. fines,
						27	CL / GC		f-c gravel, 25% f-c sand, moist
						28			@28.5' WELL GRADED GRAVEL W/
				2.4/3					SAND (GW), 25% f-c sand,
						29	GW		f-c gravel, moist
probe	@ 30'					30			
						31			BOB @ 31'
						32			
						33			
						34			
						35			
						36			
						37			
						38			

BORING LOG WSP USA 2025 Gateway Place, Suite 348 San Jose, CA 95110	Project Name: Former Vallco Mall Location: 10123 N Wolfe Rd. Cupertino Project #: 31402265.001	Boring No. SV-3 Sheet 1 of 2 Date(s) Drilled 11/19/20 Logged By: Elena Robertson
Drilling Co.: Trinity Drilling Driller: Henry, Jeff	Soil Vapor Probe Depths: 4, 12, 21, 30	First Encountered Groundwater ▽: Depth to Water in Boring ▼: Depth to Water in Well:
Boring Drilling Method: direct push Hole Diameter: 2.5" Hole Depth: 31' Backfill method: construct SV probes	Sand pack intervals: 3.5-4.5, 11.5-12.5, 20.5-21.5, 29.5-30.5 #3 sand Seal intervals: 4.5-11.5 21.5-29.5 - hydrated bent. wonder 12.5-20.5 0-2.5 - bent. cement grout Seal types: bent. crumbles #8	**Soil Sampling** Method(s): continuous core Sampler Length: 5' Sampler Diameter: 2.5"

Sample Id/ Time	Sampler Type	PID/FID (ppm)	Blows/6"	Recovery (ft/ft)	Sample Interval	Depth (ft)	USCS Symbol	Graphic Log	Soil Description
				5/5		0	GC		CLAYEY GRAVEL w/ SAND (GC), grayish brown (10YR 5/2), f-c gravel, 25% f-c sand, 20% med. plast. fines, dry
						-1-	CL		@0.8' LEAN CLAY (CL), dark yellowish brown (10YR 3/4), med. plast. fines, 10% f-c gravel, 5% f-c sand, hard, moist
						-2-			
						-3-			
probe @4'						-4-			@5' LEAN CLAY (CL), dark yellowish brown (10YR 4/4), med. plast. fines, 10% f-c sand, trace f-c gravel, hard, moist
						-5-	CL		
				3.9/3		-6-			@8' LEAN CLAY w/ SAND (CL), med. plast. fines, 15% f-c sand, hard, moist
						-7-			
						-8-	CL		
				1.9/2		-9-			@11.5' SILT w/ SAND (ML), yellowish brown (10YR 5/6), med. plast. fines, 25% f-c sand, hard, moist
						-10-			
				2.1/3		-11-			@13' SAA @11.5'
						-12-	ML		@16.7' WELL GRADED SAND w/ SILT & GRAVEL, yellowish brown (10YR 5/6), f-c sand, 15% f-c gravel, 8% lp fines, moist
probe @12'						-13-			
				2/2		-14-			
						-15-			
				2.8/3		-16-			
						17	SW-SM		

BORING LOG WSP USA 2025 Gateway Place, Suite 348 San Jose, CA 95110	Project Name: Former Vallco Mall Location: 10123 N Wolfe Rd. Cupertino Project #: 31402265.001	Boring No. DV-3 Sheet 2 of 2 Date(s) Drilled 11/19/20 Logged By: Elena Robertson

Sample Id/ Time	Sampler Type	PID/FID (ppm)	Blows/6"	Recovery (ft/ft)	Sample Interval	Depth (ft)	USCS Symbol	Graphic Log	Soil Description
						17	SW-SM		@18' POORLY GRADED SAND w/ SILT (SP-SM), brownish yellow (10YR 6/8), f-c sand, 10% lp fines, moist
				1.7/2		18	SP-SM		@19.1' SILT (ML), yellowish brown (10YR 5/8) f-c sand, 10% lp fines, dry, hard
						19	ML		@20' SANDY SILT (ML), brownish yellow (10YR 6/4), low plast. fines, 30% f-m sand, moist, soft
						20	ML		@21' SAA @20', 50% f-c sand, hard
probe @21'				4.5/5		21	ML		@23' ~~SAAT~~ LEAN CLAY w/ SAND (CL), dark yellowish brown (10YR 4/6), med. plast. fines, 25% f-c sand, moist, hard
						22			
						23	CL		@25' LEAN CLAY (CL), yellowish brown (10YR 5/6), med. plast. fines, 10% f-c sand, hard, moist
						24			
				3.4/3		25	CL		@26.5' SANDY LEAN CLAY w/ GRAVEL (CL), dark yellowish brown (10YR 4/4), med. plast. fines, 20% f-c sand, 10% f-c gravel, hard, moist
						26			
						27	CL		@28' WELL GRADED SAND w/ GRAVEL (SW), light yellowish brown (10YR 6/4), f-c sand, 20% f-c gravel, trace fines, moist
				2.3/3		28	SW		
						29			
probe @30'						30			
						31			BOB @31'
						32			
						33			
						34			
						35			
						36			
						37			
						38			

BORING LOG WSP USA 2025 Gateway Place, Suite 348 San Jose, CA 95110	Project Name: Former Vallco Mall Location: 10123 N Wolfe Rd. Cupertino Project #: 31402265.001	Boring No. SV-4 Sheet 1 of 2 Date(s) Drilled 11/19/20 Logged By: Elena Robertson
Drilling Co.: Trinity Drilling Driller: Henry, Jeff	Soil Vapor Probe Depths: 5, 12, 20, 30	First Encountered Groundwater ▽: N/A Depth to Water in Boring ▼: Depth to Water in Well:
Boring Drilling Method: direct push Hole Diameter: 2.5" Hole Depth: 31' Backfill method: construct SV probes	Sand pack intervals: 4.5-5.5 19.5-20.5 #3 sand 11.5-12.5 29.5-30.5 Seal intervals: 5.5-6.5 dry bent. 6.5-10.5 hydrated bent. ect. 10.5-11.5 dry bent. Seal types: Bent crumbles #8	**Soil Sampling** Method(s): CC Sampler Length: 5' Sampler Diameter: 2"

Sample Id/ Time	Sampler Type	PID/FID (ppm)	Blows/6"	Recovery (ft/ft)	Sample Interval	Depth (ft)	USCS Symbol	Graphic Log	Soil Description
				4.8/5		0	CL		LEAN CLAY W/SAND (CL), yellowish brown (10YR5/4), 15% f-c sand, 5-10% f-c gravel, hard, moist.
						-1-			
						-2-			@3' SILT (ML), dark yellowish brown (10YR4/4), med. plast. fines, 10% f-m sand, hard, moist
						-3-	ML		
						-4-			@5.5' LEAN CLAY (CL), dark yellowish brown (10YR 3/4), med. plast. fines, 5% f-m sand, hard, moist, disciminated caliche present.
probe	@ 5'					-5-			
				2.5/3			CL		
						-6-			@8' SAA @5.5'
						-7-			
						-8-			@12' SANDY SILT (ML), yellowish brown (10YR5/6), med. plast. fines, 35% f-m sand, hard, moist
				1.5/2		-9-			
						-10-			
				4/5		-11-			@16' SAA @ 12', 45% f-m sand, soft
probe	@ 12'					-12-	ML		
						-13-			
						-14-			
						-15-			
				4.2/5		-16-	ML		
						17			

BORING LOG WSP USA 2025 Gateway Place, Suite 348 San Jose, CA 95110	Project Name: Former Vallco Mall Location: 10123 N Wolfe Rd. Cupertino Project #: 31402265.001	Boring No. SV-4 Sheet 2 of Date(s) Drilled 11/19/20 Logged By: Elena Robertson

Sample Id/ Time	Sampler Type	PID/FID (ppm)	Blows/6"	Recovery (ft/ft)	Sample Interval	Depth (ft)	USCS Symbol	Graphic Log	Soil Description
						17	SW		@17' WELL GRADED SAND w/ GRAVEL (SW), yellowish brown (10YR 5/6), f-c sand, 20% f-c gravel, trace fines, moist
						18			
						19	ML		@18.5 SILT (ML), brownish yellow (10YR 6/6), med plast. fines, 10% f-m sand, hard, moist
probe @ 20'						20	SM		@20' ~~SAND~~ SILTY SAND (SM), yellowish brown (10YR 5/6), f-c sand, 30% lp fines, moist
				4.8/5		21	ML		@21' SILT w/ SAND (ML), dark yellowish brown (10YR 4/6), med. plast. fines, 25% f-c sand, hard, moist
						22	CL		@22.5' LEAN CLAY (CL), yellowish brown (10YR 5/6), med. plast, 10% f-c sand, hard, moist
						23			
						24			
				3.7/3		25			@27.5' transition to SANDY LEAN CLAY (CL), dark yellowish brown (10YR 4/4), med. plast. fines, 20% f-c sand, 15% f-c gravel, hard, moist
						26			
						27	CL		@28' WELL GRADED SAND w/ GRAVEL (SW), pale brown (10YR 6/3), f-c sand, 20% f-c gravel, trace fines, moist
				2.4/3		28	SW		
						29			
probe @ 30'						30			
						31			BOB @ 31'
						32			
						33			
						34			
						35			
						36			
						37			
						38			

Soil vapor probe wells are built w/ stainless steel filters and are constructed in tremmie pipe.

Tubing = nylaflow tubing
Drillers use one tremmie pipe to set probe and sand pack + dry bent layer then uses seperate tremmie line to do the hydrated bent. lifts.

Review w/ AJW

- hydrated bentonite ok between probes
- Probes @ 5, 10, 20, 30
- HL-4 had VOCs (detectable levels)

Two hours prior to probe install call
408-630-2660

SV-2 is 4' East of HL-1N5

SV-3 is 21' South of OWS-1S5

SV-4 is 10.5' North & 3' east of OWP-1N5

SV-1 is 4.5' North & 7' west of HL-6N5

Note to Bailey

SV-1-5 was set in a clay - may not be able to draw a sample.

In general the shallowest probe was set in a gravely clay.

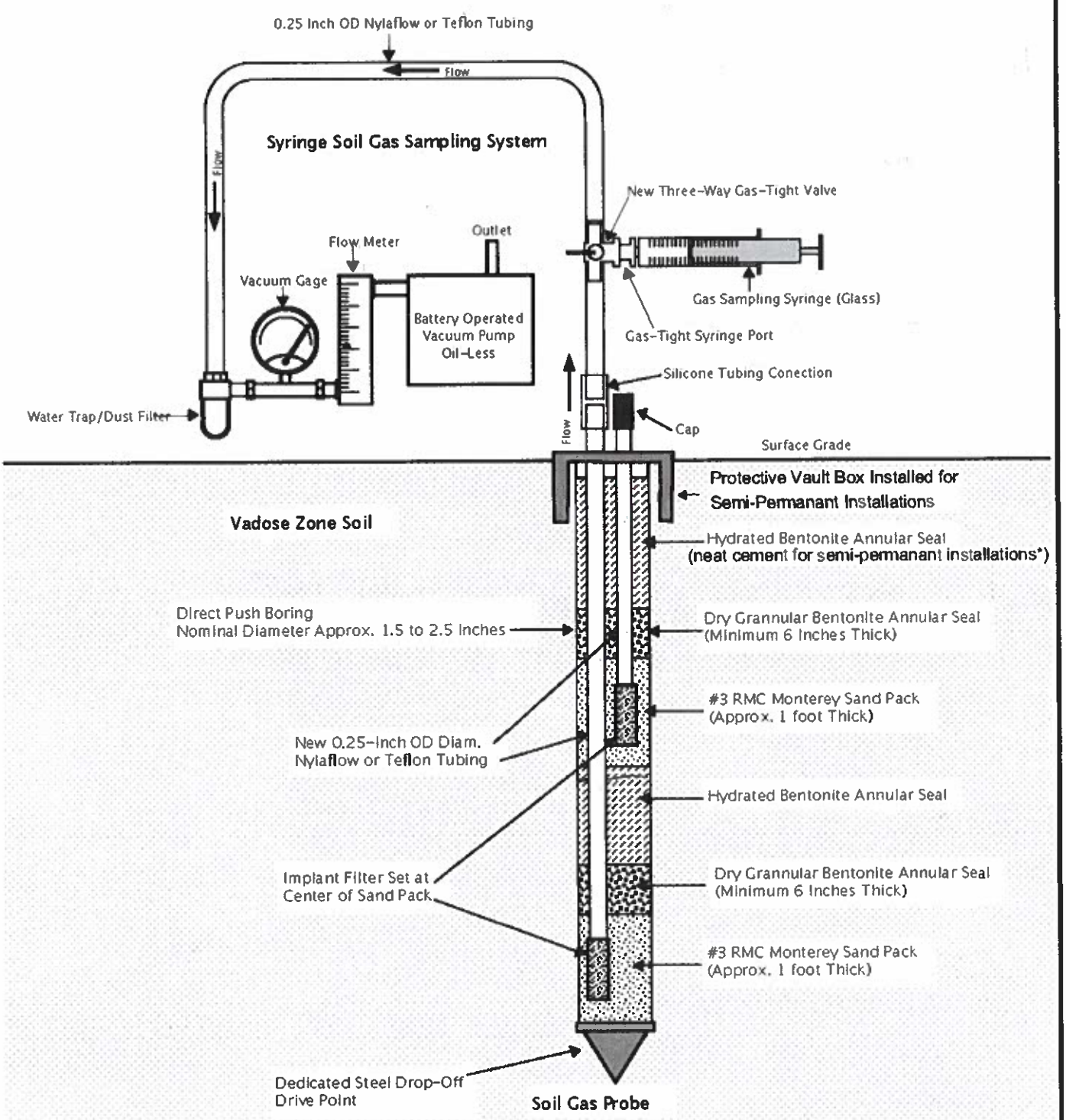

Figure From Environmental Support Technologies January 2015 SOP

*Recommended in DTSC /LARWQCB Advisory – Active Soil Gas Investigations dated July 2015

Drawing Not to Scale

DWG Name: 314MN0570.001-031
Checked:
Approved:
Drawn By: LS 8/26/2020
A

WSP USA Inc.
2025 GATEWAY PLACE
SUITE 348
SAN JOSE, CA 95110
TEL: +1 408.453.6100

Figure 10

MULTI-DEPTH SOIL GAS WELL CONSTRUCTION

FORMER PNEUMO ABEX SITE
OXNARD, CALIFORNIA
PREPARED FOR
PNEUMO ABEX LLC

APPENDIX

D STORM WATER POLLUTION AND PREVENTION PLAN (SWPPP)

STORMWATER POLLUTION PREVENTION PLAN

for

Vallco Town Center

RISK LEVEL ***1***

Legally Responsible Person (LRP):

Sand Hill Property Company
965 Page Mill Road
Palo Alto, CA 93404

Paul Hansen

Prepared for:

Sand Hill Property Company

Project Address:

10000 North Wolfe Road
Cupertino, CA 95014

SWPPP Prepared by:

SANDIS
5117 Johnson Dr.
Pleasanton, CA 94588

SWPPP Preparation Date

August 27, 2018
Revised February 9, 2021

WDID

2 43C384792

Estimated Project Dates:

Start of Construction:	**October 2018**	Completion of Construction:	**November 2024**

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Qualified SWPPP Developer

Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: *Vallco Town Center*

Project Number/ID: *215058*

"This Stormwater Pollution Prevention Plan and Attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Orders No. 2009-009-DWQ as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ)[1]. I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below."

QSD Signature	*Date*
David Angers	21651
QSD Name	*QSD Certificate Number*
Senior Project Manager, Associate Principal	510.873.8866
Title and Affiliation	*Telephone Number*
swppp@sandis.net	
Email	

[1] The CGP amendments were adopted on July 17, 2012. As of September 26, 2012, the amendment has not be posted to the State Water Board website.

Legally Responsible Person

Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: Vallco Town Center

Project Number/ID: 215028

"I certify under penalty of law that this document and all Attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Legally Responsible Person

Signature of Legally Responsible Person or Approved Signatory

Date

Title of Legally Responsible Person or Approved Signatory

Telephone Number

Amendment Log

Project Name: Vallco Town Center

Project Number/ID: 215028

Amendment No.	Date	Brief Description of Amendment, include section and page number	Prepared and Approved By
1	4/14/20	SWPPP revision. Change site name from The Hills at Vallco to Vallco Town Center. Extend completion date.	Name: David Angers QSD# 21651
2	2/9/21	Revise SWPPP to include areas of contaminated soils.	Name: David Angers QSD# 21651
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#

Section 1 SWPPP Requirements

1.1 INTRODUCTION

The Vallco Town Center project comprises approximately 30 acres and is located 10000 in Cupertino, California. The property is owned and being developed by Sandhill Property. The project's location is shown on the Site Map in Appendix B.

This Stormwater Pollution Prevention Plan (SWPPP) is designed to comply with California's General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit) Order No. 2009-0009-DWQ as amended in 2010 and 2012 (NPDES No. CAS000002) issued by the State Water Resources Control Board (State Water Board). This SWPPP has been prepared following the SWPPP Template provided on the California Stormwater Quality Association Stormwater *Best Management Practice Handbook Portal: Construction* (CASQA, 2012). In accordance with the General Permit, Section XIV, this SWPPP is designed to address the following:

- Pollutants and their sources, including sources of sediment associated with construction, construction site erosion and other activities associated with construction activity are controlled;
- Where not otherwise required to be under a Regional Water Quality Control Board (Regional Water Board) permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
- Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Control Technology (BAT/BCT) standard;

1.2 PERMIT REGISTRATION DOCUMENTS

Required Permit Registration Documents (PRDs) shall be submitted to the State Water Board via the Stormwater Multi Application and Report Tracking System (SMARTS) by the Legally Responsible Person (LRP), or authorized personnel (i.e., Approved Signatory) under the direction of the LRP. The project-specific PRDs include:

1. Notice of Intent (NOI);
2. Risk Assessment (Construction Site Sediment and Receiving Water Risk Determination);
3. Site Map;
4. Annual Fee;
5. Signed Certification Statement (LRP Certification is provided electronically with SMARTS PRD submittal); and
6. SWPPP.

- Post-construction water balance calculation;
- Dischargers proposing an alternate soil erodibility factor must submit justification (documentation of methods used [e.g. soil particle size analysis].

Site Maps can be found in Appendix B. A copy of the submitted PRDs shall also be kept in Appendix C along with the Waste Discharge Identification (WDID) confirmation.

1.3 SWPPP AVAILABILITY AND IMPLEMENTATION

The discharger shall make the SWPPP available at the construction site during working hours (see Section 7.5 of CSMP for working hours) while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone. (CGP Section XIV.C)

The SWPPP shall be implemented concurrently with the start of ground disturbing activities.

1.4 SWPPP AMENDMENTS

The SWPPP should be revised when:

- If there is a General Permit violation.
- When there is a reduction or increase in total disturbed acreage (General Permit Section II Part C).
- BMPs do not meet the objectives of reducing or eliminating pollutants in stormwater discharges.

Additionally, the SWPPP shall be amended when:

- There is a change in construction or operations which may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4);
- When there is a change in the project duration that changes the project's risk level; or
- When deemed necessary by the QSD. The QSD has determined that the changes listed in Table 1.1 can be field determined by the QSP. All other changes shall be made by the QSD as formal amendments to the SWPPP.

The following items shall be included in each amendment:

- Who requested the amendment;
- The location of proposed change;
- The reason for change;
- The original BMP proposed, if any; and
- The new BMP proposed.

Amendment shall be logged at the front of the SWPPP and certification kept in Appendix D. The SWPPP text shall be revised replaced, and/or hand annotated as necessary to properly convey the amendment. SWPPP amendments must be made by a QSD. The following changes have been designated by the QSD as "to be field determined" and constitute minor changes that the QSP may implement based on field conditions.

Table 1.1 List of Changes to be Field Determined

Candidate changes for field location or determination by QSP[1]	Check changes that can be field located or field determined by QSP
Increase quantity of an Erosion or Sediment Control Measure	✓
Relocate/Add stockpiles or stored materials	✓
Relocate or add toilets	✓
Relocate vehicle storage and/or fueling locations	✓
Relocate areas for waste storage	✓
Relocate water storage and/or water transfer location	✓
Changes to access points (entrance/exits)	✓
Change type of Erosion or Sediment Control Measure	✓
Changes to location of erosion or sediment control	✓
Minor changes to schedule or phases	✓
Changes in construction materials	✓
(1) Any field changes not identified for field location or field determination by QSP must be approved by QSD	

1.5 RETENTION OF RECORDS

Paper or electronic records of documents required by this SWPPP shall be retained for a minimum of three years from the date generated or date submitted, whichever is later, for the following items:

- SWPPP Binder
- Training Records
- All Inspection Records
- All Violations of the General Permit

These records shall be available at the Site until construction is complete. Records assisting in the determination of compliance with the General Permit shall be made available within a reasonable time, to the Regional Water Board, State Water Board or U.S. Environmental Protection Agency (EPA) upon request. Requests by the Regional Water Board for retention of records for a period longer than three years shall be adhered to.

1.6 REQUIRED NON-COMPLIANCE REPORTING

If a General Permit discharge violation occurs the QSP shall immediately notify the LRP. The LRP shall include information on the violation with the Annual Report. Corrective measures will be implemented immediately following identification of the discharge or written notice of non-compliance from the Regional Water Board. Discharges and corrective actions must be documented and include the following items:

- The date, time, location, nature of operation and type of unauthorized discharge.
- The cause or nature of the notice or order.
- The control measures (BMPs) deployed before the discharge event, or prior to receiving notice or order.
- The date of deployment and type of control measures (BMPs) deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent re-occurrence.

1.7 ANNUAL REPORT

The General Permit requires that permittees prepare, certify, and electronically submit an Annual Report no later than September 1st of each year. Reporting requirements are identified in Section XVI of the General Permit. Annual reports will be filed in SMARTS and in accordance with information required by the on-line forms.

1.8 CHANGES TO PERMIT COVERAGE

The General Permit allows for the reduction or increase of the total acreage covered under the General Permit when: a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs shall be filed electronically within 30 days of a reduction or increase in total disturbed area if a change in permit covered acreage is to be sought. The SWPPP shall be modified appropriately, shall be logged at the front of the SWPPP and cetrification of SWPPP amendments are to be kept in Appendix D. Updated PRDs submitted electronically via SMARTS can be found in Appendix E.

1.9 NOTICE OF TERMINATION

A Notice of Termination (NOT) must be submitted electronically by the LRP via SMARTS to terminate coverage under the General Permit. The NOT must include a final Site Map and representative photographs of the project site that demonstrate final stabilization has been achieved. The NOT shall be submitted within 90 days of completion of construction. The Regional Water Board will consider a construction site complete when the conditions of the General Permit, Section II.D have been met.

Section 2 Project Information

2.1 PROJECT AND SITE DESCRIPTION

2.1.1 Site Description

The Vallco Town Center project site comprises approximately 30 acres and is located at 10000 North Wolfe Road in Cupertino, California. The project site is located approximately 0.24 miles south of the intersection of Interstate-280 and North Wolfe Road. The project site is located approximately 680 feet northwest of Calabazas Creek. The project is located at Latitude 37.3231/ Longitude -122.0141 and is identified on the Site Map in Appendix B.

2.1.2 Existing Conditions

As of the initial date of this SWPPP, the project site is the Vallco Shopping Center. The site currently includes a 2-story shopping center, multi-level parking structures, surface parking lots, a pedestrian bridge, a vehicular tunnel, and several stand-alone buildings. There are no known historic sources of contamination onsite at this time.

2.1.3 Existing Drainage

The project site is relatively flat with a slope to the southwest. The elevation of the project site ranges from 180 - 172 feet above mean sea level (msl). Surface drainage at the site currently flows to the soutwest, towards storm drain inlets. Stormwater is conveyed through surface run off as well as storm drain inlets. Stormwater discharges, from the site, are not considered direct discharges, as defined by the State Water Board Calabazas Creek. Existing site topography, drainage patterns, and stormwater conveyance systems are shown on [names of drawings or plans].

The project discharges to Calabazas Creek that is not listed for water quality impairment on the most recent 303(d)-list for:

- Sedimentation/Siltation
- Turbidity
- pH

2.1.4 Geology and Groundwater

The site is underlain by 3-10 inches of aggregate base. The site is underlain also by alluvial deposits consisting of stiff to hard clays and sandy clays and medium dense to very dense sand and gravel. Historic high groundwater at the site is 50 feet bgs with groundwater also being encountered at depths between 65-75 feet bgs.

2.1.5 Project Description

Project grading will occur on approximately 30 acres of the project, which comprises approximately 100 percent of the total area. The limits of grading are shown on P-0401 in Appendix B. Grading will include both cut and fill activities with graded material expected to be

balanced onsite. Soil will be stockpiled at a location TBD by the contractor along with the QSP as shown on WPCD in Appendix B. Construction activities will be not be phased.

2.1.6 Developed Condition

Post construction surface drainage will be directed as surface flow through stormwater conveyance systems and sheet flow towards and will discharge a storm drain system as well as self treating planters.

Post construction drainage patterns and conveyance systems are presented on the Stormwater Management Plan in Appendix B.

Table 2.1 Construction Site Estimates

Construction site area	30	acres
Percent impervious before construction	90	%
Runoff coefficient before construction	.85	
Percent impervious after construction	58	%
Runoff coefficient after construction	.70	

2.2 PERMITS AND GOVERNING DOCUMENTS

In addition to the General Permit, the following documents have been taken into account while preparing this SWPPP

- Regional Water Board requirements
- Air Quality Regulations and Permits

2.3 STORMWATER RUN-ON FROM OFFSITE AREAS

There is no anticipated offsite run-on to this construction site because of the relatively flat topography of the surrounding area as well as the placement of inlets on the perimeter area of the site.

2.4 FINDINGS OF THE CONSTRUCTION SITE SEDIMENT AND RECEIVING WATER RISK DETERMINATION

A construction site risk assessment has been performed for the project and the resultant risk level is Risk Level 1.

The risk level was determined through the use of the site specific analysis. The risk level is based on project duration, location, proximity to impaired receiving waters and soil conditions. A copy of the Risk Level determination submitted on SMARTS with the PRDs is included in Appendix C.

Table 2.2 and Table 2.3 summarize the sediment and receiving water risk factors and document the sources of information used to derive the factors.

Table 2.2 Summary of Sediment Risk

RUSLE Factor	Value	Method for establishing value
R	264	EPA Fact Sheet 3.1 - Construction Rainfall Erosivity Waiver
K	0.32	Waterboards RUSLE K Factor Map
LS	0.154697	Table from Renard et. al., 1997
Total Predicted Sediment Loss (tons/acre)		**13.07**
Overall Sediment Risk Low Sediment Risk < 15 tons/ acre Medium Sediment Risk >= 15 and < 75 tons/acre High Sediment Risk >= 75 tons/acre		☒ **Low** ☐ **Medium** ☐ **High**

Runoff from the project site discharges into storm drain inlets that connect to the storm drain system that discharge into Calabazas Creek.

Table 2.3 Summary of Receiving Water Risk

Receiving Water Name	303(d) Listed for Sediment Related Pollutant(1)	TMDL for Sediment Related Pollutant(1)	Beneficial Uses of COLD, SPAWN, and MIGRATORY(1)
Calabazas Creek	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No
Overall Receiving Water Risk			☒ **Low** ☐ **High**
(1) If yes is selected for all 3 options the Receiving Water Risk is High			

Risk Level 1 sites are subject to the narrative effluent limitations specified in the General Permit. The narrative effluent limitations require stormwater discharges associated with construction activity to minimize or prevent pollutants in stormwater and authorized non-stormwater through the use of controls, structures, and best management practices. This SWPPP has been prepared to address Risk Level 1 requirements (General Permit Attachment C).

2.5 CONSTRUCTION SCHEDULE

The site sediment risk was determined based on construction taking place between 10/5/2018 and 11/5/2024. Modification or extension of the schedule (start and end dates) may affect risk

determination and permit requirements. The LRP shall contact the QSD if the schedule changes during construction to address potential impact to the SWPPP. The estimated schedule for planned work can be found in Appendix F.

2.6 POTENTIAL CONSTRUCTION ACTIVITY AND POLLUTANT SOURCES

Appendix G includes a list of construction activities and associated materials that are anticipated to be used onsite. These activities and associated materials will or could potentially contribute pollutants, other than sediment, to stormwater runoff.

The anticipated activities and associated pollutants were used in Section 3 to select the Best Management Practices for the project. Location of anticipated pollutants and associated BMPs are show on the Site Map in Appendix B.

For sampling requirements for non-visible pollutants associated with construction activity please refer to Section 7.7.1. For a full and complete list of onsite pollutants, refer to the Material Safety Data Sheets (MSDS), which are retained onsite at the construction trailer.

2.7 IDENTIFICATION OF NON-STORMWATER DISCHARGES

Non-stormwater discharges consist of discharges which do not originate from precipitation events. The General Permit provides allowances for specified non-stormwater discharges that do not cause erosion or carry other pollutants.

Some regional Water Boards may prohibit, require a separate NPDES permit, or specific monitoring and reporting requirements for the non-storm water discharges identified in the Construction General Permit as authorized. Additionally, some local jurisdictions may prohibit the non-storm water discharges identified in the General Permit as authorized. If either of these is true, the General Permit does not authorize the discharge even if it is listed as an authorized discharge. Check with the Regional Water Board and local jurisdiction on what discharges may or may not be regionally or local authorized.

Authorized non-storm water may include de-chlorinated potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, uncontaminated groundwater dewatering and other discharges not subject to separate general NPDES permit adopted by the region.

- Non-storm water discharges must meet the following conditions to be authorized:
    - Discharge does not cause or contribute to a water quality standard violation;
    - Discharge does not violate other provision of the General Permit;
    - Discharge is not prohibited by the applicable Basin Plan;
    - The SWPPP includes appropriate BMPs are implemented to prevent or reduce contact of the non-storm water discharge with construction materials or equipment;
    - The discharge does not contain a hazardous substance in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges;
    - The discharger samples and reports the sampling information in the annual report.

- PROHIBITED (ILLICIT) DISCHARGES. Non-storm water discharges into storm drainage systems or waterways, which are not authorized under the General Permit or authorized under a separate NPDES permit, are prohibited. Examples of prohibited non-stormwater discharges common to construction activities include but are not limited to:
    - Vehicle and equipment cleaning, fueling and maintenance operations;
    - Vehicle and equipment wash water, including concrete washout water;
    - Slurries from concrete cutting and coring operations, PCC grinding or AC grinding operations;
    - Slurries from concrete or mortar mixing operations;
    - Blast residue from high-pressure washing of structures or surfaces;
    - Wash water from cleaning painting equipment;
    - Sanitary and septic wastes;
    - Chemical leaks and/or spills of any kind including but not limited to petroleum, paints, cure compounds, etc.

Non-stormwater discharges that **are authorized** from this project site include the following:

- Irrigation of vegetative erosion control measures;
- Pipe flushing and testing (dechlorinated);
- Water to control dust;
- Uncontaminated ground water dewatering.
- Discharges that are infeasible to eliminate

These authorized non-stormwater discharges will be managed with the stormwater and non-stormwater BMPs described in Section 3 of this SWPPP and will be minimized by the QSP.

Steps will be taken, including the implementation of appropriate BMPs, to ensure that non-stormwater discharges are eliminated, controlled, disposed properly, or treated on-site.

Discharges of construction materials and wastes, such as fuel or paint, resulting from dumping, spills, or direct contact with rainwater or stormwater runoff, are also prohibited.

The following discharges have been authorized by regional NPDES permits):

- NONE

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit and listed in the SWPPP, or not authorized under a separate NPDES permit, are strictly prohibited.

2.8 REQUIRED SITE MAP INFORMATION

The construction project's Site Map(s) showing the project location, surface water boundaries, geographic features, construction site perimeter and general topography and other requirements identified in Attachment B of the General Permit is located in Appendix B. Table 2.5 identifies Map or Sheet Nos. where required elements are illustrated.

Table 2.5 Required Map Information

Included on Map/Plan Sheet No. (1)	Required Element
VIC Map	The project's surrounding area (vicinity)
WPCD	Site layout
WPCD	Construction site boundaries
WPCD	Drainage areas
WPCD	Discharge locations
WPCD	Sampling locations
GRAD	Areas of soil disturbance (temporary or permanent)
GRAD	Active areas of soil disturbance (cut or fill)
WPCD	Locations of runoff BMPs
WPCD	Locations of erosion control BMPs
WPCD	Locations of sediment control BMPs
N/A	ATS location (if applicable)
WPCD	Locations of sensitive habitats, watercourses, or other features which are not to be disturbed
SWMP	Locations of all post construction BMPs
WPCD	Waste storage areas
WPCD	Vehicle storage areas
WPCD	Material storage areas
WPCD	Entrance and Exits
WPCD	Fueling Locations

Notes: (1) Indicate maps or drawings that information is included on (e.g., Vicinity Map, Site Map, Drainage Plans, Grading Plans, Progress Maps, etc.)

Section 3 Best Management Practices

3.1 SCHEDULE FOR BMP IMPLEMENTATION

Table 3.1 BMP Implementation Schedule

	BMP	Implementation	Duration
Erosion Control	EC-1: Scheduling	The schedule will be amended before rainy season to show updated information on the installation and deployment of construction site BMPs.	Entirety of Project
	EC-2: Preservation of Existing Vegetation	ESA fencing will be installed before soil disturbance commences.	TBD
	EC-3: Hydraulic Mulch	Hydraulic mulch will be used as a temporary erosion control BMP against wind used in conjunction with straw mulch when feasible.	TBD
	EC-4: Hydroseeding	Hydroseeding will be used to temporarily protect exposed soils from erosion from water and wind.	TBD
	EC-5: Soil Binders	Soil Binders will be applied to recently graded area to prevent erosion due to water and any stockpiles of materials kept on site which are not otherwise protected by other BMPs.	TBD
	EC-6: Straw Mulch	Straw mulch should be applied in combination with seeding strategies to enhance plant establishment and soil stabilization.	TBD
	EC-7: Geotextile and Mats	Geotextiles and matting of natural materials should be used to cover the soil surface, to reduce erosion from rainfall impact, hold soil in place, and absorb and hold moisture near the soil surface.	TBD

Table 3.1 BMP Implementation Schedule

	BMP	Implementation	Duration
	EC-8: Wood Mulching	Wood mulch shall be applied to disturbed soil areas to provide temporary protection against rain and wind erosion until permanent stabilization is established.	TBD
	EC-9: Earth Dikes and Drainage Swales	Drainage swales will be used to divert runoff to a desired location. Velocity dissipation devices will be used as needed to slow runoff velocities.	TBD
	EC-10: Velocity Dissipation Devices	Velocity dissipation devices will be used where discharge velocities and energies at the outlets of culverts, conduits or channels are sufficient to erode immediate downstream reach	TBD
	EC-11: Slope Drains	The slope drain will be needed to direct surface flow away from slope areas to protect cut or fill slopes which have not been stabilized yet	TBD
	EC-12: Steambank Stabilization	Streambank stabilization will be used wherever construction activity can increase a streams sediment load.	TBD
	EC-13: Compost Blanket	A compost blanket will be applied to slopes and earth disturbed areas to increase infiltration and help establish vegetation	TBD
	EC-15: Soil Preparation and Roughening	Soil preparation and roughening (track walking) will be used to prepare soil for additional BMPs or to break up sheet flow.	TBD
	EC-16: Non-Vegetated Stabilization	Non-vegetative stabilization will be used to stabilize exposed soils and to protect soils from erosion from wind or rain.	TBD

Table 3.1 BMP Implementation Schedule

	BMP	Implementation	Duration
Sediment Control	SE-1: Silt Fence	The silt fence detains sediment-laden water, promoting sedimentation behind the fence. The silt fence is suitable for perimeter control below areas where sheet flow discharges from the site.	TBD
	SE-2: Sediment Basin	Constructed prior to cleaning and grading work begins whenever possible.	
	SE-3: Sediment Trap	Construct near the areas producing sediment.	
	SE-4: Check Dams	Place in areas in need of erosion control as well as sediment control. Using check dams in series will greatly increase their effectiveness.	
	SE-5: Fiber Rolls	After final grading of the slopes; implement in sequence with other erosion control BMPs.	TBD
	SE-6: Gravel Bag Berm	The gravel bag berms will pond sheet flow reducing flow velocity and increasing residence time which will both allow more sediment to settle and prevent erosion.	TBD
	SE-7: Street Sweeping	On adjacent paved roads (public and private) on an as needed basis, determined by QSP.	TBD
	SE-8: Sand Bag Barrier	Sand bag barrier will be placed on a level contour to intercept sheet flows.	TBD
	SE-9: Straw Bale Barrier	A straw bale barrier will be placed on a level contour to intercept sheet flows.	TBD

Table 3.1 BMP Implementation Schedule

	BMP	Implementation	Duration
	SE-10: Storm Drain Inlet Protection	Determine appropriate method of protection due to site conditions. Limit the upstream drainage area that contributes to the inlet to 1 acre maximum.	TBD
	SE-11: Active Treatment System	Aids in the reduction of turbidity caused by fine suspended sediment.	TBD
	SE-12: Temporary Silt Dike	Generally, used in conjunction with temporary soil stabilization controls.	
	SE-13: Compost Socks and Berms	Installed along the perimeter of the project, as check dams in unlined ditches, on contours of exposed soil areas, around stockpiles, or as inlet protection.	
	SE-14: Biofilter Bags	Biofilter bags can be used both as inlet protection and as a linear erosion control measure.	TBD
Tracking Control	TC-1: Stabilized Construction Entrance/exit	Install prior to soil disturbance.	TBD
	TC-2: Stabilized Construction Roadway	Implement in roadways susceptible to erosion to increase speed on worksite.	
	TC-3: Entrance Outlet Tire Wash	Incorporate with TC-1, stabilized Construction Entrance/Exit.	TBD
Wind Erosion	WE-1: Wind Erosion	Starting during the grading phase until the landscaping phase.	TBD

3.2 EROSION AND SEDIMENT CONTROL

Erosion and sediment controls are required by the General Permit to provide effective reduction or elimination of sediment related pollutants in stormwater discharges and authorized non-stormwater discharges from the Site. Applicable BMPs are identified in this section for erosion control, sediment control, tracking control, and wind erosion control.

3.2.1 Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles.

This construction project will implement the following practices to provide effective temporary and final erosion control during construction:

1. Preserve existing vegetation where required and when feasible.
2. The area of soil disturbing operations shall be controlled such that the Contractor is able to implement erosion control BMPs quickly and effectively.
3. Stabilize non-active areas within 14 days of cessation of construction activities or sooner if stipulated by local requirements.
4. Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding or alternate methods.
5. Prior to the completion of construction, apply permanent erosion control to remaining disturbed soil areas.

Sufficient erosion control materials shall be maintained onsite to allow implementation in conformance with this SWPPP.

The following temporary erosion control BMP selection table indicates the BMPs that shall be implemented to control erosion on the construction site. Fact Sheets for temporary erosion control BMPs are provided in Appendix H.

Table 3.2 Temporary Erosion Control BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement[1]	BMP Used		If not used, state reason
			YES	NO	
EC-1	Scheduling	✓			
EC-2	Preservation of Existing Vegetation	✓			
EC-3	Hydraulic Mulch				N/A
EC-4	Hydroseed				N/A
EC-5	Soil Binders				N/A
EC-6	Straw Mulch				N/A
EC-7	Geotextiles and Mats				N/A
EC-8	Wood Mulching				N/A
EC-9	Earth Dike and Drainage Swales				N/A
EC-10	Velocity Dissipation Devices				N/A
EC-11	Slope Drains				N/A
EC-12	Stream Bank Stabilization				N/A
EC-14	Compost Blankets				N/A
EC-15	Soil Preparation-Roughening				N/A
EC-16	Non-Vegetated Stabilization				N/A
WE-1	Wind Erosion Control	✓			
Alternate BMPs Used:					**If used, state reason:**

[1] Applicability to a specific project shall be determined by the QSD.
[2] The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements.
[3] Run-on from offsite shall be directed away from all disturbed areas, diversion of offsite flows may require design/analysis by a licensed civil engineer and/or additional environmental permitting

These temporary erosion control BMPs shall be implemented in conformance with the following guidelines and as outlined in the BMP Factsheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

EC-1: Scheduling
The schedule will be amended before rainy season to show updated information on the installation and deployment of construction site BMPs.

EC-2: Preservation of Existing Vegetation
Areas of existing vegetation will be preserved and not disturbed until it is necessary to grade that area. Either orange ESA fencing or orange silt fencing will be used to restrict access to these areas.

WE-1: Wind Erosion Control
Fugitive dust control will be managed with water and/or with soil binders. Water used for dust suppression will be applied so that it will evaporate or percolate into the ground and not pose a problem to the storm drain system. Stockpiles will be kept moist with water to ensure wind erosion and dust control is adequately addressed on the site. When a stockpile is not actively being used (not used for a period of 14 days or more), it is required to be bermed with a secured fiber roll or rock bags, and covered with plastic sheeting.

3.2.2 Sediment Controls

Sediment controls are temporary or permanent structural measures that are intended to complement the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water.

The following sediment control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site. Fact Sheets for temporary sediment control BMPs are provided in Appendix H.

Table 3.3 Temporary Sediment Control BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement (1)	BMP used		If not used, state reason
			YES	NO	
SE-1	Silt Fence			✓	N/A
SE-2	Sediment Basin			✓	N/A
SE-3	Sediment Trap			✓	N/A
SE-4	Check Dams			✓	N/A
SE-5	Fiber Rolls		✓		

Table 3.3 Temporary Sediment Control BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement (1)	BMP used		If not used, state reason
			YES	NO	
SE-6	Gravel Bag Berm			✓	N/A
SE-7	Street Sweeping	✓			
SE-8	Sandbag Barrier			✓	N/A
SE-9	Straw Bale Barrier			✓	N/A
SE-10	Storm Drain Inlet Protection	✓			
SE-11	ATS			✓	N/A
SE-12	Manufactured Linear Sediment Controls			✓	N/A
SE-13	Compost Sock and Berm			✓	N/A
SE-14	Biofilter Bags			✓	N/A
TC-1	Stabilized Construction Entrance and Exit	✓			
TC-2	Stabilized Construction Roadway			✓	N/A
TC-3	Entrance Outlet Tire Wash			✓	N/A
Alternate BMPs Used:					**If used, state reason:**

(1) Applicability to a specific project shall be determined by the QSD
(2) The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements

These temporary sediment control BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

SE-5: Fiber Rolls
Fiber rolls or straw wattles will be installed along the perimeter of the site along with the construction fencing. Straw wattle shall be left in place where reasonable at the completion of the project.

SE-7: Street Sweeping
Street sweeping on all adjacent (public and private) paved roads is addressed daily or on an "as needed" basis. Inspections by the project supervisor and/or the QSP will determine the frequency of the sweeping.

SE-10: Storm Drain Inlet Protection
Determine appropriate method of protection due to site conditions. Limit the upstream drainage area that contributes to the inlet to 1 acre maximum.

TC-1: Stabilized Construction Entrance and Exit
A stabilized construction entrance/exit will be constructed and maintained at construction site entrance and exits, equipment yard, PCC batch plants and water filling area for water trucks. The site entrance/exit will be stabilized to reduce tracking of sediments as a result of construction traffic. QSP shall ensure construction activity traffic to and from the project is limited to controlled entrances and exits.

TC-2: Stabilized Construction Roadway
Implement in roadways susceptible to erosion to increase speed on worksite.

TC-3: Entrance/Outlet Tire Wash
An entrance/outlet tire wash station will be used to ensure that sediment tracking to public streets in minimized.

3.3 NON-STORMWATER CONTROLS AND WASTE AND MATERIALS MANAGEMENT

3.3.1 Non-Stormwater Controls

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit, are prohibited. Non-stormwater discharges for which a separate NPDES permit is required by the local Regional Water Board are prohibited unless coverage under the separate NPDES permit has been obtained for the discharge. The selection of non-stormwater BMPs is based on the list of construction activities with a potential for non-stormwater discharges identified in Section 2.7 of this SWPPP.

The following non-stormwater control BMP selection table indicates the BMPs that shall be implemented to control non-stormwater discharges on the construction site. Fact Sheets for temporary non-stormwater control BMPs are provided in Appendix H.

Table 3.4 Temporary Non-Stormwater BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement[1]	BMP used		If not used, state reason
			YES	NO	
NS-1	Water Conservation Practices	✓			
NS-2	Dewatering Operation			✓	N/A
NS-3	Paving and Grinding Operation		✓		
NS-4	Temporary Stream Crossing			✓	N/A
NS-5	Clear Water Diversion			✓	N/A
NS-6	Illicit Connection/Discharge Detection	✓			
NS-7	Potable Water/Irrigation		✓		
NS-8	Vehicle and Equipment Cleaning	✓			
NS-9	Vehicle and Equipment Fueling	✓			
NS-10	Vehicle and Equipment Maintenance	✓			
NS-11	Pile Driving Operation			✓	N/A
NS-12	Concrete Curing		✓		
NS-13	Concrete Finishing		✓		
NS-14	Material and Equipment Use Over Water			✓	N/A
NS-15	Demolition Removal Adjacent to Water			✓	N/A
NS-16	Temporary Batch Plants			✓	N/A
Alternate BMPs Used:			**If used, state reason:**		

Table 3.4 Temporary Non-Stormwater BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement[1]	BMP used		If not used, state reason
			YES	NO	
[1] Applicability to a specific project shall be determined by the QSD					

Non-stormwater BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

NS-1: Water Conservation Practices
The use of water at the construction site will be minimal. Water will be used for dust control, irrigation of new landscaping, for cement curing, and to do some minimal cleaning. This water will not reach a receiving water body or an MS4 drainage system.

NS- 3: Paving and Grinding Operation
Avoid paving and grinding in the rain. Protect storm drain inlets during paving and grinding activities and collect and remove excess material as to not allow debris to enter the storm drain system.

NS-6: Illicit Connection/Discharge
Illicit connection/discharge and reporting is applicable anytime an illicit connection or discharge is discovered or illegally dumped material is found on the construction site. Illicit connections and illegal discharges or dumping refers to the discharge and dumping caused by parties other than the contractor, therefore, inspection of the site before the start of the project is required. During project execution, the site must be inspected regularly for illicit connections and illegal dumping and discharge.

NS-7: Potable Water/Irrigation
Whenever potable water or irrigation water that discharges from or enters a construction site, consideration must be made to ensure this water is not transporting pollutants offsite.

NS-8: Vehicle and Equipment Cleaning
Vehicle and equipment cleaning will be done in designated, contained areas only, or using offsite facilities.

NS-9: Vehicle and Equipment Fueling
Dedicated fueling areas shall be level grade areas and at least 50 feet away from downstream storm drain inlets. Protect the fueling areas with berms and dikes to prevent run on or runoff and to protect the site. Drip pans and absorbent pads shall be used when fueling and absorbent spill clean up materials shall be readily available.

NS-10: Vehicle and Equipment Maintenance
The best option to ensure a “dry and clean site” is to perform maintenance activities at an offsite facility. If this is not an option, work should be performed in appropriately protected, designated areas only.

NS-12: Concrete Curing
Concrete curing is used in the construction of structures such as bridges, retaining walls, pump houses, large slabs and structured foundations. Concrete curing includes the use of chemical and water methods. Discharges of storm water and non-storm water exposed to concrete during curing may contain chemicals, metals and fines. Therefore proper procedures must be followed to reduce or eliminate the contamination of storm water runoff during concrete curing.

NS-13: Concrete Finishing

Concrete finishing methods include sand blasting, shot blasting, grinding, or high pressure water blasting. Storm water and non-storm water exposed to concrete finishing may have high pH and may contain chemicals, metals and fines. Proper procedures must be followed to eliminate or reduce the contamination of the storm water runoff during concrete finishing.

3.3.2 Materials Management and Waste Management

Materials management control practices consist of implementing procedural and structural BMPs for handling, storing and using construction materials to prevent the release of those materials into stormwater discharges. The amount and type of construction materials to be utilized at the Site will depend upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as soil binders for temporary stabilization.

Waste management consist of implementing procedural and structural BMPs for handling, storing and ensuring proper disposal of wastes to prevent the release of those wastes into stormwater discharges.

Materials and waste management pollution control BMPs shall be implemented to minimize stormwater contact with construction materials, wastes and service areas; and to prevent materials and wastes from being discharged off-site. The primary mechanisms for stormwater contact that shall be addressed include:

- Direct contact with precipitation
- Contact with stormwater run-on and runoff
- Wind dispersion of loose materials
- Direct discharge to the storm drain system through spills or dumping
- Extended contact with some materials and wastes, such as asphalt cold mix and treated wood products, which can leach pollutants into stormwater.

A list of construction activities is provided in Section 2.6. The following Materials and Waste Management BMP selection table indicates the BMPs that shall be implemented to handle materials and control construction site wastes associated with these construction activities. Fact Sheets for Materials and Waste Management BMPs are provided in Appendix H.

Table 3.5 Temporary Materials Management BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement[1]	BMP used		If not used, state reason
			YES	NO	
WM-01	Material Delivery and Storage	✓			
WM-02	Material Use	✓			
WM-03	Stockpile Management	✓			
WM-04	Spill Prevention and Control	✓			
WM-05	Solid Waste Management	✓			
WM-06	Hazardous Waste Management	✓			
WM-07	Contaminated Soil Management			✓	N/A
WM-08	Concrete Waste Management	✓			
WM-09	Sanitary-Septic Waste Management	✓			
WM-10	Liquid Waste Management				
Alternate BMPs Used:				**If used, state reason:**	

[1] Applicability to a specific project shall be determined by the QSD.

Material management BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

WM-1 Material Delivery and Storage
Materials at the project will be delivered, received, and stored within the construction staging area. Materials which could introduce pollutants when coming into contact with storm water will be stored within a covered shed, container, or under plastic sheeting and/or tarps.

WM-2 Material Use
Pollutant discharge to the storm drain system or waterways from material used onsite will be prevented or reduced by using alternative products, minimizing hazardous material use onsite, and training employees and subcontractors.

WM-3 Stockpile Management
Stockpiles may be generated at this project during the grading, utility installation, street installation, and landscaping phases. Stockpiles will vary in size and location as determined by the current construction activities. When a stockpile is not actively being used (not used for a period of 14 days), it is required to be bermed with a secured fiber roll or rock bags, and covered with plastic sheeting, geotextile, or other erosion control coverings.

WM-4 Spill Prevention and Control
General Measures
To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110, 117, 302, and sanitary and septic wastes should be contained and cleaned up immediately.

- Store hazardous materials and wastes in covered containers and protect from vandalism.
- Store spill cleanup materials where it will be readily accessible.

Training
Designate responsible individuals to oversee and enforce control measures. Spills should be covered and protected from storm water run-on during rainfall to the extent that it doesn't compromise cleanup activities. Do not bury or wash spills with water. Store and dispose of used cleanup materials, contaminated materials, and recovered spill material that tis no longer suitable for the intended purpose in conformance with the local, state, and federal laws.

- Do not allow water used for cleaning and decontamination to runoff the site or percolate into the ground. Collect and dispose of contaminated water in accordance with WM-10, Liquid Waste Management.
- Place proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

- Clean up leaks and spills immediately.
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spill occurs on a dirt surface, then excavate the impacted soil and place in a waste drum or other container. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to either a certified laundry (rags) or disposed of as hazardous waste.
- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of it properly. See the waste management BMPs in this section for specific information.

Minor Spills

- Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Follow the response practices indicated below for a minor spill:
    - Contain the spread of the spill.
    - Recover spilled materials.
    - Clean the contaminated area and properly dispose of the contaminated materials.

Semi-Significant Spills

- Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.
- Spills should be cleaned up immediately:
    - Contain spread of the spill.
    - Notify the project foreman immediately.
    - If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
    - If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
    - If the spill occurs during rain, cover the spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that cannot be controlled by personnel in the immediate vicinity, the following steps should be taken:

- Notify the local emergency response by dialing 911. In addition to 911, the contractor will notify the proper Count officials. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
- Notify the Governor's Office of Emergency Services Warning Center, (916) 845-8911.

- For spills of Federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- Notification should first be made by telephone and followed up with a written report.
- The services of a spills contractor or haz-mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- Other agencies which may need to be consulted include, but are not limited to, the Fire Department, the Public Works Department, the Coast Guard, the Highway Patrol, the City/County Police Department, Department of Toxic Substances, California Division of Oil and Gas, Cal/OSHA, etc

WM-5 Solid Waste Management
Solid waste management is intended to prevent storm water pollution by providing designated waste collection areas and containers, arranging for regular disposal, and training employees and subcontractors.

WM-6: Hazardous Waste Management
Proper material use, waste disposal, and training of employees and subcontractors can prevent or reduce the discharge of pollutants to storm water.

WM-8 Concrete Waste Management
The concrete wash-out area will be located in the construction staging area and will consist of rented wash out bins. The level of wash water in the bins will be managed to prevent overflow. The bins will be covered or checked prior to storm events to assure that there is sufficient freeboard to prevent overflowing.

WM-9 Sanitary-Septic Waste Management
On-site portable toilets will be provided during the project and located within the construction staging yard. All sanitary facilities will be inspected weekly for leaks and prior to any forecasted storm event. In the event of high winds, ensure that the facilities are staked-down or secured to prevent them from tipping over and spilling.

WM-10: Liquid Waste Management
Drilling slurries, oil-free rinse water, dredging, and other non-storm water liquid discharges should be collected and managed properly to prevent discharge to the storm drain system or waterways.

3.4 POST CONSTRUCTION STORMWATER MANAGEMENT MEASURES

Post construction BMPs are permanent measures installed during construction, designed to reduce or eliminate pollutant discharges from the site after construction is completed.

This site is located in an area subject to a Phase I or Phase II Municipal Separate Storm Sewer System (MS4) permit approved Stormwater Management Plan. ☒ Yes ☐ No

The following source control post construction BMPs to comply with General Permit Section XIII.B and local requirements have been identified for the site:

- Biofiltration

- Infiltration
- Self-Retention

A plan for the post construction funding and maintenance of these BMPs has been developed to address at minimum five years following construction. The post construction BMPs that are described above shall be funded and maintained by the LRP. If required, post construction funding and maintenance will be submitted with the NOT.

Section 4 BMP Inspection and Maintenance

BMP INSPECTION AND MAINTENANCE

The General Permit requires routine weekly inspections of BMPs, along with inspections before, during, and after qualifying rain events. A BMP inspection checklist must be filled out for inspections and maintained on-site with the SWPPP. The inspection checklist includes the necessary information covered in Section 7.6. A blank inspection checklist can be found in Appendix I. Completed checklists shall be kept in CSMP Attachment 2 "Monitoring Records.

BMPs shall be maintained regularly to ensure proper and effective functionality. If necessary, corrective actions shall be implemented within 72 hours of identified deficiencies and associated amendments to the SWPPP shall be prepared by the QSD.

Specific details for maintenance, inspection, and repair of Construction Site BMPs can be found in the BMP Factsheets in Appendix H.

Section 5 Training

Appendix L identifies the QSPs for the project. To promote stormwater management awareness specific for this project, periodic training of job-site personnel shall be included as part of routine project meetings (e.g. daily/weekly tailgate safety meetings), or task specific trainings as needed.

The QSP shall be responsible for providing this information at the meetings, and subsequently completing the training logs shown in Appendix K, which identifies the site-specific stormwater topics covered as well as the names of site personnel who attended the meeting. Tasks may be delegated to trained employees by the QSP provided adequate supervision and oversight is provided. Training shall correspond to the specific task delegated including: SWPPP implementation; BMP inspection and maintenance; and record keeping.

Documentation of training activities (formal and informal) is retained in SWPPP Appendix K.

Section 6 Responsible Parties and Operators

6.1 RESPONSIBLE PARTIES

Approved Signatory who is responsible for SWPPP implementation and have authority to sign permit-related documents are listed below. Written authorizations from the LRP for these individuals are provided in Appendix L.

The Approved Signatory assigned to this project is:

Name	Title	Phone Number
Paul Hansen		

QSPs identified for the project are identified in Appendix L. The QSP shall have primary responsibility and significant authority for the implementation, maintenance and inspection/monitoring of SWPPP requirements. The QSP will be available at all times throughout the duration of the project. Duties of the QSP include but are not limited to:

- Implementing all elements of the General Permit and SWPPP, including but not limited to:
  - Ensuring all BMPs are implemented, inspected, and properly maintained;
  - Performing non-stormwater and stormwater visual observations and inspections;
  - Performing non-stormwater and storm sampling and analysis, as required;
  - Performing routine inspections and observations;
  - Implementing non-stormwater management, and materials and waste management activities such as: monitoring discharges; general Site clean-up; vehicle and equipment cleaning, fueling and maintenance; spill control; ensuring that no materials other than stormwater are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems; etc.;
- The QSP may delegate these inspections and activities to an appropriately trained employee, but shall ensure adequacy and adequate deployment.
- Ensuring elimination of unauthorized discharges.
- The QSPs shall be assigned authority by the LRP to mobilize crews in order to make immediate repairs to the control measures.
- Coordinate with the Contractor(s) to assure all of the necessary corrections/repairs are made immediately and that the project complies with the SWPPP, the General Permit and approved plans at all times.
- Notifying the LRP or Authorized Signatory immediately of off-site discharges or other non-compliance events.

6.2 CONTRACTOR LIST

Contractor

Name:	
Title:	
Company:	Devcon
Address:	690 Gibraltar Dr, Milpitas CA, 95035
Phone Number:	
Number (24/7):	

Section 7 Construction Site Monitoring Program

7.1 Purpose

This Construction Site Monitoring Program was developed to address the following objectives:

1. To demonstrate that the site is in compliance with the Discharge Prohibitions of the Construction General Permit;
2. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;
3. To determine whether immediate corrective actions, additional Best Management Practices (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in stormwater discharges and authorized non-stormwater discharges;
4. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in stormwater discharges and authorized non-stormwater discharges.

7.2 Applicability of Permit Requirements

This project has been determined to be a Risk Level **1** project. The General Permit identifies the following types of monitoring as being applicable for a Risk Level **1** project.

Risk Level **1**

- Visual inspections of Best Management Practices (BMPs);
- Visual monitoring of the site related to qualifying storm events;
- Visual monitoring of the site for non-stormwater discharges;
- Sampling and analysis of construction site runoff for non-visible pollutants when applicable; and
- Sampling and analysis of construction site runoff as required by the Regional Water Board when applicable.

7.3. Weather and Rain Event Tracking

Visual monitoring and inspections requirements of the General Permit are triggered by a qualifying rain event. The General Permit defines a qualifying rain event as any event that produces ½ inch of precipitation. A minimum of 48 hours of dry weather will be used to distinguish between separate qualifying storm events.

7.3.1 Weather Tracking

The QSP should daily consult the National Oceanographic and Atmospheric Administration (NOAA) for the weather forecasts. These forecasts can be obtained at http://www.weather.gov/. Weather reports should be checked daily and should be saved/stored digitally. Weather report storage location is provided in CSMP Attachment 1 "Weather Reports" and can be printed/produced upon request.

The QSP will use the Forecast Weather Table Interface to determine actual Precipitation Potential.

https://www.wrh.noaa.gov/forecast/wxtables/index.php?lat=37.327061927917846&lon=-122.01413440678155&table=custom&duration=7&interval=6

7.3.2 Rain Gauges

The QSP shall install 1 rain gauge on the project site. Locate the gauge in an open area away from obstructions such as trees or overhangs. Mount the gauge on a post at a height of 3 to 5 feet with the gauge extending several inches beyond the post. Make sure that the top of the gauge is level. Make sure the post is not in an area where rainwater can indirectly splash from sheds, equipment, trailers, etc.

The rain gauge shall be read daily during normal site scheduled hours. The rain gauge should be read at approximately the same time every day and the date and time of each reading recorded. Log rain gauge readings in CSMP Attachment 1 "Weather Records". Follow the rain gauge instructions to obtain accurate measurements.

Once the rain gauge reading has been recorded, accumulated rain shall be emptied and the gauge reset.

For comparison with the site rain gauge, the nearest appropriate governmental rain gauge is located at Maryknoll 37.33° N 122.08° W Elevation 184 ft.

7.4 Monitoring Locations

Monitoring locations are shown on the Site Maps in Appendix B. Monitoring locations are described in the Section 7.6.

Whenever changes in the construction site might affect the appropriateness of sampling locations, the sampling locations shall be revised accordingly. All such revisions shall be implemented as soon as feasible and the SWPPP amended.

7.5 Safety and Monitoring Exemptions

This project is not required to conduct visual observations (inspections) under the following conditions:

- During dangerous weather conditions such as flooding and electrical storms.
- Outside of scheduled site business hours.

Scheduled site business hours are: **Monday through Friday from 7:00AM to 3:30PM**.

If visual monitoring of the site is unsafe because of the dangerous conditions noted above then the QSP shall document the conditions for why an exception to performing the monitoring was necessary. The exemption documentation shall be filed in CSMP Attachment 2 "Monitoring Records".

7.6 Visual Monitoring

Visual monitoring includes observations and inspections. Inspections of BMPs are required to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Visual observations of the site are required to observe storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources.

Table 7.1 identifies the required frequency of visual observations and inspections. Inspections and observations will be conducted at the locations identified in Section 7.6.3.

Table 7.1 Summary of Visual Monitoring and Inspections

Type of Inspection	Frequency
Routine Inspections	
BMP Inspections	Weekly[1]
BMP Inspections – Tracking Control	Daily
Non-Stormwater Discharge Observations	Quarterly during daylight hours
Rain Event Triggered Inspections	
Site Inspections Prior to a Qualifying Event	Within 48 hours of a qualifying event [2]
BMP Inspections During an Extended Storm Event	Every 24-hour period of a rain event[3]
Site Inspections Following a Qualifying Event	Within 48 hours of a qualifying event[2]

[1] Most BMPs must be inspected weekly; those identified below must be inspected more frequently.

[2] Inspections are required during scheduled site operating hours.

[3] Inspections are required during scheduled site operating hours regardless of the amount of precipitation on any given day.

7.6.1 Routine Observations and Inspections

Routine site inspections and visual monitoring are necessary to ensure that the project is in compliance with the requirements of the Construction General Permit.

7.6.1.1 Routine BMP Inspections

Inspections of BMPs are conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

7.6.1.2 Non-Stormwater Discharge Observations

Each drainage area will be inspected for the presence of or indications of prior unauthorized and authorized non-stormwater discharges. Inspections will record:

- Presence or evidence of any non-stormwater discharge (authorized or unauthorized);
- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of discharge.

7.6.2 Rain-Event Triggered Observations and Inspections

Visual observations of the site and inspections of BMPs are required prior to a qualifying rain event; following a qualifying rain event, and every 24-hour period during a qualifying rain event. Pre-rain inspections will be conducted after consulting NOAA and determining that a precipitation event with a 50% or greater probability of precipitation has been predicted.

7.6.2.1 Visual Observations Prior to a Forecasted Qualifying Rain Event

Within 48-hours prior to a qualifying event a stormwater visual monitoring site inspection will include observations of the following locations:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly implemented;
- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

Consistent with guidance from the State Water Resources Control Board, pre-rain BMP inspections and visual monitoring will be triggered by a NOAA forecast that indicates a probability of precipitation of 50% or more in the project area.

7.6.2.2 BMP Inspections During an Extended Storm Event

During an extended rain event BMP inspections will be conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

If the construction site is not accessible during the rain event, the visual inspections shall be performed at all relevant outfalls, discharge points, downstream locations. The inspections should record any projected maintenance activities.

7.6.2.3 Visual Observations Following a Qualifying Rain Event

Within 48 hours following a qualifying rain event (0.5 inches of rain) a stormwater visual monitoring site inspection is required to observe:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly designed, implemented, and effective;
- Need for additional BMPs;
- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard; and
- Discharge of stored or contained rain water.

7.6.3 Visual Monitoring Procedures

Visual monitoring shall be conducted by the QSP or staff trained by and under the supervision of the QSP.

The name(s) and contact number(s) of the site visual monitoring personnel are listed below and their training qualifications are provided in Appendix K.

Assigned inspector: John Bielefeld Contact phone: 510.410.6406

Alternate inspector: TBD Contact phone: TBD

Stormwater observations shall be documented on the *Visual Inspection Field Log Sheet* located in CSMP Attachment 3 "Example Forms". BMP inspections shall be documented on the site specific BMP inspection checklist. Any photographs used to document observations will be referenced on stormwater site inspection report and maintained with the Monitoring Records in Attachment 2.

The QSP shall within 2 days of the inspection submit copies of the completed inspection report to site superintendent.

The completed reports will be kept in CSMP Attachment 2 "Monitoring Records".

7.6.4 Visual Monitoring Follow-Up and Reporting

Correction of deficiencies identified by the observations or inspections, including required repairs or maintenance of BMPs, shall be initiated and completed as soon as possible.

If identified deficiencies require design changes, including additional BMPs, the implementation of changes will be initiated within 72 hours of identification and be completed as soon as possible. When design changes to BMPs are required, the SWPPP shall be amended to reflect the changes.

Deficiencies identified in site inspection reports and correction of deficiencies will be tracked on the *Inspection Field Log Sheet* or *BMP Inspection Report* and shall be submitted to the QSP and shall be kept in CSMP Attachment 2 "Monitoring Records".

The QSP shall within 3 days of the inspection submit copies of the completed *Inspection Field Log Sheet* or *BMP Inspection Report* with the corrective actions to site superintendent.

Results of visual monitoring must be summarized and reported in the Annual Report.

7.6.5 Visual Monitoring Locations

The inspections and observations identified in Sections 7.6.1 and 7.6.2 will be conducted at the locations identified in this section.

BMP locations are shown on the Site Maps in SWPPP Appendix A.

There are ____ drainage area(s) on the project site, staging areas, and storage areas. Drainage area(s) are shown on the Site Maps in Appendix B and Table 7.2 identifies each drainage area by location.

Table 7.2 Site Drainage Areas

Location No.	Location
1	Inlets along western parking lot perimeter along Wolfe rd
2	Inlets along Vallco Parkway and paved areas

There are 0 stormwater storage or containment area(s) are on the project site. Stormwater storage or containment area(s) are shown on the Site Maps in Appendix B and Table 7.3 identifies each stormwater storage or containment area by location.

There are ____ discharge location(s) on the project site. Site stormwater discharge location(s) are shown on the Site Maps in Appendix B and Table 7.4 identifies each stormwater discharge location.

Table 7.4 Site Stormwater Discharge Locations

Location No.	Location
1	Manhole along eastern edge on Perimeter rd
2	Manhole along Vallco Parkway on southern edge
3	Manhole along N Wolfe rd on northern edge
4	Manhole along Perimeter rd on western edge

7.7 Water Quality Sampling and Analysis

7.7.1 Sampling and Analysis Plan for Non-Visible Pollutants in Stormwater Runoff Discharges

This Sampling and Analysis Plan for Non-Visible Pollutants describes the sampling and analysis strategy and schedule for monitoring non-visible pollutants in stormwater runoff discharges from the project site.

Sampling for non-visible pollutants will be conducted when (1) a breach, leakage, malfunction, or spill is observed; and (2) the leak or spill has not been cleaned up prior to the rain event; and (3) there is the potential for discharge of non-visible pollutants to surface waters or drainage system.

The following construction materials, wastes, or activities, as identified in Section 2.6, are potential sources of non-visible pollutants to stormwater discharges from the project. Storage, use, and operational locations are shown on the Site Maps in Appendix B.

- Adhesives
- Asphalt
- Concrete slurries and waste
- Drywall waste
- Sawdust, particle board dust, and treated wood
- Paint
- Plumbing
- Tile cutting slurries
- Sanitary waste
- Soil amendments
- Solid waste
- Vehicle and equipment use

The following existing site features, as identified in Section 2.6, are potential sources of non-visible pollutants to stormwater discharges from the project. Locations of existing site features contaminated with non-visible pollutants are shown on the Site Maps in Appendix B.

- Former Sears Automotive Center (PCBs, VOCs, TPH diesel & motor oil)
- Area along Wolfe rd near Stevens Creek Blvd. at South East corner of site (PCBs, VOCs, TPH diesel & motor oil)

The following soil amendments have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil and will be used on the project site. Locations of soil amendment application are shown on the Site Maps in Appendix B.

- Fertilizers used for landscaping
- Lime treatment of soils

The project has the potential to receive stormwater run-on from the following locations with the potential to contribute non-visible pollutants to stormwater discharges from the project. Locations of such run-on to the project site are shown on the Site Maps in Appendix B.

- NONE

7.7.1.1 Sampling Schedule

Samples for the potential non-visible pollutant(s) and a sufficiently large unaffected background sample shall be collected during the first two hours of discharge from rain events that result in a sufficient discharge for sample collection. Samples shall be collected during the site's scheduled hours and shall be collected regardless of the time of year and phase of the construction.

Collection of discharge samples for non-visible pollutant monitoring will be triggered when any of the following conditions are observed during site inspections conducted prior to or during a rain event.

- Materials or wastes containing potential non-visible pollutants are not stored under watertight conditions. Watertight conditions are defined as (1) storage in a watertight container, (2) storage under a watertight roof or within a building, or (3) protected by temporary cover and containment that prevents stormwater contact and runoff from the storage area.
- Materials or wastes containing potential non-visible pollutants are stored under watertight conditions, but (1) a breach, malfunction, leakage, or spill is observed, (2) the leak or spill is not cleaned up prior to the rain event, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- A construction activity, including but not limited to those in Section 2.6, with the potential to contribute non-visible pollutants (1) was occurring during or within 24 hours prior to the rain event, (2) BMPs were observed to be breached, malfunctioning, or improperly implemented, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- Soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- Stormwater runoff from an area contaminated by historical usage of the site has been observed to combine with stormwater runoff from the site, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.

7.7.1.2 Sampling Locations

Sampling locations are based on proximity to planned non-visible pollutant storage, occurrence or use; accessibility for sampling, and personnel safety. Planned non-visible pollutant sampling locations are shown on the Site Maps in Appendix B and include the locations identified in Tables 7.5 through 7.9.

2 sampling locations on the project site have been identified for the collection of samples of runoff from planned material and waste storage areas and areas where non-visible pollutant producing construction activities are planned.

0 sampling locations have been identified for the collection of samples of runoff from drainage areas where soil amendments will be applied that have the potential to affect water quality.

2 sampling locations have been identified for the collection of samples of runoff from drainage areas contaminated by historical usage.

2 sampling locations have been identified for the collection of an uncontaminated sample of runoff as a background sample.

0 sampling locations have been identified for the collection of samples of run-on to the project site as there is no anticipated run-on to this site

If a stormwater visual monitoring site inspection conducted prior to or during a storm event identifies the presence of a material storage, waste storage, or operations area with spills or the potential for the discharge of non-visible pollutants to surface waters or a storm drain system that is at a location not listed above and has not been identified on the Site Maps, sampling locations will be selected by the QSP using the same rationale as that used to identify planned locations. Non-visible pollutant sampling locations shall be identified by the QSP on the pre-rain event inspection form prior to a forecasted qualifying rain event.

7.7.1.3 Monitoring Preparation

Non-visible pollutant samples will be collected by:

Contractor	☐ Yes	☒ No
Consultant	☒ Yes	☐ No
Laboratory	☒ Yes	☐ No

Samples on the project site will be collected by the following contractor sampling personnel:

Name/Telephone Number: TBD

Alternate(s)/Telephone Number:

An adequate stock of monitoring supplies and equipment for monitoring non-visible pollutants will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, clean powder-free nitrile gloves, sample collection equipment, coolers, appropriate number and volume of sample bottles, identification labels, re-sealable storage bags, paper

towels, personal rain gear, ice, and *Effluent Sampling Field Log Sheets* and Chain of Custody (CoC) forms, which are provided in CSMP Attachment 3 "Example Forms".

Samples on the project site will be collected by the following TBD:

Company Name:

Street Address:

City, State Zip:

Telephone Number:

Point of Contact:

Name of Sampler(s):

Name of Alternate(s):

The QSP or his/her designee will contact TBD 24 hours prior to a predicted rain event or for an unpredicted event, as soon as a rain event begins if one of the triggering conditions is identified during an inspection to ensure that adequate sample collection personnel and supplies for monitoring non-visible pollutants are available and will be mobilized to collect samples on the project site in accordance with the sampling schedule.

7.7.1.4 Analytical Constituents

Table 7.10 lists the specific sources and types of potential non-visible pollutants on the project site and the water quality indicator constituent(s) for that pollutant.

Table 7.10 Potential Non-Visible Pollutants and Water Quality Indicator Constituents

Pollutant Source	Pollutant	Water Quality Indicator Constituent
Adhesives	Glue, Binder	COD, SVOC
Pollutant Source	Pollutant	Water Quality Indicator Constituent
Cleaning products	Acids Bleaches TSP Solvents	pH Residual Chlorine Phosphate VOC
Portland Concrete Cement & Masonry Products	Masonry products Sealant Fly ash Curing Compounds Lime	pH Cobalt, Zinc Aluminum, Vanadium pH pH
Landscaping and Other Products	Fertilizers-Inorganic Fertilizers-Organic	Nitrate, phosphate TOC, Nitrate

Table 7.10 Potential Non-Visible Pollutants and Water Quality Indicator Constituents

Pollutant Source	Pollutant	Water Quality Indicator Constituent
	Aluminum Sulfate	TDS, Sulfate
Painting Products	Paint Strippers Resins, Sealants, Solvents Thinners	VOC, SVOC COD, SVOC VOC, COD
Contaminated Soil	Other	Contaminate Specific
Dust Palliative Products	Salts (Magnesium Chloride, Calcium Chloride, and Natural Brines)	Chloride, TDS
Vehicle	Batteries	Sulfuric Acid, PH
Soil Amendment/Stabilization	Polymer/Copolymer Guar/Plant Gums	BOD, Nitrate, Sulfate COD, TOC
Treated Wood Products	Ammoniacal-Copper-Zinc Arsenate (ACZA) Ammoniacal-Copper-Arsenate (ACA)	Total Chromium, Copper, Zinc

7.7.1.5 Sample Collection

Samples of discharge shall be collected at the designated non-visible pollutant sampling locations shown on the Site Maps in Appendix B or in the locations determined by observed breaches, malfunctions, leakages, spills, operational areas, soil amendment application areas, and historical site usage areas that triggered the sampling event.

Grab samples shall be collected and preserved in accordance with the methods identified in the Table, "Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants" provided in Section 7.7.1.6. Only the QSP, or personnel trained in water quality sampling under the direction of the QSP shall collect samples.

Sample collection and handling requirements are described in Section 7.7.7.

7.7.1.6 Sample Analysis

Samples shall be analyzed using the analytical methods identified in the Table 7.11.

Samples will be analyzed by:

Laboratory Name: TBD

Street Address:

City, State Zip:

Telephone Number:

Point of Contact:

ELAP Certification Number:

Samples will be delivered to the laboratory by:

Driven by Contractor	☐ Yes	☒ No
Picked up by Laboratory Courier	☒ Yes	☐ No
Shipped	☐ Yes	☒ No

Table 7.11 Sample Collection, Preservation and Analysis for Non-Visible Pollutants

Constituent	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Reporting Limit	Maximum Holding Time
PCBs	EPA 8081A/8082	1x1 L	Glass-Amber	Store at 4°C	0.1 µg/L	7 days
BOD	EPA 405.1	1x500 mL	Polypropylene	Store at 4°C	1 mg/L	48 hours
COD	EPA 410.4	1x250 mL	Glass-Amber	Store at 4°C, H2SO4 to pH<2	5 mg/L	28 days
Metals (Al, Ca, Cu, Ni, Pb, Sn, Va, Zn)	EPA 6010B/7470A	1x250 mL	Polypropylene	Store at 4°C, HNO3 to pH <2	0.1 mg/L	6 months
pH	Field test with calibrated portable instrument	1x100 mL	Polypropylene	None	Unitless	15 minutes
sVOCs	EPA 8270C	1x1 L	Glass-Amber	Store at 4°C	10 µg/L	7 days
TOC	EPA 9060, SMEWW 5310 B	1x250 mL	Glass-Amber	Store at 4°C , H2SO4 to pH < 2	2 mg/L	28 days
VOCs- Solvents	EPA 8260B	3x40 mL	VOA-Glass	Store at 4ºC, HCl to pH<2	1µ/L	14 days
Phenols, Total	Phenols, Total	250 mL	Glass-Amber	Store at 4°C, H2SO4 to pH<2	250mL	28 days
Chlorine, Residual	SMEWW 4500 Cl-G	125 mL	Glass	Unpreserved	25mL	15 minutes
TPH (diesel & motor oil)	8015DRO	1x1 L	Glass-Amber	Unpreserved Store at 4°C	250 ug/L	14 days
Notes:						

7.7.1.7 Data Evaluation and Reporting

The QSP shall complete an evaluation of the water quality sample analytical results.

Runoff/downgradient results shall be compared with the associated upgradient/unaffected results and any associated run-on results. Should the runoff/downgradient sample show an increased level of the tested analyte relative to the unaffected background sample, which cannot be explained by run-on results, the BMPs, site conditions, and surrounding influences shall be assessed to determine the probable cause for the increase.

As determined by the site and data evaluation, appropriate BMPs shall be repaired or modified to mitigate discharges of non-visible pollutant concentrations. Any revisions to the BMPs shall be recorded as an amendment to the SWPPP.

The General Permit prohibits the storm water discharges that contain hazardous substances equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4. The results of any non-stormwater discharge results that indicate the presence of a hazardous substance in excess of established reportable quantities shall be immediately reported to the Regional Water Board and other agencies as required by 40 C.F.R. §§ 117.3 and 302.4.

Results of non-visible pollutant monitoring shall be reported in the Annual Report.

7.7.2 Sampling and Analysis Plan for pH and Turbidity in Stormwater Runoff Discharges

Sampling and analysis of runoff for pH and turbidity is not required for Risk Level 1 projects.

7.7.3 Sampling and Analysis Plan for pH, Turbidity, and SSC in Receiving Water

This project is not subject to Receiving Water Monitoring.

7.7.4 Sampling and Analysis Plan for Non-Stormwater Discharges

This project is not subject to the non-stormwater sampling and analysis requirements of the General Permit because it is a Risk Level 1 project.

7.7.5 Sampling and Analysis Plan for Other Pollutants Required by the Regional Water Board

The Regional Water Board has not specified monitoring for additional pollutants.

7.8 Records Retention

All records of stormwater monitoring information and copies of reports (including Annual Reports) must be retained for a period of at least three years from date of submittal or longer if required by the Regional Water Board.

Results of visual monitoring, field measurements, and laboratory analyses must be kept in the SWPPP along with CoCs, and other documentation related to the monitoring.

Records are to be kept onsite while construction is ongoing. Records to be retained include:

- The date, place, and time of inspections, sampling, visual observations, and/or measurements, including precipitation;
- The individual(s) who performed the inspections, sampling, visual observation, and/or field measurements;
- The date and approximate time of field measurements and laboratory analyses;
- The individual(s) who performed the laboratory analyses;
- Rain gauge readings from site inspections;
- Visual observation exemption records;
- The records of any corrective actions and follow-up activities that resulted from analytical results, visual observations, or inspections;

CSMP Attachment 1: Weather Reports

ALL WEATHER REPORTS WILL BE PDF FILES STORED IN QSP FACILITIES AND CAN BE PRODUCED UPON REQUEST.

NOAA PAGES REFERENCED FOR WEATHER MONITORING ARE:

FORECAST WEATHER TABLE INTERFACE:
HTTPS://WWW.WRH.NOAA.GOV/FORECAST/WXTABLES/INDEX.PHP?LAT=37.327061927917846&LON=-122.01413440678155&TABLE=CUSTOM&DURATION=7&INTERVAL=6

CSMP Attachment 2: Monitoring Records

CSMP Attachment 3: Example Forms

Rain Gauge Log Sheet				
Construction Site Name:				
WDID #:				
Date (mm/dd/yy)	Time (24-hr)	Initials	Rainfall Depth (Inches)	Notes:

CSMP Attachment 4: Field Meter Instructions

TURBIDIMETER:

An online PDF version of the Oakton T-100 field turbidity meter instruction manual can be found here,

http://www.4oakton.com/manuals/Turbidity/35635-00.pdf

Waterproof pH Tester:

An online PDF version of the Oakton pH Testr 30 instruction manual can be found here,

https://fscimage.fishersci.com/cmsassets/downloads/segment/Scientific/pdf/Coupons/oakton_ph_testr.pdf

CSMP Attachment 5: Supplemental Information

Section 8 References

State Water Resources Control Board (2009). Order 2009-0009-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.

State Water Resources Control Board (2010). Order 2010-0014-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.

State Water Resources Control Board (2012). Order 2012-0006-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.

CASQA 2009, *Stormwater BMP Handbook Portal: Construction*, November 2009, www.casqa.org

Appendix A: Calculations

Appendix A - Risk Assessment

	Calculated	Requires Input		
			Date Prepared:	9/4/2020
Project Name:	Vallco Town Center			
Project Number:	718109	Month	Day	Year
Construction Start Date:		10	5	2018
Construction End Date:		11	5	2024
Total Project Duration (Years):				6.09

Receiving Water

Water body name:	Calabazas Creek			
Beneficial Uses:	Cold	Spawn	Migratory	
(Enter "Y" or "N" for each parameter)	Y	N	N	LOW
303d impaired for sediments/siltation:		N		LOW
Overall receiving water risk:				**LOW**

Sediment Risk

Rainfall Erosivity Factor Calculator for Small Construction Sites			
		EPA Online R-Factor result =	264.00
	Length (ft) / Change in Elevation (ft)	LS Value =	0.154697
Renard LS Table	See Table		
K Factor: K Factor Map		K Value =	0.32
Watershed Erosion Estimate (=RxKxLS) in tons/acre=			13.07
Site Sediment Risk Factor	Low Sediment Risk: < 15 tons/acre Medium Sediment Risk: >=15 and <75 tons/acre High Sediment Risk: >= 75 tons/acre		**Low**
		Risk Level	**Level 1**

https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.xhtml

National Pollutant Discharge Elimination System (NPDES)

CONTACT US

SHARE

Rainfall Erosivity Factor Calculator for Small Construction Sites

EPA's stormwater regulations allow NPDES permitting authorities to waive NPDES permitting requirements for stormwater discharges from small construction sites if:

- the construction site disturbs less than five acres, and
- the rainfall erosivity factor ("R" in the revised universal soil loss equation, or RUSLE) value is less than five during the period of construction activity.

If your small construction project is located in an area where EPA is the permitting authority and your R factor is less than five, you qualify for a low erosivity waiver (LEW) from NPDES stormwater permitting. If your small construction project does not qualify for a waiver, then NPDES stormwater permit coverage is required. Follow the steps below to calculate your R-Factor.

LEW certifications are submitted through the NPDES eReporting Tool or "CGP-NeT". Several states that are authorized to implement the NPDES permitting program also accept LEWs. Check with your state NPDES permitting authority for more information.

- Submit your LEW through EPA's eReporting Tool
- List of states, Indian country, and territories where EPA is the permitting authority
- Construction Rainfall Erosivity Waiver Fact Sheet
- Appendix C of the 2017 CGP – Small Construction Waivers and Instructions

The R-factor calculation can also be integrated directly into custom applications using the R-Factor web service.

For questions or comments, email EPA's CGP staff at cgp@epa.gov.

● Select the estimated start and end dates of construction by clicking the boxes and using the dropdown calendar.

The period of construction activity begins at initial earth disturbance and ends with final stabilization.

Start Date: 10/05/2018 **End Date:** 11/05/2024

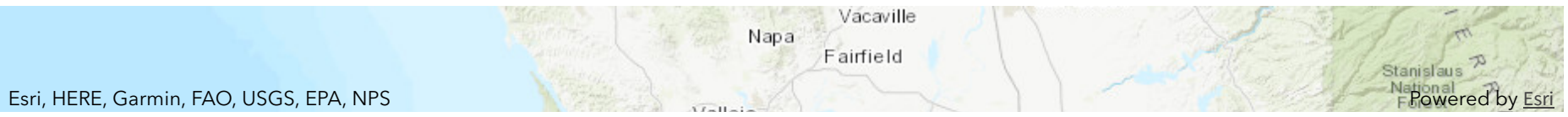
● Locate your small construction project using the search box below or by clicking on the map.

Location: 37.3230, -122.0141

Search

+

−



Click the "Calculate R Factor" button below to calculate an R Factor for your small construction project.

Calculate R Factor

Facility Information

Start Date: 10/05/2018	**Latitude:** 37.3230
End Date: 11/05/2024	**Longitude:** -122.0141

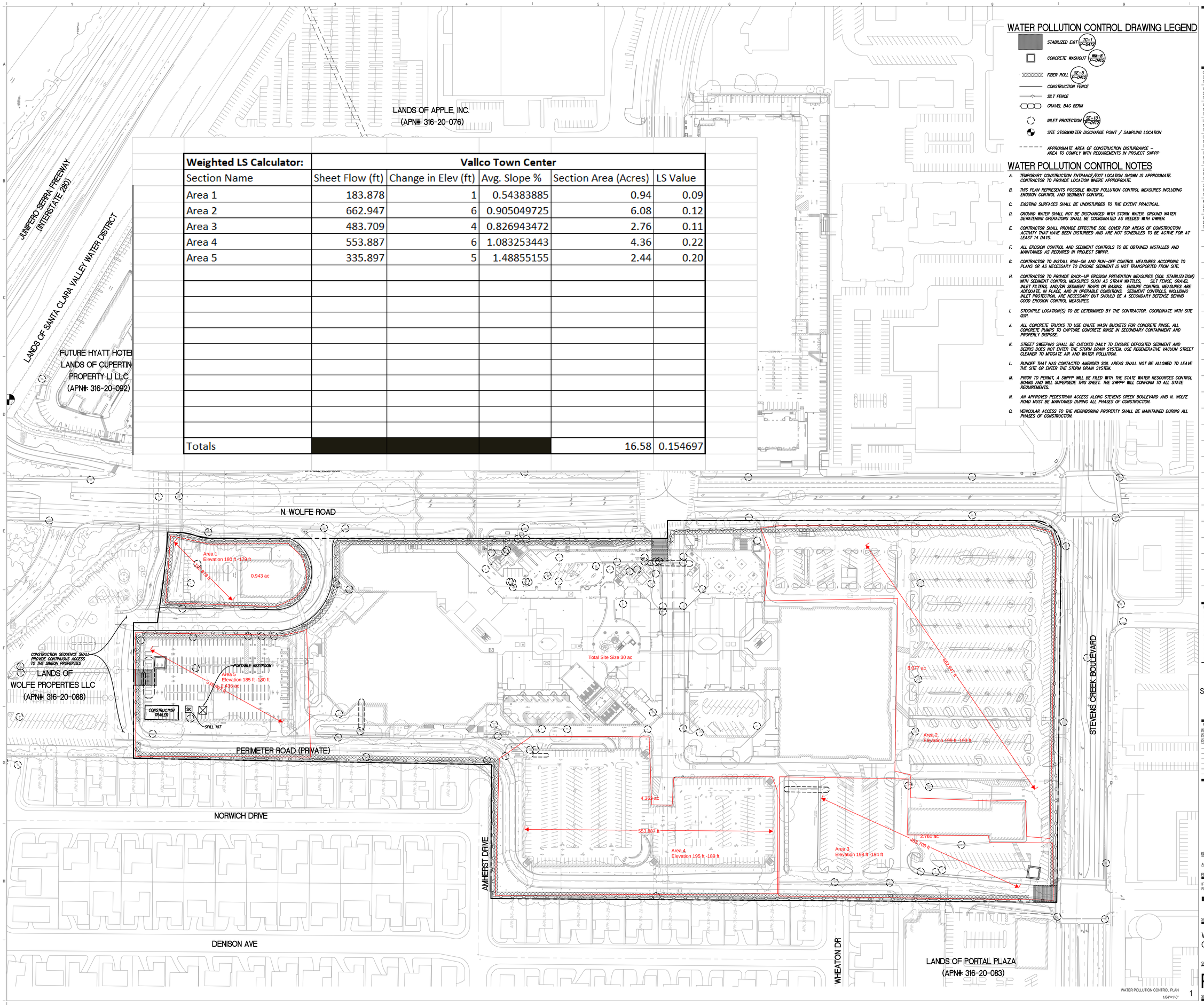
Calculation Results

Rainfall erosivity factor (R Factor) = **264**

A rainfall erosivity factor of 5.0 or greater has been calculated for your site's period of construction.

You do NOT qualify for a waiver from NPDES permitting requirements and must seek Construction General Permit (CGP) coverage. If you are located in an area where EPA is the permitting authority, you must submit a Notice of Intent (NOI) through the NPDES eReporting Tool (NeT).Otherwise, you must seek coverage under your state's CGP.

Weighted LS Calculator:	Vallco Town Center				
Section Name	Sheet Flow (ft)	Change in Elev (ft)	Avg. Slope %	Section Area (Acres)	LS Value
Area 1	183.878	1	0.54383885	0.94	0.09
Area 2	662.947	6	0.905049725	6.08	0.12
Area 3	483.709	4	0.826943472	2.76	0.11
Area 4	553.887	6	1.083253443	4.36	0.22
Area 5	335.897	5	1.48855155	2.44	0.20
Totals				16.58	0.154697



WATER POLLUTION CONTROL DRAWING LEGEND

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- CONCRETE WASHOUT (WM-8 / P-0412)
- FIBER ROLL (SE-5 / P-0412)
- CONSTRUCTION FENCE
- SILT FENCE
- GRAVEL BAG BERM
- INLET PROTECTION (SE-10 / P-0412)
- SITE STORMWATER DISCHARGE POINT / SAMPLING LOCATION
- APPROXIMATE AREA OF CONSTRUCTION DISTURBANCE – AREA TO COMPLY WITH REQUIREMENTS IN PROJECT SWPPP

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WATER POLLUTION CONTROL PLAN
1/64"=1'-0"

1

VALLCO
TOWN CENTER

OWNER - VALLCO PROPERTY OWNER LLC.
965 PAGE MILL ROAD, PALO ALTO, CA 94304
T. 650-344-1500

ARCHITECTURE - RAFAEL VINOLY ARCHITECTS
50 VANDAM STREET, NEW YORK, NY 10013
T. 212-924-5900

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1033 N. WOLFE ROAD, CUPERTINO CA 95014
T. 408-627-7060

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150 S. INDEPENDENCE MALL W. SHITE 1123, PHILADELPHIA, PA 19106
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T.215-561-1950

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SB -35 DEVELOPMENT APPLICATION

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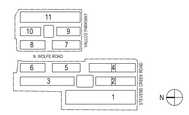

KEY PLAN AND NORTH ARROW

ARCHITECTS PROJECT NUMBER 708011

PROJECT PHASE: SB-35 DEVELOPMENT APPLICATION

IF THIS DRAWING IS NOT 36"x48" IT IS A REDUCED PRINT; REFER TO GRAPHIC SCALE

0 32' 64' 128' 192'

SCALE: 1/64"=1'-0"

WATER POLLUTION CONSTRUCTION PLAN

SHEET TITLE:

P-0411

SHEET NUMBER:

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SANTA CLARA BASIN

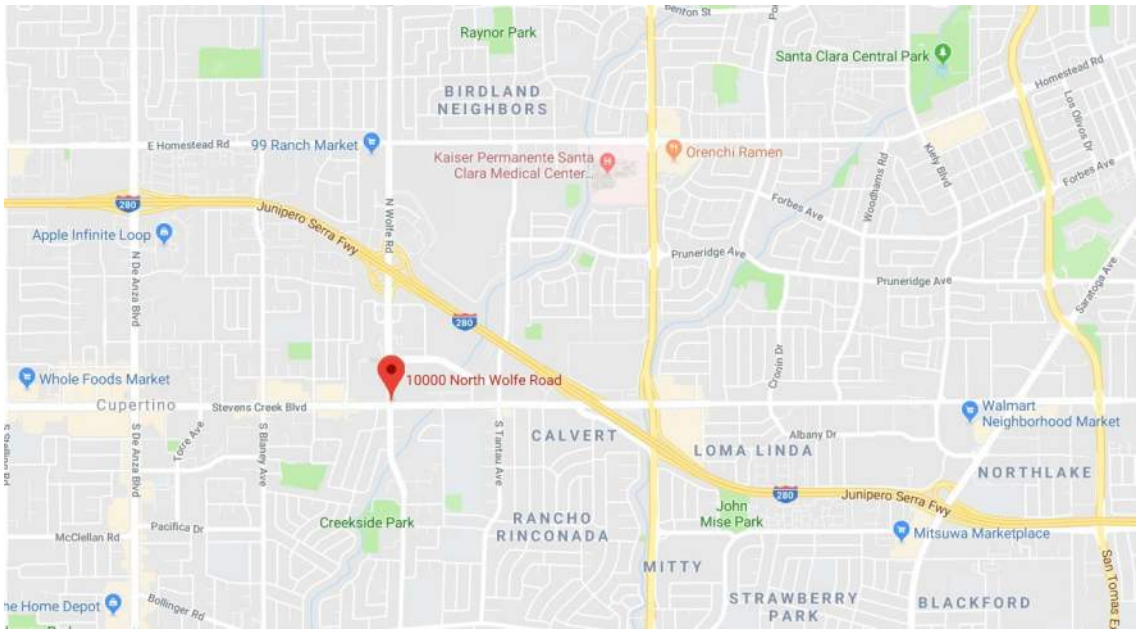
COUNTY Waterbody	AGR	MUN	FRSH	GWR	IND	PROC	COMM	SHELL	COLD	EST	MAR	MIGR	RARE	SPWN	WARM	WILD	REC-1	REC-2	NAV
SAN MATEO AND SANTA CLARA COUNTIES, continued																			
Alambique Creek									E						E	E	E	E	
Sausal Creek (San Mateo)									E						E	E	E	E	
SANTA CLARA COUNTY ONLY																			
Palo Alto Harbor & Baylands										E		E	E			E	E	E	
Mayfield Slough										E		E	E			E	E	E	
Matadero Creek									E			E	E	E	E	E	E	E	
Deer Creek (Santa Clara)									E				E		E	E	E	E	
Arastradero Creek									E				E		E	E	E	E	
Charleston Slough										E		E	E			E	E	E	
Barron Creek															E	E	E	E	
Adobe Creek (Santa Clara)									E						E	E	E	E	
Mountain View Slough										E			E			E	E	E	
Permanente Creek				E					E				E	E	E	E	E	E	
Hale Creek									E						E	E	E	E	
Stevens Creek			E	E					E			E	E	E	E	E	E	E	
Stevens Creek Reservoir		E		E			E		E			E		E	E	E	E	E	
Swiss Creek			E						E						E	E	E	E	
Guadalupe Slough										E			E			E	E	E	
Moffett Channel										E						E	E	E	
Calabazas Creek	E			E					E						E	E	E	E	
San Tomas Aquino Creek									E				E		E	E	E	E	
Saratoga Creek	E		E	E					E						E	E	E	E	
Bonjetti Creek									E						E	E	E	E	
McElroy Creek									E						E	E	E	E	
Alviso Slough										E		E	E			E	E	E	
Guadalupe River				E					E			E	E	E	E	E	E	E	
Los Gatos Creek		E	E	E					E			P	E	P	E	E	E	P	
Campbell Percolation Pond				E			E		E					E	E	E	E	E	
Vasona Reservoir		E		E			E		E					E	E	E	E	E	
Lexington Reservoir		E		E			E		E					E	E	E	E	E	
Soda Springs Creek			E						E						E	E	E	E	

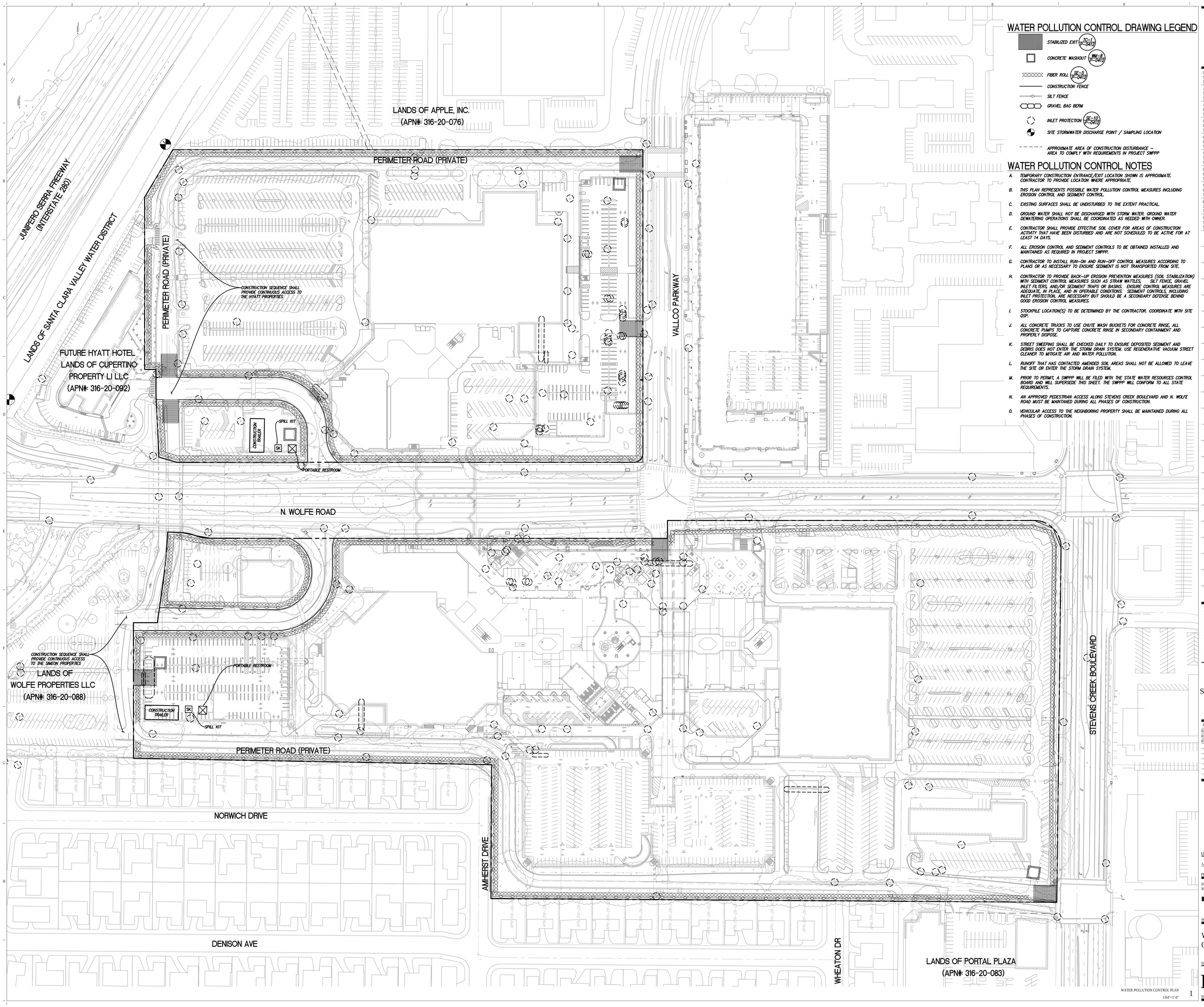
E: Existing beneficial use E*: Water quality objectives apply; water contact recreation is prohibited or limited to protect public health P: Potential beneficial use

Appendix B: Site Maps

Vicinity Map

The Hills at Vallco





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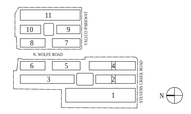

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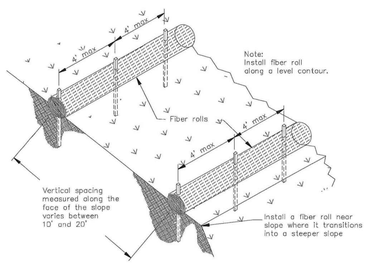
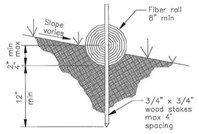
Fiber Rolls SE-5

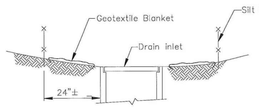


TYPICAL FIBER ROLL INSTALLATION
N.T.S.

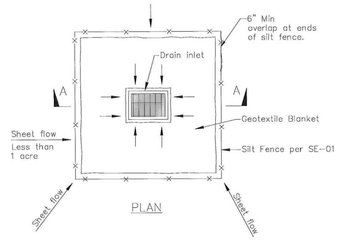


ENTRENCHMENT DETAIL
N.T.S.

Storm Drain Inlet Protection SE-10



SECTION A–A



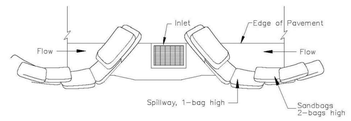
PLAN

DI PROTECTION TYPE 1
NOT TO SCALE

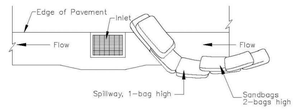
NOTES:

1. For use in areas where grading has been completed and final soil stabilization and seeding are pending.
2. Not applicable in paved areas.
3. Not applicable with concentrated flows.

SE-10 Storm Drain Inlet Protection



TYPICAL PROTECTION FOR INLET ON SUMP

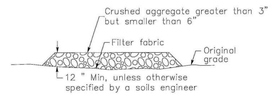


TYPICAL PROTECTION FOR INLET ON GRADE

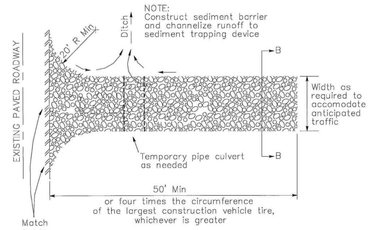
NOTES:
1. Intended for short-term use.
2. Use to inhibit non-storm water flow.
3. Allow for proper maintenance and cleanup.
4. Bags must be removed after adjacent operation is completed
5. Not applicable in areas with high silts and clays without filter fabric.

DI PROTECTION TYPE 3
NOT TO SCALE

Stabilized Construction Entrance/Exit TC-1

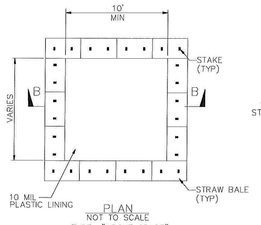


SECTION B–B
NTS

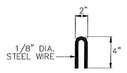


PLAN
NTS

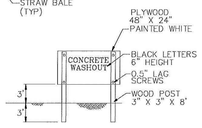
Concrete Waste Management WM-8



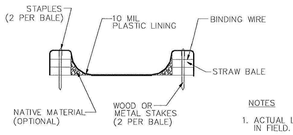
PLAN
NOT TO SCALE
TYPE "ABOVE GRADE"
WITH STRAW BALES



STAPLE DETAIL



CONCRETE WASHOUT
SIGN DETAIL
(OR EQUIVALENT)



SECTION B–B
NOT TO SCALE

NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

VALLCO
TOWN CENTER

OWNER - VALLCO PROPERTY OWNER LLC.
965 PAGE MILL ROAD, PALO ALTO, CA 94304
T. 650-344-1500

ARCHITECTURE - RAFAEL VINOLY ARCHITECTS
50 VANDAM STREET, NEW YORK, NY 10013
T. 212-924-5060

ARCHITECTURE - RAFAEL VINOLY ARCHITECTS
1033 N. WOLFE ROAD, CUPERTINO CA 95014
T. 408-627-7090

LANDSCAPE ARCHITECTURE - OLIN PARTNERSHIP LTD.
150 S. INDEPENDENCE MALL W. SHITE 1123, PHILADELPHIA, PA 19106
T. 214-440-0030

CIVIL - SANDIS CIVIL ENGINEERS SURVEYORS PLANNERS, INC.
1700 S. WINCHESTER BLVD, SUITE 200, CAMPBELL, CA 95008
T. 408-636-0900

TRANSPORTATION ENGINEERING - ARUP NORTH AMERICA, LTD.
560 MISSION STREET SUITE 700 SAN FRANCISCO CA 94105
T. 415-957-9445

LIGHTING - ONE LUX STUDIO
158 WEST 29TH STREET, 10TH FLOOR, NEW YORK, NY 10001
T.212-201-5790

SIGNAGE - EX:IT
1617 JFK BLVD, SUITE 1665, PHILADELPHIA, PA 19103
T.215-561-1950

PARKING ENGINEERING - WATRY DESIGN, INC.
2099 GATEWAY PLACE, SUITE 550, SAN JOSE, CA 95110
T.408-392-7900

WASTE MANAGEMENT - CINI-LITTLE INTERNATIONAL
535 NORTH BRAN BLVD, STE 710 GLENDALE, CA 92103
T.626-441-7700

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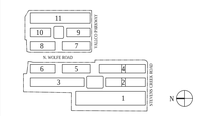
SB -35 DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE
REV-0	SB-35 DEVELOPMENT APPLICATION	03/27/2018
REV-1	SB-35 APPLICATION REVISIONS	08/06/2018
REV-2	SB-35 APPLICATION CONFORM SET	09/15/2018



KEY PLAN AND NORTH ARROW

ARCHITECTS PROJECT NUMBER 708011

PROJECT PHASE: SB-35 DEVELOPMENT APPLICATION

IF THIS DRAWING IS NOT 36"x48" IT IS A REDUCED PRINT; REFER TO GRAPHIC SCALE

0 32' 64' 128' 192'

SCALE: NO SCALE

WATER POLLUTION CONTROL DETAIL

SHEET TITLE:

P-0412

SHEET NUMBER:

WATER POLLUTION CONTROL DETAILS
NO SCALE

1

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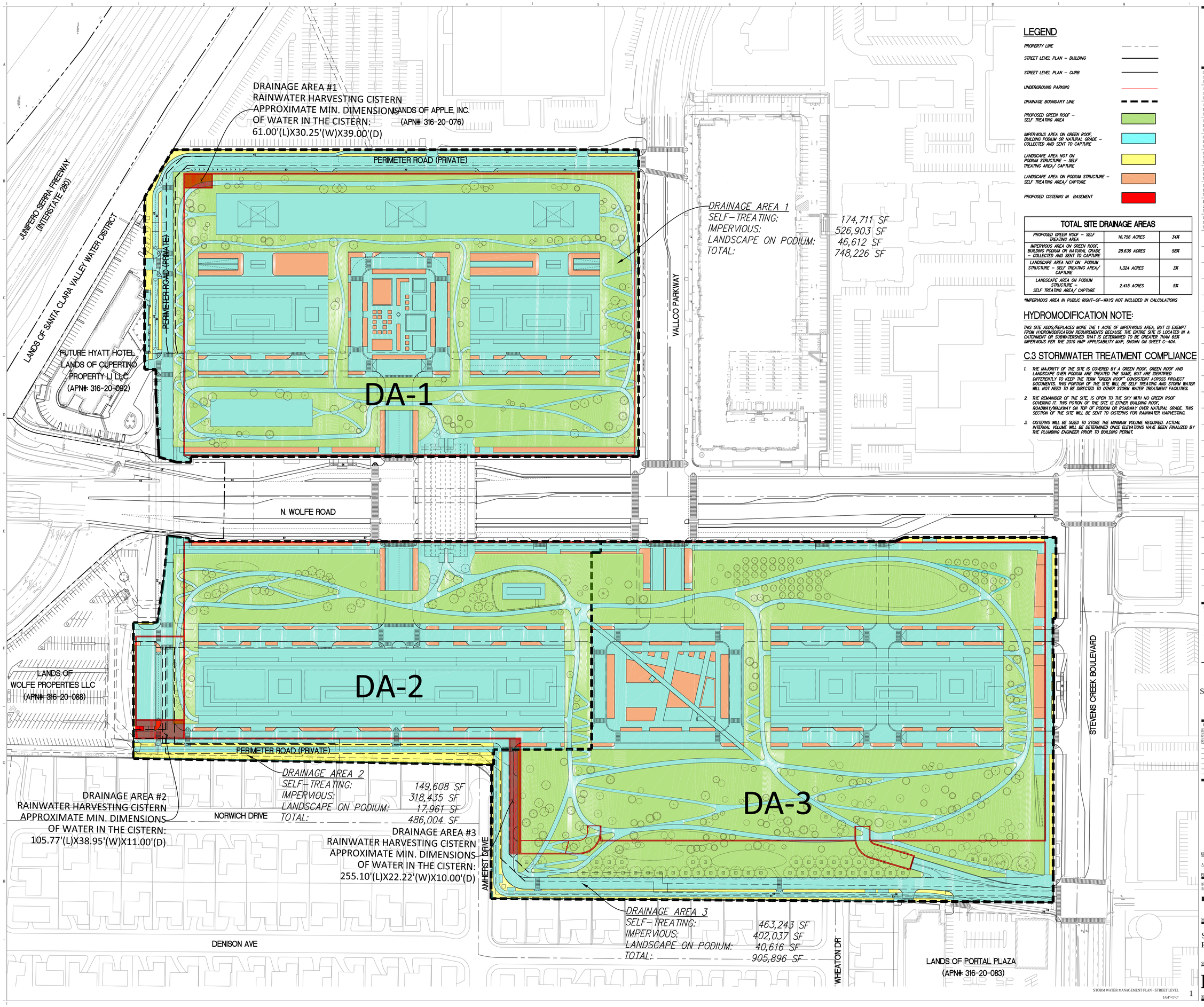
Contaminated Soil Areas



LEGEND

- PROPERTY LINE
- STREET LEVEL PLAN – BUILDING
- STREET LEVEL PLAN – CURB
- UNDERGROUND PARKING
- DRAINAGE BOUNDARY LINE
- PROPOSED GREEN ROOF – SELF TREATING AREA
- IMPERVIOUS AREA ON GREEN ROOF, BUILDING PODIUM OR NATURAL GRADE – COLLECTED AND SENT TO CAPTURE
- LANDSCAPE AREA NOT ON PODIUM STRUCTURE – SELF TREATING AREA/ CAPTURE
- LANDSCAPE AREA ON PODIUM STRUCTURE – SELF TREATING AREA/ CAPTURE
- PROPOSED CISTERNS IN BASEMENT

TOTAL SITE DRAINAGE AREAS

PROPOSED GREEN ROOF – SELF TREATING AREA	16.756 ACRES	34%
IMPERVIOUS AREA ON GREEN ROOF, BUILDING PODIUM OR NATURAL GRADE – COLLECTED AND SENT TO CAPTURE	28.636 ACRES	58%
LANDSCAPE AREA NOT ON PODIUM STRUCTURE – SELF TREATING AREA/ CAPTURE	1.324 ACRES	3%
LANDSCAPE AREA ON PODIUM STRUCTURE – SELF TREATING AREA/ CAPTURE	2.415 ACRES	5%

*IMPERVIOUS AREA IN PUBLIC RIGHT-OF-WAYS NOT INCLUDED IN CALCULATIONS

HYDROMODIFICATION NOTE:

THIS SITE ADDS/REPLACES MORE THE 1 ACRE OF IMPERVIOUS AREA, BUT IS EXEMPT FROM HYDROMODIFICATION REQUIREMENTS BECAUSE THE ENTIRE SITE IS LOCATED IN A CATCHMENT OR SUBWATERSHED THAT IS DETERMINED TO BE GREATER THAN 65% IMPERVIOUS PER THE 2010 HMP APPLICABILITY MAP, SHOWN ON SHEET C-404.

C.3 STORMWATER TREATMENT COMPLIANCE

1. THE MAJORITY OF THE SITE IS COVERED BY A GREEN ROOF. GREEN ROOF AND LANDSCAPE OVER PODIUM ARE TREATED THE SAME, BUT ARE IDENTIFIED DIFFERENTLY TO KEEP THE TERM "GREEN ROOF" CONSISTENT ACROSS PROJECT DOCUMENTS. THIS PORTION OF THE SITE WILL BE SELF TREATING AND STORM WATER WILL NOT NEED TO BE DIRECTED TO OTHER STORM WATER TREATMENT FACILITIES.
2. THE REMAINDER OF THE SITE, IS OPEN TO THE SKY WITH NO GREEN ROOF COVERING IT. THIS POTION OF THE SITE IS EITHER BUILDING ROOF, ROADWAY/WALKWAY ON TOP OF PODIUM OR ROADWAY OVER NATURAL GRADE. THIS SECTION OF THE SITE WILL BE SENT TO CISTERNS FOR RAINWATER HARVESTING.
3. CISTERNS WILL BE SIZED TO STORE THE MINIMUM VOLUME REQUIRED. ACTUAL INTERNAL VOLUME WILL BE DETERMINED ONCE ELEVATIONS HAVE BEEN FINALIZED BY THE PLUMBING ENGINEER PRIOR TO BUILDING PERMIT.

VALLCO
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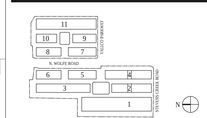

KEY PLAN AND NORTH ARROW

ARCHITECTS PROJECT NUMBER 708011

PROJECT PHASE: SB-35 DEVELOPMENT APPLICATION

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0 32' 64' 128' 192'

SCALE: 1/64"=1'-0"

STORM WATER MANAGEMENT PLAN - STREET LEVEL

SHEET TITLE:

P-0403

SHEET NUMBER:

STORM WATER MANAGEMENT PLAN - STREET LEVEL
1/64"=1'-0"

1

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Appendix C: Permit Registration Documents

Permit Registration Documents included in this Appendix

Y/N	Permit Registration Document
	Notice of Intent
	Risk Assessment
	Certification
	Post Construction Water Balance
	Copy of Annual Fee Receipt
	ATS Design Documents
	Site Map, see Appendix B

Appendix D: SWPPP Amendment Certifications

SWPPP Amendment No.

_____

Project Name: _____

Project Number: _____

Qualified SWPPP Developer's Certification of the

Stormwater Pollution Prevention Plan Amendment

"This Stormwater Pollution Prevention Plan and attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Order No. 2009-009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below."

QSD's Signature	Date
QSD Name	QSD Certificate Number
Title and Affiliation	Telephone
Address	Email

Appendix E: Submitted Changes to PRDs

Log of Updated PRDs

The General Permit allows for the reduction or increase of the total acreage covered under the General Permit when a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs shall be filed electronically within 30 days of a reduction or increase in total disturbed area if a change in permit covered acreage is to be sought. The SWPPP shall be modified appropriately, with revisions and amendments recorded in Appendix C. Updated PRDs submitted electronically via SMARTS can be found in this Appendix.

This appendix includes all of the following updated PRDs (check all that apply):

☐ Revised Notice of Intent (NOI);

☐ Revised Site Map;

☐ Revised Risk Assessment;

☐ New landowner's information (name, address, phone number, email address); and

☐ New signed certification statement.

_____
Legally Responsible Person

Signature of Legally Responsible Person or Approved Signatory	Date
Name of Legally Responsible Person or Approved Signatory	Telephone Number

Appendix F: Construction Schedule

Appendix G: Construction Activities, Materials Used, and Associated Pollutants

TABLE G1. SWPPP CONSTRUCTION SITE POLLUTION CHECKLIST

Category	Product	Pollutants
Adhesives	Adhesives, glues	Phenolics, formaldehydes
	Resins and epoxy synthetics	Phenolics, formaldehydes
	Calk, sealers, putty, sealing agents	Asbestos, phenolics, formaldehydes
	Coal tars (naphtha, pitch)	Benzene, phenols, nathalene
Plumbing	Solder (lead, tin), flux (zinc chloride)	Lead, copper, zinc, tin
	Pipe fitting (cut shavings)	Copper
	Galvanized metals (nails, fences)	Zinc
	Electrical wiring	Copper, lead
Painting	Paint thinner, acetone, MEK, stripper	VOC's
	Paints, lacquers, varnish, enamels	Metals, Penolics, mineral spirits
	Turpentine, gum spirit, solvents	VOC's
	Sanding, stripping	Metals
	Sanding (pigments), dyes	Metals
Woods	Sawdust	BOD
	Particle board dusts (formaldehyde)	Formaldehyde
	Treated woods	Copper, creosote
Masonry and concrete	Dusts (brick, cement)	Acidity, sediments
	Colored chalks (pigments)	Metals
	Concrete curing compounds	
	Glazing compounds	Asbestos
	Cleaning surfaces	Acidity
Floors and walls	Flashing	Copper, aluminum
	Drywall	Dusts
	Tile cutting (ceramic dusts)	Minerals
	Adhesives*	
Remodeling and Demolition*	Insulation	Asbestos
	Coolant reservoirs	Aluminum, zinc
	Adhesives*	
Yard operation and maintenance	Vehicle and machinery maintenance	Oils and grease, coolants
	Gasoline, oils, additives	Benzene & derivatives, oil and grease
	Marking paints (sprays)	Vinyl chloride, metals
	Grading, earth moving	Erosion (sediments)
	Portable toilets	BOD, disinfectants (spills)
	Fire hazard control (herbicides)	Sodium arsenate, dinitro compounds
	Health and Safety	Rodenticides, insecticides

	Wash Waters* (herbicides, concrete, oils and greases)	
Landscaping and earthmoving	Planting, plant maintenance Excavation, tilling Masonry and concrete* Solid Wastes (trees, shrubs) Exposing natural lime or other mineral deposits Soil Adhesives Revegetation of graded areas	Pesticides, herbicides, nutrients Erosion (sediments) BOD Acidity/alkalinity, metals Aluminum sulfate, sulfur Fertilizers
Materials Storage	Waste storage (used oils, solvents, etc.) Hazardous waste containment Raw material piles	Spills, leaks Spills, leaks Dusts, sediments

*See above categories

Note: VOC = Volatile organic compounds, BOD = Biological oxygen demand due to the use of oxygen by decomposing materials.

References: USEPA, 1973. Processes, Procedures and Methods to Control Pollution Resulting From Construction Activity. Office of Air and Water Programs, EPA 430/9-73-007. October, 1973.

Meech, Mark L., and Margaret Luin Bazany. 1991. Construction Creates Own Set of Hazardous Wastes. Hazmat World August, 1991.

Gosselin, R.E. Ph. D., R.P. Smith Ph.D., and H. C. Hodge Ph.D. 1984. Clinical Toxicology of Commercial Products

TABLE G2. POLLUTANT SOURCES AND PROPOSED CONTROL MEASURES

Source Area or Activity	*Potential Pollutants*	*Control Measures*
CONSTRUCTION PHASE:		
Concrete Truck Wash Area	Acidity/Sediment	Washout Pit
Construction Materials Loading, Unloading, and Access Areas	All pollutants listed in Table 1	Earthen Berms, Secondary Containment, Impervious Covers
Vehicle and Equipment Storage, Maintenance Areas	Oil and grease, coolants, sediments	Earthen Berms, Drip Pans, Absorbent Materials
Waste Storage Areas	All pollutants listed in Table 1	Earthen Berms, Secondary Containment, Covered Dumpsters
Project Grading	Sediment	Straw Wattles, Silt Traps, Gravel Construction Entrances, Inlet Protection
Small Quantities of Partially Used Materials Throughout Site (during construction)	All raw materials	Employee Training
POST-CONSTRUCTION PHASE:		
Roofs, Structures	Runoff Volume	Project Specific
Bare Surfaces	Sediment	Project Specific
Yards	Fertilizers, Pesticides, Herbicides, Fecal Coliform	Project Specific
Paved Areas	Sediment, Oils	Project Specific

(1) Categories per CASQA BMP Handbook (i.e., Sediment, Nutrients, Bacteria and Viruses, Oil and Grease, Metals, Synthetic Organics, Pesticides, Gross Pollutants, and Vector Production)

Appendix H: CASQA Stormwater BMP Handbook Portal: Construction Fact Sheets

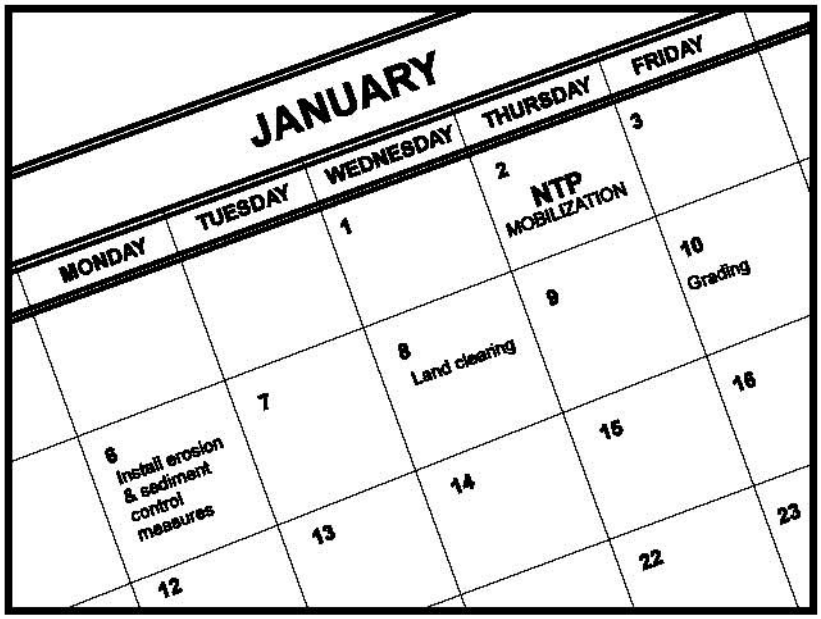
Appendix I: BMP Inspection Form

BMP INSPECTION REPORT

Date and Time of Inspection:		Date Report Written:		
Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Storm *Complete Parts I,II,III,IV and VII*	During Rain Event *Complete Parts I, II, III, V, and VII*	Post-Storm *Complete Parts I,II,III,VI and VII*
Part I. General Information				
Site Information				
Construction Site Name:				
Construction stage and completed activities:			Approximate area of site that is exposed:	
Photos Taken: (Circle one)	Yes	No	Photo Reference IDs:	
Weather				
Estimate storm beginning: (date and time)		Estimate storm duration: (hours)		
Estimate time since last storm: (days or hours)		Rain gauge reading and location: (in)		
Is a "Qualifying Event" predicted or did one occur (i.e., 0.5" rain with 48-hrs or greater between events)? (Y/N) If yes, summarize forecast:				
Exemption Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as flooding or electrical storms.				
Inspector Information				
Inspector Name:			Inspector Title:	
Signature:				Date:

Part II. BMP Observations. **Describe deficiencies in Part III.**			
Minimum BMPs for Risk Level 1 Sites	Failures or other short comings (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)			
Stockpiled construction materials not actively in use are covered and bermed			
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed			
Construction materials are minimally exposed to precipitation			
BMPs preventing the off-site tracking of materials are implemented and properly effective			
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system			
Portable toilets are contained to prevent discharges of waste			
Sanitation facilities are clean and with no apparent for leaks and spills			
Equipment is in place to cover waste disposal containers at the end of business day and during rain events			
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water			
Stockpiled waste material is securely protected from wind and rain if not actively in use			
Procedures are in place for addressing hazardous and non-hazardous spills			
Appropriate spill response personnel are assigned and trained			
Equipment and materials for cleanup of spills is available onsite			
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil			
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters			
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs			
Vehicle and equipment leaks are cleaned immediately and disposed of properly			

Scheduling EC-1



Categories

EC	Erosion Control	☑
SE	Sediment Control	☒
TC	Tracking Control	☒
WE	Wind Erosion Control	☒
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

Description and Purpose

Scheduling is the development of a written plan that includes sequencing of construction activities and the implementation of BMPs such as erosion control and sediment control while taking local climate (rainfall, wind, etc.) into consideration. The purpose is to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff, and vehicle tracking, and to perform the construction activities and control practices in accordance with the planned schedule.

Suitable Applications

Proper sequencing of construction activities to reduce erosion potential should be incorporated into the schedule of every construction project especially during rainy season. Use of other, more costly yet less effective, erosion and sediment control BMPs may often be reduced through proper construction sequencing.

Limitations

- Environmental constraints such as nesting season prohibitions reduce the full capabilities of this BMP.

Implementation

- Avoid rainy periods. Schedule major grading operations during dry months when practical. Allow enough time before rainfall begins to stabilize the soil with vegetation or physical means or to install sediment trapping devices.
- Plan the project and develop a schedule showing each phase

of construction. Clearly show how the rainy season relates to soil disturbing and re-stabilization activities. Incorporate the construction schedule into the SWPPP.

- Include on the schedule, details on the rainy season implementation and deployment of:
  - Erosion control BMPs
  - Sediment control BMPs
  - Tracking control BMPs
  - Wind erosion control BMPs
  - Non-stormwater BMPs
  - Waste management and materials pollution control BMPs
- Include dates for activities that may require non-stormwater discharges such as dewatering, sawcutting, grinding, drilling, boring, crushing, blasting, painting, hydro-demolition, mortar mixing, pavement cleaning, etc.
- Work out the sequencing and timetable for the start and completion of each item such as site clearing and grubbing, grading, excavation, paving, foundation pouring utilities installation, etc., to minimize the active construction area during the rainy season.
  - Sequence trenching activities so that most open portions are closed before new trenching begins.
  - Incorporate staged seeding and re-vegetation of graded slopes as work progresses.
  - Schedule establishment of permanent vegetation during appropriate planting time for specified vegetation.
- Non-active areas should be stabilized as soon as practical after the cessation of soil disturbing activities or one day prior to the onset of precipitation.
- Monitor the weather forecast for rainfall.
- When rainfall is predicted, adjust the construction schedule to allow the implementation of soil stabilization and sediment treatment controls on all disturbed areas prior to the onset of rain.
- Be prepared year round to deploy erosion control and sediment control BMPs. Erosion may be caused during dry seasons by un-seasonal rainfall, wind, and vehicle tracking. Keep the site stabilized year round, and retain and maintain rainy season sediment trapping devices in operational condition.
- Apply permanent erosion control to areas deemed substantially complete during the project's defined seeding window.

Costs

Construction scheduling to reduce erosion may increase other construction costs due to reduced economies of scale in performing site grading. The cost effectiveness of scheduling techniques should be compared with the other less effective erosion and sedimentation controls to achieve a cost effective balance.

Inspection and Maintenance

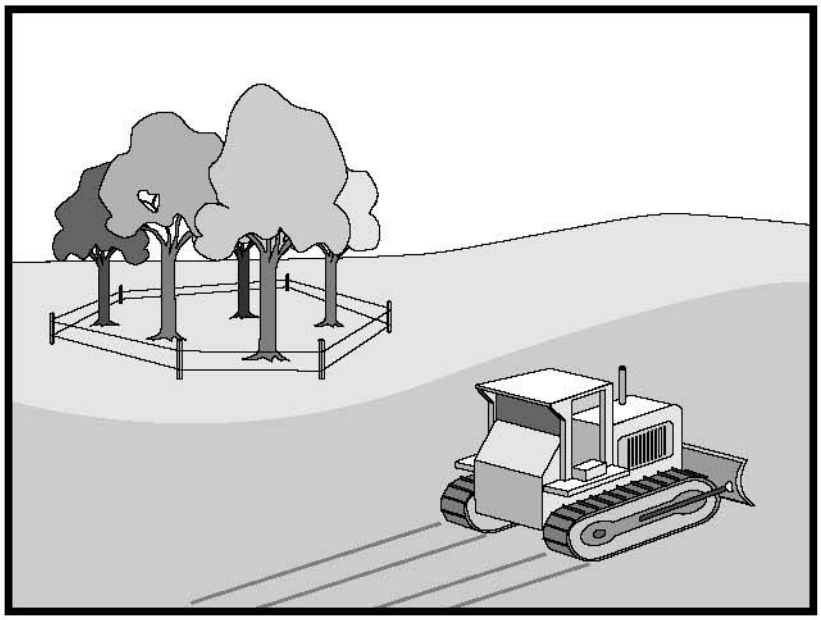
- Verify that work is progressing in accordance with the schedule. If progress deviates, take corrective actions.
- Amend the schedule when changes are warranted.
- Amend the schedule prior to the rainy season to show updated information on the deployment and implementation of construction site BMPs.

References

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities Developing Pollution Prevention Plans and Best Management Practices (EPA 832-R-92-005), U.S. Environmental Protection Agency, Office of Water, September 1992.

Preservation Of Existing Vegetation EC-2



Categories

EC	Erosion Control	☑
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

Description and Purpose

Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs, and grasses that protect soil from erosion.

Suitable Applications

Preservation of existing vegetation is suitable for use on most projects. Large project sites often provide the greatest opportunity for use of this BMP. Suitable applications include the following:

- Areas within the site where no construction activity occurs, or occurs at a later date. This BMP is especially suitable to multi year projects where grading can be phased.
- Areas where natural vegetation exists and is designated for preservation. Such areas often include steep slopes, watercourse, and building sites in wooded areas.
- Areas where local, state, and federal government require preservation, such as vernal pools, wetlands, marshes, certain oak trees, etc. These areas are usually designated on the plans, or in the specifications, permits, or environmental documents.
- Where vegetation designated for ultimate removal can be temporarily preserved and be utilized for erosion control and sediment control.

Limitations

- Requires forward planning by the owner/developer,

contractor, and design staff.

- Limited opportunities for use when project plans do not incorporate existing vegetation into the site design.
- For sites with diverse topography, it is often difficult and expensive to save existing trees while grading the site satisfactory for the planned development.

Implementation

The best way to prevent erosion is to not disturb the land. In order to reduce the impacts of new development and redevelopment, projects may be designed to avoid disturbing land in sensitive areas of the site (e.g., natural watercourses, steep slopes), and to incorporate unique or desirable existing vegetation into the site's landscaping plan. Clearly marking and leaving a buffer area around these unique areas during construction will help to preserve these areas as well as take advantage of natural erosion prevention and sediment trapping.

Existing vegetation to be preserved on the site must be protected from mechanical and other injury while the land is being developed. The purpose of protecting existing vegetation is to ensure the survival of desirable vegetation for shade, beautification, and erosion control. Mature vegetation has extensive root systems that help to hold soil in place, thus reducing erosion. In addition, vegetation helps keep soil from drying rapidly and becoming susceptible to erosion. To effectively save existing vegetation, no disturbances of any kind should be allowed within a defined area around the vegetation. For trees, no construction activity should occur within the drip line of the tree.

Timing

- Provide for preservation of existing vegetation prior to the commencement of clearing and grubbing operations or other soil disturbing activities in areas where no construction activity is planned or will occur at a later date.

Design and Layout

- Mark areas to be preserved with temporary fencing. Include sufficient setback to protect roots.
  - Orange colored plastic mesh fencing works well.
  - Use appropriate fence posts and adequate post spacing and depth to completely support the fence in an upright position.
- Locate temporary roadways, stockpiles, and layout areas to avoid stands of trees, shrubs, and grass.
- Consider the impact of grade changes to existing vegetation and the root zone.
- Maintain existing irrigation systems where feasible. Temporary irrigation may be required.
- Instruct employees and subcontractors to honor protective devices. Prohibit heavy equipment, vehicular traffic, or storage of construction materials within the protected area.

Costs

There is little cost associated with preserving existing vegetation if properly planned during the project design, and these costs may be offset by aesthetic benefits that enhance property values. During construction, the cost for preserving existing vegetation will likely be less than the cost of applying erosion and sediment controls to the disturbed area. Replacing vegetation inadvertently destroyed during construction can be extremely expensive, sometimes in excess of $10,000 per tree.

Inspection and Maintenance

During construction, the limits of disturbance should remain clearly marked at all times. Irrigation or maintenance of existing vegetation should be described in the landscaping plan. If damage to protected trees still occurs, maintenance guidelines described below should be followed:

- Verify that protective measures remain in place. Restore damaged protection measures immediately.
- Serious tree injuries shall be attended to by an arborist.
- Damage to the crown, trunk, or root system of a retained tree shall be repaired immediately.
- Trench as far from tree trunks as possible, usually outside of the tree drip line or canopy. Curve trenches around trees to avoid large roots or root concentrations. If roots are encountered, consider tunneling under them. When trenching or tunneling near or under trees to be retained, place tunnels at least 18 in. below the ground surface, and not below the tree center to minimize impact on the roots.
- Do not leave tree roots exposed to air. Cover exposed roots with soil as soon as possible. If soil covering is not practical, protect exposed roots with wet burlap or peat moss until the tunnel or trench is ready for backfill.
- Cleanly remove the ends of damaged roots with a smooth cut.
- Fill trenches and tunnels as soon as possible. Careful filling and tamping will eliminate air spaces in the soil, which can damage roots.
- If bark damage occurs, cut back all loosened bark into the undamaged area, with the cut tapered at the top and bottom and drainage provided at the base of the wood. Limit cutting the undamaged area as much as possible.
- Aerate soil that has been compacted over a trees root zone by punching holes 12 in. deep with an iron bar, and moving the bar back and forth until the soil is loosened. Place holes 18 in. apart throughout the area of compacted soil under the tree crown.
- Fertilization
  - Fertilize stressed or damaged broadleaf trees to aid recovery.
  - Fertilize trees in the late fall or early spring.

- Apply fertilizer to the soil over the feeder roots and in accordance with label instructions, but never closer than 3 ft to the trunk. Increase the fertilized area by one-fourth of the crown area for conifers that have extended root systems.

- Retain protective measures until all other construction activity is complete to avoid damage during site cleanup and stabilization.

References

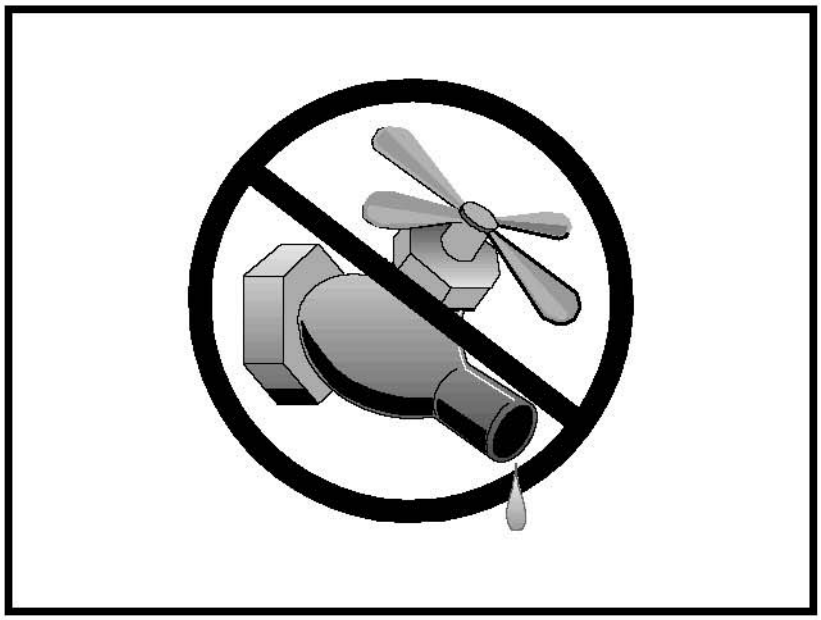
County of Sacramento Tree Preservation Ordinance, September 1981.

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management of the Puget Sound Basin, Technical Manual, Publication #91-75, Washington State Department of Ecology, February 1992.

Water Quality Management Plan for The Lake Tahoe Region, Volume II, Handbook of Management Practices, Tahoe Regional Planning Agency, November 1988.

Water Conservation Practices NS-1



Categories		
EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

Description and Purpose

Water conservation practices are activities that use water during the construction of a project in a manner that avoids causing erosion and the transport of pollutants offsite. These practices can reduce or eliminate non-stormwater discharges.

Suitable Applications

Water conservation practices are suitable for all construction sites where water is used, including piped water, metered water, trucked water, and water from a reservoir.

Limitations

- None identified.

Implementation

- Keep water equipment in good working condition.
- Stabilize water truck filling area.
- Repair water leaks promptly.
- Washing of vehicles and equipment on the construction site is discouraged.
- Avoid using water to clean construction areas. If water must be used for cleaning or surface preparation, surface should be swept and vacuumed first to remove dirt. This will minimize amount of water required.
- Direct construction water runoff to areas where it can soak

into the ground or be collected and reused.

- Authorized non-stormwater discharges to the storm drain system, channels, or receiving waters are acceptable with the implementation of appropriate BMPs.
- Lock water tank valves to prevent unauthorized use.

Costs

The cost is small to none compared to the benefits of conserving water.

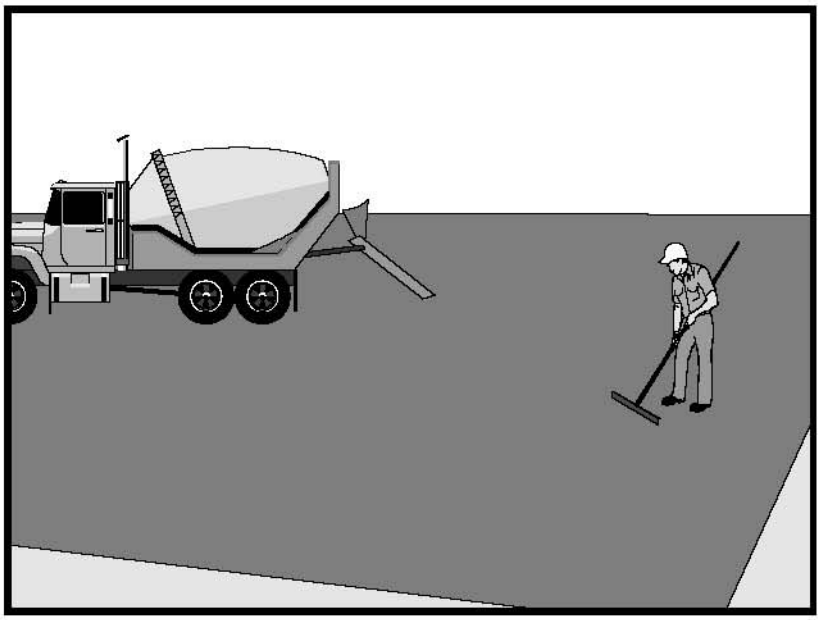
Inspection and Maintenance

- Inspect and verify that activity based BMPs are in place prior to the commencement of authorized non-stormwater discharges.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges are occuring.
- Repair water equipment as needed to prevent unintended discharges.
  - Water trucks
  - Water reservoirs (water buffalos)
  - Irrigation systems
  - Hydrant connections

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Paving and Grinding Operations NS-3



Categories		
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WE	Wind Erosion Control	
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WM	Waste Management and Materials Pollution Control	☒

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

Description and Purpose

Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent runon and runoff pollution, properly disposing of wastes, and training employees and subcontractors.

The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH and turbidity (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Many types of construction materials associated with paving and grinding operations, including mortar, concrete, and cement and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows, which could lead to exceedances of the General Permit requirements.

Suitable Applications

These procedures are implemented where paving, surfacing, resurfacing, or sawcutting, may pollute stormwater runoff or discharge to the storm drain system or watercourses.

Limitations

- Paving opportunities may be limited during wet weather.
- Discharges of freshly paved surfaces may raise pH to environmentally harmful levels and trigger permit violations.

Implementation

General

- Avoid paving during the wet season when feasible.
- Reschedule paving and grinding activities if rain is forecasted.
- Train employees and sub-contractors in pollution prevention and reduction.
- Store materials away from drainage courses to prevent stormwater runon (see WM-1, Material Delivery and Storage).
- Protect drainage courses, particularly in areas with a grade, by employing BMPs to divert runoff or to trap and filter sediment.
- Stockpile material removed from roadways away from drain inlets, drainage ditches, and watercourses. These materials should be stored consistent with WM-3, Stockpile Management.
- Disposal of PCC (Portland cement concrete) and AC (asphalt concrete) waste should be in conformance with WM-8, Concrete Waste Management.

Saw Cutting, Grinding, and Pavement Removal

- Shovel or vacuum saw-cut slurry and remove from site. Cover or barricade storm drains during saw cutting to contain slurry.
- When paving involves AC, the following steps should be implemented to prevent the discharge of grinding residue, uncompacted or loose AC, tack coats, equipment cleaners, or unrelated paving materials:
  - AC grindings, pieces, or chunks used in embankments or shoulder backing should not be allowed to enter any storm drains or watercourses. Install inlet protection and perimeter controls until area is stabilized (i.e. cutting, grinding or other removal activities are complete and loose material has been properly removed and disposed of)or permanent controls are in place. Examples of temporary perimeter controls can be found in EC-9, Earth Dikes and Drainage Swales; SE-1, Silt Fence; SE-5, Fiber Rolls, or SE-13 Compost Socks and Berms
  - Collect and remove all broken asphalt and recycle when practical. Old or spilled asphalt should be recycled or disposed of properly.
- Do not allow saw-cut slurry to enter storm drains or watercourses. Residue from grinding operations should be picked up by a vacuum attachment to the grinding machine, or by sweeping, should not be allowed to flow across the pavement, and should not be left on the surface of the pavement. See also WM-8, Concrete Waste Management, and WM-10, Liquid Waste Management.
- Pavement removal activities should not be conducted in the rain.
- Collect removed pavement material by mechanical or manual methods. This material may be recycled for use as shoulder backing or base material.

- If removed pavement material cannot be recycled, transport the material back to an approved storage site.

Asphaltic Concrete Paving

- If paving involves asphaltic cement concrete, follow these steps:
  - Do not allow sand or gravel placed over new asphalt to wash into storm drains, streets, or creeks. Vacuum or sweep loose sand and gravel and properly dispose of this waste by referring to WM-5, Solid Waste Management.
  - Old asphalt should be disposed of properly. Collect and remove all broken asphalt from the site and recycle whenever possible.

Portland Cement Concrete Paving

- Do not wash sweepings from exposed aggregate concrete into a storm drain system. Collect waste materials by dry methods, such as sweeping or shoveling, and return to aggregate base stockpile or dispose of properly. Allow aggregate rinse to settle. Then, either allow rinse water to dry in a temporary pit as described in WM-8, Concrete Waste Management, or pump the water to the sanitary sewer if authorized by the local wastewater authority.

Sealing Operations

- During chip seal application and sweeping operations, petroleum or petroleum covered aggregate should not be allowed to enter any storm drain or water courses. Apply temporary perimeter controls until structure is stabilized (i.e. all sealing operations are complete and cured and loose materials have been properly removed and disposed).
- Inlet protection (SE-10, Storm Drain Inlet Protection) should be used during application of seal coat, tack coat, slurry seal, and fog seal.
- Seal coat, tack coat, slurry seal, or fog seal should not be applied if rainfall is predicted to occur during the application or curing period.

Paving Equipment

- Leaks and spills from paving equipment can contain toxic levels of heavy metals and oil and grease. Place drip pans or absorbent materials under paving equipment when not in use. Clean up spills with absorbent materials and dispose of in accordance with the applicable regulations. See NS-10, Vehicle and Equipment Maintenance, WM-4, Spill Prevention and Control, and WM-10, Liquid Waste Management.
- Substances used to coat asphalt transport trucks and asphalt spreading equipment should not contain soap and should be non-foaming and non-toxic.
- Paving equipment parked onsite should be parked over plastic to prevent soil contamination.
- Clean asphalt coated equipment offsite whenever possible. When cleaning dry, hardened asphalt from equipment, manage hardened asphalt debris as described in WM-5, Solid Waste Management. Any cleaning onsite should follow NS-8, Vehicle and Equipment Cleaning.

Thermoplastic Striping

- Thermoplastic striper and pre-heater equipment shutoff valves should be inspected to ensure that they are working properly to prevent leaking thermoplastic from entering drain inlets, the stormwater drainage system, or watercourses.
- Pre-heaters should be filled carefully to prevent splashing or spilling of hot thermoplastic. Leave six inches of space at the top of the pre-heater container when filling thermoplastic to allow room for material to move.
- Do not pre-heat, transfer, or load thermoplastic near drain inlets or watercourses.
- Clean truck beds daily of loose debris and melted thermoplastic. When possible, recycle thermoplastic material.

Raised/Recessed Pavement Marker Application and Removal

- Do not transfer or load bituminous material near drain inlets, the stormwater drainage system, or watercourses.
- Melting tanks should be loaded with care and not filled to beyond six inches from the top to leave room for splashing.
- When servicing or filling melting tanks, ensure all pressure is released before removing lids to avoid spills.
- On large-scale projects, use mechanical or manual methods to collect excess bituminous material from the roadway after removal of markers.

Costs

- All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of paving and grinding operations.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Sample stormwater runoff required by the General Permit.
- Keep ample supplies of drip pans or absorbent materials onsite.
- Inspect and maintain machinery regularly to minimize leaks and drips.

References

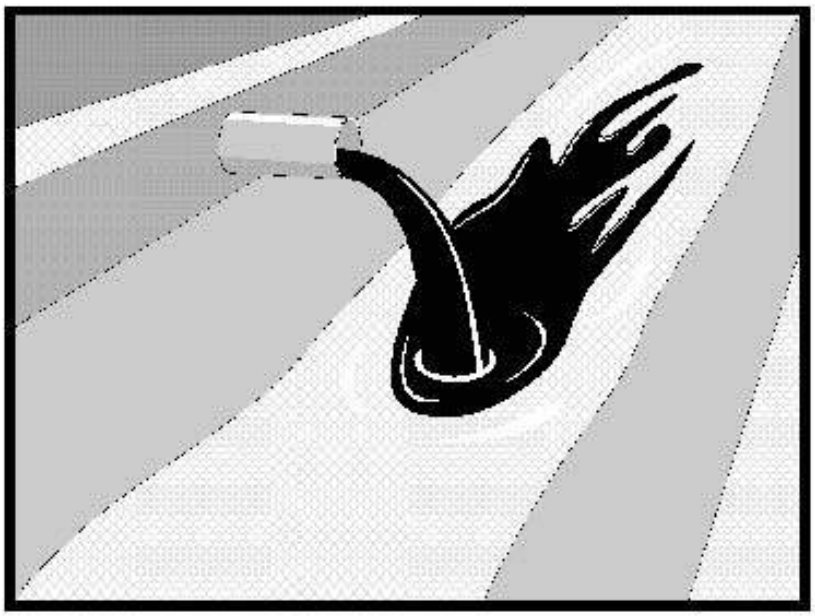
Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Hot Mix Asphalt-Paving Handbook AC 150/5370-14, Appendix I, U.S. Army Corps of Engineers, July 1991.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

Illicit Connection/Discharge NS-6



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents	
Sediment	
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Procedures and practices designed for construction contractors to recognize illicit connections or illegally dumped or discharged materials on a construction site and report incidents.

Suitable Applications

This best management practice (BMP) applies to all construction projects. Illicit connection/discharge and reporting is applicable anytime an illicit connection or discharge is discovered or illegally dumped material is found on the construction site.

Limitations

Illicit connections and illegal discharges or dumping, for the purposes of this BMP, refer to discharges and dumping caused by parties other than the contractor. If pre-existing hazardous materials or wastes are known to exist onsite, they should be identified in the SWPPP and handled as set forth in the SWPPP.

Implementation

Planning

- Review the SWPPP. Pre-existing areas of contamination should be identified and documented in the SWPPP.
- Inspect site before beginning the job for evidence of illicit connections, illegal dumping or discharges. Document any pre-existing conditions and notify the owner.
- Inspect site regularly during project execution for evidence

of illicit connections, illegal dumping or discharges.

- Observe site perimeter for evidence for potential of illicitly discharged or illegally dumped material, which may enter the job site.

Identification of Illicit Connections and Illegal Dumping or Discharges

- **General** – unlabeled and unidentifiable material should be treated as hazardous.
- **Solids** - Look for debris, or rubbish piles. Solid waste dumping often occurs on roadways with light traffic loads or in areas not easily visible from the traveled way.
- **Liquids** - signs of illegal liquid dumping or discharge can include:
  - Visible signs of staining or unusual colors to the pavement or surrounding adjacent soils
  - Pungent odors coming from the drainage systems
  - Discoloration or oily substances in the water or stains and residues detained within ditches, channels or drain boxes
  - Abnormal water flow during the dry weather season
- **Urban Areas** - Evidence of illicit connections or illegal discharges is typically detected at storm drain outfall locations or at manholes. Signs of an illicit connection or illegal discharge can include:
  - Abnormal water flow during the dry weather season
  - Unusual flows in sub drain systems used for dewatering
  - Pungent odors coming from the drainage systems
  - Discoloration or oily substances in the water or stains and residues detained within ditches, channels or drain boxes
  - Excessive sediment deposits, particularly adjacent to or near active offsite construction projects
- **Rural Areas** - Illicit connections or illegal discharges involving irrigation drainage ditches are detected by visual inspections. Signs of an illicit discharge can include:
  - Abnormal water flow during the non-irrigation season
  - Non-standard junction structures
  - Broken concrete or other disturbances at or near junction structures

Reporting

Notify the owner of any illicit connections and illegal dumping or discharge incidents at the time of discovery. For illicit connections or discharges to the storm drain system, notify the local stormwater management agency. For illegal dumping, notify the local law enforcement agency.

Cleanup and Removal

The responsibility for cleanup and removal of illicit or illegal dumping or discharges will vary by location. Contact the local stormwater management agency for further information.

Costs

Costs to look for and report illicit connections and illegal discharges and dumping are low. The best way to avoid costs associated with illicit connections and illegal discharges and dumping is to keep the project perimeters secure to prevent access to the site, to observe the site for vehicles that should not be there, and to document any waste or hazardous materials that exist onsite before taking possession of the site.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect the site regularly to check for any illegal dumping or discharge.
- Prohibit employees and subcontractors from disposing of non-job related debris or materials at the construction site.
- Notify the owner of any illicit connections and illegal dumping or discharge incidents at the time of discovery.

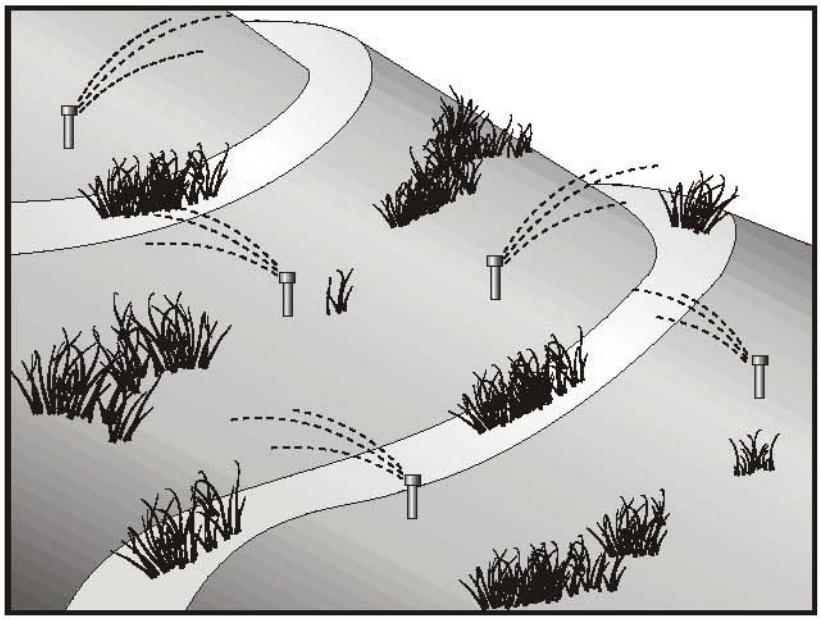
References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Potable Water/Irrigation NS-7



Categories		
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WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
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Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	
Metals	☑
Bacteria	
Oil and Grease	
Organics	☑

Potential Alternatives

None

Description and Purpose

Potable Water/Irrigation consists of practices and procedures to manage the discharge of potential pollutants generated during discharges from irrigation water lines, landscape irrigation, lawn or garden watering, planned and unplanned discharges from potable water sources, water line flushing, and hydrant flushing.

Suitable Applications

Implement this BMP whenever potable water or irrigation water discharges occur at or enter a construction site.

Limitations

None identified.

Implementation

- Direct water from offsite sources around or through a construction site, where feasible, in a way that minimizes contact with the construction site.
- Discharges from water line flushing should be reused for landscaping purposes where feasible.
- Shut off the water source to broken lines, sprinklers, or valves as soon as possible to prevent excess water flow.
- Protect downstream stormwater drainage systems and watercourses from water pumped or bailed from trenches excavated to repair water lines.
- Inspect irrigated areas within the construction limits for

excess watering. Adjust watering times and schedules to ensure that the appropriate amount of water is being used and to minimize runoff. Consider factors such as soil structure, grade, time of year, and type of plant material in determining the proper amounts of water for a specific area.

Costs

Cost to manage potable water and irrigation are low and generally considered to be a normal part of related activities.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Repair broken water lines as soon as possible.
- Inspect irrigated areas regularly for signs of erosion and/or discharge.

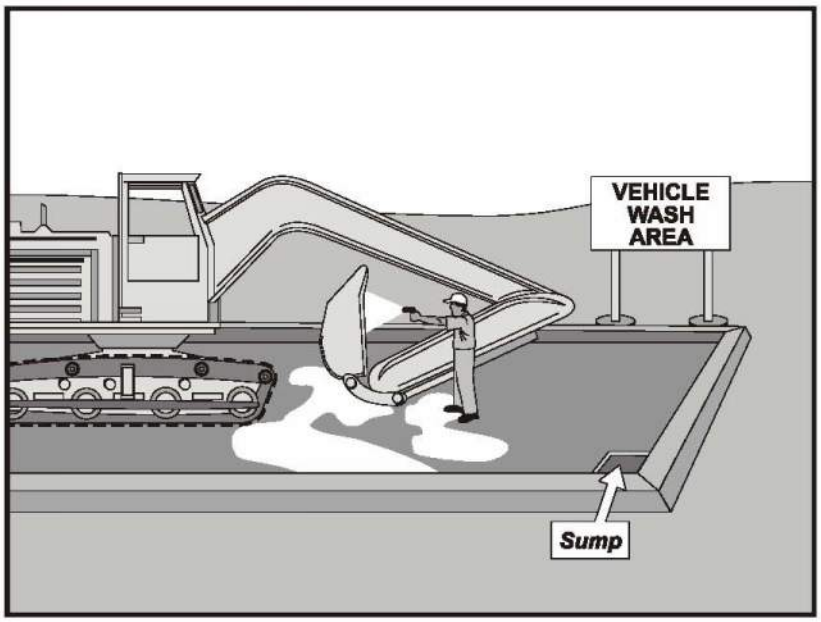
References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Vehicle and Equipment Cleaning NS-8



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Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Vehicle and equipment cleaning procedures and practices eliminate or reduce the discharge of pollutants to stormwater from vehicle and equipment cleaning operations. Procedures and practices include but are not limited to: using offsite facilities; washing in designated, contained areas only; eliminating discharges to the storm drain by infiltrating the wash water; and training employees and subcontractors in proper cleaning procedures.

Suitable Applications

These procedures are suitable on all construction sites where vehicle and equipment cleaning is performed.

Limitations

Even phosphate-free, biodegradable soaps have been shown to be toxic to fish before the soap degrades. Sending vehicles/equipment offsite should be done in conjunction with TC-1, Stabilized Construction Entrance/Exit.

Implementation

Other options to washing equipment onsite include contracting with either an offsite or mobile commercial washing business. These businesses may be better equipped to handle and dispose of the wash waters properly. Performing this work offsite can also be economical by eliminating the need for a separate washing operation onsite.

If washing operations are to take place onsite, then:

- Use phosphate-free, biodegradable soaps.
- Educate employees and subcontractors on pollution prevention measures.
- Do not permit steam cleaning onsite. Steam cleaning can generate significant pollutant concentrates.
- Cleaning of vehicles and equipment with soap, solvents or steam should not occur on the project site unless resulting wastes are fully contained and disposed of. Resulting wastes should not be discharged or buried, and must be captured and recycled or disposed according to the requirements of WM-10, Liquid Waste Management or WM-6, Hazardous Waste Management, depending on the waste characteristics. Minimize use of solvents. Use of diesel for vehicle and equipment cleaning is prohibited.
- All vehicles and equipment that regularly enter and leave the construction site must be cleaned offsite.
- When vehicle and equipment washing and cleaning must occur onsite, and the operation cannot be located within a structure or building equipped with appropriate disposal facilities, the outside cleaning area should have the following characteristics:
  - Located away from storm drain inlets, drainage facilities, or watercourses
  - Paved with concrete or asphalt and bermed to contain wash waters and to prevent runon and runoff
  - Configured with a sump to allow collection and disposal of wash water
  - No discharge of wash waters to storm drains or watercourses
  - Used only when necessary
- When cleaning vehicles and equipment with water:
  - Use as little water as possible. High-pressure sprayers may use less water than a hose and should be considered
  - Use positive shutoff valve to minimize water usage
  - Facility wash racks should discharge to a sanitary sewer, recycle system or other approved discharge system and must not discharge to the storm drainage system, watercourses, or to groundwater

Costs

Cleaning vehicles and equipment at an offsite facility may reduce overall costs for vehicle and equipment cleaning by eliminating the need to provide similar services onsite. When onsite cleaning is needed, the cost to establish appropriate facilities is relatively low on larger, long-duration projects, and moderate to high on small, short-duration projects.

Inspection and Maintenance

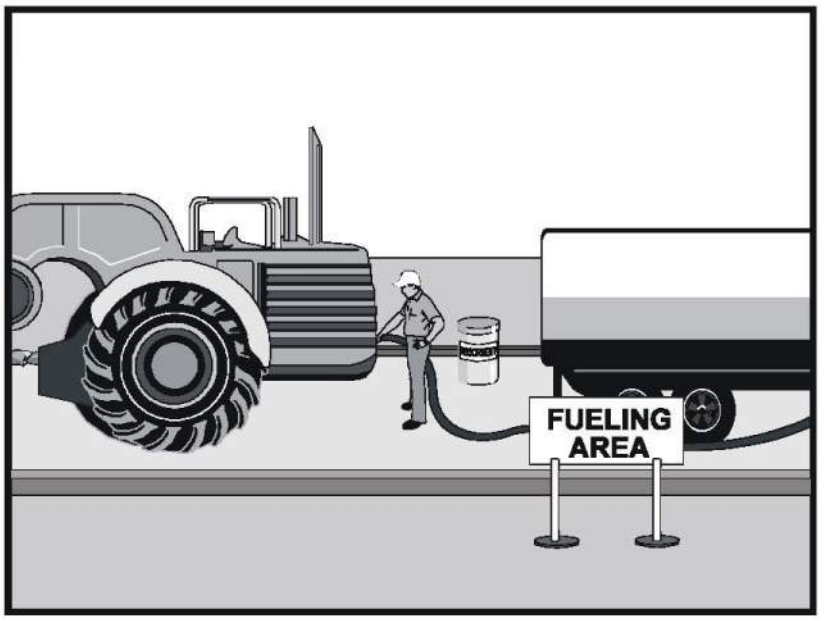
- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Inspection and maintenance is minimal, although some berm repair may be necessary.
- Monitor employees and subcontractors throughout the duration of the construction project to ensure appropriate practices are being implemented.
- Inspect sump regularly and remove liquids and sediment as needed.
- Prohibit employees and subcontractors from washing personal vehicles and equipment on the construction site.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Swisher, R.D. Surfactant Biodegradation, Marcel Decker Corporation, 1987.

Vehicle and Equipment Fueling NS-9



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

Description and Purpose

Vehicle equipment fueling procedures and practices are designed to prevent fuel spills and leaks, and reduce or eliminate contamination of stormwater. This can be accomplished by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors in proper fueling procedures.

Suitable Applications

These procedures are suitable on all construction sites where vehicle and equipment fueling takes place.

Limitations

Onsite vehicle and equipment fueling should only be used where it is impractical to send vehicles and equipment offsite for fueling. Sending vehicles and equipment offsite should be done in conjunction with TC-1, Stabilized Construction Entrance/ Exit.

Implementation

- Use offsite fueling stations as much as possible. These businesses are better equipped to handle fuel and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate fueling area at a site.
- Discourage "topping-off" of fuel tanks.
- Absorbent spill cleanup materials and spill kits should be available in fueling areas and on fueling trucks, and should

be disposed of properly after use.

- Drip pans or absorbent pads should be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area.
- Use absorbent materials on small spills. Do not hose down or bury the spill. Remove the adsorbent materials promptly and dispose of properly.
- Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas. With the exception of tracked equipment such as bulldozers and large excavators, most vehicles should be able to travel to a designated area with little lost time.
- Train employees and subcontractors in proper fueling and cleanup procedures.
- When fueling must take place onsite, designate an area away from drainage courses to be used. Fueling areas should be identified in the SWPPP.
- Dedicated fueling areas should be protected from stormwater runon and runoff, and should be located at least 50 ft away from downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
- Protect fueling areas with berms and dikes to prevent runon, runoff, and to contain spills.
- Nozzles used in vehicle and equipment fueling should be equipped with an automatic shutoff to control drips. Fueling operations should not be left unattended.
- Use vapor recovery nozzles to help control drips as well as air pollution where required by Air Quality Management Districts (AQMD).
- Federal, state, and local requirements should be observed for any stationary above ground storage tanks.

Costs

- All of the above measures are low cost except for the capital costs of above ground tanks that meet all local environmental, zoning, and fire codes.

Inspection and Maintenance

- Vehicles and equipment should be inspected each day of use for leaks. Leaks should be repaired immediately or problem vehicles or equipment should be removed from the project site.
- Keep ample supplies of spill cleanup materials onsite.
- Immediately clean up spills and properly dispose of contaminated soil and cleanup materials.

References

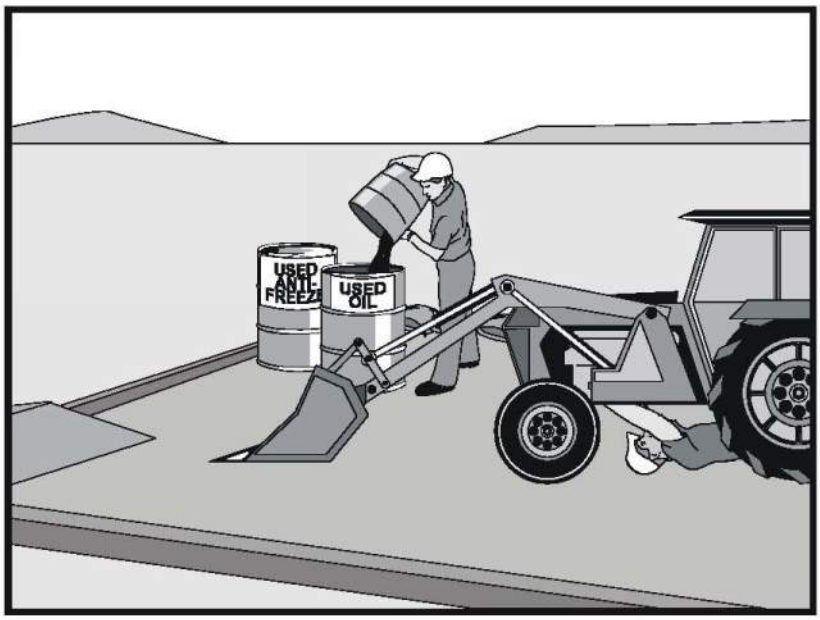
Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance, Working Group Working Paper; USEPA, April 1992.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Vehicle & Equipment Maintenance NS-10



Categories

EC	Erosion Control	
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TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	
Nutrients	☑
Trash	☑
Metals	
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Prevent or reduce the contamination of stormwater resulting from vehicle and equipment maintenance by running a "dry and clean site". The best option would be to perform maintenance activities at an offsite facility. If this option is not available then work should be performed in designated areas only, while providing cover for materials stored outside, checking for leaks and spills, and containing and cleaning up spills immediately. Employees and subcontractors must be trained in proper procedures.

Suitable Applications

These procedures are suitable on all construction projects where an onsite yard area is necessary for storage and maintenance of heavy equipment and vehicles.

Limitations

Onsite vehicle and equipment maintenance should only be used where it is impractical to send vehicles and equipment offsite for maintenance and repair. Sending vehicles/equipment offsite should be done in conjunction with TC-1, Stabilized Construction Entrance/Exit.

Outdoor vehicle or equipment maintenance is a potentially significant source of stormwater pollution. Activities that can contaminate stormwater include engine repair and service, changing or replacement of fluids, and outdoor equipment storage and parking (engine fluid leaks). For further information on vehicle or equipment servicing, see NS-8, Vehicle and Equipment Cleaning, and NS-9, Vehicle and

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Equipment Fueling.

Implementation

- Use offsite repair shops as much as possible. These businesses are better equipped to handle vehicle fluids and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate maintenance area.
- If maintenance must occur onsite, use designated areas, located away from drainage courses. Dedicated maintenance areas should be protected from stormwater runon and runoff, and should be located at least 50 ft from downstream drainage facilities and watercourses.
- Drip pans or absorbent pads should be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- All fueling trucks and fueling areas are required to have spill kits and/or use other spill protection devices.
- Use adsorbent materials on small spills. Remove the absorbent materials promptly and dispose of properly.
- Inspect onsite vehicles and equipment daily at startup for leaks, and repair immediately.
- Keep vehicles and equipment clean; do not allow excessive build-up of oil and grease.
- Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic and transmission fluids. Provide secondary containment and covers for these materials if stored onsite.
- Train employees and subcontractors in proper maintenance and spill cleanup procedures.
- Drip pans or plastic sheeting should be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than 1 hour.
- For long-term projects, consider using portable tents or covers over maintenance areas if maintenance cannot be performed offsite.
- Consider use of new, alternative greases and lubricants, such as adhesive greases, for chassis lubrication and fifth-wheel lubrication.
- Properly dispose of used oils, fluids, lubricants, and spill cleanup materials.
- Do not place used oil in a dumpster or pour into a storm drain or watercourse.
- Properly dispose of or recycle used batteries.
- Do not bury used tires.

- Repair leaks of fluids and oil immediately.

Listed below is further information if you must perform vehicle or equipment maintenance onsite.

Safer Alternative Products

- Consider products that are less toxic or hazardous than regular products. These products are often sold under an "environmentally friendly" label.
- Consider use of grease substitutes for lubrication of truck fifth-wheels. Follow manufacturers label for details on specific uses.
- Consider use of plastic friction plates on truck fifth-wheels in lieu of grease. Follow manufacturers label for details on specific uses.

Waste Reduction

Parts are often cleaned using solvents such as trichloroethylene, trichloroethane, or methylene chloride. Many of these cleaners are listed in California Toxic Rule as priority pollutants. These materials are harmful and must not contaminate stormwater. They must be disposed of as a hazardous waste. Reducing the number of solvents makes recycling easier and reduces hazardous waste management costs. Often, one solvent can perform a job as well as two different solvents. Also, if possible, eliminate or reduce the amount of hazardous materials and waste by substituting non-hazardous or less hazardous materials. For example, replace chlorinated organic solvents with non-chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of properly. Check the list of active ingredients to see whether it contains chlorinated solvents. The "chlor" term indicates that the solvent is chlorinated. Also, try substituting a wire brush for solvents to clean parts.

Recycling and Disposal

Separating wastes allows for easier recycling and may reduce disposal costs. Keep hazardous wastes separate, do not mix used oil solvents, and keep chlorinated solvents (like,-trichloroethane) separate from non-chlorinated solvents (like kerosene and mineral spirits). Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around. Provide cover and secondary containment until these materials can be removed from the site.

Oil filters can be recycled. Ask your oil supplier or recycler about recycling oil filters.

Do not dispose of extra paints and coatings by dumping liquid onto the ground or throwing it into dumpsters. Allow coatings to dry or harden before disposal into covered dumpsters.

Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Costs

All of the above are low cost measures. Higher costs are incurred to setup and maintain onsite maintenance areas.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Keep ample supplies of spill cleanup materials onsite.
- Maintain waste fluid containers in leak proof condition.
- Vehicles and equipment should be inspected on each day of use. Leaks should be repaired immediately or the problem vehicle(s) or equipment should be removed from the project site.
- Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as needed.

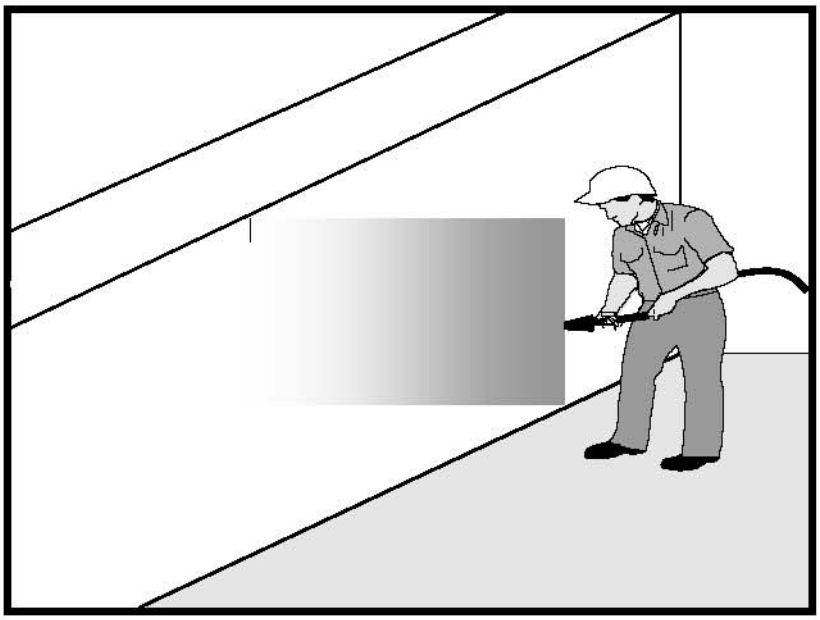
References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Coastal Nonpoint Pollution Control Program; Program Development and Approval Guidance, Working Group, Working Paper; USEPA, April 1992.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Concrete Curing NS-12



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

Description and Purpose

Concrete curing is used in the construction of structures such as bridges, retaining walls, pump houses, large slabs, and structured foundations. Concrete curing includes the use of both chemical and water methods.

Concrete and its associated curing materials have basic chemical properties that can raise the pH of water to levels outside of the permitted range. Discharges of stormwater and non-stormwater exposed to concrete during curing may have a high pH and may contain chemicals, metals, and fines. The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Proper procedures and care should be taken when managing concrete curing materials to prevent them from coming into contact with stormwater flows, which could result in a high pH discharge.

Suitable Applications

Suitable applications include all projects where Portland Cement Concrete (PCC) and concrete curing chemicals are placed where they can be exposed to rainfall, runoff from other areas, or where runoff from the PCC will leave the site.

Limitations

- Runoff contact with concrete waste can raise pH levels in the water to environmentally harmful levels and trigger permit violations.

Implementation

Chemical Curing

- Avoid over spray of curing compounds.
- Minimize the drift by applying the curing compound close to the concrete surface. Apply an amount of compound that covers the surface, but does not allow any runoff of the compound.
- Use proper storage and handling techniques for concrete curing compounds. Refer to WM-1, Material Delivery and Storage.
- Protect drain inlets prior to the application of curing compounds.
- Refer to WM-4, Spill Prevention and Control.

Water Curing for Bridge Decks, Retaining Walls, and other Structures

- Direct cure water away from inlets and watercourses to collection areas for evaporation or other means of removal in accordance with all applicable permits. See WM-8 Concrete Waste Management.
- Collect cure water at the top of slopes and transport to a concrete waste management area in a non-erosive manner. See EC-9 Earth Dikes and Drainage Swales, EC-10, Velocity Dissipation Devices, and EC-11, Slope Drains.
- Utilize wet blankets or a similar method that maintains moisture while minimizing the use and possible discharge of water.

Education

- Educate employees, subcontractors, and suppliers on proper concrete curing techniques to prevent contact with discharge as described herein.
- Arrange for the QSP or the appropriately trained contractor's superintendent or representative to oversee and enforce concrete curing procedures.

Costs

All of the above measures are generally low cost.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.

- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Sample non-stormwater discharges and stormwater runoff that contacts uncured and partially cured concrete as required by the General Permit.
- Ensure that employees and subcontractors implement appropriate measures for storage, handling, and use of curing compounds.
- Inspect cure containers and spraying equipment for leaks.

References

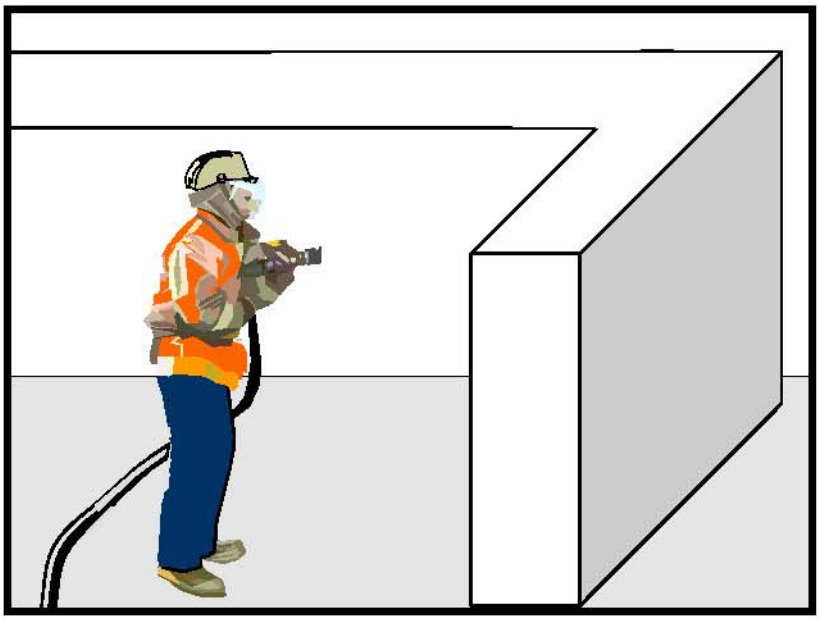
Blue Print for a Clean Bay-Construction-Related Industries: Best Management Practices for Stormwater Pollution Prevention; Santa Clara Valley Non Point Source Pollution Control Program, 1992.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

Concrete Finishing NS-13



Categories

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SE	Sediment Control	
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NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	
Organics	☑

Potential Alternatives

None

Description and Purpose

Concrete finishing methods are used for bridge deck rehabilitation, paint removal, curing compound removal, and final surface finish appearances. Methods include sand blasting, shot blasting, grinding, or high pressure water blasting. Stormwater and non-stormwater exposed to concrete finishing by-products may have a high pH and may contain chemicals, metals, and fines. Proper procedures and implementation of appropriate BMPs can minimize the impact that concrete-finishing methods may have on stormwater and non-stormwater discharges.

The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Concrete and its associated curing materials have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows, which could lead to exceedances of the General Permit requirements.

Suitable Applications

These procedures apply to all construction locations where concrete finishing operations are performed.

Limitations

- Runoff contact with concrete waste can raise pH levels in the water to environmentally harmful levels and trigger permit violations.

Implementation

- Collect and properly dispose of water from high-pressure water blasting operations.
- Collect contaminated water from blasting operations at the top of slopes. Transport or dispose of contaminated water while using BMPs such as those for erosion control. Refer to EC-9, Earth Dikes and Drainage Swales, EC-10, Velocity Dissipation Devices, and EC-11, Slope Drains.
- Direct water from blasting operations away from inlets and watercourses to collection areas for infiltration or other means of removal (dewatering). Refer to NS-2 Dewatering Operations.
- Protect inlets during sandblasting operations. Refer to SE-10, Storm Drain Inlet Protection.
- Refer to WM-8, Concrete Waste Management for disposal of concrete debris.
- Minimize the drift of dust and blast material as much as possible by keeping the blasting nozzle close to the surface.
- When blast residue contains a potentially hazardous waste, refer to WM-6, Hazardous Waste Management.

Education

- Educate employees, subcontractors, and suppliers on proper concrete finishing techniques to prevent contact with discharge as described herein.
- Arrange for the QSP or the appropriately trained contractor's superintendent or representative to oversee and enforce concrete finishing procedures.

Costs

These measures are generally of low cost.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Sample non-stormwater discharges and stormwater runoff that contacts concrete dust and debris as required by the General Permit.

- Sweep or vacuum up debris from sandblasting at the end of each shift.
- At the end of each work shift, remove and contain liquid and solid waste from containment structures, if any, and from the general work area.
- Inspect containment structures for damage prior to use and prior to onset of forecasted rain.

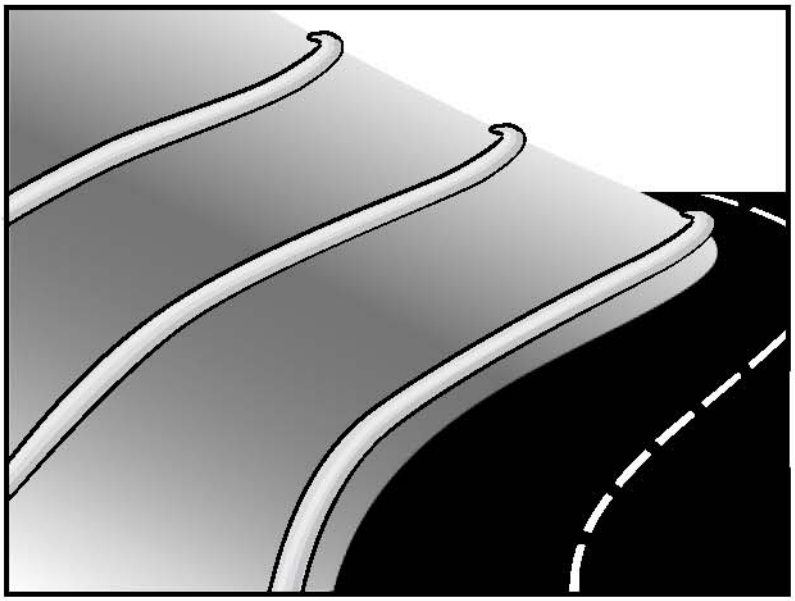
References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Fiber Rolls SE-5



Categories

EC	Erosion Control	☒
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Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-1 Silt Fence

SE-6 Gravel Bag Berm

SE-8 Sandbag Barrier

SE-14 Biofilter Bags

Description and Purpose

A fiber roll consists of straw, coir, or other biodegradable materials bound into a tight tubular roll wrapped by netting, which can be photodegradable or natural. Additionally, gravel core fiber rolls are available, which contain an imbedded ballast material such as gravel or sand for additional weight when staking the rolls are not feasible (such as use as inlet protection). When fiber rolls are placed at the toe and on the face of slopes along the contours, they intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff (through sedimentation). By interrupting the length of a slope, fiber rolls can also reduce sheet and rill erosion until vegetation is established.

Suitable Applications

Fiber rolls may be suitable:

- Along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.
- At the end of a downward slope where it transitions to a steeper slope.
- Along the perimeter of a project.
- As check dams in unlined ditches with minimal grade.
- Down-slope of exposed soil areas.
- At operational storm drains as a form of inlet protection.

- Around temporary stockpiles.

Limitations

- Fiber rolls are not effective unless trenched in and staked.
- Not intended for use in high flow situations.
- Difficult to move once saturated.
- If not properly staked and trenched in, fiber rolls could be transported by high flows.
- Fiber rolls have a very limited sediment capture zone.
- Fiber rolls should not be used on slopes subject to creep, slumping, or landslide.
- Rolls typically function for 12-24 months depending upon local conditions.

Implementation

Fiber Roll Materials

- Fiber rolls should be prefabricated.
- Fiber rolls may come manufactured containing polyacrylamide (PAM), a flocculating agent within the roll. Fiber rolls impregnated with PAM provide additional sediment removal capabilities and should be used in areas with fine, clayey or silty soils to provide additional sediment removal capabilities. Monitoring may be required for these installations.
- Fiber rolls are made from weed free rice straw, flax, or a similar agricultural material bound into a tight tubular roll by netting.
- Typical fiber rolls vary in diameter from 9 in. to 20 in. Larger diameter rolls are available as well.

Installation

- Locate fiber rolls on level contours spaced as follows:
  - Slope inclination of 4:1 (H:V) or flatter: Fiber rolls should be placed at a maximum interval of 20 ft.
  - Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a maximum interval of 15 ft. (a closer spacing is more effective).
  - Slope inclination 2:1 (H:V) or greater: Fiber Rolls should be placed at a maximum interval of 10 ft. (a closer spacing is more effective).
- Prepare the slope before beginning installation.
- Dig small trenches across the slope on the contour. The trench depth should be ¼ to 1/3 of the thickness of the roll, and the width should equal the roll diameter, in order to provide area to backfill the trench.

- It is critical that rolls are installed perpendicular to water movement, and parallel to the slope contour.
- Start building trenches and installing rolls from the bottom of the slope and work up.
- It is recommended that pilot holes be driven through the fiber roll. Use a straight bar to drive holes through the roll and into the soil for the wooden stakes.
- Turn the ends of the fiber roll up slope to prevent runoff from going around the roll.
- Stake fiber rolls into the trench.
  - Drive stakes at the end of each fiber roll and spaced 4 ft maximum on center.
  - Use wood stakes with a nominal classification of 0.75 by 0.75 in. and minimum length of 24 in.
- If more than one fiber roll is placed in a row, the rolls should be overlapped, not abutted.
- See typical fiber roll installation details at the end of this fact sheet.

Removal

- Fiber rolls can be left in place or removed depending on the type of fiber roll and application (temporary vs. permanent installation). Typically, fiber rolls encased with plastic netting are used for a temporary application because the netting does not biodegrade. Fiber rolls used in a permanent application are typically encased with a biodegradeable material and are left in place. Removal of a fiber roll used in a permanent application can result in greater disturbance.
- Temporary installations should only be removed when up gradient areas are stabilized per General Permit requirements, and/or pollutant sources no longer present a hazard. But, they should also be removed before vegetation becomes too mature so that the removal process does not disturb more soil and vegetation than is necessary.

Costs

Material costs for regular fiber rolls range from $20 - $30 per 25 ft roll.

Material costs for PAM impregnated fiber rolls range between 7.00-$9.00 per linear foot, based upon vendor research.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Repair or replace split, torn, unraveling, or slumping fiber rolls.
- If the fiber roll is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates in the BMP should be periodically removed

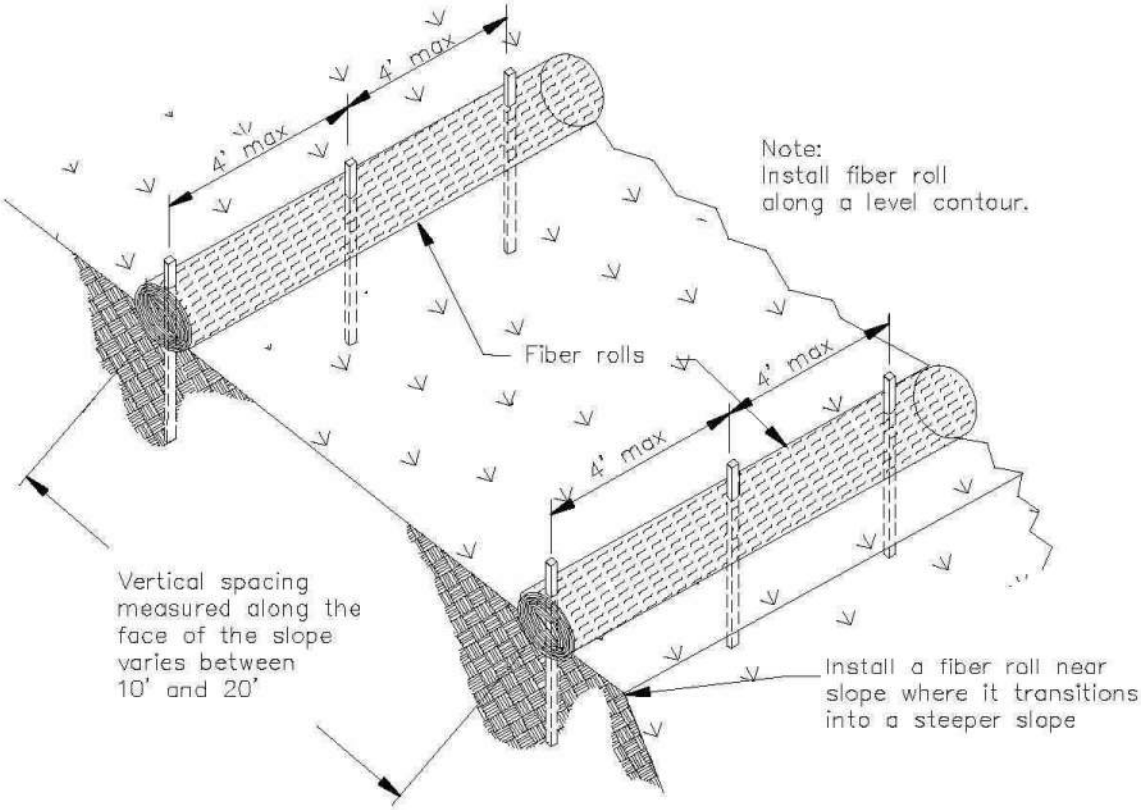
in order to maintain BMP effectiveness. Sediment should be removed when sediment accumulation reaches one-third the designated sediment storage depth.

- If fiber rolls are used for erosion control, such as in a check dam, sediment removal should not be required as long as the system continues to control the grade. Sediment control BMPs will likely be required in conjunction with this type of application.
- Repair any rills or gullies promptly.

References

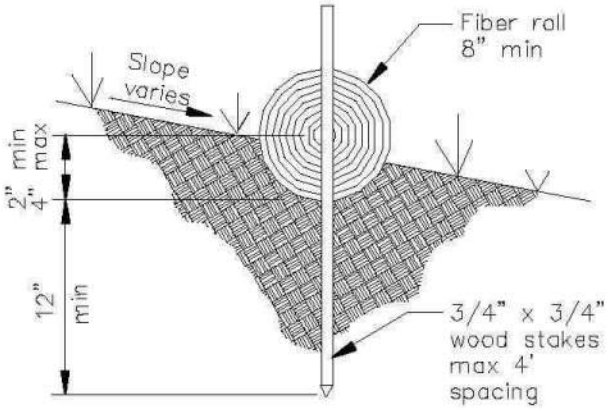
Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.



TYPICAL FIBER ROLL INSTALLATION

N.T.S.



ENTRENCHMENT DETAIL

N.T.S.

Street Sweeping and Vacuuming SE-7

Categories		
EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	☑
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

Description and Purpose

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways, and to clean paved surfaces in preparation for final paving. Sweeping and vacuuming prevents sediment from the project site from entering storm drains or receiving waters.

Suitable Applications

Sweeping and vacuuming are suitable anywhere sediment is tracked from the project site onto public or private paved streets and roads, typically at points of egress. Sweeping and vacuuming are also applicable during preparation of paved surfaces for final paving.

Limitations

Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose).

Implementation

- Controlling the number of points where vehicles can leave the site will allow sweeping and vacuuming efforts to be focused, and perhaps save money.
- Inspect potential sediment tracking locations daily.
- Visible sediment tracking should be swept or vacuumed on a daily basis.
- Do not use kick brooms or sweeper attachments. These tend to spread the dirt rather than remove it.

- If not mixed with debris or trash, consider incorporating the removed sediment back into the project

Costs

Rental rates for self-propelled sweepers vary depending on hopper size and duration of rental. Expect rental rates from \$58/hour (3 yd^3 hopper) to \$88/hour (9 yd^3 hopper), plus operator costs. Hourly production rates vary with the amount of area to be swept and amount of sediment. Match the hopper size to the area and expect sediment load to minimize time spent dumping.

Inspection and Maintenance

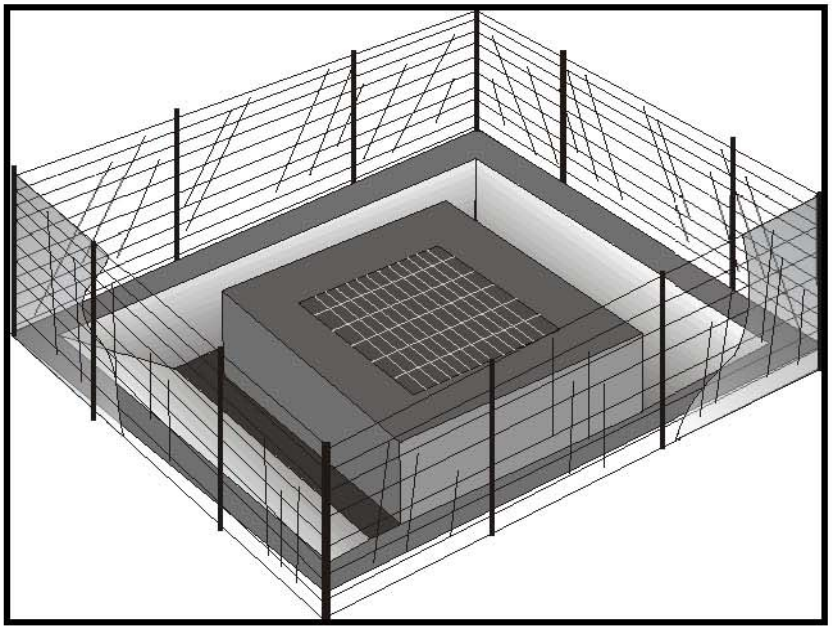
- Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.
- When actively in use, points of ingress and egress must be inspected daily.
- When tracked or spilled sediment is observed outside the construction limits, it must be removed at least daily. More frequent removal, even continuous removal, may be required in some jurisdictions.
- Be careful not to sweep up any unknown substance or any object that may be potentially hazardous.
- Adjust brooms frequently; maximize efficiency of sweeping operations.
- After sweeping is finished, properly dispose of sweeper wastes at an approved dumpsite.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Labor Surcharge and Equipment Rental Rates, State of California Department of Transportation (Caltrans), April 1, 2002 – March 31, 2003.

Storm Drain Inlet Protection SE-10



Categories		
EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	☒
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-1 Silt Fence

SE-5 Fiber Rolls

SE-6 Gravel Bag Berm

SE-8 Sandbag Barrier

SE-14 Biofilter Bags

Description and Purpose

Storm drain inlet protection consists of a sediment filter or an impounding area in, around or upstream of a storm drain, drop inlet, or curb inlet. Storm drain inlet protection measures temporarily pond runoff before it enters the storm drain, allowing sediment to settle. Some filter configurations also remove sediment by filtering, but usually the ponding action results in the greatest sediment reduction. Temporary geotextile storm drain inserts attach underneath storm drain grates to capture and filter storm water.

Suitable Applications

Every storm drain inlet receiving runoff from unstabilized or otherwise active work areas should be protected. Inlet protection should be used in conjunction with other erosion and sediment controls to prevent sediment-laden stormwater and non-stormwater discharges from entering the storm drain system.

Limitations

- Drainage area should not exceed 1 acre.
- In general straw bales should not be used as inlet protection.
- Requires an adequate area for water to pond without encroaching into portions of the roadway subject to traffic.

- Sediment removal may be inadequate to prevent sediment discharges in high flow conditions or if runoff is heavily sediment laden. If high flow conditions are expected, use other onsite sediment trapping techniques in conjunction with inlet protection.
- Frequent maintenance is required.
- Limit drainage area to 1 acre maximum. For drainage areas larger than 1 acre, runoff should be routed to a sediment-trapping device designed for larger flows. See BMPs SE-2, Sediment Basin, and SE-3, Sediment Traps.
- Excavated drop inlet sediment traps are appropriate where relatively heavy flows are expected, and overflow capability is needed.

Implementation

General

Inlet control measures presented in this handbook should not be used for inlets draining more than one acre. Runoff from larger disturbed areas should be first routed through SE-2, Sediment Basin or SE-3, Sediment Trap and/or used in conjunction with other drainage control, erosion control, and sediment control BMPs to protect the site. Different types of inlet protection are appropriate for different applications depending on site conditions and the type of inlet. Alternative methods are available in addition to the methods described/shown herein such as prefabricated inlet insert devices, or gutter protection devices.

Design and Layout

Identify existing and planned storm drain inlets that have the potential to receive sediment-laden surface runoff. Determine if storm drain inlet protection is needed and which method to use.

- The key to successful and safe use of storm drain inlet protection devices is to know where runoff that is directed toward the inlet to be protected will pond or be diverted as a result of installing the protection device.
  - Determine the acceptable location and extent of ponding in the vicinity of the drain inlet. The acceptable location and extent of ponding will influence the type and design of the storm drain inlet protection device.
  - Determine the extent of potential runoff diversion caused by the storm drain inlet protection device. Runoff ponded by inlet protection devices may flow around the device and towards the next downstream inlet. In some cases, this is acceptable; in other cases, serious erosion or downstream property damage can be caused by these diversions. The possibility of runoff diversions will influence whether or not storm drain inlet protection is suitable; and, if suitable, the type and design of the device.
- The location and extent of ponding, and the extent of diversion, can usually be controlled through appropriate placement of the inlet protection device. In some cases, moving the inlet protection device a short distance upstream of the actual inlet can provide more efficient sediment control, limit ponding to desired areas, and prevent or control diversions.

- Six types of inlet protection are presented below. However, it is recognized that other effective methods and proprietary devices exist and may be selected.
  - Silt Fence: Appropriate for drainage basins with less than a 5% slope, sheet flows, and flows under 0.5 cfs.
  - Excavated Drop Inlet Sediment Trap: An excavated area around the inlet to trap sediment (SE-3).
  - Gravel bag barrier: Used to create a small sediment trap upstream of inlets on sloped, paved streets. Appropriate for sheet flow or when concentrated flow may exceed 0.5 cfs, and where overtopping is required to prevent flooding.
  - Block and Gravel Filter: Appropriate for flows greater than 0.5 cfs.
  - Temporary Geotextile Storm drain Inserts: Different products provide different features. Refer to manufacturer details for targeted pollutants and additional features.
  - Biofilter Bag Barrier: Used to create a small retention area upstream of inlets and can be located on pavement or soil. Biofilter bags slowly filter runoff allowing sediment to settle out. Appropriate for flows under 0.5 cfs.
- Select the appropriate type of inlet protection and design as referred to or as described in this fact sheet.
- Provide area around the inlet for water to pond without flooding structures and property.
- Grates and spaces around all inlets should be sealed to prevent seepage of sediment-laden water.
- Excavate sediment sumps (where needed) 1 to 2 ft with 2:1 side slopes around the inlet.

Installation

- ***DI Protection Type 1 - Silt Fence*** - Similar to constructing a silt fence; see BMP SE-1, Silt Fence. Do not place fabric underneath the inlet grate since the collected sediment may fall into the drain inlet when the fabric is removed or replaced and water flow through the grate will be blocked resulting in flooding. See typical Type 1 installation details at the end of this fact sheet.

  1. Excavate a trench approximately 6 in. wide and 6 in. deep along the line of the silt fence inlet protection device.
  2. Place 2 in. by 2 in. wooden stakes around the perimeter of the inlet a maximum of 3 ft apart and drive them at least 18 in. into the ground or 12 in. below the bottom of the trench. The stakes should be at least 48 in.
  3. Lay fabric along bottom of trench, up side of trench, and then up stakes. See SE-1, Silt Fence, for details. The maximum silt fence height around the inlet is 24 in.
  4. Staple the filter fabric (for materials and specifications, see SE-1, Silt Fence) to wooden stakes. Use heavy-duty wire staples at least 1 in. in length.

5. Backfill the trench with gravel or compacted earth all the way around.

- ***DI Protection Type 2 - Excavated Drop Inlet Sediment Trap*** - Install filter fabric fence in accordance with DI Protection Type 1. Size excavated trap to provide a minimum storage capacity calculated at the rate 67 yd^3/acre of drainage area. See typical Type 2 installation details at the end of this fact sheet.

- ***DI Protection Type 3 - Gravel bag*** - Flow from a severe storm should not overtop the curb. In areas of high clay and silts, use filter fabric and gravel as additional filter media. Construct gravel bags in accordance with SE-6, Gravel Bag Berm. Gravel bags should be used due to their high permeability. See typical Type 3 installation details at the end of this fact sheet.

  1. Construct on gently sloping street.

  2. Leave room upstream of barrier for water to pond and sediment to settle.

  3. Place several layers of gravel bags – overlapping the bags and packing them tightly together.

  4. Leave gap of one bag on the top row to serve as a spillway. Flow from a severe storm (e.g., 10 year storm) should not overtop the curb.

- ***DI Protection Type 4 – Block and Gravel Filter*** - Block and gravel filters are suitable for curb inlets commonly used in residential, commercial, and industrial construction. See typical Type 4 installation details at the end of this fact sheet.

  1. Place hardware cloth or comparable wire mesh with 0.5 in. openings over the drop inlet so that the wire extends a minimum of 1 ft beyond each side of the inlet structure. If more than one strip is necessary, overlap the strips. Place woven geotextile over the wire mesh.

  2. Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, so that the open ends face outward, not upward. The ends of adjacent blocks should abut. The height of the barrier can be varied, depending on design needs, by stacking combinations of blocks that are 4 in., 8 in., and 12 in. wide. The row of blocks should be at least 12 in. but no greater than 24 in. high.

  3. Place wire mesh over the outside vertical face (open end) of the concrete blocks to prevent stone from being washed through the blocks. Use hardware cloth or comparable wire mesh with 0.5 in. opening.

  4. Pile washed stone against the wire mesh to the top of the blocks. Use 0.75 to 3 in.

- ***DI Protection Type 5 – Temporary Geotextile Insert (proprietary)*** – Many types of temporary inserts are available. Most inserts fit underneath the grate of a drop inlet or inside of a curb inlet and are fastened to the outside of the grate or curb. These inserts are removable and many can be cleaned and reused. Installation of these inserts differs between manufacturers. Please refer to manufacturer instruction for installation of proprietary devices.

- ***DI Protection Type 6 - Biofilter bags*** – Biofilter bags may be used as a substitute for gravel bags in low-flow situations. Biofilter bags should conform to specifications detailed in SE-14, Biofilter bags.

  1. Construct in a gently sloping area.
  2. Biofilter bags should be placed around inlets to intercept runoff flows.
  3. All bag joints should overlap by 6 in.
  4. Leave room upstream for water to pond and for sediment to settle out.
  5. Stake bags to the ground as described in the following detail. Stakes may be omitted if bags are placed on a paved surface.

Costs

- Average annual cost for installation and maintenance of DI Type 1-4 and 6 (one year useful life) is $200 per inlet.
- Temporary geotextile inserts are proprietary and cost varies by region. These inserts can often be reused and may have greater than 1 year of use if maintained and kept undamaged. Average cost per insert ranges from $50-75 plus installation, but costs can exceed $100. This cost does not include maintenance.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Silt Fences. If the fabric becomes clogged, torn, or degrades, it should be replaced. Make sure the stakes are securely driven in the ground and are in good shape (i.e., not bent, cracked, or splintered, and are reasonably perpendicular to the ground). Replace damaged stakes. At a minimum, remove the sediment behind the fabric fence when accumulation reaches one-third the height of the fence or barrier height.
- Gravel Filters. If the gravel becomes clogged with sediment, it should be carefully removed from the inlet and either cleaned or replaced. Since cleaning gravel at a construction site may be difficult, consider using the sediment-laden stone as fill material and put fresh stone around the inlet. Inspect bags for holes, gashes, and snags, and replace bags as needed. Check gravel bags for proper arrangement and displacement.
- Sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height.
- Inspect and maintain temporary geotextile insert devices according to manufacturer's specifications.
- Remove storm drain inlet protection once the drainage area is stabilized.

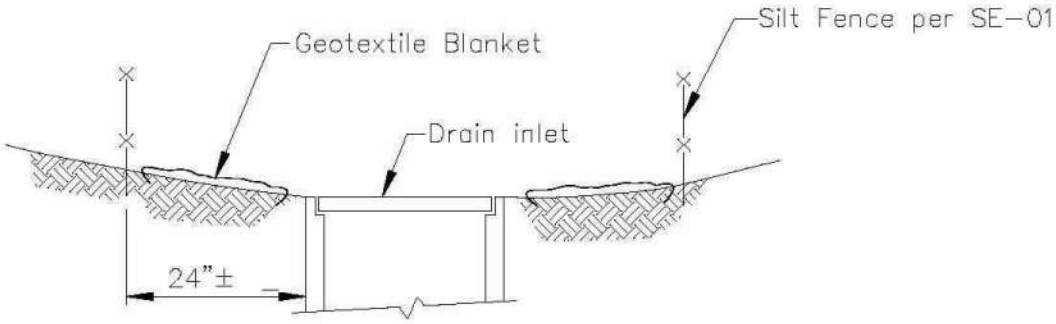
- Clean and regrade area around the inlet and clean the inside of the storm drain inlet, as it should be free of sediment and debris at the time of final inspection.

References

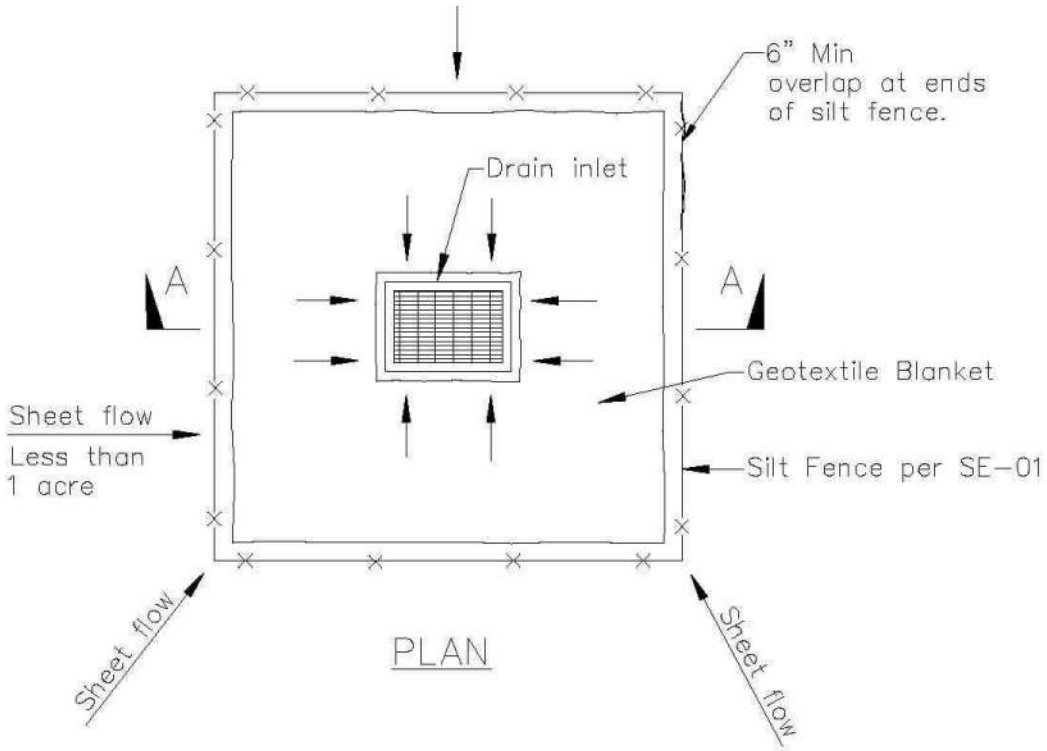
Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management Manual for The Puget Sound Basin, Washington State Department of Ecology, Public Review Draft, 1991.

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.



SECTION A–A

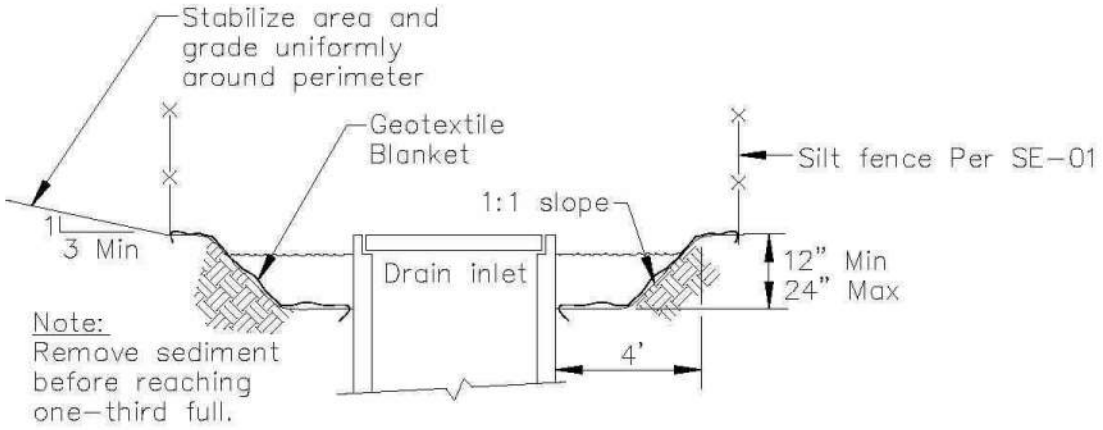


PLAN

DI PROTECTION TYPE 1
NOT TO SCALE

NOTES:

1. For use in areas where grading has been completed and final soil stabilization and seeding are pending.
2. Not applicable in paved areas.
3. Not applicable with concentrated flows.



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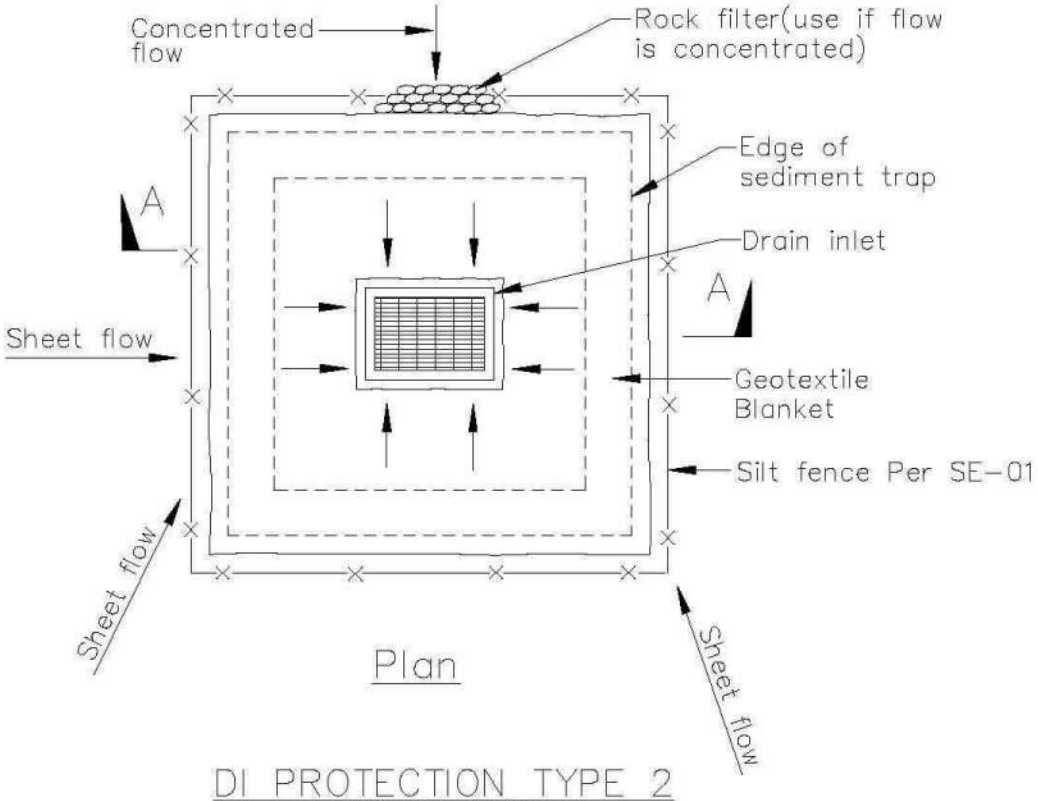
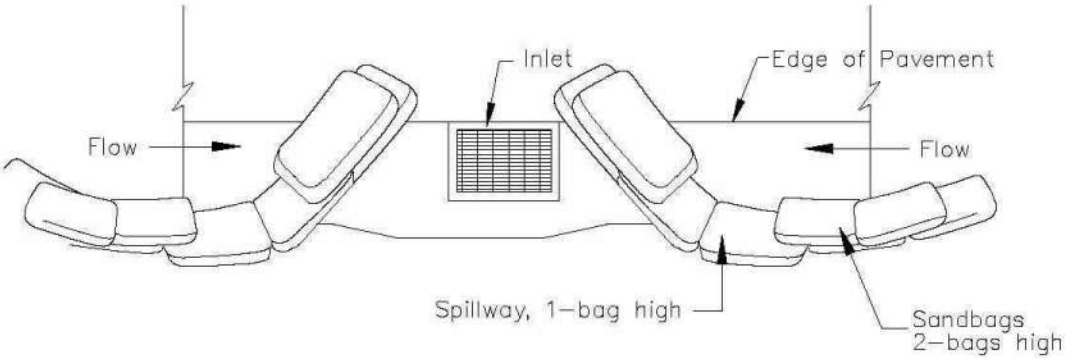


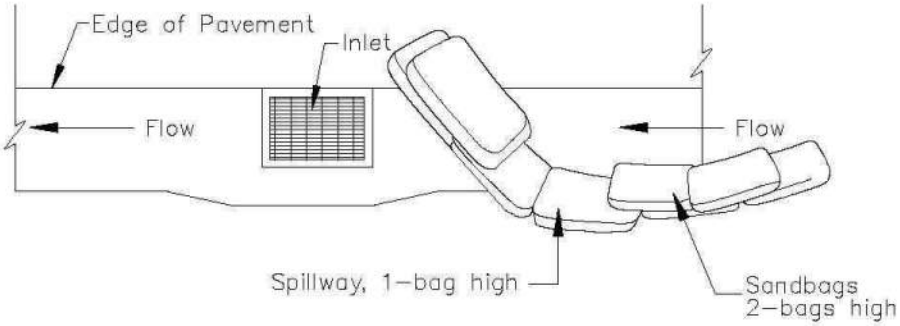
Plan

DI PROTECTION TYPE 2
NOT TO SCALE

Notes
1. For use in cleared and grubbed and in graded areas.
2. Shape basin so that longest inflow area faces longest length of trap.
3. For concentrated flows, shape basin in 2:1 ratio with length oriented towards direction of flow.



TYPICAL PROTECTION FOR INLET ON SUMP

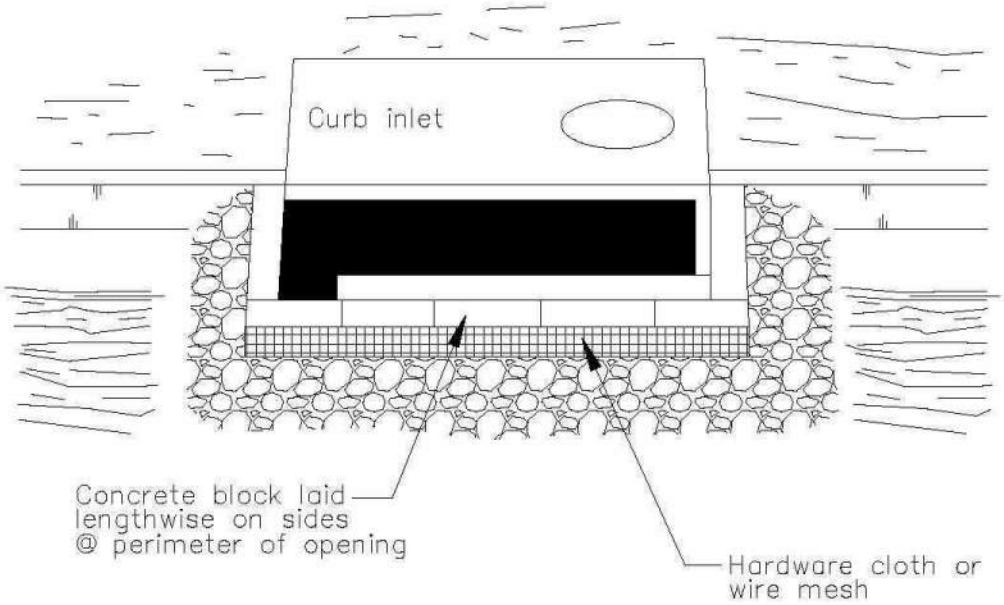


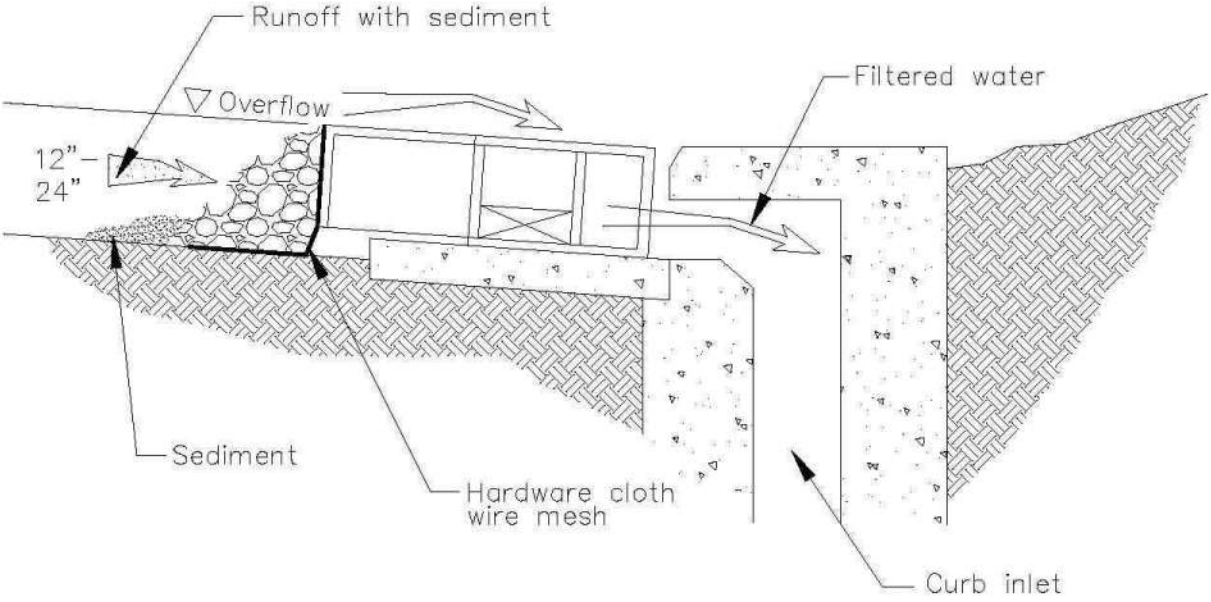
TYPICAL PROTECTION FOR INLET ON GRADE

NOTES:

1. Intended for short-term use.
2. Use to inhibit non-storm water flow.
3. Allow for proper maintenance and cleanup.
4. Bags must be removed after adjacent operation is completed
5. Not applicable in areas with high silts and clays without filter fabric.

DI PROTECTION TYPE 3
NOT TO SCALE

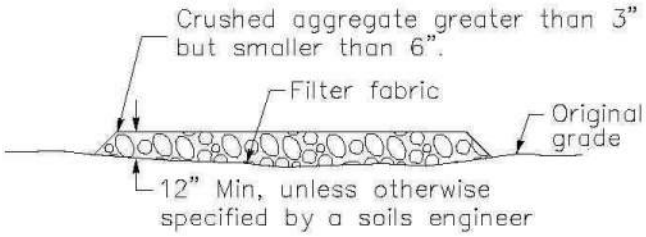




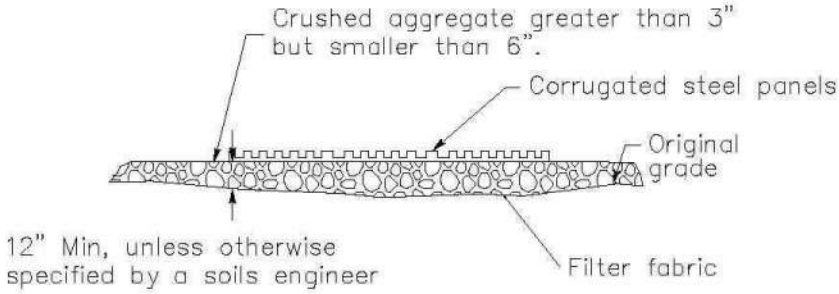
DI PROTECTION – TYPE 4

NOT TO SCALE

Stabilized Construction Entrance/Exit TC-1



SECTION B–B
NTS



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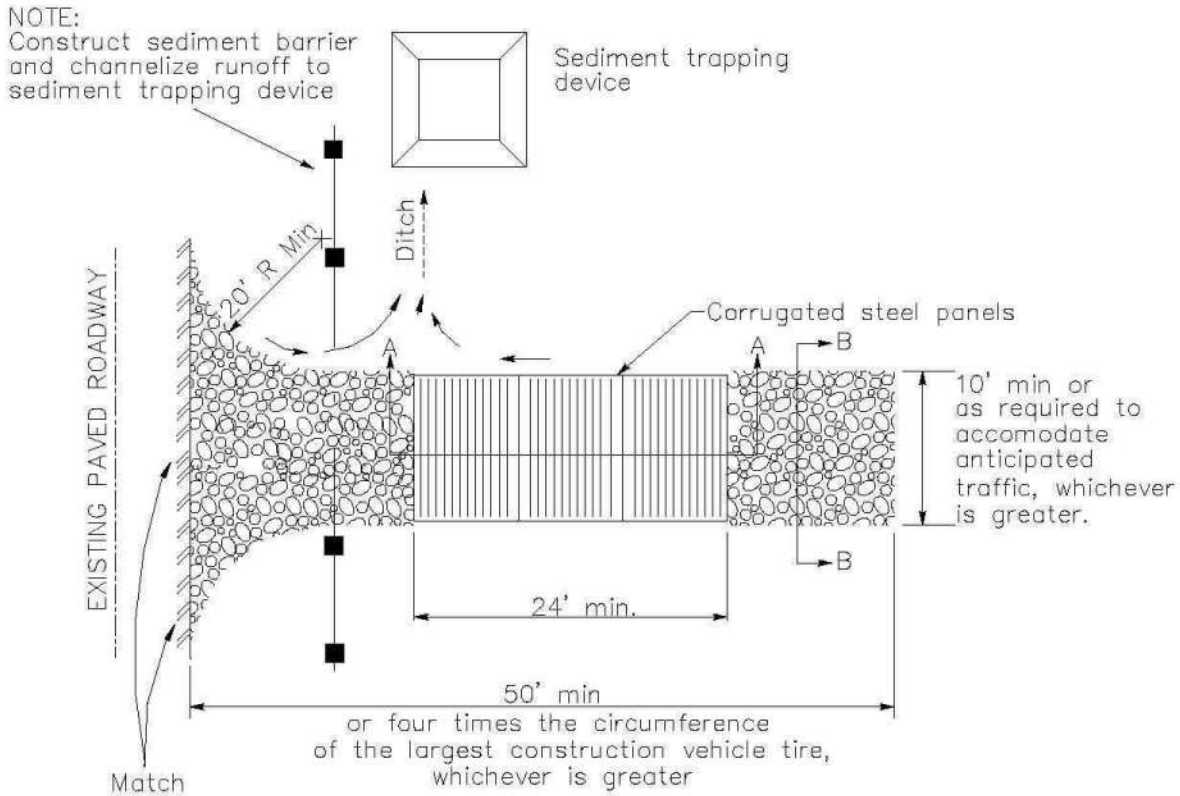
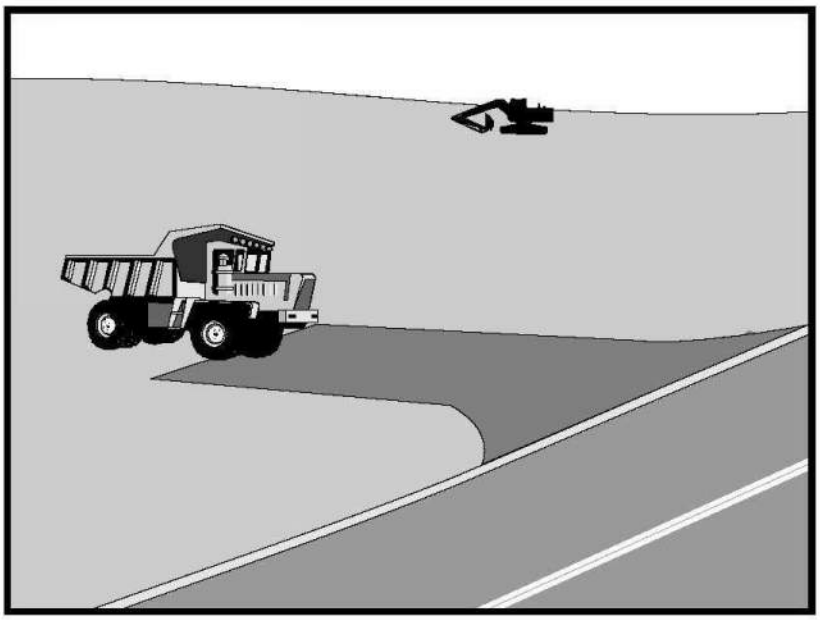


PLAN
NTS

Stabilized Construction Entrance/Exit TC-1



Categories

EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

Description and Purpose

A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

Suitable Applications

Use at construction sites:

- Where dirt or mud can be tracked onto public roads.
- Adjacent to water bodies.
- Where poor soils are encountered.
- Where dust is a problem during dry weather conditions.

Limitations

- Entrances and exits require periodic top dressing with additional stones.
- This BMP should be used in conjunction with street sweeping on adjacent public right of way.
- Entrances and exits should be constructed on level ground only.
- Stabilized construction entrances are rather expensive to construct and when a wash rack is included, a sediment trap of some kind must also be provided to collect wash water

runoff.

Implementation

General

A stabilized construction entrance is a pad of aggregate underlain with filter cloth located at any point where traffic will be entering or leaving a construction site to or from a public right of way, street, alley, sidewalk, or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking of sediment onto public rights of way or streets. Reducing tracking of sediments and other pollutants onto paved roads helps prevent deposition of sediments into local storm drains and production of airborne dust.

Where traffic will be entering or leaving the construction site, a stabilized construction entrance should be used. NPDES permits require that appropriate measures be implemented to prevent tracking of sediments onto paved roadways, where a significant source of sediments is derived from mud and dirt carried out from unpaved roads and construction sites.

Stabilized construction entrances are moderately effective in removing sediment from equipment leaving a construction site. The entrance should be built on level ground. Advantages of the Stabilized Construction Entrance/Exit is that it does remove some sediment from equipment and serves to channel construction traffic in and out of the site at specified locations. Efficiency is greatly increased when a washing rack is included as part of a stabilized construction entrance/exit.

Design and Layout

- Construct on level ground where possible.
- Select 3 to 6 in. diameter stones.
- Use minimum depth of stones of 12 in. or as recommended by soils engineer.
- Construct length of 50 ft minimum, and 30 ft minimum width.
- Rumble racks constructed of steel panels with ridges and installed in the stabilized entrance/exit will help remove additional sediment and to keep adjacent streets clean.
- Provide ample turning radii as part of the entrance.
- Limit the points of entrance/exit to the construction site.
- Limit speed of vehicles to control dust.
- Properly grade each construction entrance/exit to prevent runoff from leaving the construction site.
- Route runoff from stabilized entrances/exits through a sediment trapping device before discharge.
- Design stabilized entrance/exit to support heaviest vehicles and equipment that will use it.

- Select construction access stabilization (aggregate, asphaltic concrete, concrete) based on longevity, required performance, and site conditions. Do not use asphalt concrete (AC) grindings for stabilized construction access/roadway.
- If aggregate is selected, place crushed aggregate over geotextile fabric to at least 12 in. depth, or place aggregate to a depth recommended by a geotechnical engineer. A crushed aggregate greater than 3 in. but smaller than 6 in. should be used.
- Designate combination or single purpose entrances and exits to the construction site.
- Require that all employees, subcontractors, and suppliers utilize the stabilized construction access.
- Implement SE-7, Street Sweeping and Vacuuming, as needed.
- All exit locations intended to be used for more than a two-week period should have stabilized construction entrance/exit BMPs.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMPs are under way, inspect weekly during the rainy season and of two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect local roads adjacent to the site daily. Sweep or vacuum to remove visible accumulated sediment.
- Remove aggregate, separate and dispose of sediment if construction entrance/exit is clogged with sediment.
- Keep all temporary roadway ditches clear.
- Check for damage and repair as needed.
- Replace gravel material when surface voids are visible.
- Remove all sediment deposited on paved roadways within 24 hours.
- Remove gravel and filter fabric at completion of construction

Costs

Average annual cost for installation and maintenance may vary from $1,200 to $4,800 each, averaging $2,400 per entrance. Costs will increase with addition of washing rack, and sediment trap. With wash rack, costs range from $1,200 - $6,000 each, averaging $3,600 per entrance.

References

Manual of Standards of Erosion and Sediment Control Measures, Association of Bay Area Governments, May 1995.

National Management Measures to Control Nonpoint Source Pollution from Urban Areas, USEPA Agency, 2002.

Proposed Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, Work Group Working Paper, USEPA, April 1992.

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

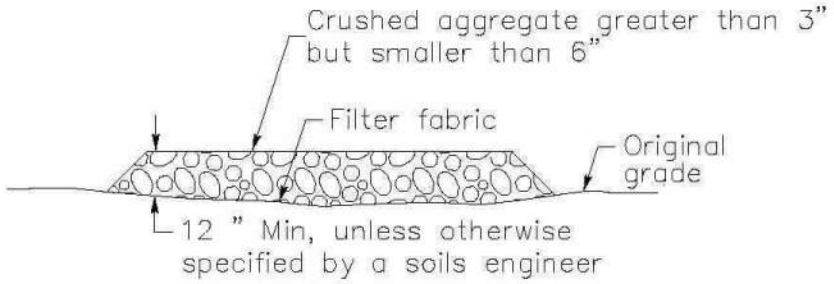
Stormwater Management of the Puget Sound Basin, Technical Manual, Publication #91-75, Washington State Department of Ecology, February 1992.

Virginia Erosion and Sedimentation Control Handbook, Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation, 1991.

Guidance Specifying Management Measures for Nonpoint Pollution in Coastal Waters, EPA 840-B-9-002, USEPA, Office of Water, Washington, DC, 1993.

Water Quality Management Plan for the Lake Tahoe Region, Volume II, Handbook of Management Practices, Tahoe Regional Planning Agency, November 1988.

Stabilized Construction Entrance/Exit TC-1



SECTION B–B
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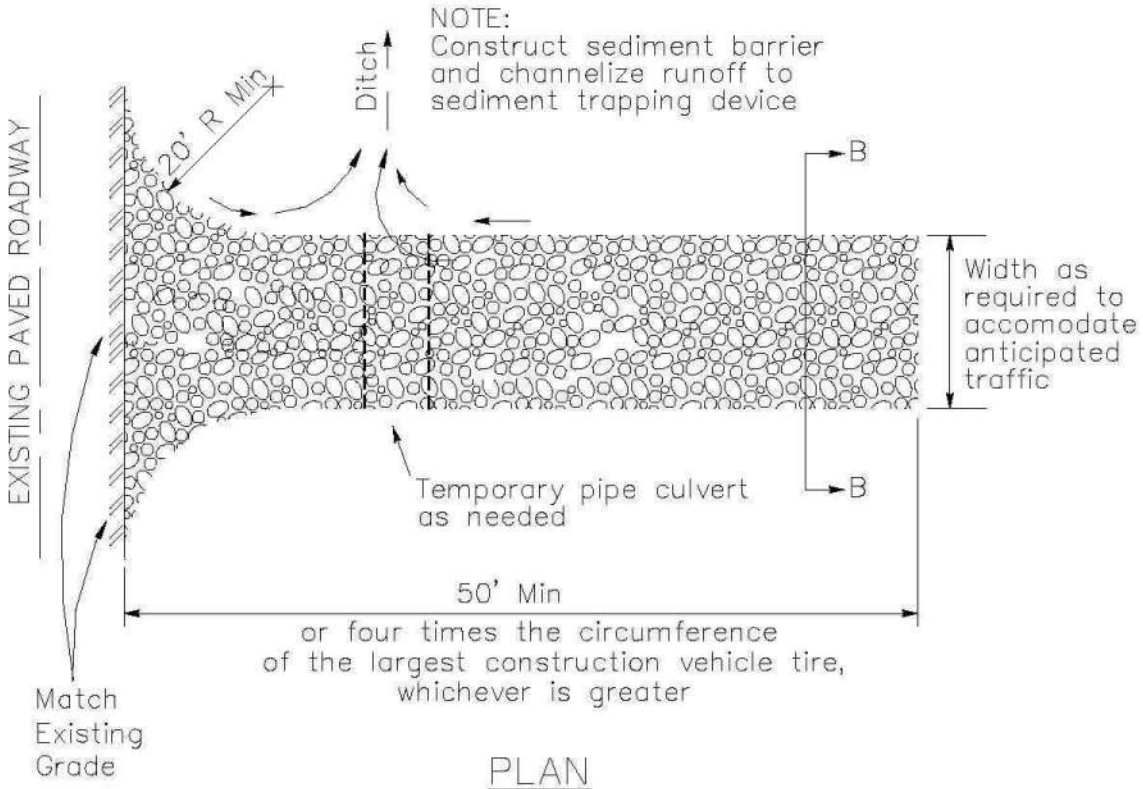
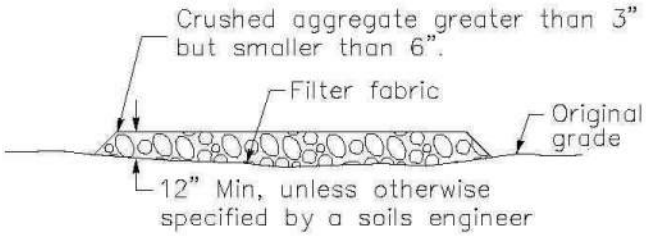


PLAN
NTS

Stabilized Construction Entrance/Exit TC-1



SECTION B–B
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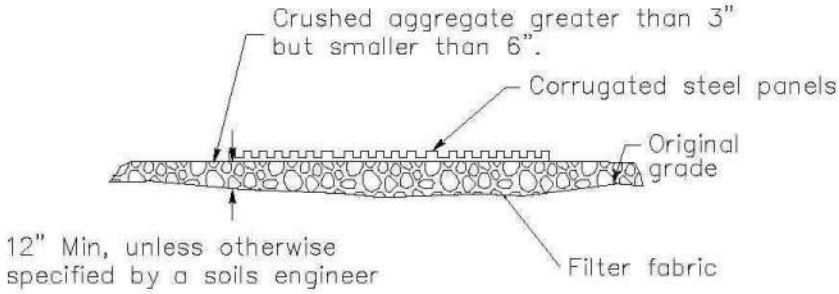
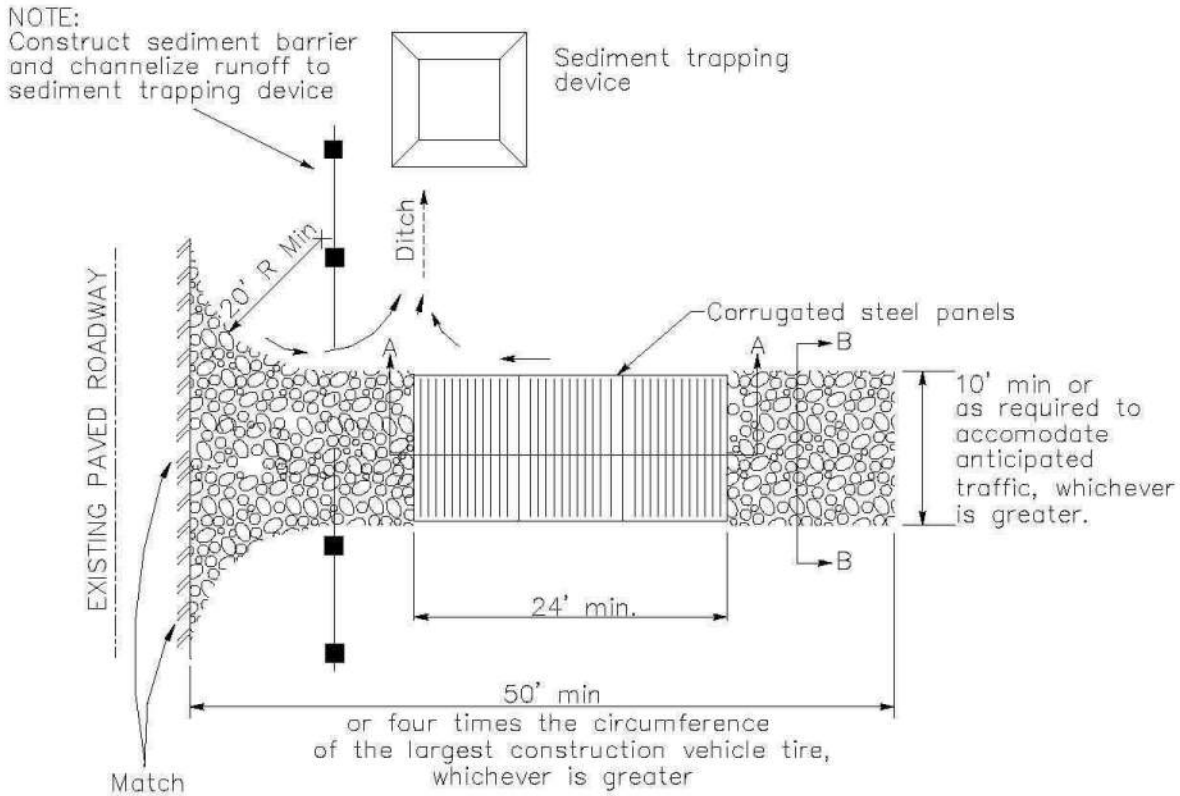
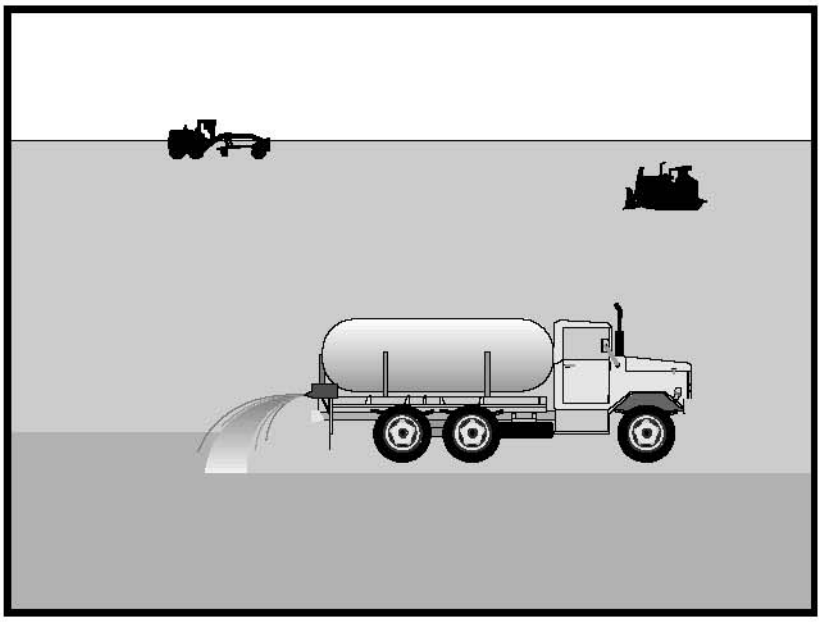


SECTION A–A
NOT TO SCALE



PLAN
NTS

Wind Erosion Control WE-1



Categories		
EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	☑
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

EC-5 Soil Binders

Description and Purpose

Wind erosion or dust control consists of applying water or other chemical dust suppressants as necessary to prevent or alleviate dust nuisance generated by construction activities. Covering small stockpiles or areas is an alternative to applying water or other dust palliatives.

California's Mediterranean climate, with a short "wet" season and a typically long, hot "dry" season, allows the soils to thoroughly dry out. During the dry season, construction activities are at their peak, and disturbed and exposed areas are increasingly subject to wind erosion, sediment tracking and dust generated by construction equipment. Site conditions and climate can make dust control more of an erosion problem than water based erosion. Additionally, many local agencies, including Air Quality Management Districts, require dust control and/or dust control permits in order to comply with local nuisance laws, opacity laws (visibility impairment) and the requirements of the Clean Air Act. Wind erosion control is required to be implemented at all construction sites greater than 1 acre by the General Permit.

Suitable Applications

Most BMPs that provide protection against water-based erosion will also protect against wind-based erosion and dust control requirements required by other agencies will generally meet wind erosion control requirements for water quality protection. Wind erosion control BMPs are suitable during the following construction activities:

- Construction vehicle traffic on unpaved roads
- Drilling and blasting activities
- Soils and debris storage piles
- Batch drop from front-end loaders
- Areas with unstabilized soil
- Final grading/site stabilization

Limitations

- Watering prevents dust only for a short period (generally less than a few hours) and should be applied daily (or more often) to be effective.
- Over watering may cause erosion and track-out.
- Oil or oil-treated subgrade should not be used for dust control because the oil may migrate into drainageways and/or seep into the soil.
- Chemical dust suppression agents may have potential environmental impacts. Selected chemical dust control agents should be environmentally benign.
- Effectiveness of controls depends on soil, temperature, humidity, wind velocity and traffic.
- Chemical dust suppression agents should not be used within 100 feet of wetlands or water bodies.
- Chemically treated subgrades may make the soil water repellant, interfering with long-term infiltration and the vegetation/re-vegetation of the site. Some chemical dust suppressants may be subject to freezing and may contain solvents and should be handled properly.
- In compacted areas, watering and other liquid dust control measures may wash sediment or other constituents into the drainage system.
- If the soil surface has minimal natural moisture, the affected area may need to be pre-wetted so that chemical dust control agents can uniformly penetrate the soil surface.

Implementation

Dust Control Practices

Dust control BMPs generally stabilize exposed surfaces and minimize activities that suspend or track dust particles. The following table presents dust control practices that can be applied to varying site conditions that could potentially cause dust. For heavily traveled and disturbed areas, wet suppression (watering), chemical dust suppression, gravel asphalt surfacing, temporary gravel construction entrances, equipment wash-out areas, and haul truck covers can be employed as dust control applications. Permanent or temporary vegetation and mulching can be employed for areas of occasional or no construction traffic. Preventive measures include minimizing surface areas to be disturbed, limiting onsite vehicle traffic to 15 mph or less, and controlling the number and activity of vehicles on a site at any given time.

Chemical dust suppressants include: mulch and fiber based dust palliatives (e.g. paper mulch with gypsum binder), salts and brines (e.g. calcium chloride, magnesium chloride), non-petroleum based organics (e.g. vegetable oil, lignosulfonate), petroleum based organics (e.g. asphalt emulsion, dust oils, petroleum resins), synthetic polymers (e.g. polyvinyl acetate, vinyls, acrylic), clay additives (e.g. bentonite, montimorillonite) and electrochemical products (e.g. enzymes, ionic products).

Site Condition	Dust Control Practices							
	Permanent Vegetation	Mulching	Wet Suppression (Watering)	Chemical Dust Suppression	Gravel or Asphalt	Temporary Gravel Construction Entrances/Equipment Wash Down	Synthetic Covers	Minimize Extent of Disturbed Area
Disturbed Areas not Subject to Traffic	X	X	X	X	X			X
Disturbed Areas Subject to Traffic			X	X	X	X		X
Material Stockpiles		X	X	X			X	X
Demolition			X			X	X	
Clearing/ Excavation			X	X				X
Truck Traffic on Unpaved Roads			X	X	X	X	X	
Tracking					X	X		

Additional preventive measures include:

- Schedule construction activities to minimize exposed area (see EC-1, Scheduling).
- Quickly treat exposed soils using water, mulching, chemical dust suppressants, or stone/gravel layering.
- Identify and stabilize key access points prior to commencement of construction.
- Minimize the impact of dust by anticipating the direction of prevailing winds.
- Restrict construction traffic to stabilized roadways within the project site, as practicable.
- Water should be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- All distribution equipment should be equipped with a positive means of shutoff.
- Unless water is applied by means of pipelines, at least one mobile unit should be available at all times to apply water or dust palliative to the project.
- If reclaimed waste water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the Regional Water Quality

Control Board (RWQCB) requirements. Non-potable water should not be conveyed in tanks or drain pipes that will be used to convey potable water and there should be no connection between potable and non-potable supplies. Non-potable tanks, pipes, and other conveyances should be marked, "NON-POTABLE WATER - DO NOT DRINK."

- Pave or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.
- Provide covers for haul trucks transporting materials that contribute to dust.
- Provide for rapid clean up of sediments deposited on paved roads. Furnish stabilized construction road entrances and wheel wash areas.
- Stabilize inactive areas of construction sites using temporary vegetation or chemical stabilization methods.

For chemical stabilization, there are many products available for chemically stabilizing gravel roadways and stockpiles. If chemical stabilization is used, the chemicals should not create any adverse effects on stormwater, plant life, or groundwater and should meet all applicable regulatory requirements.

Costs

Installation costs for water and chemical dust suppression vary based on the method used and the length of effectiveness. Annual costs may be high since some of these measures are effective for only a few hours to a few days.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Check areas protected to ensure coverage.
- Most water-based dust control measures require frequent application, often daily or even multiple times per day. Obtain vendor or independent information on longevity of chemical dust suppressants.

References

Best Management Practices and Erosion Control Manual for Construction Sites, Flood Control District of Maricopa County, Arizona, September 1992.

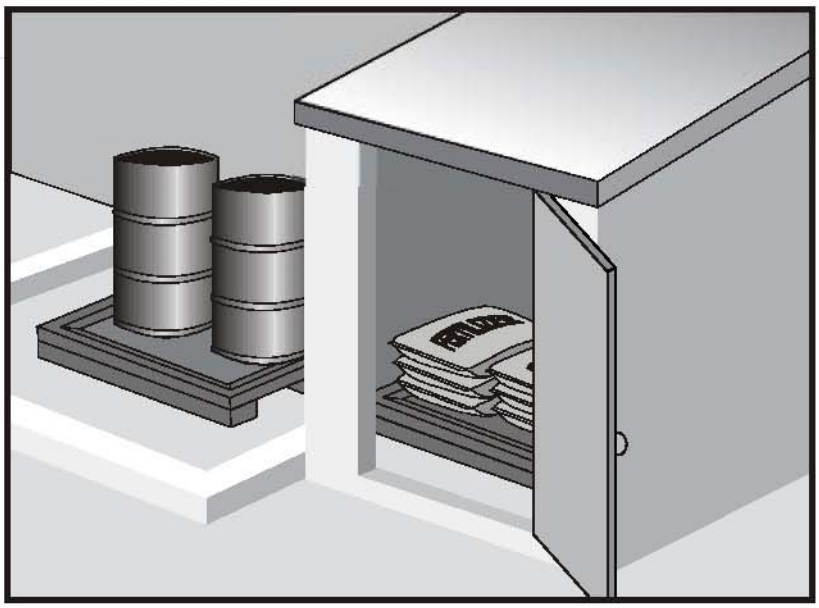
California Air Pollution Control Laws, California Air Resources Board, updated annually.

Construction Manual, Chapter 4, Section 10, "Dust Control"; Section 17, "Watering"; and Section 18, "Dust Palliative", California Department of Transportation (Caltrans), July 2001.

Prospects for Attaining the State Ambient Air Quality Standards for Suspended Particulate Matter (PM10), Visibility Reducing Particles, Sulfates, Lead, and Hydrogen Sulfide, California Air Resources Board, April 1991.

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Material Delivery and Storage WM-1



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Prevent, reduce, or eliminate the discharge of pollutants from material delivery and storage to the stormwater system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in watertight containers and/or a completely enclosed designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors.

This best management practice covers only material delivery and storage. For other information on materials, see WM-2, Material Use, or WM-4, Spill Prevention and Control. For information on wastes, see the waste management BMPs in this section.

Suitable Applications

These procedures are suitable for use at all construction sites with delivery and storage of the following materials:

- Soil stabilizers and binders
- Pesticides and herbicides
- Fertilizers
- Detergents
- Plaster
- Petroleum products such as fuel, oil, and grease

- Asphalt and concrete components
- Hazardous chemicals such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Concrete compounds
- Other materials that may be detrimental if released to the environment

Limitations

- Space limitation may preclude indoor storage.
- Storage sheds often must meet building and fire code requirements.

Implementation

The following steps should be taken to minimize risk:

- Chemicals must be stored in water tight containers with appropriate secondary containment or in a storage shed.
- When a material storage area is located on bare soil, the area should be lined and bermed.
- Use containment pallets or other practical and available solutions, such as storing materials within newly constructed buildings or garages, to meet material storage requirements.
- Stack erodible landscape material on pallets and cover when not in use.
- Contain all fertilizers and other landscape materials when not in use.
- Temporary storage areas should be located away from vehicular traffic.
- Material Safety Data Sheets (MSDS) should be available on-site for all materials stored that have the potential to effect water quality.
- Construction site areas should be designated for material delivery and storage.
- Material delivery and storage areas should be located away from waterways, if possible.
    - Avoid transport near drainage paths or waterways.
    - Surround with earth berms or other appropriate containment BMP. See EC-9, Earth Dikes and Drainage Swales.
    - Place in an area that will be paved.
- Storage of reactive, ignitable, or flammable liquids must comply with the fire codes of your area. Contact the local Fire Marshal to review site materials, quantities, and proposed storage area to determine specific requirements. See the Flammable and Combustible Liquid Code, NFPA30.
- An up to date inventory of materials delivered and stored onsite should be kept.

- Hazardous materials storage onsite should be minimized.
- Hazardous materials should be handled as infrequently as possible.
- Keep ample spill cleanup supplies appropriate for the materials being stored. Ensure that cleanup supplies are in a conspicuous, labeled area.
- Employees and subcontractors should be trained on the proper material delivery and storage practices.
- Employees trained in emergency spill cleanup procedures must be present when dangerous materials or liquid chemicals are unloaded.
- If significant residual materials remain on the ground after construction is complete, properly remove and dispose of materials and any contaminated soil. See WM-7, Contaminated Soil Management. If the area is to be paved, pave as soon as materials are removed to stabilize the soil.

Material Storage Areas and Practices

- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 should be stored in approved containers and drums and should not be overfilled. Containers and drums should be placed in temporary containment facilities for storage.
- A temporary containment facility should provide for a spill containment volume able to contain precipitation from a 25 year storm event, plus the greater of 10% of the aggregate volume of all containers or 100% of the capacity of the largest container within its boundary, whichever is greater.
- A temporary containment facility should be impervious to the materials stored therein for a minimum contact time of 72 hours.
- A temporary containment facility should be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills should be collected and placed into drums. These liquids should be handled as a hazardous waste unless testing determines them to be non-hazardous. All collected liquids or non-hazardous liquids should be sent to an approved disposal site.
- Sufficient separation should be provided between stored containers to allow for spill cleanup and emergency response access.
- Incompatible materials, such as chlorine and ammonia, should not be stored in the same temporary containment facility.
- Materials should be covered prior to, and during rain events.
- Materials should be stored in their original containers and the original product labels should be maintained in place in a legible condition. Damaged or otherwise illegible labels should be replaced immediately.

- Bagged and boxed materials should be stored on pallets and should not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials should be covered during non-working days and prior to and during rain events.
- Stockpiles should be protected in accordance with WM-3, Stockpile Management.
- Materials should be stored indoors within existing structures or completely enclosed storage sheds when available.
- Proper storage instructions should be posted at all times in an open and conspicuous location.
- An ample supply of appropriate spill clean up material should be kept near storage areas.
- Also see WM-6, Hazardous Waste Management, for storing of hazardous wastes.

Material Delivery Practices

- Keep an accurate, up-to-date inventory of material delivered and stored onsite.
- Arrange for employees trained in emergency spill cleanup procedures to be present when dangerous materials or liquid chemicals are unloaded.

Spill Cleanup

- Contain and clean up any spill immediately.
- Properly remove and dispose of any hazardous materials or contaminated soil if significant residual materials remain on the ground after construction is complete. See WM-7, Contaminated Soil Management.
- See WM-4, Spill Prevention and Control, for spills of chemicals and/or hazardous materials.
- If spills or leaks of materials occur that are not contained and could discharge to surface waters, non-visible sampling of site discharge may be required. Refer to the General Permit or to your project specific Construction Site Monitoring Plan to determine if and where sampling is required.

Cost

- The largest cost of implementation may be in the construction of a materials storage area that is covered and provides secondary containment.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Keep storage areas clean and well organized, including a current list of all materials onsite.
- Inspect labels on containers for legibility and accuracy.

- Repair or replace perimeter controls, containment structures, covers, and liners as needed to maintain proper function.

References

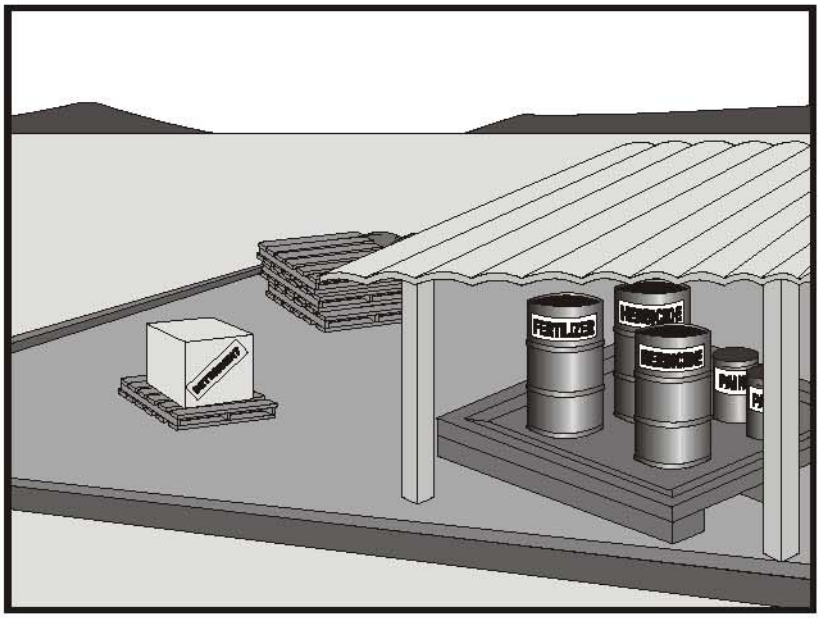
Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance, Working Group Working Paper; USEPA, April 1992.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Material Use WM-2



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Prevent or reduce the discharge of pollutants to the storm drain system or watercourses from material use by using alternative products, minimizing hazardous material use onsite, and training employees and subcontractors.

Suitable Applications

This BMP is suitable for use at all construction projects. These procedures apply when the following materials are used or prepared onsite:

- Pesticides and herbicides
- Fertilizers
- Detergents
- Petroleum products such as fuel, oil, and grease
- Asphalt and other concrete components
- Other hazardous chemicals such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Other materials that may be detrimental if released to the environment

Limitations

Safer alternative building and construction products may not be available or suitable in every instance.

Implementation

The following steps should be taken to minimize risk:

- Minimize use of hazardous materials onsite.
- Follow manufacturer instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals.
- Train personnel who use pesticides. The California Department of Pesticide Regulation and county agricultural commissioners license pesticide dealers, certify pesticide applicators, and conduct onsite inspections.
- The preferred method of termiticide application is soil injection near the existing or proposed structure foundation/slab; however, if not feasible, soil drench application of termiticides should follow EPA label guidelines and the following recommendations (most of which are applicable to most pesticide applications):
  - Do not treat soil that is water-saturated or frozen.
  - Application shall not commence within 24-hours of a predicted precipitation event with a 40% or greater probability. Weather tracking must be performed on a daily basis prior to termiticide application and during the period of termiticide application.
  - Do not allow treatment chemicals to runoff from the target area. Apply proper quantity to prevent excess runoff. Provide containment for and divert stormwater from application areas using berms or diversion ditches during application.
  - Dry season: Do not apply within 10 feet of storm drains. Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or ponds; estuaries; and commercial fish farm ponds).
  - Wet season: Do not apply within 50 feet of storm drains or aquatic habitats (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or ponds; estuaries; and commercial fish farm ponds) unless a vegetative buffer is present (if so, refer to dry season requirements).
  - Do not make on-grade applications when sustained wind speeds are above 10 mph (at application site) at nozzle end height.
  - Cover treatment site prior to a rain event in order to prevent run-off of the pesticide into non-target areas. The treated area should be limited to a size that can be backfilled and/or covered by the end of the work shift. Backfilling or covering of the treated area shall be done by the end of the same work shift in which the application is made.
  - The applicator must either cover the soil him/herself or provide written notification of the above requirement to the contractor on site and to the person commissioning the

application (if different than the contractor). If notice is provided to the contractor or the person commissioning the application, then they are responsible under the Federal Insecticide Fungicide, and Rodenticide Act (FIFRA) to ensure that: 1) if the concrete slab cannot be poured over the treated soil within 24 hours of application, the treated soil is covered with a waterproof covering (such as polyethylene sheeting), and 2) the treated soil is covered if precipitation is predicted to occur before the concrete slab is scheduled to be poured.

- Do not over-apply fertilizers, herbicides, and pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Over-application is expensive and environmentally harmful. Unless on steep slopes, till fertilizers into the soil rather than hydraulic application. Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried offsite by runoff. Do not apply these chemicals before predicted rainfall.
- Train employees and subcontractors in proper material use.
- Supply Material Safety Data Sheets (MSDS) for all materials.
- Dispose of latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and are no longer hazardous, with other construction debris.
- Do not remove the original product label; it contains important safety and disposal information. Use the entire product before disposing of the container.
- Mix paint indoors or in a containment area. Never clean paintbrushes or rinse paint containers into a street, gutter, storm drain, or watercourse. Dispose of any paint thinners, residue, and sludge(s) that cannot be recycled, as hazardous waste.
- For water-based paint, clean brushes to the extent practicable, and rinse to a drain leading to a sanitary sewer where permitted, or contain for proper disposal off site. For oil-based paints, clean brushes to the extent practicable, and filter and reuse thinners and solvents.
- Use recycled and less hazardous products when practical. Recycle residual paints, solvents, non-treated lumber, and other materials.
- Use materials only where and when needed to complete the construction activity. Use safer alternative materials as much as possible. Reduce or eliminate use of hazardous materials onsite when practical.
- Document the location, time, chemicals applied, and applicator's name and qualifications.
- Keep an ample supply of spill clean up material near use areas. Train employees in spill clean up procedures.
- Avoid exposing applied materials to rainfall and runoff unless sufficient time has been allowed for them to dry.
- Discontinue use of erodible landscape material within 2 days prior to a forecasted rain event and materials should be covered and/or bermed.

- Provide containment for material use areas such as masons' areas or paint mixing/preparation areas to prevent materials/pollutants from entering stormwater.

Costs

All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Ensure employees and subcontractors throughout the job are using appropriate practices.

References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

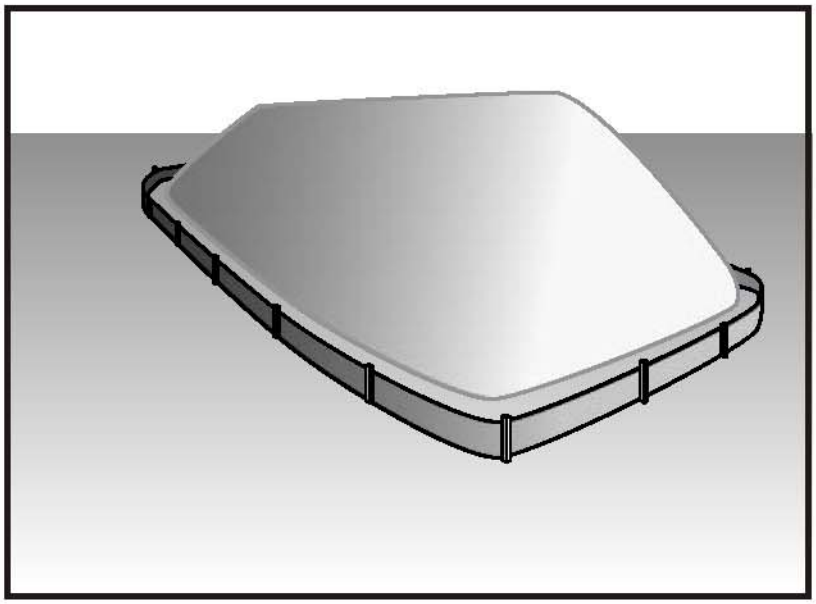
Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance, Working Group Working Paper; USEPA, April 1992.

Comments on Risk Assessments Risk Reduction Options for Cypermethrin: Docket No. OPP–2005–0293; California Stormwater Quality Association (CASQA) letter to USEPA, 2006.Environmental Hazard and General Labeling for Pyrethroid Non-Agricultural Outdoor Products, EPA-HQ-OPP-2008-0331-0021; USEPA, 2008.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Stockpile Management WM-3



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Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, soil amendments, sand, paving materials such as portland cement concrete (PCC) rubble, asphalt concrete (AC), asphalt concrete rubble, aggregate base, aggregate sub base or pre-mixed aggregate, asphalt minder (so called "cold mix" asphalt), and pressure treated wood.

Suitable Applications

Implement in all projects that stockpile soil and other loose materials.

Limitations

- Plastic sheeting as a stockpile protection is temporary and hard to manage in windy conditions. Where plastic is used, consider use of plastic tarps with nylon reinforcement which may be more durable than standard sheeting.
- Plastic sheeting can increase runoff volume due to lack of infiltration and potentially cause perimeter control failure.
- Plastic sheeting breaks down faster in sunlight.
- The use of Plastic materials and photodegradable plastics should be avoided.

Implementation

Protection of stockpiles is a year-round requirement. To properly manage stockpiles:

- On larger sites, a minimum of 50 ft separation from concentrated flows of stormwater, drainage courses, and inlets is recommended.
- All stockpiles are required to be protected immediately if they are not scheduled to be used within 14 days.
- Protect all stockpiles from stormwater runon using temporary perimeter sediment barriers such as compost berms (SE-13), temporary silt dikes (SE-12), fiber rolls (SE-5), silt fences (SE-1), sandbags (SE-8), gravel bags (SE-6), or biofilter bags (SE-14). Refer to the individual fact sheet for each of these controls for installation information.
- Implement wind erosion control practices as appropriate on all stockpiled material. For specific information, see WE-1, Wind Erosion Control.
- Manage stockpiles of contaminated soil in accordance with WM-7, Contaminated Soil Management.
- Place bagged materials on pallets and under cover.
- Ensure that stockpile coverings are installed securely to protect from wind and rain.
- Some plastic covers withstand weather and sunlight better than others. Select cover materials or methods based on anticipated duration of use.

Protection of Non-Active Stockpiles

Non-active stockpiles of the identified materials should be protected further as follows:

Soil stockpiles

- Soil stockpiles should be covered or protected with soil stabilization measures and a temporary perimeter sediment barrier at all times.
- Temporary vegetation should be considered for topsoil piles that will be stockpiled for extended periods.

Stockpiles of Portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, or aggregate sub base

- Stockpiles should be covered and protected with a temporary perimeter sediment barrier at all times.

Stockpiles of "cold mix"

- Cold mix stockpiles should be placed on and covered with plastic sheeting or comparable material at all times and surrounded by a berm.

Stockpiles of fly ash, stucco, hydrated lime

- Stockpiles of materials that may raise the pH of runoff (i.e., basic materials) should be covered with plastic and surrounded by a berm.

Stockpiles/Storage of wood (Pressure treated with chromated copper arsenate or ammoniacal copper zinc arsenate

- Treated wood should be covered with plastic sheeting or comparable material at all times and surrounded by a berm.

Protection of Active Stockpiles

Active stockpiles of the identified materials should be protected as follows:

- All stockpiles should be covered and protected with a temporary linear sediment barrier prior to the onset of precipitation.
- Stockpiles of "cold mix" and treated wood, and basic materials should be placed on and covered with plastic sheeting or comparable material and surrounded by a berm prior to the onset of precipitation.
- The downstream perimeter of an active stockpile should be protected with a linear sediment barrier or berm and runoff should be diverted around or away from the stockpile on the upstream perimeter.

Costs

For cost information associated with stockpile protection refer to the individual erosion or sediment control BMP fact sheet considered for implementation (For example, refer to SE-1 Silt Fence for installation of silt fence around the perimeter of a stockpile.)

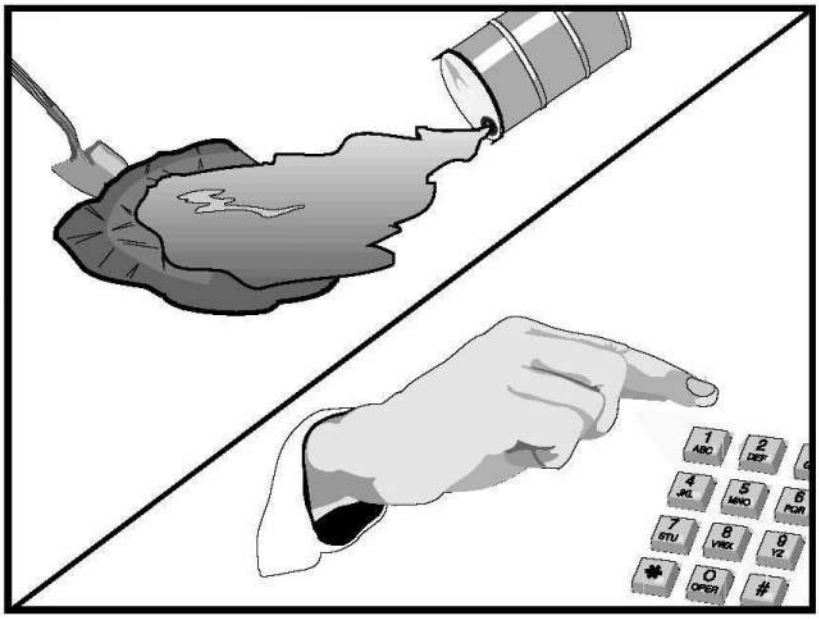
Inspection and Maintenance

- Stockpiles must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- It may be necessary to inspect stockpiles covered with plastic sheeting more frequently during certain conditions (for example, high winds or extreme heat).
- Repair and/or replace perimeter controls and covers as needed to keep them functioning properly.
- Sediment shall be removed when it reaches one-third of the barrier height.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Spill Prevention and Control WM-4



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

This best management practice covers only spill prevention and control. However, WM-1, Materials Delivery and Storage, and WM-2, Material Use, also contain useful information, particularly on spill prevention. For information on wastes, see the waste management BMPs in this section.

Suitable Applications

This BMP is suitable for all construction projects. Spill control procedures are implemented anytime chemicals or hazardous substances are stored on the construction site, including the following materials:

- Soil stabilizers/binders
- Dust palliatives
- Herbicides
- Growth inhibitors
- Fertilizers
- Deicing/anti-icing chemicals

- Fuels
- Lubricants
- Other petroleum distillates

Limitations

- In some cases it may be necessary to use a private spill cleanup company.
- This BMP applies to spills caused by the contractor and subcontractors.
- Procedures and practices presented in this BMP are general. Contractor should identify appropriate practices for the specific materials used or stored onsite

Implementation

The following steps will help reduce the stormwater impacts of leaks and spills:

Education

- Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills.
- Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.
- Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- Store hazardous materials and wastes in covered containers and protect from vandalism.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Train employees in spill prevention and cleanup.
- Designate responsible individuals to oversee and enforce control measures.
- Spills should be covered and protected from stormwater runon during rainfall to the extent that it doesn't compromise clean up activities.
- Do not bury or wash spills with water.

- Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
- Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with WM-10, Liquid Waste Management.
- Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
- Place proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

- Clean up leaks and spills immediately.
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to either a certified laundry (rags) or disposed of as hazardous waste.
- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

- Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Absorbent materials should be promptly removed and disposed of properly.
- Follow the practice below for a minor spill:
  - Contain the spread of the spill.
  - Recover spilled materials.
  - Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

- Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

- Spills should be cleaned up immediately:
  - Contain spread of the spill.
  - Notify the project foreman immediately.
  - If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
  - If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
  - If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

- For significant or hazardous spills that cannot be controlled by personnel in the immediate vicinity, the following steps should be taken:
  - Notify the local emergency response by dialing 911. In addition to 911, the contractor will notify the proper county officials. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
  - Notify the Governor's Office of Emergency Services Warning Center, (916) 845-8911.
  - For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
  - Notification should first be made by telephone and followed up with a written report.
  - The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
  - Other agencies which may need to be consulted include, but are not limited to, the Fire Department, the Public Works Department, the Coast Guard, the Highway Patrol, the City/County Police Department, Department of Toxic Substances, California Division of Oil and Gas, Cal/OSHA, etc.

Reporting

- Report significant spills to local agencies, such as the Fire Department; they can assist in cleanup.
- Federal regulations require that any significant oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hours).

Use the following measures related to specific activities:

Vehicle and Equipment Maintenance

- If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.
- Regularly inspect onsite vehicles and equipment for leaks and repair immediately
- Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Place drip pans or absorbent materials under paving equipment when not in use.
- Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around
- Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

- If fueling must occur onsite, use designate areas, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.
- Discourage "topping off" of fuel tanks.
- Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

Costs

Prevention of leaks and spills is inexpensive. Treatment and/ or disposal of contaminated soil or water can be quite expensive.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and of two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur.

- Keep ample supplies of spill control and cleanup materials onsite, near storage, unloading, and maintenance areas.
- Update your spill prevention and control plan and stock cleanup materials as changes occur in the types of chemicals onsite.

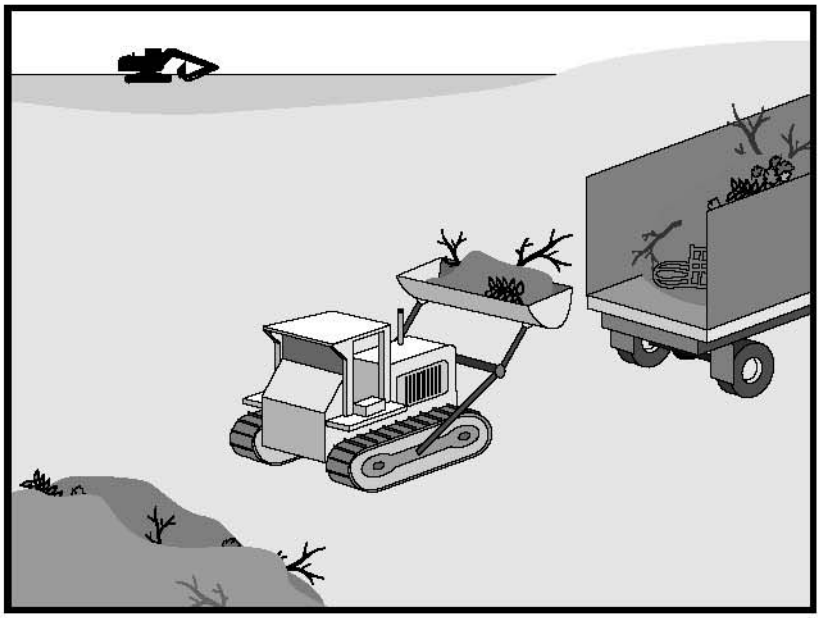
References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Solid Waste Management WM-5



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Solid waste management procedures and practices are designed to prevent or reduce the discharge of pollutants to stormwater from solid or construction waste by providing designated waste collection areas and containers, arranging for regular disposal, and training employees and subcontractors.

Suitable Applications

This BMP is suitable for construction sites where the following wastes are generated or stored:

- Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures (rubble), and building construction
- Packaging materials including wood, paper, and plastic
- Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces and masonry products
- Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes
- Construction wastes including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, non-hazardous equipment parts, styrofoam and other materials used to transport and package construction materials
- Highway planting wastes, including vegetative material,

plant containers, and packaging materials

Limitations

Temporary stockpiling of certain construction wastes may not necessitate stringent drainage related controls during the non-rainy season or in desert areas with low rainfall.

Implementation

The following steps will help keep a clean site and reduce stormwater pollution:

- Select designated waste collection areas onsite.
- Inform trash-hauling contractors that you will accept only watertight dumpsters for onsite use. Inspect dumpsters for leaks and repair any dumpster that is not watertight.
- Locate containers in a covered area or in a secondary containment.
- Provide an adequate number of containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.
- Plan for additional containers and more frequent pickup during the demolition phase of construction.
- Collect site trash daily, especially during rainy and windy conditions.
- Remove this solid waste promptly since erosion and sediment control devices tend to collect litter.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor.
- Arrange for regular waste collection before containers overflow.
- Clean up immediately if a container does spill.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.

Education

- Have the contractor's superintendent or representative oversee and enforce proper solid waste management procedures and practices.
- Instruct employees and subcontractors on identification of solid waste and hazardous waste.
- Educate employees and subcontractors on solid waste storage and disposal procedures.
- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).

- Require that employees and subcontractors follow solid waste handling and storage procedures.
- Prohibit littering by employees, subcontractors, and visitors.
- Minimize production of solid waste materials wherever possible.

Collection, Storage, and Disposal

- Littering on the project site should be prohibited.
- To prevent clogging of the storm drainage system, litter and debris removal from drainage grates, trash racks, and ditch lines should be a priority.
- Trash receptacles should be provided in the contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods.
- Litter from work areas within the construction limits of the project site should be collected and placed in watertight dumpsters at least weekly, regardless of whether the litter was generated by the contractor, the public, or others. Collected litter and debris should not be placed in or next to drain inlets, stormwater drainage systems, or watercourses.
- Dumpsters of sufficient size and number should be provided to contain the solid waste generated by the project.
- Full dumpsters should be removed from the project site and the contents should be disposed of by the trash hauling contractor.
- Construction debris and waste should be removed from the site biweekly or more frequently as needed.
- Construction material visible to the public should be stored or stacked in an orderly manner.
- Stormwater runon should be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measures to elevate waste from site surfaces.
- Solid waste storage areas should be located at least 50 ft from drainage facilities and watercourses and should not be located in areas prone to flooding or ponding.
- Except during fair weather, construction and highway planting waste not stored in watertight dumpsters should be securely covered from wind and rain by covering the waste with tarps or plastic.
- Segregate potentially hazardous waste from non-hazardous construction site waste.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- For disposal of hazardous waste, see WM-6, Hazardous Waste Management. Have hazardous waste hauled to an appropriate disposal and/or recycling facility.

- Salvage or recycle useful vegetation debris, packaging and surplus building materials when practical. For example, trees and shrubs from land clearing can be used as a brush barrier, or converted into wood chips, then used as mulch on graded areas. Wood pallets, cardboard boxes, and construction scraps can also be recycled.

Costs

All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and of two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur
- Inspect construction waste area regularly.
- Arrange for regular waste collection.

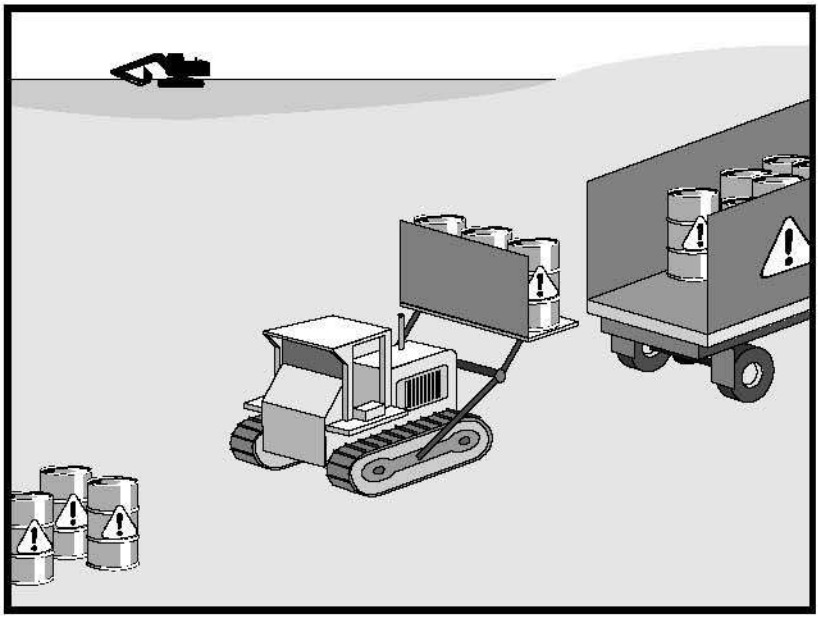
References

Processes, Procedures and Methods to Control Pollution Resulting from All Construction Activity, 430/9-73-007, USEPA, 1973.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Hazardous Waste Management WM-6



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents	
Sediment	
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Prevent or reduce the discharge of pollutants to stormwater from hazardous waste through proper material use, waste disposal, and training of employees and subcontractors.

Suitable Applications

This best management practice (BMP) applies to all construction projects. Hazardous waste management practices are implemented on construction projects that generate waste from the use of:

- Petroleum Products
- Concrete Curing Compounds
- Palliatives
- Septic Wastes
- Stains
- Wood Preservatives
- Asphalt Products
- Pesticides
- Acids
- Paints
- Solvents
- Roofing Tar
- Any materials deemed a hazardous waste in California, Title 22 Division 4.5, or listed in 40 CFR Parts 110, 117, 261, or 302

In addition, sites with existing structures may contain wastes, which must be disposed of in accordance with federal, state, and local regulations. These wastes include:

- Sandblasting grit mixed with lead-, cadmium-, or chromium-based paints
- Asbestos
- PCBs (particularly in older transformers)

Limitations

- Hazardous waste that cannot be reused or recycled must be disposed of by a licensed hazardous waste hauler.
- Nothing in this BMP relieves the contractor from responsibility for compliance with federal, state, and local laws regarding storage, handling, transportation, and disposal of hazardous wastes.
- This BMP does not cover aerially deposited lead (ADL) soils. For ADL soils refer to WM-7, Contaminated Soil Management.

Implementation

The following steps will help reduce stormwater pollution from hazardous wastes:

Material Use

- Wastes should be stored in sealed containers constructed of a suitable material and should be labeled as required by Title 22 CCR, Division 4.5 and 49 CFR Parts 172, 173, 178, and 179.
- All hazardous waste should be stored, transported, and disposed as required in Title 22 CCR, Division 4.5 and 49 CFR 261-263.
- Waste containers should be stored in temporary containment facilities that should comply with the following requirements:
  - Temporary containment facility should provide for a spill containment volume equal to 1.5 times the volume of all containers able to contain precipitation from a 25 year storm event, plus the greater of 10% of the aggregate volume of all containers or 100% of the capacity of the largest tank within its boundary, whichever is greater.
  - Temporary containment facility should be impervious to the materials stored there for a minimum contact time of 72 hours.
  - Temporary containment facilities should be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills should be placed into drums after each rainfall. These liquids should be handled as a hazardous waste unless testing determines them to be non-hazardous. Non-hazardous liquids should be sent to an approved disposal site.
  - Sufficient separation should be provided between stored containers to allow for spill cleanup and emergency response access.

- Incompatible materials, such as chlorine and ammonia, should not be stored in the same temporary containment facility.
- Throughout the rainy season, temporary containment facilities should be covered during non-working days, and prior to rain events. Covered facilities may include use of plastic tarps for small facilities or constructed roofs with overhangs.

- Drums should not be overfilled and wastes should not be mixed.
- Unless watertight, containers of dry waste should be stored on pallets.
- Do not over-apply herbicides and pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Over application is expensive and environmentally harmful. Apply surface dressings in several smaller applications, as opposed to one large application. Allow time for infiltration and avoid excess material being carried offsite by runoff. Do not apply these chemicals just before it rains. People applying pesticides must be certified in accordance with federal and state regulations.
- Paint brushes and equipment for water and oil based paints should be cleaned within a contained area and should not be allowed to contaminate site soils, watercourses, or drainage systems. Waste paints, thinners, solvents, residues, and sludges that cannot be recycled or reused should be disposed of as hazardous waste. When thoroughly dry, latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths should be disposed of as solid waste.
- Do not clean out brushes or rinse paint containers into the dirt, street, gutter, storm drain, or stream. "Paint out" brushes as much as possible. Rinse water-based paints to the sanitary sewer. Filter and reuse thinners and solvents. Dispose of excess oil-based paints and sludge as hazardous waste.
- The following actions should be taken with respect to temporary contaminant:
  - Ensure that adequate hazardous waste storage volume is available.
  - Ensure that hazardous waste collection containers are conveniently located.
  - Designate hazardous waste storage areas onsite away from storm drains or watercourses and away from moving vehicles and equipment to prevent accidental spills.
  - Minimize production or generation of hazardous materials and hazardous waste on the job site.
  - Use containment berms in fueling and maintenance areas and where the potential for spills is high.
  - Segregate potentially hazardous waste from non-hazardous construction site debris.
  - Keep liquid or semi-liquid hazardous waste in appropriate containers (closed drums or similar) and under cover.

- Clearly label all hazardous waste containers with the waste being stored and the date of accumulation.
- Place hazardous waste containers in secondary containment.
- Do not allow potentially hazardous waste materials to accumulate on the ground.
- Do not mix wastes.
- Use all of the product before disposing of the container.
- Do not remove the original product label; it contains important safety and disposal information.

Waste Recycling Disposal

- Select designated hazardous waste collection areas onsite.
- Hazardous materials and wastes should be stored in covered containers and protected from vandalism.
- Place hazardous waste containers in secondary containment.
- Do not mix wastes, this can cause chemical reactions, making recycling impossible and complicating disposal.
- Recycle any useful materials such as used oil or water-based paint.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Arrange for regular waste collection before containers overflow.
- Make sure that hazardous waste (e.g., excess oil-based paint and sludge) is collected, removed, and disposed of only at authorized disposal areas.

Disposal Procedures

- Waste should be disposed of by a licensed hazardous waste transporter at an authorized and licensed disposal facility or recycling facility utilizing properly completed Uniform Hazardous Waste Manifest forms.
- A Department of Health Services certified laboratory should sample waste to determine the appropriate disposal facility.
- Properly dispose of rainwater in secondary containment that may have mixed with hazardous waste.
- Attention is directed to "Hazardous Material", "Contaminated Material", and "Aerially Deposited Lead" of the contract documents regarding the handling and disposal of hazardous materials.

Education

- Educate employees and subcontractors on hazardous waste storage and disposal procedures.
- Educate employees and subcontractors on potential dangers to humans and the environment from hazardous wastes.
- Instruct employees and subcontractors on safety procedures for common construction site hazardous wastes.
- Instruct employees and subcontractors in identification of hazardous and solid waste.
- Hold regular meetings to discuss and reinforce hazardous waste management procedures (incorporate into regular safety meetings).
- The contractor's superintendent or representative should oversee and enforce proper hazardous waste management procedures and practices.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.
- Warning signs should be placed in areas recently treated with chemicals.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- If a container does spill, clean up immediately.

Costs

All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and of two week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur
- Hazardous waste should be regularly collected.
- A foreman or construction supervisor should monitor onsite hazardous waste storage and disposal procedures.
- Waste storage areas should be kept clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored.
- Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.
- Hazardous spills should be cleaned up and reported in conformance with the applicable Material Safety Data Sheet (MSDS) and the instructions posted at the project site.

- The National Response Center, at (800) 424-8802, should be notified of spills of federal reportable quantities in conformance with the requirements in 40 CFR parts 110, 117, and 302. Also notify the Governors Office of Emergency Services Warning Center at (916) 845-8911.
- A copy of the hazardous waste manifests should be provided.

References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Processes, Procedures and Methods to Control Pollution Resulting from All Construction Activity, 430/9-73-007, USEPA, 1973.

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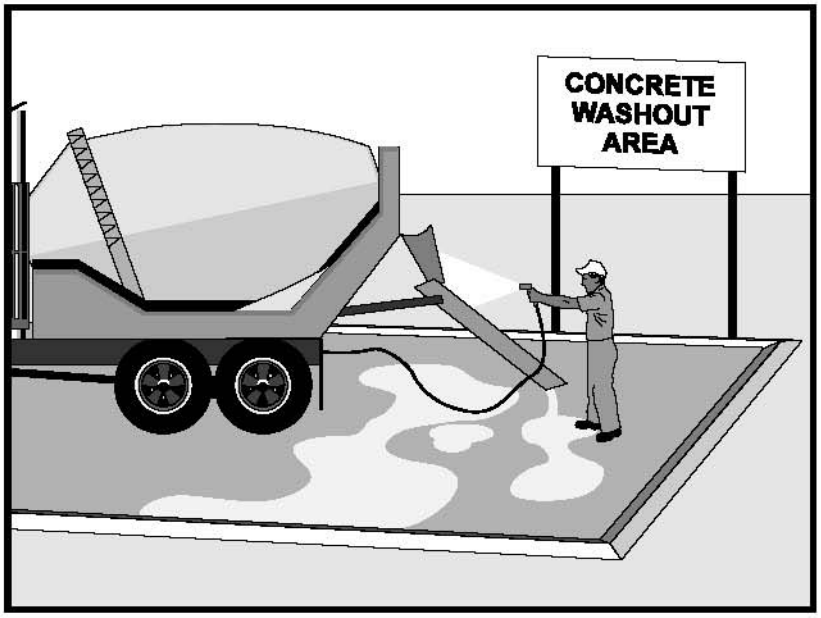
Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Concrete Waste Management WM-8



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

Description and Purpose

Prevent the discharge of pollutants to stormwater from concrete waste by conducting washout onsite or offsite in a designated area, and by employee and subcontractor training.

The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Many types of construction materials, including mortar, concrete, stucco, cement and block and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows and raising pH to levels outside the accepted range.

Suitable Applications

Concrete waste management procedures and practices are implemented on construction projects where:

- Concrete is used as a construction material or where concrete dust and debris result from demolition activities.
- Slurries containing portland cement concrete (PCC) are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition.

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- Concrete trucks and other concrete-coated equipment are washed onsite.
- Mortar-mixing stations exist.
- Stucco mixing and spraying .
- See also NS-8, Vehicle and Equipment Cleaning.

Limitations

- Offsite washout of concrete wastes may not always be possible.
- Multiple washouts may be needed to assure adequate capacity and to allow for evaporation.

Implementation

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Store dry and wet materials under cover, away from drainage areas. Refer to WM-1, Material Delivery and Storage for more information.
- Avoid mixing excess amounts of concrete.
- Perform washout of concrete trucks in designated areas only, where washout will not reach stormwater.
- Do not wash out concrete trucks into storm drains, open ditches, streets, streams or onto the ground. Trucks should always be washed out into designated facilities.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- For onsite washout:
  - On larger sites, it is recommended to locate washout areas at least 50 feet from storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
  - Washout wastes into the temporary washout where the concrete can set, be broken up, and then disposed properly.
  - Washout should be lined so there is no discharge into the underlying soil.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose in the trash.
- See typical concrete washout installation details at the end of this fact sheet.

Education

- Educate employees, subcontractors, and suppliers on the concrete waste management techniques described herein.

- Arrange for contractor's superintendent or representative to oversee and enforce concrete waste management procedures.
- Discuss the concrete management techniques described in this BMP (such as handling of concrete waste and washout) with the ready-mix concrete supplier before any deliveries are made.

Concrete Demolition Wastes

- Stockpile concrete demolition waste in accordance with BMP WM-3, Stockpile Management.
- Dispose of or recycle hardened concrete waste in accordance with applicable federal, state or local regulations.

Concrete Slurry Wastes

- PCC and AC waste should not be allowed to enter storm drains or watercourses.
- PCC and AC waste should be collected and disposed of or placed in a temporary concrete washout facility (as described in Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures, below).
- A foreman or construction supervisor should monitor onsite concrete working tasks, such as saw cutting, coring, grinding and grooving to ensure proper methods are implemented.
- Saw-cut concrete slurry should not be allowed to enter storm drains or watercourses. Residue from grinding operations should be picked up by means of a vacuum attachment to the grinding machine or by sweeping. Saw cutting residue should not be allowed to flow across the pavement and should not be left on the surface of the pavement. See also NS-3, Paving and Grinding Operations; and WM-10, Liquid Waste Management.
- Concrete slurry residue should be disposed in a temporary washout facility (as described in Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures, below) and allowed to dry. Dispose of dry slurry residue in accordance with WM-5, Solid Waste Management.

Onsite Temporary Concrete Washout Facility, Transit Truck Washout Procedures

- Temporary concrete washout facilities should be located a minimum of 50 ft from storm drain inlets, open drainage facilities, and watercourses. Each facility should be located away from construction traffic or access areas to prevent disturbance or tracking.
- A sign should be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
- Temporary concrete washout facilities should be constructed above grade or below grade at the option of the contractor. Temporary concrete washout facilities should be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.

- Temporary washout facilities should have a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste concrete materials generated during washout procedures.
- Temporary washout facilities should be lined to prevent discharge to the underlying ground or surrounding area.
- Washout of concrete trucks should be performed in designated areas only.
- Only concrete from mixer truck chutes should be washed into concrete wash out.
- Concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of or recycled offsite.
- Once concrete wastes are washed into the designated area and allowed to harden, the concrete should be broken up, removed, and disposed of per WM-5, Solid Waste Management. Dispose of or recycle hardened concrete on a regular basis.
- Temporary Concrete Washout Facility (Type Above Grade)
  - Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft; however, smaller sites or jobs may only need a smaller washout facility. With any washout, always maintain a sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.
  - Materials used to construct the washout area should conform to the provisions detailed in their respective BMPs (e.g., SE-8 Sandbag Barrier).
  - Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.
  - Alternatively, portable removable containers can be used as above grade concrete washouts. Also called a "roll-off"; this concrete washout facility should be properly sealed to prevent leakage, and should be removed from the site and replaced when the container reaches 75% capacity.
- Temporary Concrete Washout Facility (Type Below Grade)
  - Temporary concrete washout facilities (type below grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft. The quantity and volume should be sufficient to contain all liquid and concrete waste generated by washout operations.
  - Lath and flagging should be commercial type.
  - Plastic lining material should be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

- The base of a washout facility should be free of rock or debris that may damage a plastic liner.

Removal of Temporary Concrete Washout Facilities

- When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and properly disposed or recycled in accordance with federal, state or local regulations. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and properly disposed or recycled in accordance with federal, state or local regulations..

- Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

Costs

All of the above are low cost measures. Roll-off concrete washout facilities can be more costly than other measures due to removal and replacement; however, provide a cleaner alternative to traditional washouts. The type of washout facility, size, and availability of materials will determine the cost of the washout.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.

- Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 in. for above grade facilities and 12 in. for below grade facilities. Maintaining temporary concrete washout facilities should include removing and disposing of hardened concrete and returning the facilities to a functional condition. Hardened concrete materials should be removed and properly disposed or recycled in accordance with federal, state or local regulations.

- Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.

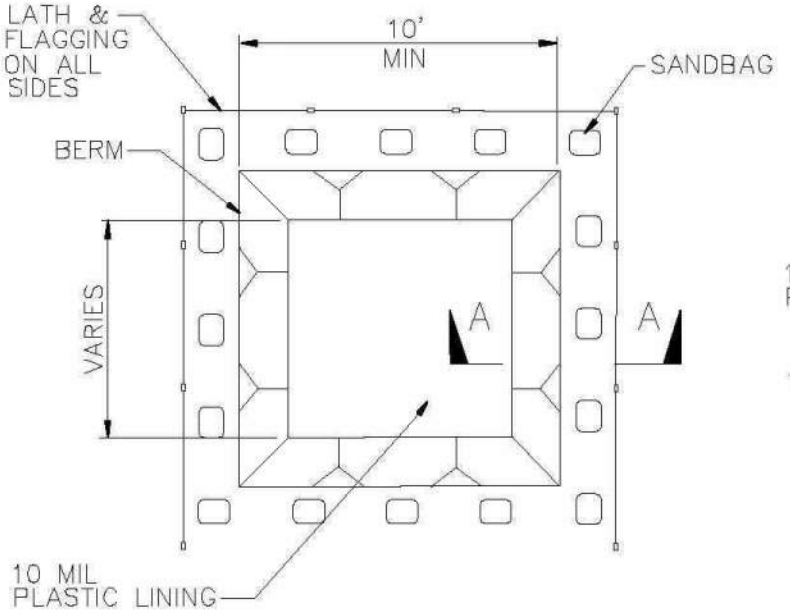
- Inspect washout facilities for damage (e.g. torn liner, evidence of leaks, signage, etc.). Repair all identified damage.

References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000, Updated March 2003.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.



PLAN
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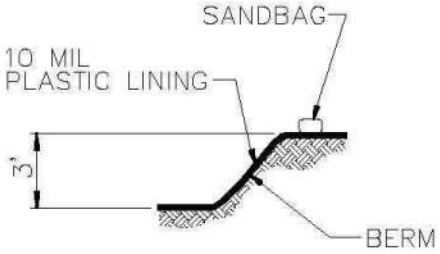
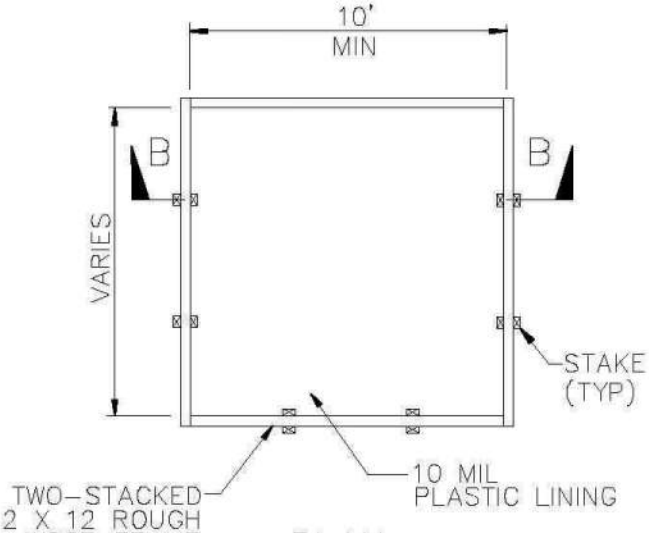


SECTION A–A
NOT TO SCALE



PLAN
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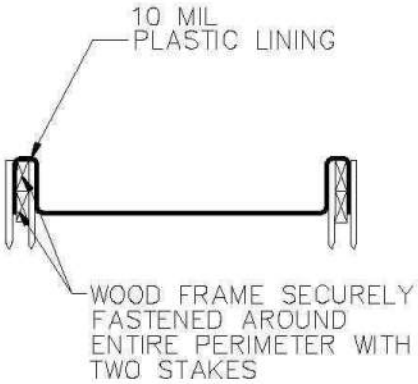
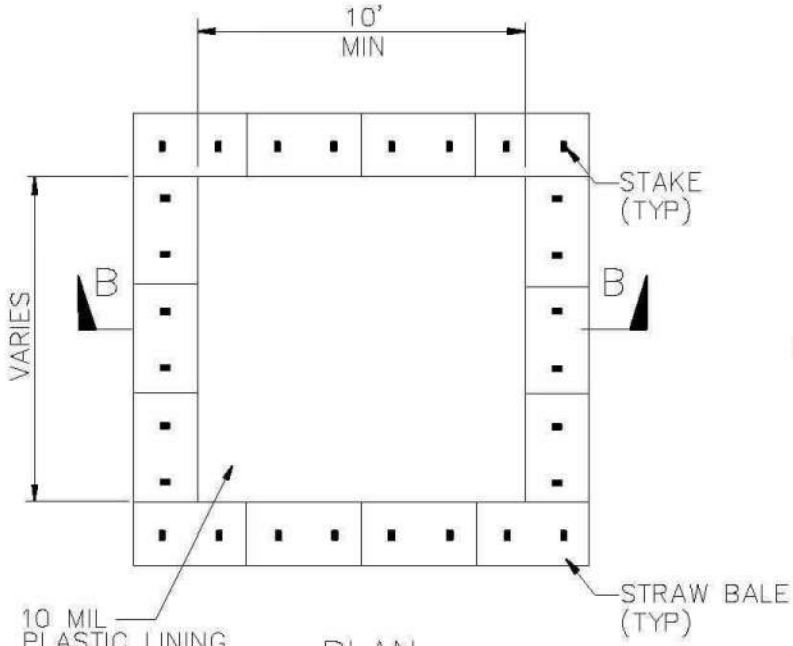
TYPE "ABOVE GRADE"



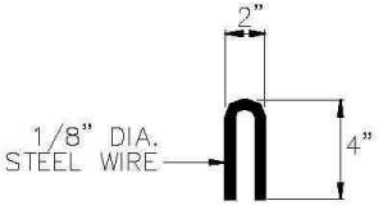
SECTION B–B
NOT TO SCALE

NOTES

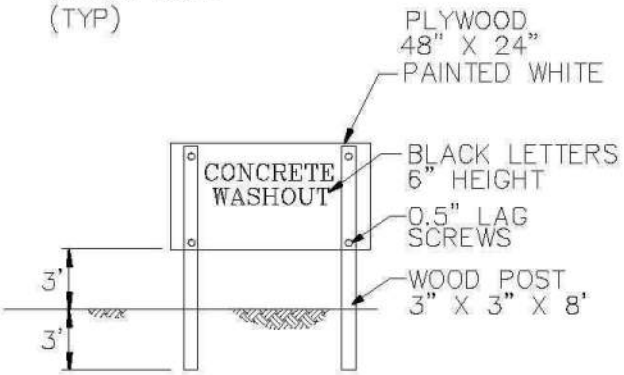
1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.



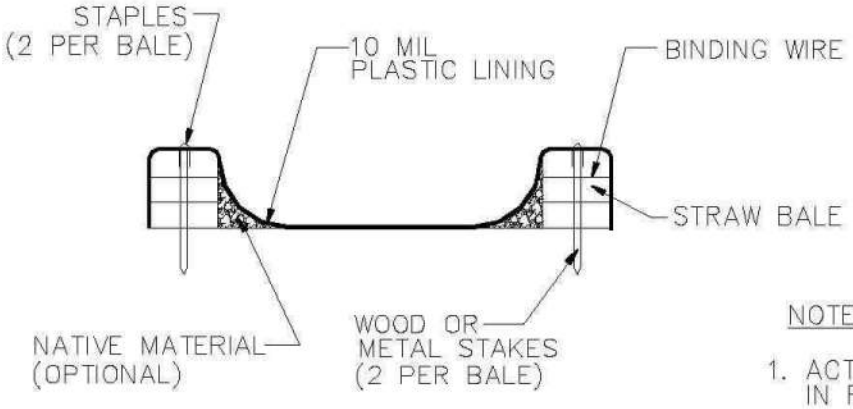
PLAN
NOT TO SCALE
TYPE "ABOVE GRADE"
WITH STRAW BALES



STAPLE DETAIL



CONCRETE WASHOUT
SIGN DETAIL
(OR EQUIVALENT)

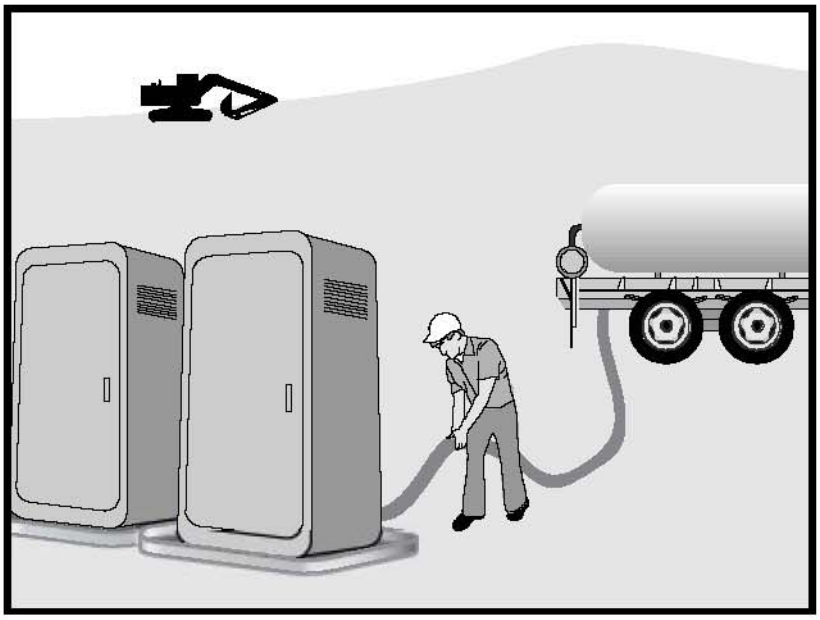


SECTION B–B
NOT TO SCALE

NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

Sanitary/Septic Waste Management WM-9



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	
Nutrients	☑
Trash	☑
Metals	
Bacteria	☑
Oil and Grease	
Organics	☑

Potential Alternatives

None

Description and Purpose

Proper sanitary and septic waste management prevent the discharge of pollutants to stormwater from sanitary and septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal.

Suitable Applications

Sanitary septic waste management practices are suitable for use at all construction sites that use temporary or portable sanitary and septic waste systems.

Limitations

None identified.

Implementation

Sanitary or septic wastes should be treated or disposed of in accordance with state and local requirements. In many cases, one contract with a local facility supplier will be all that it takes to make sure sanitary wastes are properly disposed.

Storage and Disposal Procedures

- Temporary sanitary facilities should be located away from drainage facilities, watercourses, and from traffic circulation. If site conditions allow, place portable facilities a minimum of 50 feet from drainage conveyances and traffic areas. When subjected to high winds or risk of high winds, temporary sanitary facilities should be secured to prevent overturning.

- Temporary sanitary facilities must be equipped with containment to prevent discharge of pollutants to the stormwater drainage system of the receiving water.
- Consider safety as well as environmental implications before placing temporary sanitary facilities.
- Wastewater should not be discharged or buried within the project site.
- Sanitary and septic systems that discharge directly into sanitary sewer systems, where permissible, should comply with the local health agency, city, county, and sewer district requirements.
- Only reputable, licensed sanitary and septic waste haulers should be used.
- Sanitary facilities should be located in a convenient location.
- Temporary septic systems should treat wastes to appropriate levels before discharging.
- If using an onsite disposal system (OSDS), such as a septic system, local health agency requirements must be followed.
- Temporary sanitary facilities that discharge to the sanitary sewer system should be properly connected to avoid illicit discharges.
- Sanitary and septic facilities should be maintained in good working order by a licensed service.
- Regular waste collection by a licensed hauler should be arranged before facilities overflow.
- If a spill does occur from a temporary sanitary facility, follow federal, state and local regulations for containment and clean-up.

Education

- Educate employees, subcontractors, and suppliers on sanitary and septic waste storage and disposal procedures.
- Educate employees, subcontractors, and suppliers of potential dangers to humans and the environment from sanitary and septic wastes.
- Instruct employees, subcontractors, and suppliers in identification of sanitary and septic waste.
- Hold regular meetings to discuss and reinforce the use of sanitary facilities (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.

Costs

All of the above are low cost measures.

Inspection and Maintenance

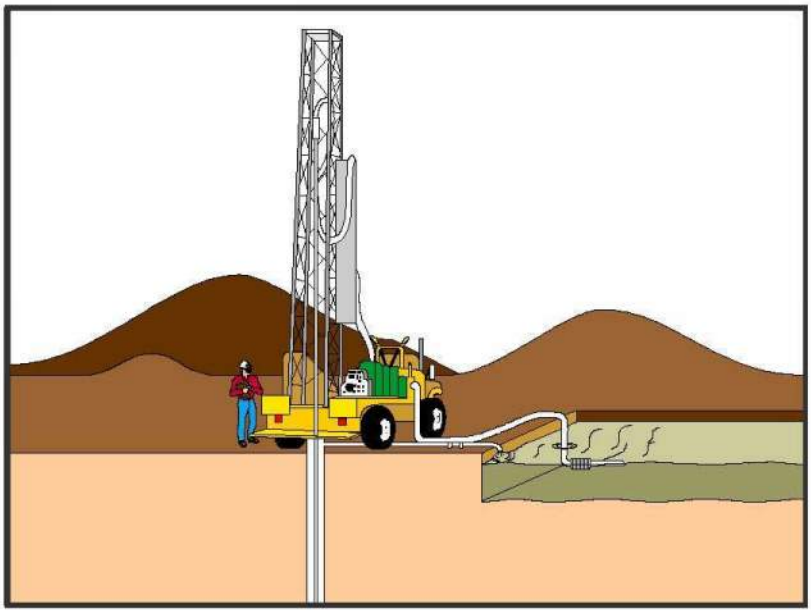
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Arrange for regular waste collection.
- If high winds are expected, portable sanitary facilities must be secured with spikes or weighed down to prevent over turning.
- If spills or leaks from sanitary or septic facilities occur that are not contained and discharge from the site, non-visible sampling of site discharge may be required. Refer to the General Permit or to your project specific Construction Site Monitoring Plan to determine if and where sampling is required.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Liquid Waste Management WM-10



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

Description and Purpose

Liquid waste management includes procedures and practices to prevent discharge of pollutants to the storm drain system or to watercourses as a result of the creation, collection, and disposal of non-hazardous liquid wastes.

Suitable Applications

Liquid waste management is applicable to construction projects that generate any of the following non-hazardous by-products, residuals, or wastes:

- Drilling slurries and drilling fluids
- Grease-free and oil-free wastewater and rinse water
- Dredgings
- Other non-stormwater liquid discharges not permitted by separate permits

Limitations

- Disposal of some liquid wastes may be subject to specific laws and regulations or to requirements of other permits secured for the construction project (e.g., NPDES permits, Army Corps permits, Coastal Commission permits, etc.).
- Liquid waste management does not apply to dewatering operations (NS-2 Dewatering Operations), solid waste management (WM-5, Solid Waste Management), hazardous wastes (WM-6, Hazardous Waste Management), or concrete slurry residue (WM-8, Concrete Waste

Management).

- Typical permitted non-stormwater discharges can include: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated pumped ground water; discharges from potable water sources; foundation drains; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; flows from riparian habitats and wetlands; and discharges or flows from emergency fire fighting activities.

Implementation

General Practices

- Instruct employees and subcontractors how to safely differentiate between non-hazardous liquid waste and potential or known hazardous liquid waste.
- Instruct employees, subcontractors, and suppliers that it is unacceptable for any liquid waste to enter any storm drainage device, waterway, or receiving water.
- Educate employees and subcontractors on liquid waste generating activities and liquid waste storage and disposal procedures.
- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).
- Verify which non-stormwater discharges are permitted by the statewide NPDES permit; different regions might have different requirements not outlined in this permit.
- Apply NS-8, Vehicle and Equipment Cleaning for managing wash water and rinse water from vehicle and equipment cleaning operations.

Containing Liquid Wastes

- Drilling residue and drilling fluids should not be allowed to enter storm drains and watercourses and should be disposed of.
- If an appropriate location is available, drilling residue and drilling fluids that are exempt under Title 23, CCR § 2511(g) may be dried by infiltration and evaporation in a containment facility constructed in conformance with the provisions concerning the Temporary Concrete Washout Facilities detailed in WM-8, Concrete Waste Management.
- Liquid wastes generated as part of an operational procedure, such as water-laden dredged material and drilling mud, should be contained and not allowed to flow into drainage channels or receiving waters prior to treatment.
- Liquid wastes should be contained in a controlled area such as a holding pit, sediment basin, roll-off bin, or portable tank.
- Containment devices must be structurally sound and leak free.
- Containment devices must be of sufficient quantity or volume to completely contain the liquid wastes generated.

- Precautions should be taken to avoid spills or accidental releases of contained liquid wastes. Apply the education measures and spill response procedures outlined in WM-4, Spill Prevention and Control.

- Containment areas or devices should not be located where accidental release of the contained liquid can threaten health or safety or discharge to water bodies, channels, or storm drains.

Capturing Liquid Wastes

- Capture all liquid wastes that have the potential to affect the storm drainage system (such as wash water and rinse water from cleaning walls or pavement), before they run off a surface.

- Do not allow liquid wastes to flow or discharge uncontrolled. Use temporary dikes or berms to intercept flows and direct them to a containment area or device for capture.

- Use a sediment trap (SE-3, Sediment Trap) for capturing and treating sediment laden liquid waste or capture in a containment device and allow sediment to settle.

Disposing of Liquid Wastes

- A typical method to handle liquid waste is to dewater the contained liquid waste, using procedures such as described in NS-2, Dewatering Operations, and SE-2, Sediment Basin, and dispose of resulting solids per WM-5, Solid Waste Management.

- Methods of disposal for some liquid wastes may be prescribed in Water Quality Reports, NPDES permits, Environmental Impact Reports, 401 or 404 permits, and local agency discharge permits, etc. Review the SWPPP to see if disposal methods are identified.

- Liquid wastes, such as from dredged material, may require testing and certification whether it is hazardous or not before a disposal method can be determined.

- For disposal of hazardous waste, see WM-6, Hazardous Waste Management.

- If necessary, further treat liquid wastes prior to disposal. Treatment may include, though is not limited to, sedimentation, filtration, and chemical neutralization.

Costs

Prevention costs for liquid waste management are minimal. Costs increase if cleanup or fines are involved.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and of two-week intervals in the non-rainy season to verify continued BMP implementation.

- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur.

- Remove deposited solids in containment areas and capturing devices as needed and at the completion of the task. Dispose of any solids as described in WM-5, Solid Waste Management.
- Inspect containment areas and capturing devices and repair as needed.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 1 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use			
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations			
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled			
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems			
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.			
Erosion Controls			
Wind erosion controls are effectively implemented			
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots			
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.			
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site			
Entrances and exits are stabilized to control erosion and sediment discharges from the site			
Sediment basins are properly maintained			
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.			
Other			

Are the project SWPPP and BMP plan up to date, available on-site and being properly implemented?			

Part III. Descriptions of BMP Deficiencies		
Deficiency	**Repairs Implemented:** **Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.**	
	Start Date	**Action**
1.		
2.		
3.		
4.		

Part IV. Additional Pre-Storm Observations. **Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).**	
	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	

Part V. Additional During Storm Observations. **If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.**	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-Storm Observations. **Visually observe (inspect) stormwater discharges at all discharge locations within two business days (48 hours) after each qualifying rain event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.**	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. **Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.**	
Required Actions	**Implementation Date**

Appendix J: Not Included

Appendix K: Training Reporting Form

Trained Contractor Personnel Log

Stormwater Management Training Log and Documentation

Project Name: _____
WDID #: _____

Stormwater Management Topic: (check as appropriate)

☐ Erosion Control ☐ Sediment Control
☐ Wind Erosion Control ☐ Tracking Control
☐ Non-Stormwater Management ☐ Waste Management and Materials Pollution Control

Specific Training Objective: _____

Location: _____ Date: _____

Instructor:_____ Telephone: _____

Course Length (hours): _____

Attendee Roster (Attach additional forms if necessary)

Name	Company	Phone

As needed, add proof of external training (e.g., course completion certificates, credentials for QSP, QSD).

Appendix L: Responsible Parties

OPTIONAL

Authorization of Approved Signatories

Project Name: _____

WDID #: _____

Name of Personnel	Project Role	Company	Signature	Date

_____ _____

LRP's Signature Date

_____ _____

LRP Name and Title Telephone Number

Identification of QSP

Project Name: _____

WDID #: _____

The following are QSPs associated with this project

Name of Personnel(1)	Company	Date

(1) If additional QSPs are required on the job site add additional lines and include information here

Authorization of Data Submitters

Project Name: _____

WDID #: _____

Name of Personnel	Project Role	Company	Signature	Date

_____ _____

Approved Signatory's Signature Date

_____ _____

Approved Signatory Telephone Number

Name and Title

Appendix M:Contractors and Subcontractors

Appendix N: Construction General Permit

PDF of Construction General Permit Fact Sheet

PDF of Construction General Permit Order

APPENDIX

E SAMPLING AND ANALYSIS PLAN (SAP)

SAMPLING AND ANALYSIS PLAN

REMOVAL ACTIONS IN WOLFE ROAD AND SEARS AREAS OF FORMER VALLCO MALL

DECEMBER 2020 Revised MARCH 2021

SAMPLING AND ANALYSIS PLAN

REMOVAL ACTIONS IN WOLFE ROAD AND SEARS AREAS OF FORMER VALLCO MALL

10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

DECEMBER 2020
REVISED MARCH 2021

PREPARED FOR:
SHPDM, LLC
965 PAGE MILL ROAD
PALO ALTO, CA 94304

PREPARED BY:
WSP USA INC.
2025 GATEWAY PLACE, SUITE 348
SAN JOSE, CA 95110

TEL: +1 408 453-6100
FAX: +1 408 453-0496
WSP.COM

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2.2 Former Sears Automotive Center Area 2

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APPENDIX

APPENDIX A- INVESTIGATION AND MANAGEMENT OF PCB CONTAMINATED SOIL, FORMER VALLCO MALL, CUPERTINO, CALIFORNIA, AUGUST 14, 2020; REVISED MARCH 11, 2021

1 INTRODUCTION

WSP USA Inc. (WSP) has prepared this Sampling and Analysis Plan (SAP) on behalf of Vallco Property Owner, LLC (VPO) for the two select areas (each a Site Area) at the former Vallco Mall located at 10123 North Wolfe Road in Cupertino, California (the Site). The Site Areas are located in the portion of the former Vallco Mall that is on the west side of Wolfe Road. The first area is in the eastern parking lot adjacent to Wolfe Road and the former Bay Club Fitness Center, herein referred to as the Wolfe Road area. The second area is within the former Sears Automotive Center is referred to as the Sears Area below. Both Site Areas lie within areas of the Site planned for mass excavation in connection with the planned redevelopment of the Site. Sampling in both areas, however, has identified the limited presence of polychlorinated biphenyls (PCBs) in soil above the Toxic Substances Control Act (TSCA) threshold of 1 milligram per kilogram (mg/kg). These impacted soils will be removed prior to the planned mass excavation at the Site, consistent with this SAP.

Appendix A contains a letter report prepared by WSP dated August 14, 2020 entitled "Investigation and Management of PCB Contaminated Soil, Former Vallco Mall, Cupertino, California ("Summary Report")" This Summary Report summarizes the investigations of the Wolfe Road Area and the Former Sears Automotive Area ("Sears Area") including analytical results and various figures depicting sample locations and proposed removal areas of PCB-contaminated soil. This SAP describes the sampling and analysis procedures to be followed during the excavation of soils contaminated by PCBs and a small area with TPH-d in the Sears Area and subsequent confirmation sampling. The SAP will serve as a guide for measures to be conducted by the selected contractor and WSP during soil excavation in accordance with applicable environmental regulations. WSP will be responsible for oversight of the contractor in the implementation of the SAP.

2 SITE BACKGROUND

2.1 WOLFE ROAD AREA

A single soil sample at the Site was found to contain PCBs in the Wolfe Road area based on a subsurface investigation conducted by Geosphere in 2016. The sample from a boring at one foot below ground surface (ft-bgs) (sample E5-1) contained PCBs at a concentration 0.523 mg/kg, above the residential screening level of 0.230 mg/kg (RSL) as established by the California Department of Toxic Substances Control (DTSC).

In accordance with Section 3.3 of the Environmental Site Management Plan (ESMP) (WSP, August 2019), WSP performed step-out sampling for PCBs in the area of boring E-5 to delineate the lateral and vertical extent of PCB concentrations in that area. A total of 34 step-out borings were advanced to fully delineate the lateral and vertical extent of PCB contamination.

Total PCBs were found above the RSL of 0.230 mg/kg in a total of 14 of the 34 borings. The detections of total PCBs above the screening levels were isolated to samples collected from one ft-bgs. Of the borings that had exceedances of the screening level, the PCB concentration of two boring locations (E5P-W and E5P-NW10) were just above the TSCA cleanup level of 1 mg/kg, with a maximum total PCB concentration of 1.046 mg/kg.

2.2 FORMER SEARS AUTOMOTIVE CENTER AREA

In connection with implementation of the approved closure plan for the former Sears Automotive Center, three samples were collected from approximately 12 to 14 ft-bgs immediately beneath the former oil-water separator and associated piping. Several of these samples yielded results that exceed the PCB RSL; two of three samples beneath the oil-water separator also exceeded the TSCA cleanup level of 1 mg/kg for PCBs and one of the three samples exceeds the RSL but is below the TSCA cleanup level. Samples were also collected beneath removed hydraulic lift cylinders, of which, samples collected at a depth of nine ft-bgs, immediately below each of three (HL-1, HL-4, and HL-6) former hydraulic lift cylinders, exceeded the RSL for PCBs and exceed the Environmental Screening Level (ESL) for residential soil established by the San Francisco Regional Water Quality Control Board (RWQCB, 2019, revision 2) for diesel total petroleum hydrocarbons (TPH-d) in two samples (HL-4 and HL-6).

In response to the detections of PCBs above the RSL, 22 step-out borings were advanced in the northern portion of the Center, around the hydraulic lifts (HL-4 and HL-6) and the oil-water separator, to delineate the extent of PCB-impacted soil. All soil samples were analyzed for PCBs by EPA method 8082 with the Soxhlet extraction method. Additionally, select soil sample depths were sampled for TPH-d and motor oil TPH (TPH-mo) by EPA method 8015 to address the TPH-d exceedances of the RSL under the two hydraulic lifts.

Of the 22 step-out borings, only three discrete samples contained detectable concentrations of PCBs; however, no concentrations exceeded the RSL. Additionally, only one step out boring discrete sample (OWPI-W5-20) detected TPH-d above the RSL; however, the detection was qualified by the laboratory as not exhibiting the standard chromatographic pattern for TPH-d.

3 EXCAVATION ACTIVITIES

Given that each of the Site Areas contained PCBs above 1 mg/kg, an appropriate remedial approach that is consistent with TSCA was explored. Both Site Areas are located within the footprint of the planned development and mass excavation will extend to a depth of five ft-bgs and up to 32 ft-bgs at the Wolfe Road and former Sears Automotive Center areas, respectively. Since excavation was already planned in the two Site Areas, the best and most appropriate removal approach was determined to be disposal of soil with PCBs greater than 1 mg/kg under EPA 40 CFR 761.61(b).

Among other things, 40 CFR 761.61(b) requires soil containing PCBs above the TSCA threshold of 1 mg/kg to be disposed of as a TSCA waste at a TSCA landfill. Following the targeted excavation, confirmation sampling of the base of the excavation and sidewalls will be performed using grids with sample spacing every 1.5 meters (approximately five feet) to verify that soil with PCB concentrations greater than 1 mg/kg are properly removed from the previously characterized areas. This sampling frequency is consistent with 40 CFR 761.61(a), though the overall PCB excavation approach will be pursuant to 40 CFR 761.61(b) and not 40 CFR 761.61(a). The sampling protocol identified in 40 CFR 761.61(a) will be applied as a conservative confirmation measure. Such sampling will separately be applied to confirm the removal of soils with PCB concentrations that exceed the RSL of 0.230 mg/kg. Soils containing PCBs above the RSL of 0.230 mg/kg but less than the TSCA threshold limit of 1 mg/kg, will be disposed of according to waste acceptance standards for soils containing PCBs at a licensed landfill.

3.1 WOLFE ROAD AREA

Based on the approach noted above, WSP estimates that approximately 7 cubic yards of soil, which may contain concentrations of PCBs that equal or exceed 1 mg/kg, will be removed from the Wolfe Road area for disposal to a TSCA landfill pursuant to 40 CFR 761.61(b). This total proposed excavation area will be approximately 60 square feet and will extend to three ft-bgs. The PCB excavation area is depicted in context with the mass redevelopment excavation area on Figure 3 of Appendix A.

PCBs were not detected above the laboratory reporting limits (RLs) in sample E5P-N-3; however, the RLs for sample E5P-N-3 were high (RL of 1,300 mg/kg for PCB Aroclor 1221 and RL of 660 mg/kg for each of six other PCB Aroclors). The laboratory indicated that the source of the high RLs for sample E5P-N-3 resulted from a hydrocarbon-rich matrix and was therefore not necessarily the result of high PCBs in soil. PCBs were not detected in the soil sample (E5P-N-5) collected from 5 feet bgs at location E5P-N. However, based upon the uncertainties concerning PCB concentrations in the area of E5P-N-3, the soil excavated from the E5P-N area (within an area of 37.5 square feet and four feet deep; approximately 5.5 cubic yards excavated soil volume) will be segregated. Confirmation samples will be collected at a depth of four feet bgs, the planned excavation depth at the location of E5P-N-3 (see Figure 2A in Appendix A). The segregated soil will be disposed of with the other TSCA-landfill soil. If PCB concentrations in the confirmation samples are greater than 0.230 mg/kg mg/kg, the area will be over-excavated until the confirmation soil samples are less than 0.230 mg/kg, the residential ESL and the over-excavated soils will also be disposed of with the other TSCA-landfill soil. Similarly, sidewall confirmation samples will be collected at three feet and four feet bgs from the four sidewalls of the excavation surrounding E5P-N (see Figure 2A in Appendix A) consistent with the approach for other excavation areas, to ensure that soils containing PCBs exceeding 0.230 mg/kg have been removed.

The remaining area with PCBs detected above the ESL/RSL of 0.230 mg/kg at one ft-bgs is approximately 714 square feet. Excavation for removal of the PCB contaminated soils to three ft-bgs of this area would yield approximately 73 cubic yards of soil. An outline of the proposed excavation areas is shown on Figures 2 and 3. As noted, confirmation sampling will utilize a grid of approximately 5 feet (1.5 meters) for base of excavation and sidewall samples on the walls of the completed excavation at one-foot bgs and three feet bgs.

3.2 FORMER SEARS AUTOMOTIVE CENTER

In the area beneath the former oil-water separator where samples exceeded 1 mg/kg of PCBs, WSP proposes to excavate the overburden to a depth of 10 feet, then remove soils from beneath the separator over an area of a 10 feet by 20 feet rectangle at

a depth from 12 feet to 21 feet (Figure 8 in Appendix A), and arrange for proper disposal of all PCB impacted soils at a TSCA landfill (approximately 60 cubic yards), consistent with 40 CFR 761.61(b). In the area beneath the three hydraulic lift cylinders where soil samples exceeded the PCB RSL (but are below 1 mg/kg), WSP proposes to excavate the overburden to a depth of nine feet, remove soils from beneath each hydraulic cylinder from nine feet to 12 feet bgs, and segregate these excavated soils for disposal according to waste acceptance standards for soils containing PCBs at an appropriately licensed landfill. The volume of soils to be excavated and segregated for excavation beneath the three former cylinders is estimated at nine cubic yards. Excavation profiles in the former Sears area are shown on Figure 8 in Appendix A.

Confirmation sidewall and bottom sampling will be conducted as described in Section 4.1 of this document.

4 CONFIRMATION SAMPLING

4.1 SAMPLING PROCEDURES

Following removal of soil where PCBs are found above 1 mg/kg, confirmation samples will be collected from the bottom of the excavation at a spacing of 1.5 meters (approximately 5 feet). Sidewall confirmation samples will be collected at the depth that corresponds to where PCB concentrations were noted above 1 mg/kg (i.e., 1 foot bgs in the Wolfe Road Area generally and in the area of sample E5P-N-3 in the Wolfe Road Area, sidewall samples will be collected at three feet and four feet bgs as described in detail in Section 3-1 of this document) and up to 21 feet bgs in the former Sears Area). Specifically, sidewall confirmation samples will be collected from sidewalls at 12 feet bgs, 16 feet bgs, 20 feet bgs, and 21 ft bgs along the four walls of the planned boundaries of the excavation in the Former Sears Area.

As noted in Section 3.1 of this document, based upon the uncertainties concerning PCB concentrations in the area of E5P-N-3, the soil excavated from the E5P-N area (within an area of 37.5 square feet and four feet deep; approximately 5.5 cubic yards excavated soil volume) will be segregated and disposed of as TSCA-landfill soil. In addition to the sidewall samples noted above, confirmation samples will be collected at the bottom of the excavation, in the area of E5P-Na depth of four feet bgs, the planned excavation depth at the location of E5P-N-3 as noted in Appendix A.

As also previously noted in Section 3.1, if PCB concentrations in the confirmation samples are greater than 0.230 mg/kg in the area of E5P-N, the area will be over-excavated until the confirmation soil samples are less than 0.230 mg/kg, the residential ESL and the over-excavated soils will also be disposed of with the other TSCA-landfill soil. Similarly, sidewall confirmation samples will be collected at three feet and four feet bgs from the excavation surrounding E5P-N, consistent with the approach for other excavation areas, to ensure that soils containing PCBs exceeding 0.230 mg/kg have been removed.

In the area beneath the former oil-water separator where samples exceeded 1 mg/kg of PCBs, WSP proposes to excavate and remove soils from beneath the separator over an area of a 10 feet by 20 feet rectangle at a depth from 12 feet to 21 feet (Figure 8 in Appendix A) and arrange for proper disposal of all PCB impacted soils at a TSCA landfill (approximately 66 cubic yards), consistent with 40 CFR 761.61(b). In the area beneath the three hydraulic lift cylinders where soil samples exceeded the PCB ESL/RSL (but are below 1 mg/kg), WSP proposes to excavate and remove soils from beneath each hydraulic cylinder from nine feet to 12 feet bgs and segregate these excavated soils for disposal according to waste acceptance standards for soils containing PCBs at an appropriately licensed landfill. The volume of soils to be excavated and segregated for excavation beneath the three former cylinders is estimated at nine cubic yards. Excavation profiles in the former Sears area are shown on Figure 8 in Appendix A.

Confirmation sidewall sampling will be conducted per the description above in both Areas. Confirmation samples will be analyzed for PCBs by EPA Method 8082 using the Soxhlet extraction method (EPA 3540C) on a rush 24-hour turn-around time (TAT). Upon receipt of the laboratory analytical report, sample results will be reviewed to confirm that confirmation results for PCBS are below 1 mg/kg. If confirmation results are found above 1 mg/kg, then further excavation and segregation of soils will be performed in those areas and the confirmation sampling process repeated. This process will be repeated until PCB concentrations are below 1 mg/kg.

Once all soil containing PCBs above 1 mg/kg are removed, excavation of soil above the PCB RSL of 0.230 mg/kg will be performed. In the Sears Area, confirmation results will be reviewed again to see if soil above 0.230 mg/kg of PCBs exists beyond the Area subject to greater than 1 mg/kg excavation. Confirmation sampling will be performed in the same manner as described above and will be continued until soil samples collected from the sidewalls and bottom of excavation are below 0.230 mg/kg. In the Sears Area, confirmation samples collected from the excavation around the hydraulic lifts (HL-4 and HL-6) will also be analyzed for TPH-d by EPA Method 8015 to confirm concentrations are below the ESL.

Select confirmation samples collected in the Sears Area will additionally be analyzed for VOCs and TPH-d by methods 8260B and 8015 (fuel scan), respectively in an abundance of caution to address some low-level detections of VOCs discovered during sampling as part of the closure plan for the Sears Automotive Center approved by the Santa Clara County Fire Department (SCCFD). Excavation sidewall confirmation sampling depths will be based upon field observations of physical signs of potential impacts (staining, odor, PID readings) confirmation samples will be collected from depths where physical signs of physical impacts are observed.

One step out boring discrete sample (OWPI-W5-20) detected TPH-d above the ESL; however, the detection was qualified by the laboratory as not exhibiting the standard chromatographic pattern for TPH-d. However, this sample falls within the excavation area described below and soil will be removed to 21 ft-bgs, or one foot below the sample depth for OWPI-W5-20.

Depending on how safely the individual sampling locations can be accessed, soil samples from the bottom and sidewalls of the excavation will be collected by one of two possible ways. If personnel can safely access the bottom and or sidewalls of the excavation, a small trowel will be used to scoop up enough soil to fill the sample containers. If the sample location is inaccessible, the sample will be collected by filling containers with soil brought to the surface using the excavator bucket.

4.2 DECONTAMINATION

Details concerning decontamination procedures during removal activities are contained in the EMP, Section 2.4 Transportation and Disposal.

After each sample is collected the trowel will be decontaminated by first removing any soil or debris then washing in a non-phosphate detergent solution (such as Liquinox® or Alconox®) followed by a tap water rinse. The decontamination process will be performed within 5-gallon buckets that will be sealed when not in use to prevent accidental release of fluids and will be labeled as to their contents. De

If samples must be collected from the bucket of an excavator, the excavator bucket will be decontaminated between samples by removing any remnant soil with a wire brush until the bucket is visibly free of any soils. If oils are observed on the bucket, then the bucket will be pressure washed in the truck decontamination area followed by a non-phosphate detergent scrub and again a pressure wash rinse.

4.3 SAMPLE HANDLING

Soil samples collected for PCB analysis will be placed into a minimum 1-ounce (oz) laboratory supplied soil sample jar. Soil samples collected for TPH-d analysis will be placed into a minimum 4-ounce (ox) laboratory supplied soil sample jar. Soil samples collected for VOC analysis will be collected with 5-gram En Core® samplers.

Each sample will be identified with the prefix CS ("confirmation sample") along with the sample number (i.e., 01, 02, 03, etc.) followed by the sample depth in parenthesis (i.e. a five-foot sample depth would be written as CS-01(5)).

Precautions will be taken to prevent cross-contamination and contamination of the environment when collecting samples. A clean pair of new, disposable gloves will be worn each time a different sample is collected. In no case will gloved hands be used as a sampling device; the appropriate sampler will always be used to move the sample into the laboratory supplied containers.

Each sample will be labeled with the following information on waterproof labels:

- client - job name
- sample identification number
- sample collection date and time
- sample analysis requested
- sampler name

Samples will be packed for shipment to the laboratory via a courier using the following procedures.

- Inspect the cooler used for shipment to determine that it is in good condition. Place the samples in the cooler with ice. Care should be taken to ensure sample containers are kept cool prior to sample collection to prevent volatilization of contaminates of concern (COCs).

All samples will be accompanied with signed chain-of-custody documentation. The sampler will complete a chain-of-custody form to account for each sample. The chain-of-custody forms will contain the following information:

- project number

- sample numbers
- date and time of sample collection
- analysis requested for each sample
- name of sampling personnel
- date and time sample was relinquished

When the samples are ready for shipment, the sampler will record the date and time on the chain-custody form before relinquishing the samples. Signatures of anyone relinquishing and/or accepting custody of the cooler(s) will sign the chain of custody form. The chain of custody form will be signed when the cooler is received by the laboratory.

4.4 QUALITY CONTROL SAMPLES

As part of quality assurance and quality control (QA/QC), a field duplicate sample will be collected at a minimum sample frequency of every 25 samples, with a minimum of one field duplicate to be collected from the two excavation areas. All field duplicates will be sent blind to the laboratory and analyzed for PCBs by EPA method 8082 (with Soxhlet extraction), with a sample designation similar to other soil samples. The sample designation and location of the duplicate sample will be written in the field notebook and on the WSP copy of the chain-of-custody. The labels and the chain-of-custody forms will not identify the samples as duplicates.

An equipment blank will be collected at a rate of one per type of sampling equipment (trowel or excavator bucket) to document if any cross contamination attributed to using non-dedicated equipment exists. The equipment blank(s) will be collected by pouring lab prepared DI water over the sampling equipment and into the laboratory supplied bottles. Equipment blanks will be analyzed for PCBs by EPA Method 8082.

Additionally, temperature blanks provided by the laboratory will be included in each sample cooler to determine if the samples are at the appropriate temperature for preservation at the time the sample cooler is received by the laboratory.

REFERENCES

Analytical Soil Sampling and Testing Study dated October 25, 2016 and prepared by Geosphere Consultants, Inc.

Closure Letter report- West Side of Mall dated December 11, 2018 and prepared by WSP

Construction Management Plan for Vallco Shopping Center Shoring and Mass Excavation dated October 26, 2018 and prepared by Devcon Construction, Inc.

Environmental Site Management Plan (ESMP) revised August 2019 and prepared by WSP.

GPR Survey Report dated February 11, 2019 and prepared by WSP

Investigation and Management of PCB Contaminated Soil, Former Vallco Mall, Cupertino, California ("Summary Report")" dated August 14, 2020 and prepared by WSP

Regional Water Board, 2019 (San Francisco Bay Regional Water Quality Control Board). Environmental Screening Level (ESL) Workbook. January.

Sears Automotive Center Closure Plan dated March 26, 2019 and prepared by WSP

Sears Closure Report for the Fuel Leak site Case Closure dated December 6, 1999 and prepared by Santa Clara Valley Water District

Site Characterization Report (SCXR) revised August 2019 and prepared by WSP

Stormwater Pollution Prevention Plan (SWPPP) revised April 14, 2020 and prepared by Sandis

ACRONYMS

1,1-DCA	1,1-dichloroethane
1,1-DCE	1,1-dichloroethene
1,2-DCE	1,2-dichloroethene
1,1,1-TCA	1,1,1-trichloroethane
bgs	below ground surface
COE	California-Olive-Emerson
COPC	chemical of potential concern
DQO	data quality objective
HVAC	heating, ventilation, and air conditioning
PCE	tetrachloroethene
PID	Photoionization detector
SIM	Selective ion monitoring
TCE	trichloroethene
USEPA	U.S. Environmental Protection Agency
VIMS	vapor intrusion mitigation system
VOC	volatile organic compound
WSP	WSP USA Inc.

A INVESTIGATION AND MANAGEMENT OF PCB CONTAMINATED SOIL, FORMER VALLCO MALL, CUPERTINO, CALIFORNIA

WSP USA
2025 Gateway Place
Suite 348
San Jose, CA 95110

Tel.:+1 408 453-6100
Fax: +1 408 453-0496
wsp.com

August 14, 2020

Revised March 11, 2021

Vallco Property Owner, LLC
965 Page Mill Road
Palo Alto, CA 94304
Attn: Reed Moulds

Subject: Post Closure Report: Investigation and Management of PCB Contaminated Soil
Former Vallco Mall, 10101 North Wolfe Road Cupertino, California

Dear Mr. Moulds,

Per the request of the Vallco Property Owner, LLC (VPO), WSP USA Inc. (WSP) provides this summary report documenting WSP's investigation of two select areas at the former Vallco mall located at 10123 North Wolfe Road in Cupertino, California (the Site) (Figure 1) and presenting an approach to the remediation and disposal of all impacted soils at the investigation areas. WSP investigated the two areas for polychlorinated biphenyls (PCBs), consistent with the Environmental Site Management Plan (WSP, August 2019) (ESMP). The first is an area in the eastern parking lot adjacent to Wolfe Road and the former Bay Club Fitness Center, herein referred to as the Wolfe Road area. The second area is within the former Sears Automotive Center and is referred to as such below.

BACKGROUND & INVESTIGATION APPROACH

WOLFE ROAD AREA

In September 2016, Vallco retained Geosphere to conduct a subsurface investigation to collect various discrete soil samples at the Site as part of an accompanying geotechnical investigation. Geosphere drilled a total of eight borings (E-1 through E-8) using a mobile direct push GeoProbe® DT-22. A single sample from Geosphere boring E-5 at one foot below ground surface (sample E5-1) contained PCBs at a concentration of 0.523 milligrams per kilogram (mg/kg), which is above the Environmental Screening Levels (ESLs) for residential human health risks (0.230 mg/kg) as established by the San Francisco Regional Water Quality Control Board (RWQCB), revision two, July 2019 and above the Regional Screening Levels (RSLs) for human health risks (0.230 mg/kg) as established by the Department of Toxic Substance Control (DTSC), revised April 2019. The detection of PCBs above the ESL/RSL was isolated to this single sample out of the 32 samples Geosphere collected across the former shopping mall area; however, in accordance with Section 3.3 of the ESMP, WSP performed step-out sampling for PCBs in the area of boring E-5 to delineate the lateral and vertical extent of PCB concentrations in that area. VPO provided the City of Cupertino with a workplan outlining the investigation approach in August 2019 (WSP, 2019a).

Pursuant to the workplan, WSP advanced soil borings to a depth of five feet below ground surface (ft-bgs) in a general grid fashion around boring E-5 (Figure 2). Initially, four soil borings were advanced in a square shape approximately 7.5 feet (ft) away from boring E-5 on each side, with one additional boring advanced adjacent to location E-5 (boring E5P-1) to confirm the original detection of PCBs. If there was a detection of PCBs above the ESL/RSL at the initial sampling location, additional step-out boring locations were advanced in five-foot increments outwards from perimeter borings. Eventually, a total of 29 additional step-out borings were advanced to fully delineate the lateral extent of PCB contamination.

The soil borings were advanced either by hand auger or by a direct push Geoprobe® Rig equipped with Macro Core® continuous core sample tooling. Soil samples were collected at depths of one, three, and five ft-bgs. Only soil samples collected at one and three ft-bgs were analyzed initially; five ft-bgs soil samples were archived and were only analyzed if there were detections of PCBs in the three ft-bgs samples, which occurred at only two of the 34 boring locations (E5P-N and E5P-W). Samples at three ft-bgs at E5P-N-3 had laboratory reporting limits for PCBs above the ESL/RSL and there were PCBs detected at E5P-W-3 (0.046 mg/kg) below the ESL/RSL Samples collected at 5 ft-bgs at these two locations did not detect PCBs. All soil samples were analyzed for PCBs by Environmental Protection Agency (EPA) method 8082 with 18 of the 29 step outs additionally undergoing the soxhlet extraction method preferred by the EPA.

FORMER SEARS AUTOMOTIVE CENTER

The Sears Automotive Center was constructed in 1970 on the southwest side of the Mall property and was later referenced as a closed Leaking Underground Storage Tank (LUST) site on the state Geotracker website. This designation was a result of the removal of six underground storage tanks (UST) in 1985 and dispenser island and product lines in 1994. The Santa Clara County Fire Department (SCCFD) required implementation of an approved closure plan for the demolition of the former Sears Automotive Center due to the presence of an oil-water separator, hydraulic lifts, petroleum fluid pipelines, battery storage area, and lead containing materials. A Closure Plan for the Former Sears Automotive Center was submitted to the SCCFD on March 25, 2019 and approved by the SCCFD by letter dated April 11, 2019 and included soil sampling under the oil-water separator, remnant piping and any other subsurface equipment for proper characterization and subsequent disposal.

Consistent with the Closure Plan, soil samples were collected beneath an oil-water separator, acid neutralization chamber, and 17 hydraulic lifts during building demolition in January through February 2020 to determine if these features had impacted surrounding soil. All soil samples collected were analyzed for the following list of compounds:

- Total petroleum hydrocarbons (TPH) as gasoline (TPH-g), TPH as diesel (TPH-D), and TPH as motor oil (TPH-MO) by EPA method 8015 (fuel scan)
- Hexane Extractable Materials (Oil and Grease) by EPA 1664
- Volatile Organic Compounds (VOCs), with chlorinated hydrocarbons (full scan) by EPA method 8260B
- PCB's by EPA method 8082A
- Cd, Cr, Pb, Ni, and Zn by EPA 6010B
- Semi Volatile Organic Compounds (SVOCs) including Polycyclic Aromatic Hydrocarbons (PAHs) by EPA method 8270

Samples collected from beneath the acid neutralization chamber and the base of 11 hydraulic lifts after their removal, all located on the basement level in the southern portion of the former Sears Automotive Center, did not contain any detections above the respective ESL/RSLs for any of the compounds included in the analysis listed above. After the removal of six hydraulic lift cylinders in the northern portion of the former Sears Automotive Center, samples were taken at three of the six cylinders (locations HL-1, HL-4, and HL-6 on Figure 4) at approximately nine ft-bgs, which is from the soils immediately beneath the base of three of these cylinders. After the removal of the oil-water separator and associated piping, three samples were taken approximately 12 to 14 ft-bgs which is immediately beneath the separator and piping. Several of these samples yielded results that exceed the PCB ESL/RSL; two of three samples beneath the oil-water separator also exceeded the TSCA cleanup level of 1 mg/kg for PCBs. Two samples collected at a depth of nine ft-bgs, immediately below each of two (HL-4 and HL-6) of the three former hydraulic lift

cylinders, exceeded the RSL for TPH-D. Soil sample locations are shown on Figure 4 and analytical results performed for this sampling event as part of the Closure Plan are included as Table 1.

In response to the detections of PCBs above the ESL/RSL, 22 step-out borings were advanced in the northern portion of the Center to delineate the extent of PCB impacted soil and to sample under the remaining three former hydraulic lifts, HL-2, HL-3, and HL-5 (Figure 5). All step-out borings were advanced with a direct push Geoprobe® Rig equipped with Macro Core® continuous core sample tooling. The base of the hydraulic lift cylinders extended to nine ft-bgs and step-out borings for the lifts were advanced to 20 ft-bgs and samples were collected at depths of 9, 12, and 15 ft-bgs. The bottom of the oil-water separator was 12 ft-bgs and step-out borings for the separator were advanced to 25 ft-bgs and samples were collected at depths of 12, 16, and 20 ft-bgs. Additional samples were collected if staining or odor was noted, which only occurred in one boring (HL-6N5). All soil samples were analyzed for PCBs by EPA method 8082 with the Soxhlet extraction method. Additionally, select soil sample depths were sampled for TPH-d and TPH-mo by EPA method 8015.

ANALYTICAL RESULTS

WOLFE ROAD AREA

Analytical results are summarized in Table 2 and are depicted on Figure 2. Total PCBs were found above the ESL/RSL of 0.230 mg/kg in a total of 14 of the 34 borings. The detections of total PCBs above the screening levels were isolated to samples collected from one ft-bgs. The PCB detections were primarily of Aroclor-1254, which was the only Aroclor that contained concentrations greater than the respective screening level. Aroclor-1260 was also detected in some of the one ft-bgs samples; no other aroclors were detected.

Of the borings that had exceedances of the screening levels, the PCB concentration of two boring locations (E5P-W and E5P-NW10) were just above the TSCA cleanup level of 1 mg/kg, with a maximum total PCB concentration of 1.046 mg/kg. In both borings, no singular Aroclor was detected above 1 mg/kg, but rather the sum of the detected aroclors (aroclor-1254 and aroclor-1260) was just above 1 mg/kg.

FORMER SEARS AUTOMOTIVE CENTER

Analytical results are summarized in Table 3 (TPH results) and Table 4 (PCB results) and are depicted on Figures 6 and 7. Of the twenty-two step-out borings, only three discrete samples contained detectable concentrations of PCBs. As discussed above, soil samples taken at approximately nine ft-bgs, which is from immediately beneath each of three of the hydraulic cylinders and three samples taken approximately 12 to 14 feet bgs immediately beneath the oil-water separator contained PCBs exceeding the RSL of 0.230 mg/kg PCBs. Additionally, two of the three samples beneath the oil-water separator exceeded 1 mg/kg of PCBs at 14 feet, with a maximum concentration of 1.9 mg/kg; however, none of the step-out borings detected concentrations of PCBs above the ESL/RSL.

Additionally, only one step out boring discrete sample (OWPI-W5-20) detected TPH-d above the ESL; however, the detection was qualified by the laboratory as not exhibiting the standard chromatographic pattern for TPH-d. However, this sample falls within the excavation area described below and soil will be removed to 21 ft-bgs, or one foot below the sample depth for OWPI-W5-20.

REMEDIAL APPROACH; SOIL EXCAVATION AND DISPOSAL; EPA REGULATORY COMPLIANCE

Under the ESMP, VPO must notify the City if the planned additional sampling finds PCB levels in excess of residential screening levels, and a determination will be made "as to whether a regulatory agency should be contacted to determine if regulatory oversight is required, prior to issuance of a permit that allows soil disturbance in the area of boring E-5."

Given that each of the areas contained PCBs above 1 mg/kg and are located within the footprint of the planned development, excavation that will extend to a depth of five ft-bgs and up to 32 ft-bgs at the Wolfe Road and former Sears Automotive Center areas, respectively. The project team contacted EPA on two occasions in March 2020 and February 2021 to identify an appropriate remedial approach that is consistent with TSCA. Steve Armann, EPA Region 9's PCB Program Coordinator, indicated the following through an e-mail dated February 10, 2021, responding to an e-mail on behalf of the VPO concerning specific conditions at the Former Vallco Mall site:

> "40 CFR 761.61(b) allows for disposal of PCB Remediation Waste without notification or approval from EPA. However, the remediation waste must be disposed of at a TSCA regulated facility...We recommend that you maintain sampling and disposal records. Otherwise there isn't any requirement to follow 761.61(a)."

Among other things, 40 CFR 761.61(b) requires soil containing PCBs above the TSCA threshold of 1 mg/kg to be disposed of as a TSCA waste at a TSCA landfill. In the interest of being consistent with 40 CFR 761.61(a), confirmation base of excavation will be generally performed with sampling using grids with sample spacing every 1.5 meters (approximately five feet) to verify that soil with PCB concentrations greater than 1 mg/kg and 0.230 mg/kg are removed from the previously characterized areas. Confirmation soil samples will generally be collected at the 1.5 meter spacing for excavation bottoms and serve as confirmation samples for the excavation of PCBs impacted soil above 0.230 mg/kg. Specific concerning sidewall sampling are covered in the sections below. The areas that have been identified to contain PCBs above the ESL/RSL of 0.230 mg/kg but are less than the TSCA threshold limit of 1 mg/kg, will be disposed of according to waste acceptance standards for soils containing PCBs at a licensed landfill.

WOLFE ROAD AREA

Based on the approach noted above, WSP estimates that approximately 7 cubic yards of soil, which may contain concentrations of PCBs that equal or exceed 1 mg/kg, will need to be removed from the Wolfe Road area for disposal to a TSCA landfill pursuant to 40 CFR 761.61(b). This total proposed excavation area will be approximately 60 square feet and will extend to three ft-bgs. The PCB excavation area is depicted in context with the project excavation area on Figure 3.

PCBs were not detected above the laboratory reporting limits (RLs) in sample E5P-N-3; however, the RLs for sample E5P-N-3 were high (RL of 1,300 mg/kg for PCB Aroclor 1221 and RL of 660 mg/kg for each of six other PCB Aroclors). The laboratory indicated that the source of the high RLs for sample E5P-N-3 resulted from a hydrocarbon-rich matrix and was therefore not necessarily the result of high PCBs in soil. PCBs were not detected in the soil sample (E5P-N-5) collected from 5 feet bgs at location E5P-N. However, based upon the uncertainties concerning PCB concentrations in the area of E5P-N-3, the soil excavated from the E5P-N area (within an area of 37.5 square feet and four feet deep;

approximately 5.5 cubic yards excavated soil volume)[1] will be segregated. Confirmation samples will be collected at a depth of four feet bgs, the planned excavation depth at the location of E5P-N-3 (see Figure 2A). The segregated soil will be disposed of with the other TSCA-landfill soil. If PCB concentrations in the confirmation samples are greater than 0.230 mg/kg mg/kg, the area will be over-excavated until the confirmation soil samples are less than 0.230 mg/kg, the residential ESL and the over-excavated soils will also be disposed of with the other TSCA-landfill soil. Similarly, sidewall confirmation samples will be collected at three feet and four feet bgs from the four sidewalls of the excavation surrounding E5P-N,(see Figure 2A) consistent with the approach for other excavation areas, to ensure that soils containing PCBs exceeding 0.230 mg/kg have been removed.

The remaining area with PCBs detected above the ESL/RSL of 0.230 mg/kg at one ft-bgs is approximately 714 square feet. Excavation for removal of the PCB contaminated soils to three ft-bgs of this area would yield approximately 73 cubic yards of soil. An outline of the proposed excavation areas is shown on Figures 2 and 3. As noted, confirmation sampling will utilize a grid of approximately 5 feet (1.5 meters) for base of excavation and sidewall samples on the walls of this completed excavation at one foot bgs and three feet bgs.

FORMER SEARS AUTOMOTIVE CENTER

In the area beneath the former oil-water separator where samples exceeded 1 mg/kg of PCBs, WSP proposes to excavate and remove soils from beneath the separator over an area of a 10 feet by 20 feet rectangle at a depth from 12 feet to 21 feet (Figure 8) and arrange for proper disposal of all PCB impacted soils at a TSCA landfill (approximately 66 cubic yards), consistent with 40 CFR 761.61(b). In the area beneath the three hydraulic lift cylinders where soil samples exceeded the PCB ESL/RSL (but are below 1 mg/kg), WSP proposes to excavate and remove soils from beneath each hydraulic cylinder from nine feet to 12 feet bgs and segregate these excavated soils for disposal according to waste acceptance standards for soils containing PCBs at an appropriately licensed landfill. Confirmation samples collected from the excavation around the hydraulic lifts (HL-4 and HL-6) will also be analyzed for TPH-d by EPA Method 8015 to confirm concentrations are below the ESL. The volume of soils to be excavated and segregated for excavation beneath the three former cylinders is estimated at nine cubic yards. Excavation profiles in the former Sears area are shown on Figure 8.

Select confirmation samples collected in the Sears Area (including beneath sample OWPI-W5-20) will be analyzed for VOCs and TPH-d by methods 8260B and 8015 (fuel scan), respectively in an abundance of caution to address some low-level detections of VOCs.

Bottom of excavation confirmation samples will be collected at a grid spacing of approximately five feet. Confirmation sidewall samples will be collected from sidewalls at 12 feet bgs, 16 feet bgs, 20 feet bgs, and 21 ft bgs along the four walls of the planned boundaries of the separator excavation.

Remediation of the former Sears Automotive Center was planned to be performed with oversight/review from the SCCFD under the approved Closure Plan. In August 2020, the SCCFD transferred this responsibility to the Santa Clara County Department of Environmental Health (SCCDEH). The SCCDEH indicated that it may not assume an active oversight role in the removal activities outlined herein but

[1] The closest sampling points to location E5P-N-3 are 5 feet away in three directions and 10 feet away to the south. Therefore, the segregated soil area will be 2.5 feet from location E5P-N-5 to the west, north, and east and 5 feet to the south, resulting in a 37.5 square foot area. The excavation area surrounding E5P-N is depicted on Figures 2 and 3 by a small rectangle located east of the larger excavation rectangle. Confirmation samples at the base of the excavation will be collected at the mid-point of each of the excavation walls and in the center of the excavation and on the four sidewalls as noted above.

would review the Completion Report for the removal activities (referenced below). A Soil Vapor Investigation Report prepared by WSP dated January 26, 2021 will be shared with the SCCDEH. The oversight issue with the SCCDEH is pending final resolution.

Per Section 4, Reporting Requirements, of the ESMP, a closure implementation report ("Completion Report") documenting the removal activities, soil disposal, and confirmation sample results will be generated with the removal of contaminated soils from the former Sears Automotive center and the Wolfe Road area with a copy provided to the SCCDEH for review, comment, and approval and a copy will be submitted to the City of Cupertino. If additional impacted soils are uncovered during subsequent mass excavation activities, the analysis and subsequent disposal of the impacted soil will also be documented in the ESMP Completion Report.

Sincerely,

Richard E. Freudenberger
Senior Director

408.206.3504

REFERENCES

WSP. 2019. Environmental Site Management Plan, Former Vallco Shopping Mall, 10123 North Wolfe Road, Cupertino, California. August.

WSP. 2019a. Workplan for Former Vallco Mall, Delineation of Extent of PCB Impact to Soil. August 20.

FIGURES

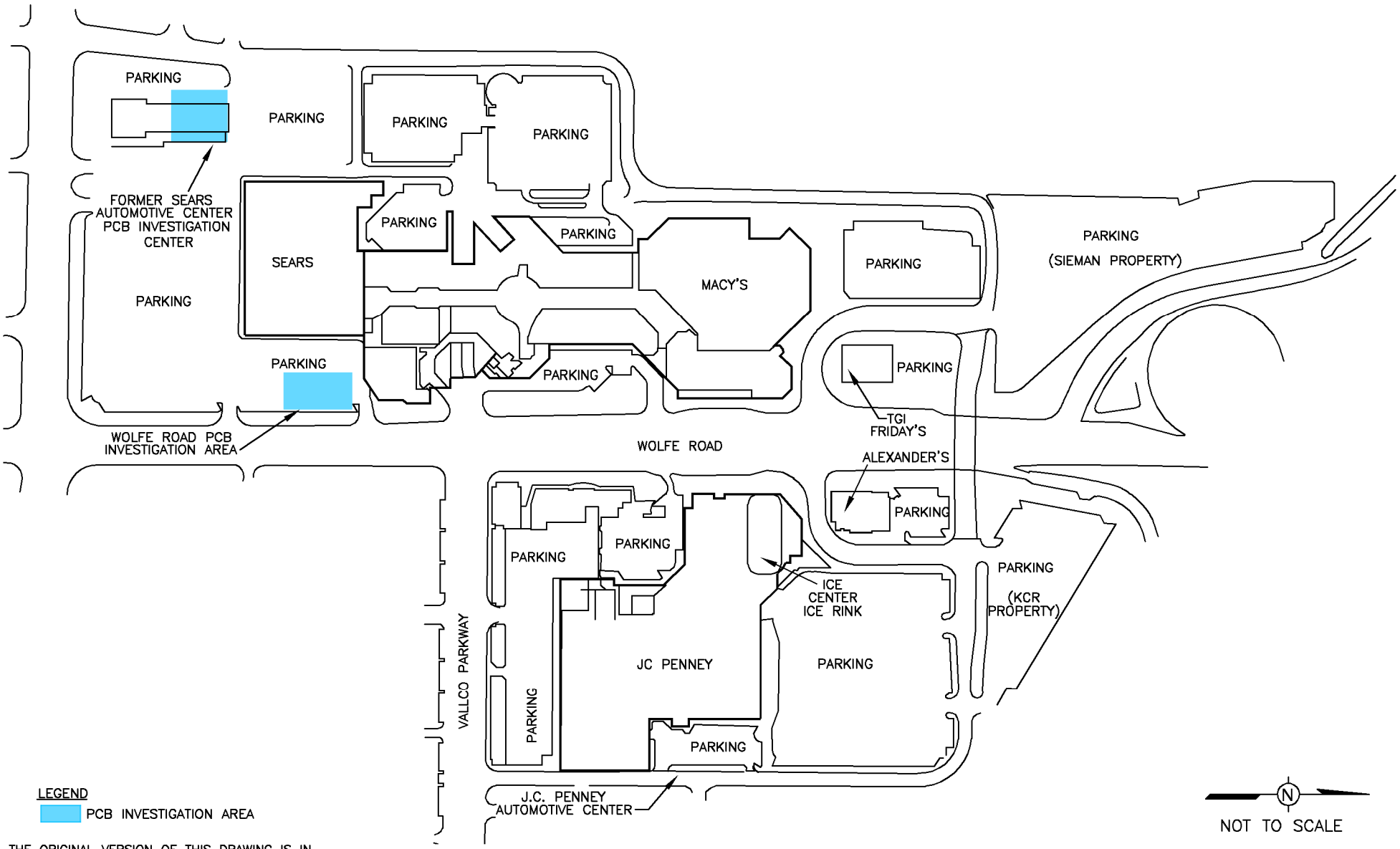
Figure 1 – PCB Investigation Areas
Figure 2 – Wolfe Road PCB Investigation Area
Figure 2A- Confirmation Sample Location- E5P-N-3
Figure 3 – Wolfe Road PCB Excavation Area
Figure 4 – Sears Automotive Center Closure Sample Locations
Figure 5 – Sears Automotive Center PCB Investigation Area
Figure 6 – Hydraulic Lift Step-Out Borings
Figure 7 – Oil-Water Separator Step-Out Borings
Figure 8 – Excavation Profiles

TABLES

Table 1 – Summary of Sears Closure Soil Data
Table 2 – Wolfe Road PCB Data
Table 3 – Sears Center TPH Data
Table 4 – Sears Center PCB Data

FIGURES

R:\Acad\CADD_CLIENTS\VALLCO FASHION MALL\31402265.000\CADD\314MN2265.000-003.dwg 6/10/2020 8:55 PM USLS01166



LEGEND

PCB INVESTIGATION AREA

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A

WSP USA Inc.
2025 GATEWAY PLACE
SUITE 348
SAN JOSE, CA 95110
TEL: +1 408.453.6100

Figure 1

PCB INVESTIGATION AREAS

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

PREPARED FOR

VALLCO PROPERTY OWNER, LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	6/10/2020
Checked:	ER	6/10/2020
Approved:		
DWG Name: 314MN2265.000-003		

NORTH WOLFE ROAD

GRAPHIC SCALE

0 2 4 6 8 10

1 inch = 10 ft.

LEGEND

— — — —	EXISTING PROPERTY LINE
ESP-WW10-1	SAMPLE ID
232	TOTAL PCB CONCENTRATION (mg/kg) RESIDENTIAL PCB ESL = 0.23 (mg/kg)
●	SAMPLE LOCATION (APPROXIMATE LOCATIONS)
ND	NON-DETECT, COMPOUND WAS NOT DETECTED AT A CONCENTRATION GREATER THAN THE REPORTING LIMIT
J	COMPOUND WAS DETECTED AT A CONCENTRATION LESS THAN THE LABORATORY REPORTING LIMIT, BUT GREATER THAN THE METHOD DETECTION LIMIT
SO-NE1-1	SAMPLE ID'S IN ORANGE FONT INDICATE AN EXCEEDANCE OF THE PCB RESIDENTIAL ESL
ESP-NW10-1	SAMPLE ID'S IN RED FONT INDICATE AN EXCEEDANCE OF THE TOXIC SUBSTANCES CONTROL ACT (TSCA) CLEANUP LEVEL OF 1 mg/kg
●	CONFIRMATION SAMPLES (APPROXIMATE LOCATIONS)

SANDIS

Drawn By: SY 2/3/2021
Checked: ND 2/3/2021
Approved:
DWG Name: PCB EXHIBIT – EX-1

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFONIA

FIGURE 2

WOLFE ROAD PCB INVESTIGATION AREA

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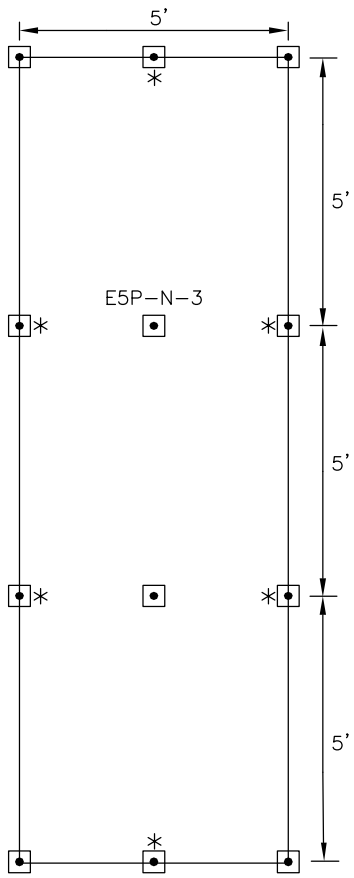
B

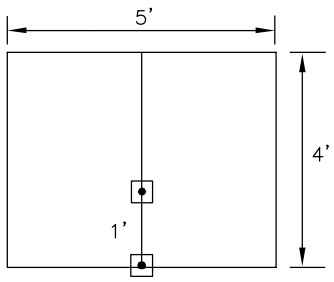
S:\215028\(4) ENGINEERING\(3) EXHIBITS\PCB Exhibits\PCB EXHIBIT - EX-1.dwg 2/3/2021 11:55 AM Lsolis

LEGEND
⊡ CONFIRMATION SAMPLE LOCATION

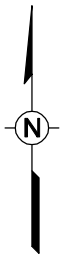
NOTE:
TWELVE (12) SIDEWALL SAMPLES WILL BE COLLECTED, AT TWO DEPTHS (3' AND 4' BGS) AT LOCATIONS WITH * ON SIDEWALL.



E5P-N-3-BASE OF EXCAVATION
WOLFE ROAD AREA



TYPICAL E5P-N-3-
SIDEWALL SAMPLES
FOR EACH SIDEWALL
WOLFE ROAD AREA



NOT TO SCALE

A

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Figure 2A

CONFIRMATION SAMPLE LOCATION – EXCAVATION IN AREA OF E5P-N-3, WOLFE ROAD AREA

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
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VALLCO PROPERTY OWNER, LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	2/25/2021
Checked:	REF	2/25/2021
Approved:		
DWG Name:	314MN2265.000-012	

NORTH WOLFE ROAD

VEHICULAR ROAD

EXISTING PROPERTY LINE

PROPOSED LANDSCAPE AREA

PROPOSED CURB

AREA OF PROJECT EXCAVATION OF APPROXIMATLY 5'

BIKE LANE

PROPOSED CURB

VEHICULAR ROAD

PROPOSED CURB

PROPOSED PROPERTY LINE

SHORING LIMIT

PROPOSED DRIVEWAY

REMEDIAL EXCAVATION TO 3' BELOW EXISTING GRADE

SANDIS

GRAPHIC SCALE

0 2 4 6 8 10

1 inch = 10 ft.

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROJECT EXCAVATION
- PROJECT EXCAVATION (~5' DEPTH)
- PROJECT EXCAVATION (~20' DEPTH)

B

Drawn By: SY 2/3/2021

Checked: ND 2/3/2021

Approved:

DWG Name:PCB EXHIBIT – EX-2

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA

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VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFONIA

FIGURE 3

WOLFE ROAD PCB EXCAVATION AREA

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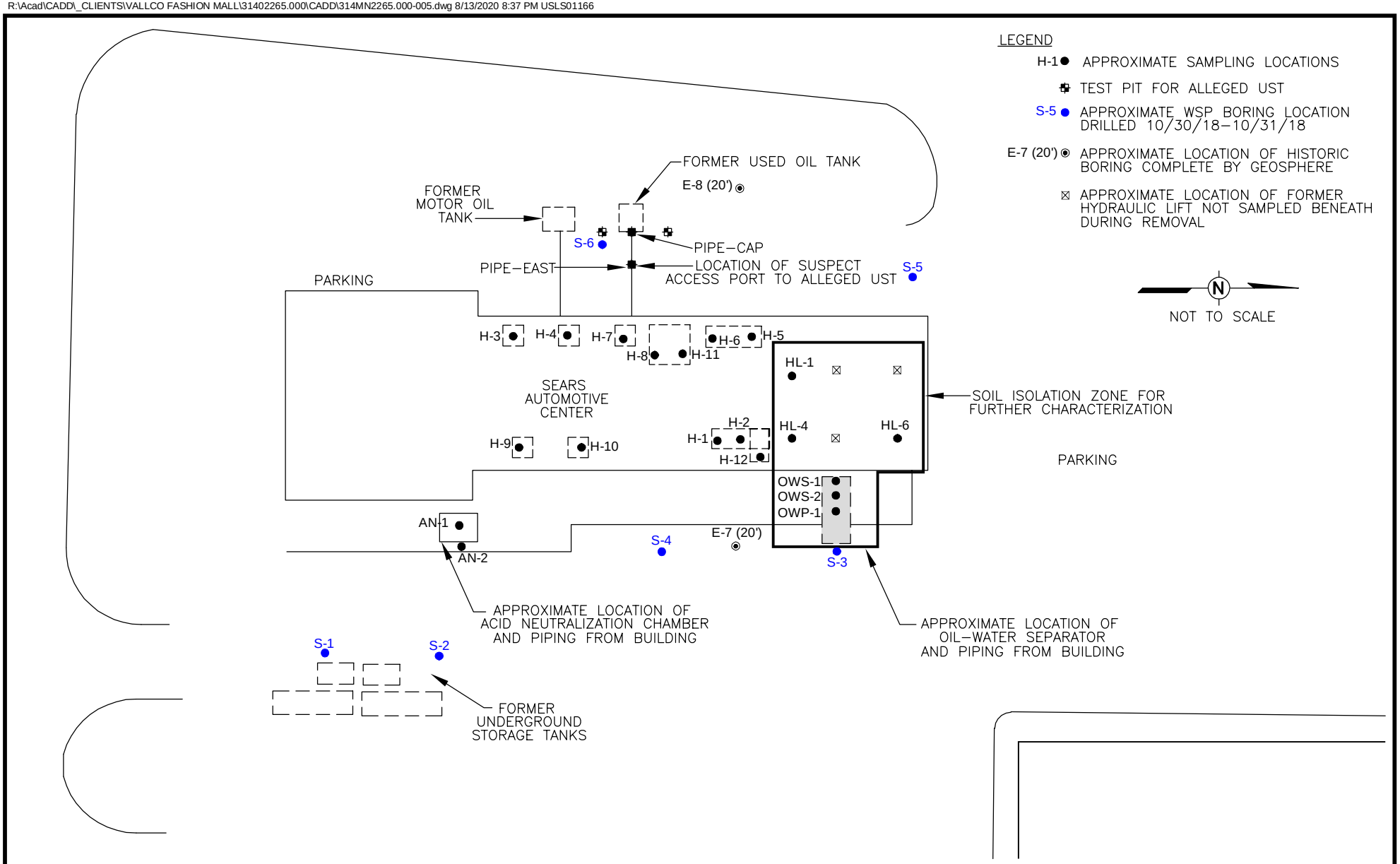

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DRAFT

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Figure 4

SAMPLING LOCATIONS – SEARS AUTOMOTIVE CENTER

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFORNIA

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Approved:		
DWG Name:	314MN2265.000–005	

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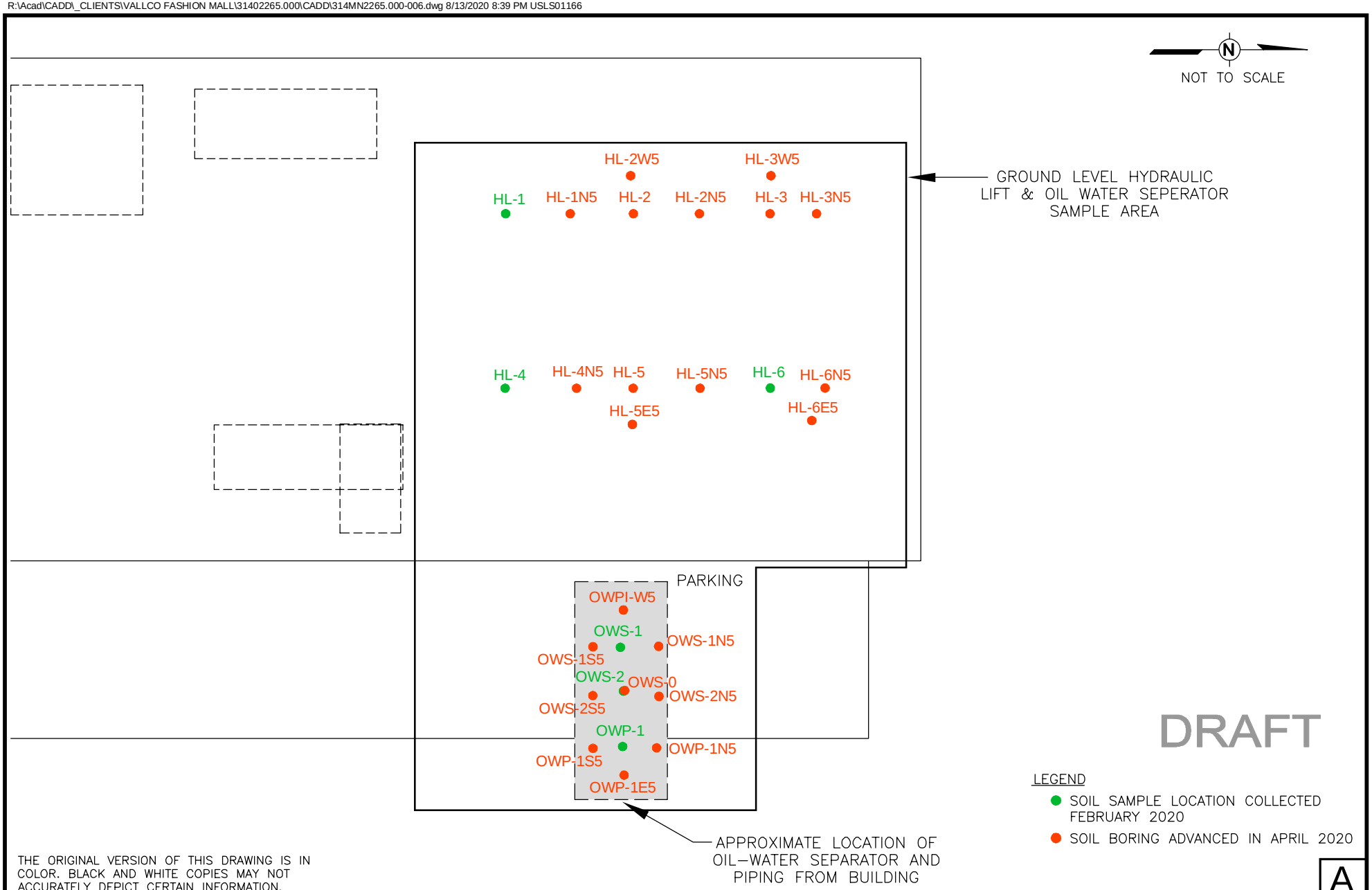

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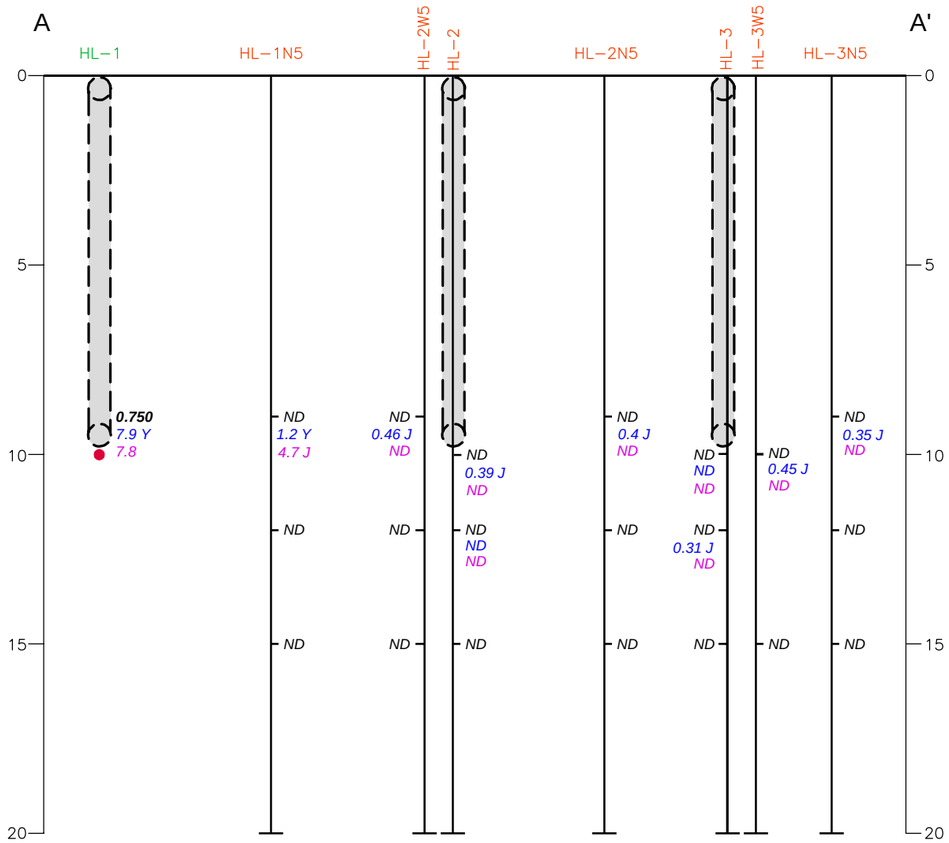
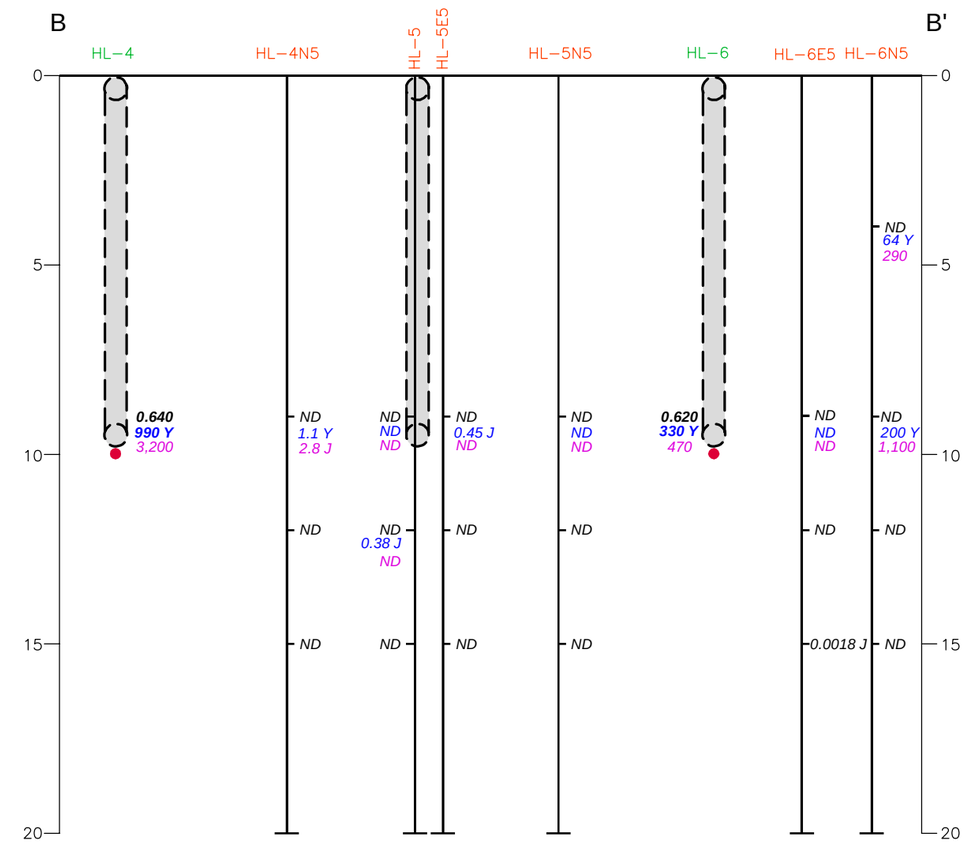
Figure 5

PCB INVESTIGATION AREA – SEARS AUTOMOTIVE CENTER

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFORNIA

Drawn By: LS	6/10/2020
Checked: ER	6/10/2020
Approved:	
DWG Name: 314MN2265.000–006	





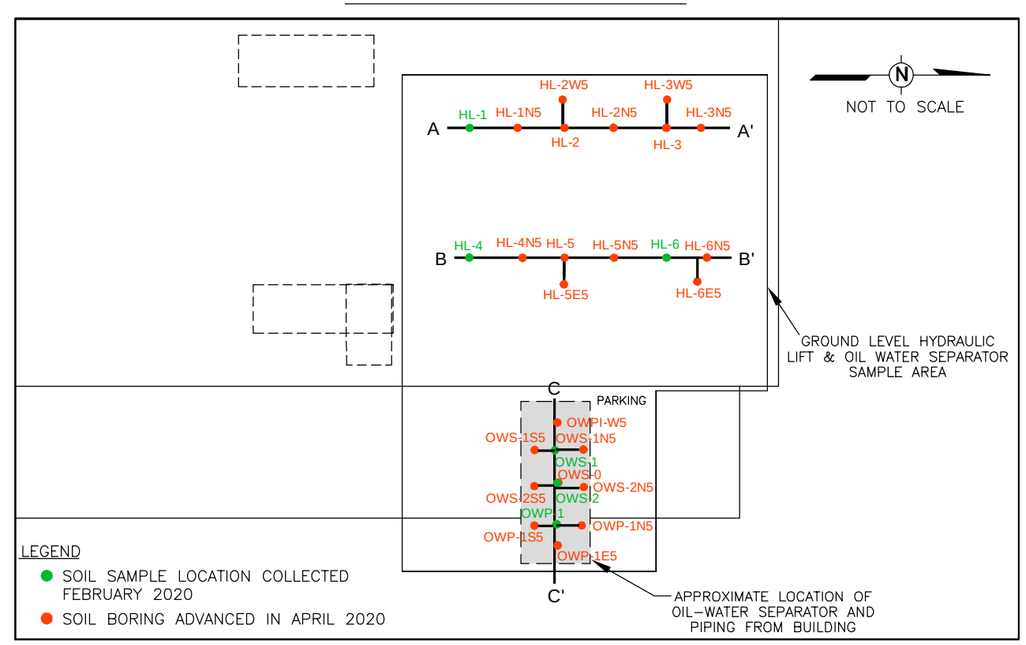
LEGEND

- VERTICAL BORING
- GRAB SAMPLE
- *ND* — NOT DETECTED
- HL–1 — SOIL SAMPLE LOCATION COLLECTED IN FEBRUARY 2020 FROM THE BUCKET OF AN EXCAVATOR
- HL–IN5 — SOIL BORING ADVANCED IN APRIL 2020 WITH GEOPROBE RIG EQUIPPED WITH CONTINUOUS SOIL SAMPLERS
- ALL RESULTS ARE IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg)
- *0.750* — POLYCHLORINATED BIPHENYLS (PCB), SUM
- *7.9* — TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL
- *7.8* — TPH AS MOTOR OIL
- *0.0018 J* — ESTIMATED CONCENTRATION DETECTED BELOW LABORATORY REPORTING LIMIT BUT ABOVE THE METHOD DETECTION LIMIT
- *7.9 Y* — SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN WHICH DOES NOT RESEMBLE STANDARD
- ***BOLD*** VALUES INDICATE AN EXCEEDANCE OF THE RESPECTIVE RESIDENTIAL ENVIRONMENTAL SCREENING LEVEL (ESL)
- APPROXIMATE PROFILE OF HYDRAULIC LIFT CYLINDERS (ALREADY REMOVED)

VERTICAL SCALE (IN FEET): 4

HORIZONTAL SCALE (IN FEET): 10

CROSS SECTION LOCATION MAP



Drawn By: LS 8/6/2020
Checked: ER 8/6/2020
Approved:
DWG Name: 314MN2265.000-001

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFORNIA

Figure 6

CROSS SECTIONS A–A' AND B–B'
SEARS AUTOMOTIVE CENTER

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B

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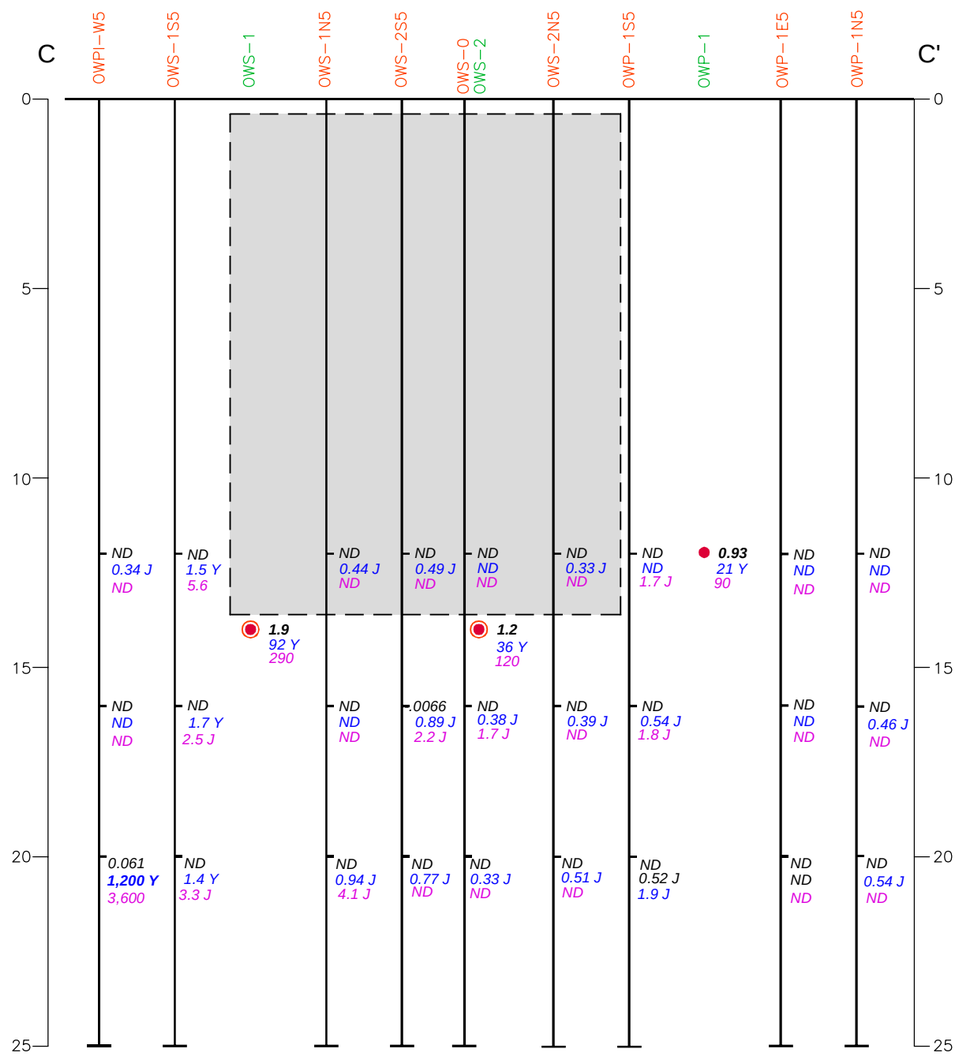
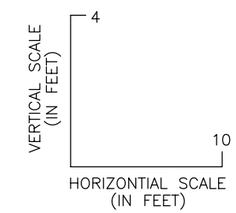
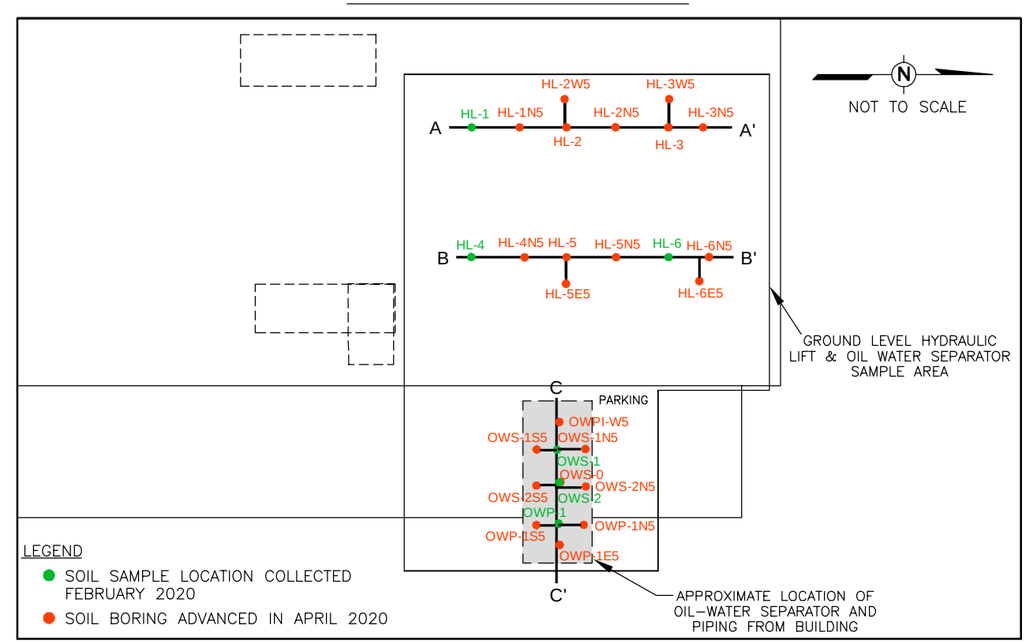


LEGEND

	VERTICAL BORING
●	GRAB SOIL SAMPLE
ND	NOT DETECTED
OWS–1	SOIL SAMPLE LOCATION COLLECTED IN FEBRUARY 2020 FROM THE BUCKET OF AN EXCAVATOR
OWS–1N5	SOIL BORING ADVANCED IN APRIL 2020 WITH GEOPROBE RIG EQUIPPED WITH CONTINUOUS SOIL SAMPLERS
	ALL RESULTS ARE IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg)
0.750	POLYCHLORINATED BIPHENYLS (PCB), SUM
7.9	TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL
7.8	AS MOTOR OIL
0.0018 J	ESTIMATED CONCENTRATION DETECTED BELOW LABORATORY REPORTING LIMIT BUT ABOVE THE METHOD DETECTION LIMIT
7.9 Y	SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN WHICH DOES NOT RESEMBLE STANDARD
	BOLD VALUES INDICATE AN EXCEEDANCE OF THE RESPECTIVE RESIDENTIAL ENVIRONMENTAL SCREENING LEVEL (ESL)
◉	SOIL SAMPLE PCB CONCENTRATION IS ABOVE THE TSCA CLEANUP LEVEL 1 mg/kg
	APPROXIMATE PROFILE OF OIL–WATER SEPARATOR (ALREADY REMOVED)



CROSS SECTION LOCATION MAP



Drawn By: LS 8/6/2020
Checked: ER 8/6/2020
Approved:
DWG Name: 314MN2265.000-002

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER LLC
PALO ALTO, CALIFONIA

Figure 7

CROSS SECTIONS C–C'
SEARS AUTOMOTIVE CENTER

WSP USA Inc.
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SAN JOSE, CA 95110
TEL: +1 408.453.6100

B

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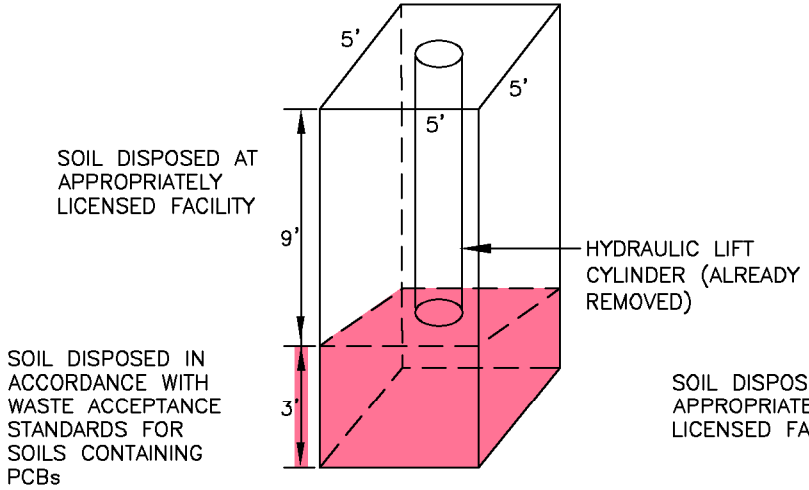
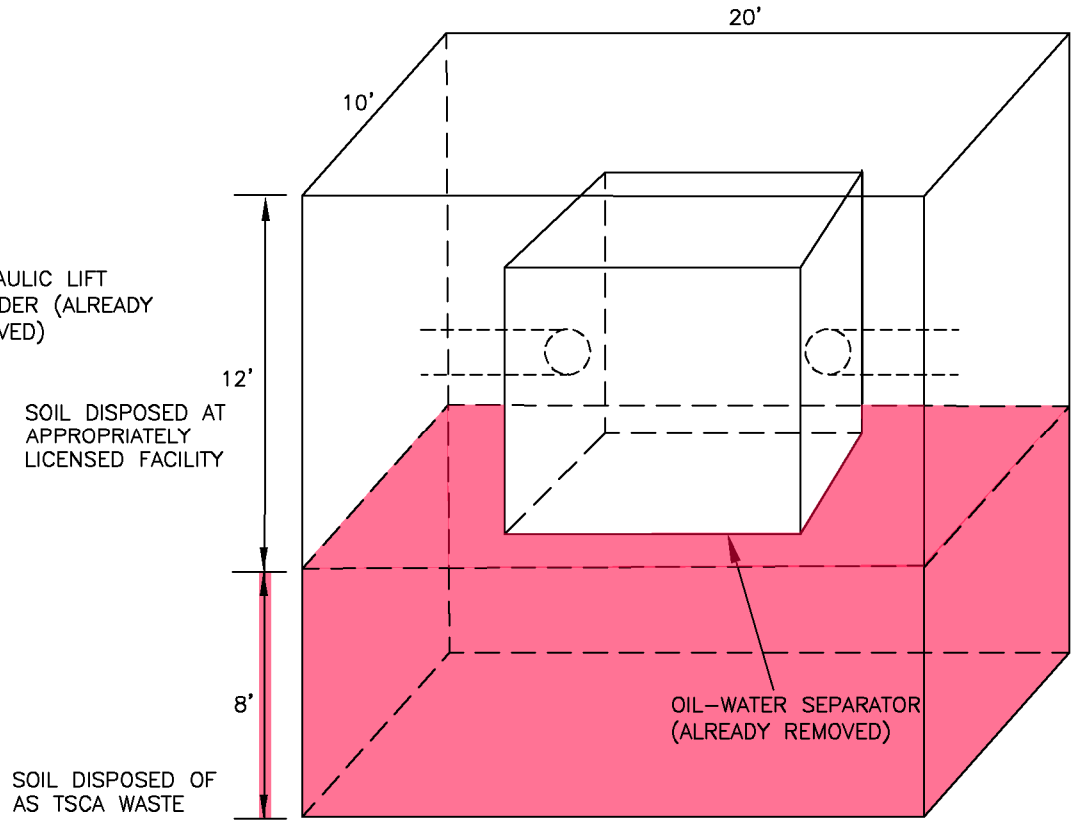
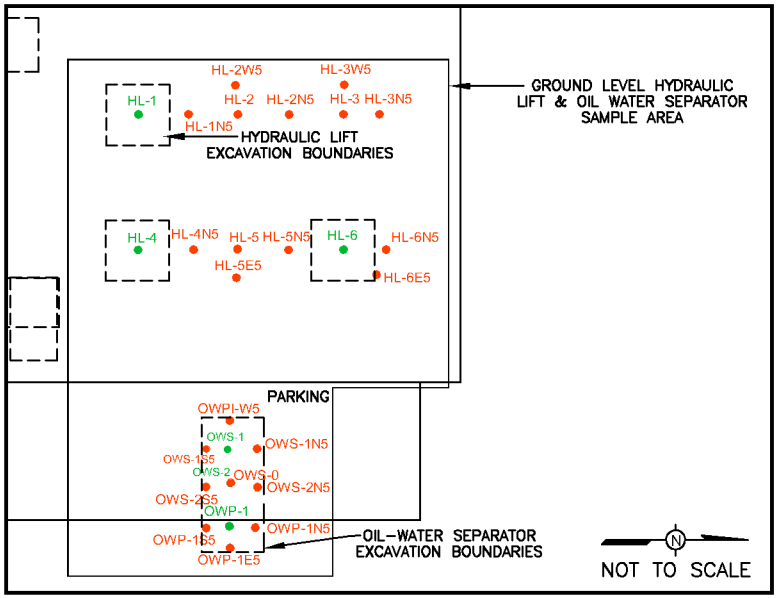


TYPICAL EXCAVATION PROFILES FOR HYDRAULIC LIFTS (HL–1, HL–4, HL–6)



OIL–WATER SEPARATOR EXCAVATION PROFILE

INSET MAP



NOT TO SCALE

A

WSP USA Inc.
2025 GATEWAY PLACE
SUITE 348
SAN JOSE, CA 95110
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Figure 8

FORMER SEARS AUTOMOTIVE CENTER EXCAVATION PROFILES

VALLCO FASHION MALL
10123 NORTH WOLFE ROAD
CUPERTINO, CALIFORNIA
PREPARED FOR
VALLCO PROPERTY OWNER, LLC
PALO ALTO, CALIFORNIA

Drawn By:	LS	8/6/2020
Checked:	ER	8/6/2020
Approved:		
DWG Name:	314MN2265.000–007	

TABLES

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Sample ID [1][2] / Sample Date		ESLs Residential	RSLs Residential	H-1 1/22/20		H-2 1/22/20		H-3 1/22/20		H-4 1/22/20		H-5 1/22/20		H-6 1/22/20		H-7 1/22/20	
Purgeable Aromatics & Total Petroleum Hydrocarbons																	
TPH-g	(mg/kg)	430	--	1	U	1	U	0.98	U	1	U	0.93	U	1	U	1	U
TPH-d	(mg/kg)	260	--	0.92	J	0.70	J	1.1	J	**27**	**Y**	2	U	**3.5**	**Y**	**4.4**	**Y**
TPH-mo	(mg/kg)	12,000	--	10	U	9.9	U	6.2	J	**86**		9.9	U	**15**		**19**	
Oil & Grease	(mg/kg)	--	--	500	U	500	U	500	U	500	U	500	U	500	U	500	U
SVOCs & PAHs [3]																	
bis(2-Ethylhexyl)phthalate	(µg/kg)	3.9E+04	3.9E+04	340	U	340	U	20	J	27	J	340	U	340	U	17	J
VOCs [3]																	
Acetone	(µg/kg)	6.1E+07	--	17	U	20	U	16	U	4.9	J	17	U	3.6	J	16	U
1,1-Dichloroethane	(µg/kg)	3.6E+03	3.6E+03	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
2-Butanone	(µg/kg)	--		8.3	U	10	U	8.2	U	8	U	8.3	U	9.2	U	8.1	U
1,1,1-Trichloroethane	(µg/kg)	1.7E+06	1.7E+06	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
4-Methyl-2-Pentanone	(µg/kg)	--	--	8.3	U	10	U	8.2	U	8	U	8.3	U	0.7	J	8.1	U
Toluene	(µg/kg)	1.1E+06	1.1E+06	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
Tetrachloroethene	(µg/kg)	5.9E+02	5.9E+02	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
Naphthalene	(µg/kg)	3.8E+03	2.0E+03	4.2	U	5.1	U	4.1	U	4	U	4.2	U	4.6	U	4	U
Metals																	
Cadmium	(mg/kg)	78	71	0.24	J	0.25	J	**0.34**		**0.37**		**0.35**		**0.33**		**0.30**	
Chromium	(mg/kg)	--	--	**55**		**47**		**52**		**55**		**51**		**54**		**57**	
Lead	(mg/kg)	80	80	**6.2**		**5.0**		**8.6**		**9.3**		**10**		**7.8**		**9.1**	
Nickel	(mg/kg)	820	820	**57**		**49**		**62**		**66**		**76**		**65**		**65**	
Zinc	(mg/kg)	23,000	23,000	**46**		**40**		**61**		**63**		**62**		**55**		**59**	
PCBs [2]																	
Aroclor-1254	(mg/kg)	0.230	0.240	0.012	U	0.012	U	**0.058**		**0.061**		0.012	U	0.012	U	**0.021**	

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Sample ID [1][2] / Sample Date		ESLs Residential	RSLs Residential	H-8 1/22/20		H-9 1/22/20		H-10 1/22/20		H-11 1/22/20		H-P-12 1/22/20		AN-1 1/22/20		AN-2 1/22/20	
Purgeable Aromatics & Total Petroleum Hydrocarbons																	
TPH-g	(mg/kg)	430	--	1.1	U	1.1	U	1.1	U	1.1	U	1	U	0.96	U	0.96	U
TPH-d	(mg/kg)	260	--	2	U	**9.2**	**Y**	**7.9**	**Y**	**2.2**	**Y**	**3.2**	**Y**	**2.8**	**Y**	**3.2**	**Y**
TPH-mo	(mg/kg)	12,000	--	10	U	**49**		**39**		10	U	6.0	J	3.1	J	3.9	J
Oil & Grease	(mg/kg)	--	--	500	U	500	U	500	U	500	U	500	U	500	U	500	U
SVOCs & PAHs [3]																	
bis(2-Ethylhexyl)phthalate	(µg/kg)	3.9E+04	3.9E+04	330	U	**5,900**		96	J	330	U	340	U	330	U	330	U
VOCs [3]																	
Acetone	(µg/kg)	6.1E+07	--	18	U	16	U	3.7	J	16	U	17	U	19	U	19	U
1,1-Dichloroethane	(µg/kg)	3.6E+03	3.6E+03	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
2-Butanone	(µg/kg)	--		8.8	U	8	U	8	U	8.2	U	8.4	U	9.6	U	9.6	U
1,1,1-Trichloroethane	(µg/kg)	1.7E+06	1.7E+06	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
4-Methyl-2-Pentanone	(µg/kg)	--	--	8.8	U	8	U	8	U	8.2	U	8.4	U	9.6	U	9.6	U
Toluene	(µg/kg)	1.1E+06	1.1E+06	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
Tetrachloroethene	(µg/kg)	5.9E+02	5.9E+02	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
Naphthalene	(µg/kg)	3.8E+03	2.0E+03	4.4	U	4	U	4	U	4.1	U	4.2	U	4.8	U	4.8	U
Metals																	
Cadmium	(mg/kg)	78	71	**0.29**		**0.39**		**0.30**		**0.31**		**0.34**		**0.32**		**1.8**	
Chromium	(mg/kg)	--	--	**52**		**59**		**55**		**56**		**54**		**78**		**97**	
Lead	(mg/kg)	80	80	**7.7**		**10**		**8.3**		**7.2**		**9.4**		**7.5**		**7.6**	
Nickel	(mg/kg)	820	820	**71**		**76**		**65**		**70**		**70**		**88**		**86**	
Zinc	(mg/kg)	23,000	23,000	**55**		**73**		**58**		**53**		**69**		**57**		**69**	
PCBs [2]																	
Aroclor-1254	(mg/kg)	0.230	0.240	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Sample ID [1][2] / Sample Date		ESLs Residential	RSLs Residential	OWS-1 2/7/20		OWS-2 2/7/20		OWP-1 2/7/20		HL-1 2/7/20		HL-4 2/7/20		HL-6 2/7/20	
Purgeable Aromatics & Total Petroleum Hydrocarbons															
TPH-g	(mg/kg)	430	--	0.16	JY	0.98	U	1	U	0.93	U	0.3	JY	1	U
TPH-d	(mg/kg)	260	--	**92**	**Y**	**36**	**Y**	**21**	**Y**	**7.9**	**Y**	**990**	**Y**	**330**	**Y**
TPH-mo	(mg/kg)	12,000	--	**290**		**120**		**90**		**7.8**		**3,200**		**470**	
Oil & Grease	(mg/kg)	--	--	500	U	500	U	500	U	500	U	**2,000**		500	U
SVOCs & PAHs [3]															
bis(2-Ethylhexyl)phthalate	(µg/kg)	3.9E+04	3.9E+04	30	J	330	U	330	U	340	U	**3,400**		74	J
VOCs [3]															
Acetone	(µg/kg)	6.1E+07	--	17	U	17	U	19	U	3.2	J	1,000	U	**26**	
1,1-Dichloroethane	(µg/kg)	3.6E+03	3.6E+03	4.3	U	4.4	U	4.7	U	3.9	U	**48**		3.6	U
2-Butanone	(µg/kg)	--		8.6	U	8.7	U	9.5	U	1.8	J	**16**		6.1	J
1,1,1-Trichloroethane	(µg/kg)	1.7E+06	1.7E+06	4.3	U	4.4	U	4.7	U	3.9	U	**11**		3.6	U
4-Methyl-2-Pentanone	(µg/kg)	--	--	8.6	U	8.7	U	9.5	U	7.8	U	**12**		7.2	U
Toluene	(µg/kg)	1.1E+06	1.1E+06	4.3	U	4.4	U	4.7	U	3.9	U	**8.1**		3.6	U
Tetrachloroethene	(µg/kg)	5.9E+02	5.9E+02	4.3	U	4.4	U	4.7	U	3.9	U	**41**		3.6	U
Naphthalene	(µg/kg)	3.8E+03	2.0E+03	4.3	U	4.4	U	4.7	U	3.9	U	**4.4**		3.6	U
Metals															
Cadmium	(mg/kg)	78	71	**0.32**		**0.3**		**0.41**		**0.46**		**0.32**		**0.27**	
Chromium	(mg/kg)	--	--	**80**		**57**		**84**		**93**		**86**		**89**	
Lead	(mg/kg)	80	80	**7.9**		**8.2**		**8.7**		**7.8**		**7.7**		**6.9**	
Nickel	(mg/kg)	820	820	**80**		**63**		**67**		**96**		**86**		**86**	
Zinc	(mg/kg)	23,000	23,000	**62**		**58**		**55**		**59**		**59**		**55**	
PCBs [2]															
Aroclor-1254	(mg/kg)	0.230	0.240	**1.9**		**1.2**		**0.93**		**0.75**		**0.64**		**0.62**	

Table 1

Sears Closure - Summary of Detected Results
Former Vallco Mall
10123 North Wolfe Road, Cupertino, CA

Notes:

mg/kg = milligram per kilogram
µg/kg = microgram per kilogram
U = not detected above the method detection limit; reporting limit shown
J = concentration detected between the method detection limit and the reporting limit and is considered an estimate
Y = sample exhibits chromatographic pattern which does not resemble standard
-- = not available
SVOCs = Semi-volatile organic compounds
PAHs = Polycyclic aromatic hydrocarbons
VOCs = Volatile organic compounds
PCBs = Polychlorinated biphenyl
ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019 (revision 2). Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.
RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

[1] = Bold values indicate a detection above the reporting limit. Shaded values indicate an exceedance of the screening levels.
[2] = Samples H-1 through H-11, including sample H-P-12 were collect beneath hydraulic lifts that extended in to the basement level on January 22, 2020. Samples AN-1 and AN-2 were collected beneath/ around the former acid neutralization chamber on January 22, 2020. Samples OW-1, OW-3, and OWP-1 were collect beneath/ around the former oil-water seperator on February 7, 2020. Samples HG-1 through HG-3 were collected beneath hydraulic lifts at ground level, in the northern portion of the building on February 7, 2020
[3] = Only analytes detected over the reporting limit in at least one sample are shown.

Table 2

Wolfe Rd PCB Summay Table
Former Vallco Mall
10123 North Wolfe Rd. Sunnyvale, CA

Sample ID [1][2]	Collection Date	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [4] (mg/kg)	
E5-1 [3]	9/6/2016	0.034	U	0.043	U	0.042	U	0.034	U	0.034	U	**0.523**		0.034	U	**0.523**	
E5-2 [3]	9/6/2016	0.0066	U	0.0084	U	0.0083	U	0.0066	U	0.0066	U	0.0079	U	0.0066	U	ND	
E5-3 [3]	9/6/2016	0.0066	U	0.0084	U	0.0083	U	0.0066	U	0.0066	U	0.0079	U	0.0066	U	ND	
E5P-1	10/4/2019	0.032	U	0.065	U	0.032	U	0.032	U	0.032	U	**0.75**		**0.13**		**0.88**	
E5P-3	10/4/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-N-1	10/4/2019	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	**0.83**		**0.11**		**0.94**	
E5P-N-3	10/4/2019	660	U	1,300	U	660	U	660	U	660	U	660	U	660	U	ND	
E5P-N-5 [5]	10/4/2019	0.034	U	0.067	U	0.034	U	0.034	U	0.034	U	0.034	U	0.034	U	ND	
E5P-S-1	10/4/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.043**		0.0078	J	**0.0508**	
E5P-S-3	10/4/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-E-1	10/4/2019	0.034	U	0.068	U	0.034	U	0.034	U	0.034	U	**0.15**		0.027	J	**0.177**	
E5P-E-3	10/4/2019	0.02	U	0.04	U	0.02	U	0.02	U	0.02	U	0.02	U	0.015	J	0.015	J
E5P-W-1	10/4/2019	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	**0.92**		**0.14**		**1.06**	
E5P-W-3	10/4/2019	0.02	U	0.041	U	0.02	U	0.02	U	0.02	U	0.02	U	**0.023**		**0.023**	
E5P-W-5 [5]	10/4/2019	0.033	U	0.065	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	ND	
E5P-NN5-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.24**		**0.044**		**0.284**	
E5P-NN5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-NN10-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.38**		**0.06**		**0.44**	
E5P-NN10-3	10/31/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-NE5-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.19**		**0.042**		**0.232**	
E5P-NE5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.008	J	0.008	J
E5P-NE10-1	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	**0.15**		**0.037**		**0.187**	
E5P-NE10-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.010	J	10	J
E5P-NW5-1	10/30/2019	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	**0.75**		**0.091**		**0.841**	
E5P-NW5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-NW10-1	10/30/2019	0.013	U	0.026	U	0.013	U	0.013	U	0.013	U	**0.95**		**0.096**		**1.046**	
E5P-NW10-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WW5-1	10/30/2019	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	**0.67**		**0.082**		**0.752**	
E5P-WW5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WW10-1	10/30/2019	0.013	U	0.027	U	0.013	U	0.013	U	0.013	U	**0.18**		**0.028**		**0.208**	
E5P-WW10-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WS5-1	10/30/2019	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	**0.57**		**0.061**		**0.631**	
E5P-WS5-3	10/30/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	
E5P-WS10-1	10/31/2019	0.013	U	0.026	U	0.013	U	0.013	U	0.013	U	**0.48**	B	**0.079**		**0.559**	
E5P-WS10-3	10/31/2019	0.012	U	0.024	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	ND	

Table 2

Wolfe Rd PCB Summay Table
Former Vallco Mall
10123 North Wolfe Rd. Sunnyvale, CA

Sample ID [1][2]	Collection Date	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [4] (mg/kg)	
SO-E1-1	2/14/2020	0.0066	U	0.013	U	0.0066	U	0.0066	U	0.0066	U	**0.025**		0.0066	U	**0.025**	
SO-E1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-E2-1	2/14/2020	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	**0.12**		0.033	U	**0.12**	
SO-E2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	
SO-N1-1	2/14/2020	0.034	U	0.067	U	0.034	U	0.034	U	0.034	U	**0.28**		0.034	U	**0.28**	
SO-N1-3	2/14/2020	0.0048	U	0.0097	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-N2-1	2/14/2020	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	0.014	J	0.033	U	0.014	J
SO-N2-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NE1-1	2/14/2020	0.01	U	0.02	U	0.01	U	0.01	U	0.01	U	**0.26**		0.01	U	**0.26**	
SO-NE1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NE2-1	2/14/2020	0.01	U	0.02	U	0.01	U	0.01	U	0.01	U	0.0089	J	0.01	U	0.0089	J
SO-NE2-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NW1-1	2/14/2020	0.01	U	0.02	U	0.01	U	0.01	U	0.01	U	**0.16**		0.01	U	**0.16**	
SO-NW1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NW2-1	2/14/2020	0.033	U	0.066	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	ND	
SO-NW2-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-NW3-1	2/14/2020	0.0066	U	0.013	U	0.0066	U	0.0066	U	0.0066	U	**0.012**		0.0066	U	**0.012**	
SO-NW3-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	**0.038**		0.0067	U	**0.038**	
SO-S1-1	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	**0.022**		0.017	U	**0.022**	
SO-S1-3	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	ND	
SO-S2-1	2/14/2020	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	ND	
SO-S2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	
SO-SW1-1	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.015**		0.0048	U	**0.015**	
SO-SW1-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-SW2-1	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	**0.27**		0.017	U	**0.27**	
SO-SW2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	

Table 2

Wolfe Rd PCB Summay Table
Former Vallco Mall
10123 North Wolfe Rd. Sunnyvale, CA

Sample ID [1][2]	Collection Date	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [4] (mg/kg)	
SO-SW3-1	2/14/2020	0.017	U	0.033	U	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	ND	
SO-SW3-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-SW4-1	2/14/2020	0.033	U	0.067	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	ND	
SO-SW4-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-W1-1	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	**0.21**		0.0067	U	**0.21**	
SO-W1-3	2/14/2020	0.0066	U	0.013	U	0.0066	U	0.0066	U	0.0066	U	0.0066	U	0.0066	U	ND	
SO-W2-1	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	**0.0071**		0.0067	U	**0.0071**	
SO-W2-3	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	0.0067	U	ND	
SO-W3-1	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.0059**		0.0048	U	**0.0059**	
SO-W3-3	2/14/2020	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
SO-W4-1	2/14/2020	0.0067	U	0.013	U	0.0067	U	0.0067	U	0.0067	U	0.0065	J	0.0067	U	0.0065	J
SO-W4-3	2/14/2020	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
ESLs Residential (mg/kg)		--		--		--		--		--		--		--		0.230	
RSLs Residential (mg/kg)		4		0.200		0.170		0.230		0.230		0.240		0.240		0.230	

Notes:

mg/kg = millograms per kilogram

ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019. Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.

RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

U = compound was not detected at a concentration greater than the reporting limit shown

J = compound was detected at a concentration less than the laboratory reporting limit, but greater than the method detection limit

B = analyte detected in the associated method blank and in the sample

-- = not applicable or not available

[1] Bold results indicate the concentration is greater than the reporting limit; results in red font indicate exceedance of screening levels. Gray gradient indicates increased depth within soil boring

[2] For samples with E5P identifier, sample nomenclature is as follows: "sample location - direction from original boring - sample depth". For samples with SO identifier, sample nomenclature is as follows: "sample type (SO=step-out boring) - relative direction-sample depth". All samples were collected by WSP excluding those qualified by note 3.

[3] Samples collected by Geosphere consultants, inc. on September 6, 2016. Sample E5-1 was collected at a depth of 1 foot below ground surface (ft-bgs), sample E5-2 was collected at 5 ft-bgs, and sample E5-3 was collected at 10 ft-bgs.

[4] The PCB-sum is the sum of any detected aroclor listed above method dection limit.

[5] Sample analyzed out-side of hold time; however, the laboratory has advised the data should be respresentative as the new analytical method update has extended the hold time to 1 year but California has not yet adopted the hold time.

Table 3

Sears Center Investigation Area - TPH Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	TPH-d (mg/kg)		TPH-mo (mg/kg)	
HL-1	**7.9**	**Y**	**7.8**	
HL-1N5-9	**1.2**	**Y**	4.7	J
HL-2-10	0.39	J	5	U
HL-2-12	1	U	5	U
HL-2N5-9	0.4	J	5	U
HL-2W5-9	0.46	J	5	U
HL-3-10	1	U	5	U
HL-3-12	0.31	J	5	U
HL-3N5-9	0.35	J	5	U
HL-3W5-10	0.45	J	5	U
HL-4	**990**	**Y**	**3200**	
HL-4N5-9	**1.1**	**Y**	2.8	J
HL-5-9	1	U	5	U
HL-5-12	0.38	J	5	U
HL-5N5-9	1	U	5	U
HL-5E5-9	0.45	J	5	U
HL-6	**330**	**Y**	**470**	
HL-6N5-4	**64**	**Y**	**290**	
HL-6N5-9	**200**	**Y**	**1100**	
HL-6E5-9	1	U	5	U
OWS-1	**92**	**Y**	**290**	
OWS-O-12	0.99	U	5	U
OWS-O-16	0.38	J	1.7	J
OWS-O-20	0.33	J	5	U
OWS-1N5-12	0.44	J	5	U
OWS-1N5-16	1	U	5	U
OWS-1N5-20	0.94	J	4.1	J
OWS-1S5-12	**1.5**	**Y**	**5.6**	
OWS-1S5-16	**1.7**	**Y**	2.5	J
OWS-1S5-20	**1.4**	**Y**	3.3	J
OWS-2	**36**	**Y**	**120**	
OWS-2N5-12	0.33	J	5	U
OWS-2N5-16	0.39	J	5	U
OWS-2N5-20	0.51	J	5	U
OWS-2S5-12	0.49	J	5	U
OWS-2S5-16	0.89	J	2.2	J
OWS-2S5-20	0.77	J	5	U

Table 3

Sears Center Investigation Area - TPH Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	TPH-d (mg/kg)		TPH-mo (mg/kg)	
OWP-1	**21**	**Y**	**90**	
OWP-1N5-12	1	U	5	U
OWP-1N5-16	0.46	J	5	U
OWP-1N5-20	0.54	J	5	U
OWP-1S5-12	1	U	1.7	J
OWP-1S5-16	0.54	J	1.8	J
OWP-1S5-20	0.52	J	1.9	J
OWP-1E5-12	1	U	5	U
OWP-1E5-16	0.99	U	5	U
OWP-1E5-20	1	U	5	U
OWPI-W5-12	0.34	J	5	U
OWPI-W5-16	1	U	5	U
OWPI-W5-20	**1200**	**Y**	**3600**	
Residential ESL	260		12,000	
Residential RSL	**--**		**--**	

Notes:

mg/kg = milligram per kilogram

J = concentration detected between the method detection limit and the reporting limit and is considered an estimate

Y = sample exhibits chromatographic pattern which does not resemble standard

-- = not available

TPH = total petroleum hydrocarbons (TPH) as diesel (TPH-d) and as motor oil (TPH-mo)

ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019 (revision 2). Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.

RSLs Residential = Regional Screening Levels (RSLs) for exposure to cancer/noncancer residential soil established by the Department of Toxic Substances Control (DTSC), revised April 2019 and the Environmental Protection Agency (EPA), revised May 2019.

[1] = Bold values indicate a detection above the reporting limit. Shaded values indicate an exceedance of the screening levels.

[2] = Sample nomenclature is sample area (HL = hydraulic lift; OWS = oil-water seperator; OWP = oil-water seperator pipe)- relative direction - sample depth (in feet below ground surface). Bold sample ID's were collected in Feburary 2020. All other samples were collected in April 2020 in an effort to delineate TPH-d,mo concentrations in soil in the area.

Table 4

Sears Center Investigation Area - PCB Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [3] (mg/kg)
HL-1	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**0.75**		0.067	U	**0.75**
HL-1N5-9	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-1N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-1N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2-10	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-2-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2-15	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-2N5-9	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2N5-15	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2W5-9	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-2W5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-2W5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3-10	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3-12	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-3-15	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3N5-9	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3W5-10	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-3W5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-4	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**0.64**		0.067	U	**0.64**
HL-4N5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-4N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-4N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5-12	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND
HL-5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5N5-9	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
HL-5N5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND

Table 4

Sears Center Investigation Area - PCB Data
Former Vallco Mall
10123 North Wolfe Road, Cupertino, California

Sample ID [1][2]	Aroclor- 1016 (mg/kg)		Aroclor-1221 (mg/kg)		Aroclor-1232 (mg/kg)		Aroclor-1242 (mg/kg)		Aroclor-1248 (mg/kg)		Aroclor-1254 (mg/kg)		Aroclor-1260 (mg/kg)		PCB- sum [3] (mg/kg)	
HL-5E5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-5E5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-5E5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6	0.066	U	0.13	U	0.066	U	0.066	U	0.066	U	**0.62**		0.066	U	**0.62**	
HL-6N5-4	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6N5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6N5-15	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6E5-9	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6E5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
HL-6E5-15	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0018	J	0.0048	U	0.0018	J
OWS-O-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-O-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-O-20	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND	
OWS-1	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**1.9**		0.067	U	**1.9**	
OWS-1N5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1N5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1N5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1S5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.01**		0.0048	U	**0.01**	
OWS-1S5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-1S5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2	0.067	U	0.13	U	0.067	U	0.067	U	0.067	U	**1.2**		0.067	U	**1.2**	
OWS-2N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2N5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2N5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWS-2S5-12	0.0047	U	0.0095	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	0.0047	U	ND	
OWS-2S5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	**0.0066**		0.0048	U	**0.0066**	
OWS-2S5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWP-1	0.066	U	0.13	U	0.066	U	0.066	U	0.066	U	**0.93**		0.066	U	**0.93**	
OWP-1N5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWP-1N5-16	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	
OWP-1N5-20	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND	

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OWP-1S5-12	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1S5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1S5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1E5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1E5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWP-1E5-20	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWPI-W5-12	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWPI-W5-16	0.0048	U	0.0096	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	0.0048	U	ND
OWPI-W5-20	0.0048	U	0.0095	U	0.0048	U	0.0048	U	0.0048	U	**0.061**		0.0048	U	**0.061**
ESLs Residential (mg/kg)	--		--		--		--		--		--		--		0.230
RSLs Residential (mg/kg)	4		0.200		0.170		0.230		0.230		0.240		0.240		0.230

Notes:

mg/kg = millogram per kilogram

PCB = polychlorinated biphenyl

ESLs Residential = Environmental Screening Levels (ESLs) for direct exposure to human health for residential shallow soil exposure as established by the San Francisco (SF) Water Board, revised January 2019. Screening levels listed are for either cancer risk or non-cancer hazards; if a screening level for both cancer risk and non-cancer hazards existed, the lower screening level was listed.

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J = compound was detected at a concentration less than the laboratory reporting limit, but greater than the method detection limit

-- = not applicable or not available

[1] Bold results indicate the concentration is greater than the reporting limit; results in red font indicate exceedance of screening levels. Gray gradient indicates increased depth within soil boring

[2] Sample nomenclature is sample area (HL = hydraulic lift; OWS = oil-water seperator; OWP = oil-water seperator pipe)- relative direction - sample depth (in feet below ground surface). Bold sample ID's were collected in Feburary 2020. All other samples were collected in April 2020 in an effort to delineate PCB concentrations in soil in the area.

[3] The PCB-sum is the sum of any detected aroclor listed above method dection limit.

APPENDIX

F

DEVCON CONSTRUCTION MANAGEMENT PLAN (DCMP)

Construction Management Plan for Vallco Shopping Center Shoring and Mass Excavation

Prepared for

The City of Cupertino

Prepared by

Devcon Construction, Inc.

February 8, 2021

1. Project Overview & Site Plan

The overall project site is located on the 50.82 acre Vallco mall property in the City of Cupertino, between interstate 280 and Steven's Creek Boulevard and on both sides of North Wolfe Road. This project involves the shoring and mass excavation work for the portion of the project that is located west of Wolfe. Rd.

Construction activities under the revised project will be conducted in accordance with provisions of the City's Municipal Code which limit temporary construction work to daytime hours (7:00 AM to 8:00 PM), Monday through Friday. Certain types of construction are prohibited on weekends and all holidays pursuant to Municipal Code Sections 10.48.053(B), (C) and (D). No truck access shall be allowed outside the hours of operation. Construction work within the public right of way shall adhere to specific time frame per the traffic control plan(s).

Project Contact Information as follows:
24-Hour Emergency Contact:
Dwight Harris (408) 510-1884 (Contractor Superintendent)
Paul Hansen (408) 442-2121 (Applicant Project Manager)
Mark Parker (408) 396-4099 (Applicant Security Director)
Project QSD: Roy LaTess – (925) 301-1442
Project QSP: Ken Sullivan – (408) 519-8365

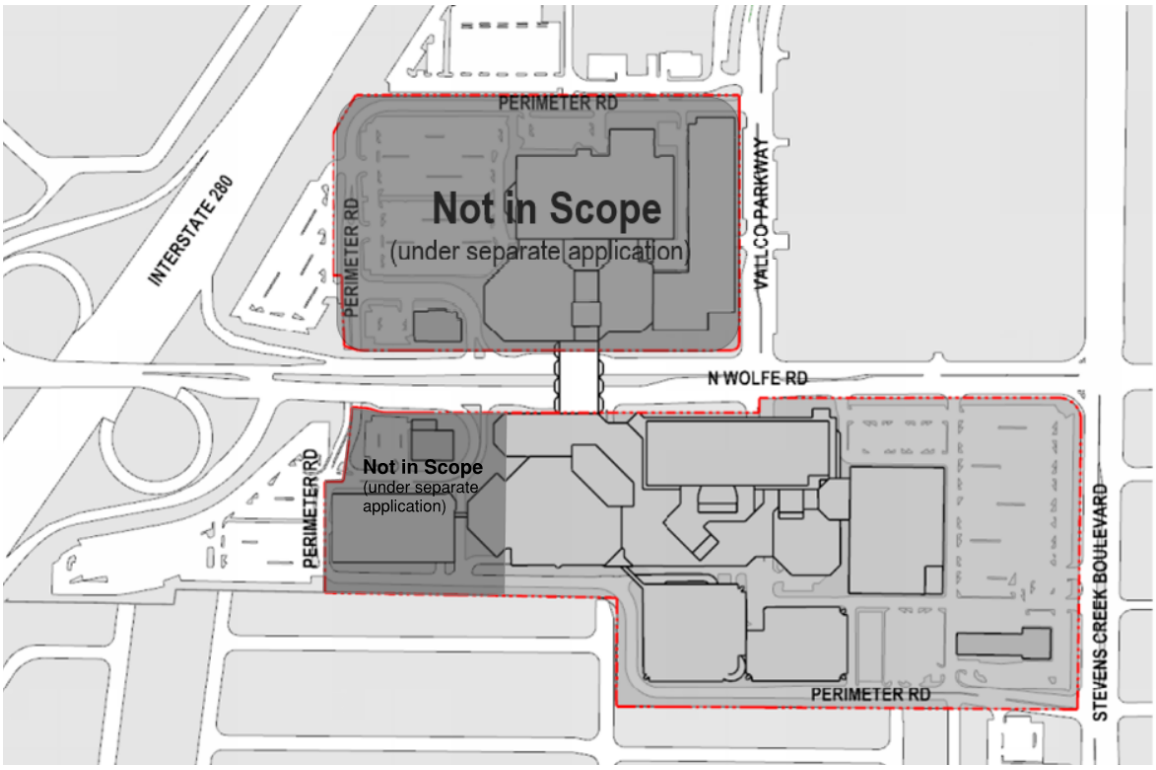


Figure 1. Site Plan

2. Air Quality

2.1 AQ-2a - PM10

Contractor shall comply with current Bay Area Air Quality Management District's ("BAAQMD") basic control measures for reducing construction emissions of PM10.

2.2 Dust Control

The BAAQMD Best Management Practices for dust control shall be implemented for all construction activities within the Vallco Town Center Project boundaries. These measures will reduce dust emissions primarily during soil movement, grading and demolition activities, but also during vehicle and equipment movement on unpaved project sites:

- Pave, apply water at least **three** times daily and more often during windy periods to prevent visible dust from leaving the site. Active areas adjacent to existing land uses, including all unpaved access roads, parking areas and staging areas at construction sites shall be kept damp at all times, or shall be treated with (non-toxic) soil stabilizers or dust palliatives.

- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

- All visible mud or dirt track-out onto adjacent public roads and private roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

- All vehicle speeds on unpaved roads shall be limited to 15 mph.

- Sweep streets daily, or more often if necessary (preferably with water sweepers) if visible soil material is carried onto adjacent public streets.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

- A publicly visible sign shall be posted with the telephone number and person to contact regarding dust complaints at all exterior construction entrances. This person shall respond and take corrective action within 48 hours. The designated contact is the project's 24-hr emergency contact, Clint Magill, phone number (408) 210-7571, and Paul Hansen, phone number (408) 442-2121. BAAQMD's phone number shall also be posted on the same sign to ensure compliance with applicable regulations.

2.3 Construction Emissions Minimization

- All off-road equipment shall have engines that meet either U.S. EPA or California Air Resources Board (CARB) Tier 4 final off-road emission standards. If engines that comply with Tier 4 off-road emission standards are not commercially available, then the contractor shall provide the next cleanest piece of off-road equipment as provided by the step-down schedules in the table below. "Commercially available" shall mean the availability of Tier 4 equipment taking into consideration factors such as: (i) critical path timing of construction; (ii) geographic proximity to the Project site of equipment; and (iii) geographic proximity of access to off haul deposit sites.

Off-Road Equipment Compliance Step-Down Schedule

Compliance Alternative	Engine Emission Standard
1	Tier 4 Interim
2	Tier 3
3	Tier 2

Abbreviations:
CARB = California Air Resources Board
N/A = not applicable
Note: Compliance Alternative (CA) 1 shall be met to the extent feasible. If not then CA 2, and if not feasible, then CA 3.

- The idling time for off-road and on-road equipment shall be limited to no more than two minutes, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment. Legible and visible signs shall be posted in multiple languages (English, Spanish, and Chinese) in designated queuing areas and at the construction site to remind operators of the two-minute idling limit.

- Construction operators shall properly maintain and tune equipment in accordance with manufacturer specifications.

3. Cultural Resources

3.1 Archeological Monitoring

A qualified archaeological monitor will be retained by the project owner to inspect the ground surface at the completion of demolition activities as they occur to search for archaeological site indicators. Site indicators include, but are not limited to: darker than surrounding soils of a friable nature; evidence of fires (ash, charcoal, fire affected rock or earth); concentrations of stone, bone, or shellfish; artifacts of stone, bone, or shellfish; and burials, either human or animal.

In the event that any indicators are discovered, work shall be halted within a sensitivity zone to be determined by the archaeologist. The archaeologist shall prepare a plan for the evaluation of the resource to the CRHP and submit the plan to the Cupertino Planning Department for review and approval prior to any construction related earthmoving within the identified zone of archaeological sensitivity. The plan shall also include appropriate recommendations regarding the significance of the find and the appropriate mitigation. The identified mitigation shall be implemented and can take the form of limited data retrieval through hand excavation coupled with continued archaeological monitoring inside of the archaeologically sensitive zone to ensure that significant data and materials are recorded and/or removed for analysis. Monitoring also serves to identify and thus limit damage to human remains and associated grave goods.

3.2 Encountering Human Remains

In the event of discovering human remains during construction activities, there shall be no further excavation or disturbance of the site within a 100-foot radius of the remains or any nearby area reasonably suspected to overlie adjacent remains. The Santa Clara County Coroner shall be notified immediately and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the NAHC within 24 hours. The NAHC shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the land owner shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.

3.3 Reporting Archeological Sensitive Material

If archaeological resources are identified during construction of the revised project, a final report summarizing the discovery of cultural materials shall be prepared by the archaeological monitor and submitted to the City's Project Planner prior to issuance of building permits. This report shall contain a description of the mitigation program that was implemented and its results, including a description of the monitoring and testing program, a list of the resources found and conclusion, and a description of the disposition/curation of the resources.

3.4 Paleontological Monitor

Owner shall retain a qualified paleontological monitor to respond on an as-needed basis to address unanticipated paleontological discoveries. If paleontological resources are encountered during grading and construction operations, all construction activities shall be temporarily halted or redirected to permit a qualified paleontologist to assess the find for significance. If paleontological resources are found to be significant, the paleontological monitor shall determine appropriate actions, in coordination with a qualified paleontologist, City staff, and Owner.

4. Hazards and Hazardous Materials

4.1 Renovation or Demolition of Existing Structures

Before conducting renovation or demolition activities that might disturb potential asbestos, light fixtures, or painted surfaces, contractor shall ensure that it complies with the Operations and Maintenance Plan for management and abatement of asbestos-containing materials, proper handling and disposal of fluorescent and mercury vapor light fixtures, and with all applicable requirements regarding lead-based paint.

4.2 Contaminated Soil

When contaminated soil is encountered, Devcon will comply with the Environmental Site Management Plan, as well as the Investigation & Management of PCB Contaminated Soil Report completed by WSP.

5. Hydrology and Water Quality

5.1 Storm water

Contractor and sub-contractors shall implement and adhere to RWQCB regulations and guidelines as follows:

- A SWPPP would be implemented and include at least minimum BMPs related to: housekeeping (storage of construction materials, waste management, vehicle storage and maintenance, landscape materials, pollutant control); non-stormwater management; erosion control; sediment control; and run-on - run-off control.

- The SWPPP would include BMPs for excavation dewatering discharges, including ways to impound the water, as necessary, to settle out solids before discharging.

- Stormwater discharges and authorized non-stormwater discharges associated with all risk levels cannot contain hazardous substances above reportable quantities unless a separate NPDES permit has been issued for those discharges.

- The discharger must implement a construction site monitoring program as part of the SWPPP to demonstrate compliance with the discharge prohibitions of the Construction Stormwater General Permit; demonstrate whether non-visible pollutants are present and could contribute to an exceedance of water quality objectives; identify the need for correction actions, additional BMPs, or SWPPP revisions; and evaluate the effectiveness of the existing BMPs.

- The Construction General Stormwater Permit is implemented and enforced by the San Francisco Bay RWQCB, which administers the stormwater permitting program for the program area. It is understood that dischargers would be required to submit a notice of intent (NOI) and permit registration documents (PRDs) to obtain coverage under this Construction General Stormwater Permit. It is also understood that dischargers would be responsible for notifying the relevant RWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected.

5.2 Non-storm Related Water

We do not anticipate encountering groundwater during excavation and shoring activities based on the depth to groundwater identified in the Geotechnical report. Thus, dewatering activities are not planned for this excavation. If we do encounter groundwater during construction we will apply for the necessary and appropriate permits required for the short-term discharge of non-storm related water to either the storm drain via an NPDES permit, or the sanitary sewer via a wastewater discharge permit issued by the sanitary district and/or wastewater facility having jurisdiction. If localized dewatering becomes necessary, we will apply for the necessary permit to dispose of this localized groundwater to the sanitary sewer.

6. Abandoned Water Wells

If any abandoned or unused water wells are found during excavation, the Applicant shall seal abandoned or unused water wells if the City, in consultation with the Santa Clara Valley Water District, determines that said abandoned or unused water wells have a potential to contaminate the water supply.

7. Noise

7.1 On-site Construction Noise

The Project shall adhere to the construction noise limits of the Cupertino Municipal Code. Construction activities will be conducted in accordance with provisions of the City's Municipal Code which limit temporary construction work to daytime hours (7:00 AM to 8:00 PM), Monday through Friday. Certain types of construction are prohibited on weekends and all holidays pursuant to Municipal Code Sections 10.48.053(B), (C) and (D). (See Section 11 for more details on Construction Hours limit)

The following items would further reduce the potential for high levels of noise from construction equipment or activities, and ensure that noise complaints are addressed promptly and if necessary, corrective action is taken:

- Along the western boundary of the Vallco Town Center Project, near the existing residential district, prepare and implement a 24-hour construction noise monitoring program to be installed and operated remotely. The noise monitoring program would continuously monitor construction noise levels at select perimeter locations and alert the **designated noise control coordinator** when noise levels exceed allowable limits. If noise levels are found to exceed allowable limits, additional noise attenuation measures (i.e., sound walls) will be undertaken.

- Require that all equipment be fitted with properly sized mufflers, and if necessary, engine intake silencers.

- Require that all equipment be in good working order.

- Use quieter construction equipment models if available, and whenever possible, use pneumatic tools rather than using diesel or gas-powered tools.

- Place portable stationary equipment as far as possible from existing residential areas, and if necessary, place temporary barriers around stationary equipment.

- Whenever possible, require that construction contractors lift heavy equipment rather than drag.

- For mobile equipment that routinely operates near residential area (i.e., within approximately 200 feet), consider placement of typical fixed pure-tone backup alarms with ambient-sensing and/or broadband backup alarms.

- A **noise control coordinator** is assigned to ensure that the above requirements are being implemented. The designated noise control coordinator is Clint Magill, phone number (408) 210-7571

- Owner will implement a noise complaint hotline and post the hotline phone number on nearby visible signs and online. Either the noise control coordinator or a designated person (with appropriate authority) shall be available at all times to answer hotline calls and ensure that follow-up and/or corrective action is taken, if necessary.

7.2 Delivery Hours Limit

Deliveries between 8:00 PM and 8:00 AM on weekdays and 6:00 PM and 9:00 AM on weekends are prohibited. All deliveries to be coordinated with Devcon Construction, Inc. Superintendent.

7.3 Haul Traffic Noise

To reduce haul traffic noise, contractors for development of the Vallco Town Center Project shall require that haul trucks travel at low speeds (e.g., 10 mph) when operating on or adjacent to the Project site. The Owner shall ensure that this requirement is included in the construction specifications. In addition, the construction contractor shall ensure that haul trucks be fitted with properly sized and functioning exhaust mufflers.

7.4 Vibrations and Ground Movement

Prior to the start of shoring and mass excavation activities, the contractor will provide complete documentation of the condition of any surrounding buildings and pavements and begin the settlement monitoring program according to geotechnical recommendations.

EXCAVATION AND SHORING SEQUENCE: Excavation and shoring shall be done simultaneously. Contactor shall acknowledge seasonal or weather restrictions enforced by the Authority Having Jurisdiction (AHJ) or as recommended by the Geotechnical Engineer prior to execution,

1. Drill vertical boring for the steel piles. Pile shafts shall be drilled without loss of ground and without endangering previously installed piles. This may involve casing the holes or other methods of protection from caving. Refer to Geotechnical Report for recommendations. Place steel piles and grout shafts using methods to prevent aggregate segregation. If ground water is encountered, grout pile shafts using tremie methods, The Owner's Geotechnical Engineer should observe the drilling and installation of soldier piles and anchors.

2. Excavate and install lagging. At tied-back piles, excavate to a maximum of two foot below the top unstressed tieback location. It is the responsibility of the shoring contractor to place the lagging in such a manner that prevents soil failure, sloughing, or loss of ground. Voids behind the lagging shall be backfilled per the recommendations of the Geotechnical Report

3. Drill horizontal tieback anchors without caving or loss of ground. Contractor may elect to use temporary casing. Place tendon anchors to length specified per plan. Centralizers are to be provided at a maximum spacing of 10' along the bond length and a maximum of 5’ from the end of tendon. Centralizers should not impede the flow of grout into the anchor drill hole. Where multiple strands are to be used in a single tieback anchor, spacers are to be provided between individual strands to allow the tendons to be bonded to the grout. Spacers are to be located at 10' O.C. and a maximum of 5' from end of the anchor.

4. Grout tiebacks from the lowest point of the drill hole. Contractor is to provide 'Bond Breaker" to ensure that the unbonded length of the tieback anchors per plan remain unbonded from the grouted tieback

5. Stress tiebacks per TI EBACK TESTING AND STRESSING procedure.

6. Repeat steps 2 through 5 until the bottom of the excavation is reached. At the lower tieback locations, excavation may proceed to 3 feet below the tieback before tieback placement is required.

Contractor will provide construction noise monitoring system described above in section 7.1 to control and monitor noise level.

8. Shoring and Settlement Monitoring

A systematic program of observation shall be conducted during the project execution to determine movement of the shoring walls. Monitoring shall be performed by a licensed surveyor. Optical survey points shall be established at the existing grade elevation of every other soldier pile at a maximum of 20' center-to-center. Optical survey points shall also be established along the curbs and centerlines of adjacent streets and structures within 100 feet of the site at a maximum spacing of 20" center-to-center. Baseline readings are to be established at all monitoring points prior to the commencement of excavation. The monitoring program will include changes in both horizontal directions and vertical deformations. Measurements are to be taken to the nearest 0.01 feet. Field data and measurements are to be taken twice weekly at the soldier piles, and submitted to the Geotechnical Engineer-of-Record for review. Weekly measurements are not required at the streets, curbs or adjacent structures, unless required by the AFL or the Geotechnical Engineer.

Where critical structures or improvements will be supported behind the temporary shoring, periodic monitoring of survey points shall be provided:

1. Prior to any construction (baseline)
2. During installation of the shoring system (once a week)
3. During excavation (once a week)
4. Throughout construction until the structure is above the street level and the permanent basement walls are in place (once a month)

Where non-critical structures or improvements will be supported behind the temporary shoring, periodic monitoring of survey points shall be provided:

1. Prior to any construction (baseline)
2. During excavation (once a week)
3. Throughout construction until the structure is above the street level and the permanent basement walls are in place (once a month)

Survey frequency may be decreased after the shoring system has been installed and the excavation is complete, if the data indicates little or no additional movement. Surveying must continue until the permanent structure (including floor slabs as braces) is complete up to final and street grades. The survey frequency will be determined by the geotechnical engineer after review arid approval by the AHJ.

The geotechnical engineer shall review survey data and provide an evaluation of wall performance along with survey data to the AHJ on at least a weekly basis. Immediately and directly, notify the AHJ if any unusual or significantly increased movement occurs. Immediately and directly notify the Geotechnical: Structural Engineer, and AHJ if 0.5 inches of movement occurs between two consecutive readings and when total movements reach 0.5 inch At that amount of movement, the engineers and designers shall determine the cause of displacement and develop remedial measures sufficient to limit total wall movements to 1 inch, All earthwork and construction activities must be directed towards immediate implementation of remedial measures necessary to limit total wall movements to what has been defined as acceptable by the design team and the AHJ (as indicated above).

9. Biological

9.1 Bio-1 Nesting and Migratory Bird Surveys

Owner will ensure that nests of raptors and other birds shall be protected when in active use, as required by the federal Migratory Bird Treaty Act and the California Department of Fish and Game Code. If construction activities and any required tree removal occur during the breeding season (February 1 and August 31), a qualified biologist to be retained by the owner shall be required to conduct surveys prior to tree removal or construction activities. Preconstruction surveys are not required for tree removal or construction activities outside the nesting period. If construction would occur during the nesting season (February 1 to August 31), preconstruction surveys shall be conducted no more than 14 days prior to the start of tree removal or construction. Preconstruction surveys shall be repeated at 14-day intervals until construction has been initiated in the area after which surveys can be stopped. Locations of active nests containing viable eggs or young birds shall be documented and protective measures implemented under the direction of the qualified biologist until the nests no longer contain eggs or young birds. Protective measures shall include establishment of clearly delineated exclusion zones (i.e. demarcated by identifiable fencing, such as orange construction fencing or equivalent) around each nest location as determined by a qualified biologist, taking into account the species of birds nesting, their tolerance for disturbance and proximity to existing development. In general, exclusion zones shall be a minimum of 300 feet for raptors and 75 feet for passerines and other birds. The active nest within an exclusion zone shall be monitored on a weekly basis throughout the nesting season to identify signs of disturbance and confirm nesting status. The radius of an exclusion zone may be increased by the qualified biologist if

project activities are determined to be adversely affecting the nesting birds. Exclusion zones may be reduced by the qualified biologist only in consultation with California Department of Fish and Wildlife. The protection measures shall remain in effect until the young have left the nest and are foraging independently or the nest is no longer active.

10. Tree Protection

As part of the demolition drawings, a tree protection plan shall be prepared by a certified arborist for the trees to be retained. This tree protection plan shall adhere to the recommendations of the City's consulting arborist. In addition, the following measures shall be added to the protection plan:

a. For trees on private property to be retained, chain link fencing and other root protection shall be installed around the dripline of the tree prior to any project site work.

b. No parking or vehicle traffic shall be allowed under root zones, unless using buffers approved by the Project Arborist.

c. No trenching within the critical root zone area is allowed. If trenching is needed in the vicinity of trees to be retained, the City's consulting arborist shall be consulted before any trenching or root cutting beneath the dripline of the tree.

d. Wood chip mulch shall be evenly spread inside the tree protection fence to a four-inch depth.

e. Tree protection conditions shall be posted on the tree protection barriers.

f. Retained trees shall be watered to maintain them in good health.

g. A covenant on the property shall be recorded that identifies all the protected trees, prior to final occupancy.

The tree protection measures shall be inspected and approved by the certified arborist prior to issuance of building permits. The City's consulting arborist, the project arborist, and public works shall inspect the trees to be retained and/or transplanted and shall provide reviews prior to commencement of demolition, grading or building permits. A report ascertaining the good health of the trees mentioned above shall be provided prior to issuance of final occupancy.

For trees within the public right-of-way which are subject to removal or new trees proposed for planting, the applicant shall secure an encroachment permit from the City.

11. Transportation

11.1 Construction Traffic Management

Owner shall prepare and maintain a Construction Management Plan (CMP) to minimize disruption to transportation facilities caused by short term construction activities. The CMP will include flagmen, schedules of potential closures, a construction hotline, delineation layout, truck routes, delivery schedules, and alternative routes, per city industry standards and requirements.

12. Construction Hours Limits

- Construction hours and noise limits shall be compliant with all requirements of Chapter 10.48 of the Cupertino Municipal Code.
- Demolition hours for work done more than 750 feet away from residential areas shall be limited to Monday through Friday, 7 a.m. to 8 p.m. and Saturday and Sunday, 9 a.m. to 6 p.m. Grading, street construction, demolition or underground utility work within 750 feet of residential areas shall not occur on Saturdays, Sundays, holidays, and during the nighttime period as defined in Section 10.48.053(b) of the Municipal Code.
- Construction activities shall be limited to Monday through Friday, 7 a.m. to 8 p.m. and Saturday and Sunday, 9 a.m. to 6 p.m. Construction activities are not allowed on holidays as defined in Chapter 10.48 of the Municipal Code. Night time construction is allowed if compliant with nighttime standards of Section 10.48 of the Cupertino Municipal Code.
- Rules and regulations pertaining to all construction activities and limitations identified in this permit, along with the name and telephone number of an applicant appointed disturbance coordinator, shall be posted in a prominent location at the entrance to the job site.
- The Applicant shall be responsible for educating all contractors and subcontractors of said construction restrictions.

13. Labor Agreement

In compliance with the SB-35 labor law, the project will provide the following:

- Certified payroll
- Union benefit report
- Letter of good standing from Union

LIST OF EXHIBITS

EXHIBIT A – SITE PLAN

EXHIBIT B – SITE LOGISTIC PLAN

EXHIBIT C – HSP (HEALTH AND SAFETY PLAN)

EXHIBIT A – SITE PLAN

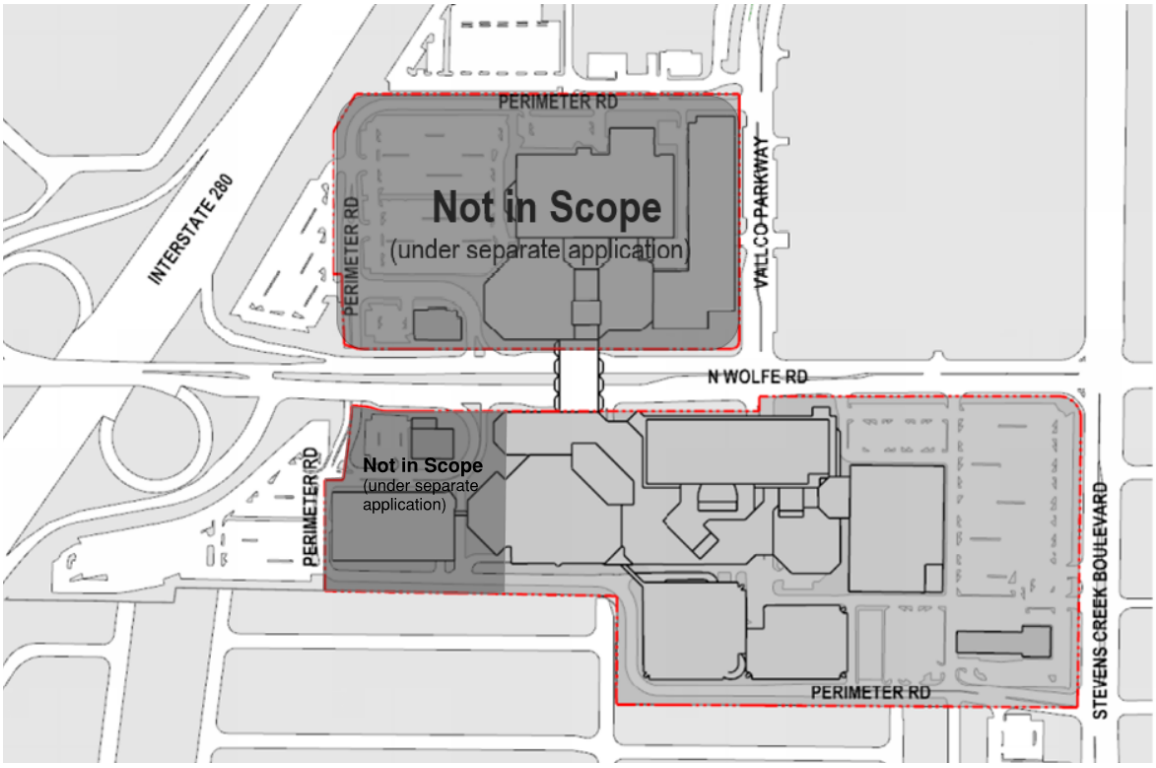
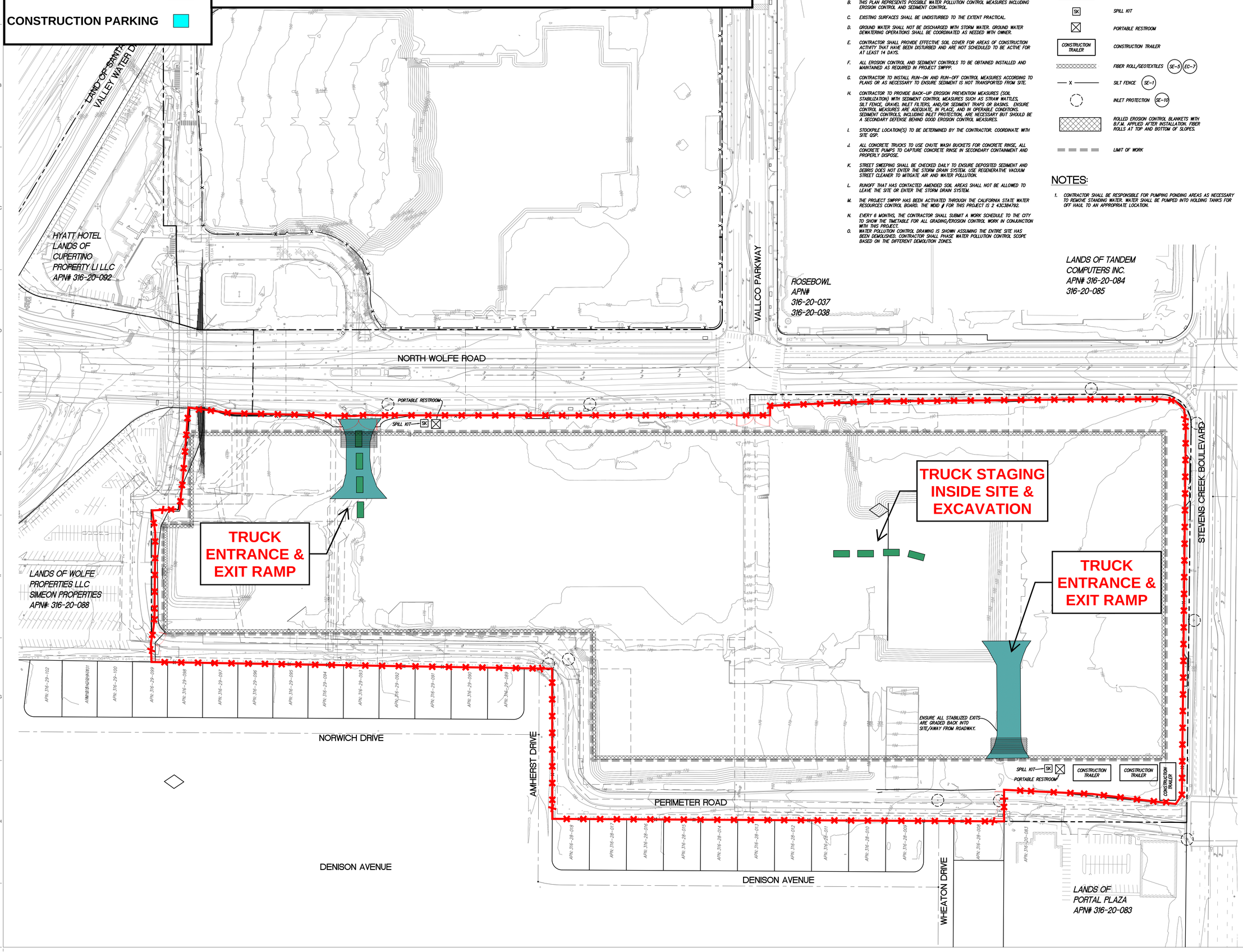


EXHIBIT B – Site Logistic Plan

VALLCO TOWN CENTER
ZONE A & B MASS EXCAVATION
DATE: 10/23/2020

LEGEND

- PERIMETER FENCE
- CONSTRUCTION GATE
- OFFHAUL TRUCK
- CONSTRUCTION PARKING



WATER POLLUTION CONTROL NOTES:

A. TEMPORARY CONSTRUCTION ENTRANCE/EXIT LOCATION SHOWN IS APPROXIMATE. CONTRACTOR TO PROVIDE LOCATION WHERE APPROPRIATE.

B. THIS PLAN REPRESENTS POSSIBLE WATER POLLUTION CONTROL MEASURES INCLUDING EROSION CONTROL AND SEDIMENT CONTROL.

C. EXISTING SURFACES SHALL BE UNDISTURBED TO THE EXTENT PRACTICAL.

D. GROUND WATER SHALL NOT BE DISCHARGED WITH STORM WATER. GROUND WATER DEWATERING OPERATIONS SHALL BE COORDINATED AS NEEDED WITH OWNER.

E. CONTRACTOR SHALL PROVIDE EFFECTIVE SOIL COVER FOR AREAS OF CONSTRUCTION ACTIVITY THAT HAVE BEEN DISTURBED AND ARE NOT SCHEDULED TO BE ACTIVE FOR AT LEAST 14 DAYS.

F. ALL EROSION CONTROL AND SEDIMENT CONTROLS TO BE OBTAINED INSTALLED AND MAINTAINED AS REQUIRED IN PROJECT SWPPP.

G. CONTRACTOR TO INSTALL RUN-ON AND RUN-OFF CONTROL MEASURES ACCORDING TO PLANS OR AS NECESSARY TO ENSURE SEDIMENT IS NOT TRANSPORTED FROM SITE.

H. CONTRACTOR TO PROVIDE BACK-UP EROSION PREVENTION MEASURES (SOIL STABILIZATION) WITH SEDIMENT CONTROL MEASURES SUCH AS STRAW WATTLES, SILT FENCE, GRAVEL INLET FILTERS, AND/OR SEDIMENT TRAPS OR BASINS. ENSURE CONTROL MEASURES ARE ADEQUATE, IN PLACE, AND IN OPERABLE CONDITIONS. SEDIMENT CONTROLS, INCLUDING INLET PROTECTION, ARE NECESSARY BUT SHOULD BE A SECONDARY DEFENSE BEHIND GOOD EROSION CONTROL MEASURES.

I. STOCKPILE LOCATION(S) TO BE DETERMINED BY THE CONTRACTOR. COORDINATE WITH SITE QSP.

J. ALL CONCRETE TRUCKS TO USE CHUTE WASH BUCKETS FOR CONCRETE RINSE. ALL CONCRETE PUMPS TO CAPTURE CONCRETE RINSE IN SECONDARY CONTAINMENT AND PROPERLY DISPOSE.

K. STREET SWEEPING SHALL BE CHECKED DAILY TO ENSURE DEPOSITED SEDIMENT AND DEBRIS DOES NOT ENTER THE STORM DRAIN SYSTEM. USE REGENERATIVE VACUUM STREET CLEANER TO MITIGATE AIR AND WATER POLLUTION.

L. RUNOFF THAT HAS CONTACTED AMENDED SOIL AREAS SHALL NOT BE ALLOWED TO LEAVE THE SITE OR ENTER THE STORM DRAIN SYSTEM.

M. THE PROJECT SWPPP HAS BEEN ACTIVATED THROUGH THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD. THE WDID # FOR THIS PROJECT IS 2 43C384792.

N. EVERY 6 MONTHS, THE CONTRACTOR SHALL SUBMIT A WORK SCHEDULE TO THE CITY TO SHOW THE TIMETABLE FOR ALL GRADING/EROSION CONTROL WORK IN CONJUNCTION WITH THIS PROJECT.

O. WATER POLLUTION CONTROL DRAWING IS SHOWN ASSUMING THE ENTIRE SITE HAS BEEN DEMOLISHED. CONTRACTOR SHALL PHASE WATER POLLUTION CONTROL SCOPE BASED ON THE DIFFERENT DEMOLITION ZONES.

LEGEND

- STABILIZED EXIT (TC-1)
- SK — SPILL KIT
- PORTABLE RESTROOM
- CONSTRUCTION TRAILER — CONSTRUCTION TRAILER
- FIBER ROLL/GEOTEXTILES (SE-5) (EC-7)
- X — SILT FENCE (SE-1)
- INLET PROTECTION (SE-10)
- ROLLED EROSION CONTROL BLANKETS WITH B.F.M. APPLIED AFTER INSTALLATION. FIBER ROLLS AT TOP AND BOTTOM OF SLOPES.
- LIMIT OF WORK

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PUMPING PONDING AREAS AS NECESSARY TO REMOVE STANDING WATER. WATER SHALL BE PUMPED INTO HOLDING TANKS FOR OFF HAUL TO AN APPROPRIATE LOCATION.

SANDIS SILICON VALLEY

SCALE: 1"=60'

VALLCO
TOWN CENTER PROJECT

OWNER - VALLCO PROPERTY OWNER LLC.
965 PAGE MILL ROAD, PALO ALTO, CA 94304
T. 650-344-1500

ARCHITECTURE - RAFAEL VINOLY ARCHITECTS
50 VANDAM STREET, NEW YORK, NY 10013
T. 212-924-5900

ARCHITECTURE - RAFAEL VINOLY ARCHITECTS
1033 N. WOLFE ROAD, CUPERTINO, CA 95014
T. 408-627-7060

LANDSCAPE ARCHITECTURE - OLIN PARTNERSHIP LTD.
150 S. INDEPENDENCE MALL W. SUITE 1123, PHILADELPHIA, PA 19106
T. 214-440-0030

CIVIL - SANDIS CIVIL ENGINEERS SURVEYORS PLANNERS, INC.
1700 S. WINCHESTER BLVD, SUITE 200, CAMPBELL, CA 95008
T. 408-636-0900

STRUCTURE - NYASE + DCI
650 CALIFORNIA STREET, 8TH FLOOR, SAN FRANCISCO, CA 94104
T. 415-397-5213

MEP / FP - ME ENGINEERS
29 W 38TH STREET, 5TH FLOOR, NEW YORK, NY 10018
T. 212-447-6770

PARKING - WATRY DESIGN, INC.
2099 GATEWAY PLACE, SUITE 550, SAN JOSE, CA 95110
T.408-392-7900

LIGHTING - ONE LUX STUDIO
158 WEST 29TH STREET, 10TH FLOOR, NEW YORK, NY 10001
T. 212-201-5790

ACOUSTIC VIBRATION - THE PAPADIMOS GROUP
300 MONTGOMERY STREET, SUITE 908, SAN FRANCISCO, CA 94104
T. 415-986-9100

AV, IT & SECURITY - ME ENGINEERS
29 W 38TH STREET, 5TH FLOOR, NEW YORK, NY 10018
T. 212-447-6770

VERTICAL TRANSPORTATION - GVK
50 CALIFORNIA STREET, SUITE 3510, SAN FRANCISCO, CA 94111
T. 415-412-5232

ENCLOSURE - ALLANA BUICK & BERS INC.
990 COMMERCIAL STREET, PALO ALTO, CA 94303
T. 800-378-3405

FACADE MAINTENANCE - APPLIED TECHNICAL SERVICES INC.
1049 TRIAD COURT, MARIETTA, GA 30062
T. 888-287-5227

FOOD SERVICE & WASTE - CINI-LITTLE INTERNATIONAL INC.
20251 CENTURY BOULEVARD, SUITE 375, GERMANTOWN, MD 20874
T. 301-528-9700

LIFE SAFETY & CODE - GENSEN HUGHES INC.
3610 COMMERCE DRIVE, SUITE 817, BALTIMORE, MD 21227
T. 410-737-8677

DATE DECEMBER 16 , 2019

CHAD J. BROWNING
R.C.E. NO. 68315, EXPIRES 9-30-21

DISCLAIMER
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ROUGH GRADING
DOCUMENTS

REV	DESCRIPTION	DATE
REV-0	ROUGH GRADING DOCUMENTS	12/16/2019

ARCHITECTS PROJECT NUMBER 708011

PROJECT PHASE: CONTRACT DOCUMENTS

IF THIS DRAWING IS NOT 36"x48" IT IS A REDUCED PRINT; REFER TO GRAPHIC SCALE

0 30' 60' 120' 180'

SCALE: 1" = 60'

SHEET TITLE: **WATER POLLUTION CONTROL PLAN**

SHEET NUMBER: **CR-0300**

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EXHIBIT C – HSP (HEALTH AND SAFETY PLAN)

DEVCON CONSTRUCTION INCORPORATED
General Building Contractors
690 Gibraltar Drive
Milpitas, CA 95035

Vallco Town Center Excavation and Shoring Cupertino, CA 95014

Job # 18-239

SITE SAFETY PROGRAM

Site Management Plan

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    - Provide copy to your Safety Director

Appendix:
- Pre Task Plan
- Crane Operations Checklist
- Hot Work Permit
- Site-Specific Health and Safety Plan
- Soil and Groundwater Management Plan. N/A project is on grade.

SITE LOGISTICS

Vallco Town Center

Job Site Information	Vallco Town Center	
Address	10123 N. Wolfe Rd. Cupertino, CA 95014	
Phone:	(408) 510-1884	
Fax:	Office	408 262-2342
Project Executive:	Daisy Pereira	408- 519-8359
Project Manager:		
Sr. Project Engineer:		
Superintendent:	Dwight Harris	408 510-1884
Site Safety:	Ken Sullivan Rick Harsh Troy Hoefling	408 593-6298 408 609-0636 408 582-8130
SWPPP Coordinator	Ken Sullivan	408 593-6298
Foreman Meeting	*Tuesday Mornings 0800 hrs.*	
Safety Meeting	*Tuesday Mornings before 1230 hrs*.	
Site Parking:	*Location to be determined.*	

SITE SAFETY MISSION STATEMENT

The primary objective of Devcon Construction, Inc., and its Subcontractors is to adopt a proper and positive accident prevention program outlining responsibilities and safety requirements for employees, subcontractors and their sub-subcontractors and suppliers while working on the project.

This Site Safety Program, including any additions and/or modifications that may be required during the life of the project, should assist in keeping accidents to a minimum throughout construction. This program is to be used in conjunction with the subcontractor's own Safety Programs (IIPP) and all applicable Federal, and Local Safety Codes and Regulations.

We must realize that accident prevention is mandatory, beneficial to all, and the responsibility of every individual on this project, whether in management, field staff, or other position. Safety is a concern to everyone.

Devcon expects the full cooperation of employees, subcontractors, and sub-contractors and their suppliers in monitoring, supervising, and enforcing the Site Safety Program. It is mandatory that all personnel engaged in work on this Project comply with Federal, and Local Safety Codes and Regulations throughout the duration of their construction on this Project. Please note in the event of a conflict between various programs, codes and regulation the most stringent will be the one considered applicable.

Gary Filizetti,

Devcon Construction, Inc.

Site Safety Authority & Responsibility

Management Commitment:

The authority and responsibility for implementation and management of safety and risk shall be assigned to the company safety officer, Ken Sullivan.

OSHA and the Labor code creates Multi-employer work site: A contract executed between Devcon Construction Inc., and subcontractor, sub-subcontractors, vendors and suppliers for the performance of work and safety including compliance with Labor Code 6400et seq. and Title 8, California Code of Regulation (CCR) 336.10 et seq., including requirement that the other employer(s) comply with all of the applicable Cal/OSHA, Federal OSHA and Municipal safety orders.

A. **Purpose**

- Prevent jobsite accidents with emphasis on safety, including pre-planning work activities.
- Outline the duties and responsibilities of all parties on projects.
- Pre-plan work activities including hazard identification and control.
- Monthly management safety meeting and weekly job site safety meeting shall be conducted to communicate and educate personnel.

B. **Organization**

- Project Superintendent
- Site Safety Coordinator – a Devcon Construction, Inc. staff member
- Subcontractor – Appoint an on-site Safety supervisor (may be foreman). All personnel associated with this project.
- Devcon Construction Inc. Safety Officer
- Consulting agencies:
  - Devcon insurance carrier(s)
  - Subcontractor's Insurance carrier(s)
  - Consultants

C. **Safety Management**

- **Project Superintendent**

- Monitor compliance of the Site Safety Program, which includes timely mitigation of potential hazards for all job site operations.
- Assist subcontractors in pre-planning their operations to prevent personal injury of property damage to employees, other subcontractor's workers or the public.
- Ensure safety meetings are held on a weekly basis.
- Appoint the Site Safety Coordinator.
- Issue Safety Topics for the Site Safety Meetings.
- Review and enforce the recommendations of the Site Safety Coordinator job tours and of the Toolbox Meeting Minutes.
- Conduct periodic Safety tours to ensure compliance.
- Direct the abatement of hazardous conditions.
- Assist with accident investigation.

- In the event of a life-threatening hazard or a hazard that may cause impairment or property damage, the Project Superintendent or his designated representative is authorized to stop operations until such time as the condition is corrected.

  - **Site Safety Coordinator**

- Conduct weekly safety inspections and submit a written report.
- Review safety issues with superintendent and subcontractors for correction.
- Attend weekly Tool Box Meeting with DCI employees.
- Gather facts on accidents and thefts for action by the corporate Safety Officer.
- Take the lead in recognition and abatement of hazardous situations.
- Periodically attend trade and subcontractor Tool Box Safety Meetings.
- Distribute and post all Safety Meeting Minutes, Safety Topics, and Accident Data.

Subcontractor Site Safety Coordinator

- Assist Site Safety Coordinator in recognition and abatement of hazardous situations.
- Provide DCI with copies of safety meeting minutes on a weekly basis.
- Attend DCI Safety Meetings.
- Prepare accident reports and conduct accident investigations. Submit accident reports to Devcon.
- Inspect work areas and ensure that unsafe acts and/or conditions are identified and corrected.
- Ensure that all of his/her workers and subcontractors adhere to all Safety requirements.
- Provide and require use of required personal protective equipment, including suitable tools for each task.
- Set a good example for his/her crews with respect to Safety and compliance with the Safety Program.
- Maintain copies of all required subcontractors Safety reports. The subcontractor shall maintain this documentation for the period of time prescribed by the law.

Employees & Subcontractor Personnel

- Perform work to prevent accidents to yourself, fellow workers, and property.
- Notify supervisors of unsafe work conditions.
- Cooperate with principles of the Site Safety Program.
- Safely utilize all tools and equipment.
- Follow Code of Safe Practices.

Vallco Excavation and Shoring Site Safety Orientation

It is our intention to provide and maintain a safe work site. **Your commitment to safety is a condition for continuous employment on this project.**

EVACUATION

In the event of a fire or any time project evacuation is required; all personnel onsite will be informed via the method designated by your employer and / or Devcon Construction.

Do not leave the site until instructed by your employer or Devcon. A head count of personnel is essential.

YOU SHALL IMMEDIATELY:

- Cease all work and shut off all electrical equipment, including welding machines, air compressors, etc.
- Close valves on gas cylinders.
- Walk (DO NOT RUN OR JUMP FROM ELEVATED POSITIONS) to the designated assembly points. Remain at the assembly point until the all-clear signal is sounded. Be prepared to follow the directions from your supervisor.

FIRST AID

All injuries are to be reported to Devcon's Superintendent immediately, DO NOT LEAVE THE SITE WITHOUT REPORTING AN INJURY; REGARDLESS HOW MINOR.

- Injuries requiring a doctor's care will require a medical authorization form from your supervisor.
- If we have an employee injured on our job we want the best medical care possible. However, if we have an injury that we suspect is fraudulent we will spare no expense investigating and prosecuting.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

HEAD PROTECTION

- Hard hat must be worn at all times once entering the work area- Areas of exception are offices, equipment with fully enclosed cabs, lunch and break periods provided no work is going on in the immediate area. Hard hats shall comply with ANSI Z-89-1.

EYE AND FACE PROTECTION

- Appropriate eye protection (ANSI Z-87) with side shields is required to be worn by all personnel on the construction site. Prescription glasses must be approved safety glasses, approved glasses and frames, or approved eye protection.
- When grinding or buffing, a face shield with approved safety goggles / shields required.
- When cutting or burning, goggles required. When welding, a welding hood and lens with an appropriate number filter.
- Chemical goggles required to be worn when working with corrosive or toxic material.

RESPIRATORY AND HEARING PROTECTION

- Respiratory and/or hearing protection is required in designated areas and or when performing specific tasks.
- Employees must be clean-shaven prior to using a respirator.
- Respiratory fit testing is required.

BARRICADES

- Barricade tape is not to be used in lieu of physical barricades for floor opening, holes, and wail openings or when permanent handrails have been removed.
- Yellow barricade tape indicates to use caution when approaching or entering the area.
- Red barricade tape requires authorization to enter area. Anyone entering area without authorization is subject to disciplinary action.

FALL PROTECTION/TIE-OFF

- Fall arrest is in effect anytime you are exposed to a potential of falling more than 7 1/2 feet to a lower level.
- An approved fall arrest system will be worn when working from unprotected elevations greater than 7 1/2 feet and when working in JLG's.
- Approved fall arrest system consists of a full body harness, two shock absorbing lanyards, each with double action or positive locking snap hooks-
- Any lifeline, safety harness, or lanyard actually subjected to fall loading shall be removed from service.

LOCKOUT/TAGOUT

- Lockout/Tag out the power source prior to making adjustments or repairs to any equipment. DO NOT DEPEND on the control switch on drills, grinders etc. UNPLUG THEM.

ELECTRICAL TOOLS CORDS

- Tools are to be visually inspected by every employee prior to use. Any tool or cord found to be defective shall be taken out of service immediately.
- Approved ground fault circuit interrupters shall be used for all temporary wiring that are not part of the permanent wiring of the building or structure.
- When using existing building power that is not protected by ground fault circuit interrupters, the subcontractor shall supply and utilize in-line (pigtail) ground fault circuit interrupters.
- An Assured Grounding Conductor Program shall be used in tandem with all ground fault circuit interrupters-Check the RPM rating of grinding wheels or discs. The RPM rating must be greater than that of the driver.
- Tools and guards are not to be altered.
- Electrical cords and welding leads will be kept away from path of travel to help minimize trip and fall hazards.
- Use plastic (nylon) ties for securing electrical cords. Do not hang cords over guardrails, put them under the rail.

LADDERS

- Ladders must be free from defects.
- Place the ladder so that its base is out 1/4 the distance of the height.
- Ladders shall be tied at the top or secured at the base.
- Ladders shall extend 3 ft. above the landing.

- No extension ladder shall extend its full length; overlap at least 3 rungs.
- Stepladders shall not be used as extension ladders.
- Stepladders shall be fully extended and locked in position.
- Only one employee, at a time, shall work off a stepladder.
- Do not stand or sit on the top or top two rungs of a stepladder.

SCAFFOLDS

- All scaffolds, platforms, and staging must be completely decked, with decking secured, and shall be built with standard handrails and toe boards on open sides and ends.
- The footing for scaffolds shall be sound and capable of carrying the maximum intended load.
- No scaffold shall be erected, moved, dismantled or altered except under the supervision of a competent person.

POWER ACTUATED TOOLS

- Employees must be trained /certified before they may use these tools.

COMPRESSED GAS CYLINDERS

- Compressed gas cylinders will be capped, tied-off, or otherwise properly stored when not in use.
- Cylinders must remain in the upright position at all times.
- Keep protective caps in place.
- No oil or grease is to be used on valves or gauges.
- Oxygen cylinders in storage must be separated from fuel-gas cylinders by at least 20 feet, or by a 5-foot wall with a 30-mnute-fire rating.

LIFT CAREFULLY

- Like everything else, the right way to lift is easier and safer. If the load is too heavy. GET HELP. Do not lift with your back, bend your knees.
- Set up workbenches to minimize constant bending for cutting and nailing when possible.

LIFTING AND/OR SWINGING LOADS

- Do not walk under a suspended load or permit others to do so.
- Barricade the lift area to control access into the area.
- Never pick up a load in excess of the capacity of the equipment
- Only one person at a time will give hand signals to operator.
- Tag lines will be used to control loads.
- Never leave a suspended load unattended.
- Never ride on a load, crane hook, headache ball or forks of a lift.

RIGGING

- Never use hands or feet to guide cable or line onto a drum or hoist. Use a bar as a guide.
- When it is necessary to stretch cables or lines across roads or walks. Block the road or walk if the cable or line is lower than 14 feet above roads or less than 7 feet above walkways.
- Seat chain links into a hook by hand pressure only. Never hammer a chain link onto a hook.

- Use approved method to fasten hoisting equipment together.
- The manufacturer's recommendations shall be followed in determining the safe working loads of hooks. All hooks for which no applicable manufacturer's recommendations are available shall be tested to twice the intended safe working load before they are initially put into use.

EQUIPMENT OPERATIONS

- Operators must be trained for the type of equipment being operated. The subcontractor shall provide proof of competency for all individuals operating heavy equipment.
- Passengers are not allowed to ride on equipment with operators

ACCESS

- Climbing, sliding down columns or diagonal bracing is not permitted. Walking elevated beams and pipe without being tied off is not permitted.

PARKING AND MOTOR VEHICLES

- Employees shall park personal vehicles in the East Remote parking lot. Bus transportation will be provided to and from the project.
- Posted regulations governing the use of the parking lot shall be followed.
- All vehicles on the premises will be at the risk of the vehicle Owner. Devcon accepts no responsibility for damage to or theft of or from such vehicles.

GENERAL

- Drink water only from approved drinking water containers or dispensers.
- Proper housekeeping is essential and will be part of every job.
- Clean up all spills or leaks promptly. The contractor is responsible for containing and cleaning up all spills caused by its workforce.
- Obey all posted speed limit signs.
- Pedestrians will have the right-of-way.
- Yield right-of-way to emergency vehicles.
- Smoking is permitted in designated areas only.
- No firearms or weapons are allowed on the job site.
- No riding equipment that is not designed for personnel transport. Ride in vehicles with seats firmly attached.
- Employees must obey all danger and caution signs.
- Correct all unsafe conditions when possible. Report all unsafe conditions to your immediate supervisor or safety personnel.
- No running is permitted on the job site.
- Do not throw or drop materials without a controlled zone and spotter.
- No horseplay will be tolerated.
- No fighting. All involved will be subject to being removed from the site.

PERMITS

There are various permits required on the project. It is the responsibility of each subcontractor to obtain any and all permits needed for their work. Commonly used permits include:

- HOT WORK - Any work, tool, or equipment (welding, burning, grinding, vehicles. portable welders, etc.), which might provide a source of ignition in areas where combustibles are present.

- CONFINED SPACE - The authorization required to enter any vessel, pipe, confined space, excavation etc., for any reason.
- LOCK AND TAG - Prevents operation of a valve, switch or piece of equipment when injury or property damage could result from the operation.
- EXCAVATION - Authorization to excavate anywhere on the site. An excavation permit shall not be issued until a Dig-Safe number is issued and active.
- SCAFFOLD - Permission to use a scaffold that has been erected. Each new subcontractor that seeks to use a scaffold, following a review of his or her proposed operation, shall secure a scaffold permit.
- Failure to follow instructions on a tag or permit will constitute grounds for removing the employee from the site. If you see a tag that you do not understand, ask your supervisor.

HAZARD COMMUNICATION

Handling and storage are the two most common causes of accidents with chemicals. Inform workers with one or more of the following methods:

- Container labeling - labels give you information about immediate hazards associated with the chemical.
- Safety Data Sheets (SDS) give you detailed information about the chemical - physical and health hazards, First Aid, firefighting, protective equipment, etc.
- Know what you are handling, read the label, and if there is any doubt, check the SDS

Vallco Excavation and Shoring – Emergency Plan

Emergency Response – See Grab & Go Binder
Reference and familiarize yourself with the project site plan; note locations of vehicular obstructions and ongoing work. Ingress and egress pathways routinely change.

In the event of an emergency notify 911 and Devcon immediately.

Instruct employees to direct emergency personnel from the street to incident location.

Emergency Response Team – Site Safety Coordinator and Subcontractor Designee

Superintendent / Site Safety Coordinator
- Contact emergency services.
- Contact department heads or designated persons.
- Determine if project should be shut down – evacuated.
- Make sure that all personnel are accounted for.
- Do not disturb anything that may be considered evidence.

Subcontractor Supervisors / Safety Coordinators
- Upon notification inform personnel of situation.
- In event of evacuation instruct personnel to nearest exit.
- Tell people to assemble at designated area.
- Conduct head count and report it to Devcon Superintendent.
- Provide last known location of missing personnel to authorities.

Emergency First Aid / CPR Personnel
- Provide first aid as needed
- Notify emergency personnel of people in need of further treatment

Emergency Notification
- In event of a threat call DCI Superintendent.
- Alert a co-worker or security.
- Try to gather as much information as possible
- What is the reason?
- When will it happen?
- Where may the event occur?
- Why?
- How can it be prevented?

Potential crisis and need for evacuation of facility:
- Fire / Explosion: A fire or equipment explosion may cause risk to personnel and visitors.
- Earthquake: Living in this area there is the potential for earthquakes and the resulting damage to personnel and property.
- Threats: Bomb threats may be called in to the receptionist.
- Hazardous material: Spills, explosions, toxic releases and unlawful disposal
- Protests / Labor: Protests and labor issues may be cause for concern and evacuation.
- Termination: A fired or disgruntled employee may cause problems such as verbal or physical.

Incident Reporting & Investigation

I. GENERAL ACCIDENT REPORTING PROCEDURES

A. TIME IS OF THE ESSENCE – once the injured have been cared for, start the investigation / reporting process.

B. IMMEDIATELY NOTIFY the following if the accident involves serious injury, i.e., death, spinal cord injury, hospitalization, etc.:

, Superintendent	408-479-1586 Cell
Ken Sullivan, Safety Officer	408-519-8365 Office or 408.593-6298 Cell
Rick Harsh, Safety Manager	408 519-5703 Office or 408.609-0636 Cell
Troy Hoefling Safety Manager	408 964-5670 Office or 408.582-8130 Cell
Bret Sisney, Controller	408-519-8329 Office or 408.210-6543 Cell
Jennifer Cooke, HR	408-519-8345 Office

C. SECURE NAME OF WITNESSES QUICKLY.

Get the names and addresses of witnesses (other than DCI employees) whether they are eyewitnesses or not, then get names and addresses of employees.

D. INSPECT THE ACCIDENT SCENE CAREFULLY and get another employee to inspect the scene also. Take photographs. Do not disturb the scene except to mitigate a dangerous condition.

E. SITE SAFETY PERSON & COMPANY SAFETY OFFICER

Conduct investigation; gather information, witness statements, pictures and measurements.

Determine cause and corrective measures

Prepare report for Client / Legal privilege

Code of Safe Practices

Cal/ OSHA Web Site: **www.dir.ca.gov**
Federal OSHA Web Site: **www.osha.gov**

Safety & Health

1. Workers shall follow these safe practices and additional rules, as deemed necessary by Devcon Construction Inc. In addition, Workers shall render every aid to safe operations and report all unsafe conditions or practices to the supervisor.

2. Workers shall report all injuries promptly to their supervisor so arrangements can be made for medical or first aid treatment.

3. All Workers shall attend accident prevention meetings scheduled from time to time by Devcon Construction Inc. Weekly job site meetings will be held on each project.

4. Workers shall plan and supervise work in such a manner as to prevent injuries in the handling of materials and the operation of equipment.

Personal Protective Equipment (PPE):

5. Workers shall wear appropriate clothing / footwear at all times. Long pants, shirts and work boots are required. No tennis shoes. Safety shoes are recommended. Loose or frayed clothing, long hair, dangling ties, finger rings, etc., shall not be worn around moving machinery or other sources of entanglement.

6. Hard hats are mandatory. Hard hats shall meet ANSI standard Z 89.1 or Z 89.2.

7. Goggles face shields helmets and other comparable equipment shall be worn when required or necessary for personal safety.

8. Workers shall not cross any barricaded area unless under direct supervision of his supervisor.

9. Safety belts or harnesses and lanyards are required while working at heights over 7 1/2 feet where there is no guardrail protection and on suspended scaffolds.

10. Workers shall not work in areas that are poorly ventilated. Report the same to the supervisor.

11. If friable asbestos is encountered, immediately contact your supervisor. Do not handle or disturb material.

12. No employee shall work when his ability or alertness is impaired for any reason. Report the impairment to the superintendent.

13. No employee under the influence of illegal drugs or intoxicating substances shall enter into, or remain upon the jobsite or company premises.

14. No employee shall bring any intoxicating beverages or illegal drugs to the jobsite or the company premises.

15. Horseplay and scuffling are prohibited.

16. Workers shall refrain from physical altercation or fighting.

17. Personnel shall not bring or use any weapons or explosives at the jobsite or the company's premises nor have such items in his or her possession while performing work for the company.

18. Workers shall not smoke in restricted or prohibited areas.

19. Workers shall assist in the maintenance of sanitary conditions at the worksite and on company premises. Workers shall cleanse thoroughly after handling hazardous substances.

Fall Protection Guidelines

The following fall protection regulations are intended to aid in the safety and health of all Workers and subcontractor personnel. These guidelines are not in place of subcontractor fall protection plans, OSHA regulations or common sense.

Cal/OSHA regulations require fall protection when an individual has a fall potential from structure or building. To insure the safety & health of Workers and subcontractors the work methods are:

1. All personnel as required per OSHA regulations shall wear harnesses and soft stop lanyards. Harnesses and soft stop lanyards shall be worn and attached when operating zoom booms, JLG's or similar personnel lifts.

2. Work requiring personnel to get outside the perimeter safety cables shall be tied off to a substantial anchor point with the soft stop lanyard and harness during all activities.

3. During the placement of beams and trusses if fall protections is not used the workers shall not walk the top of the beam or truss. Walking the bottom inside flange and or sitting is advised.

4. Beams and trusses shall be secured with two bolts per connection to control roll.

5. Welding of the trusses is required during the time of placement. No workers or material shall be placed on the trusses until welding and / or bolting has been completed.

6. At no time shall beams, purlin, and trusses etc. be hung without securing.

7. Pan decking shall be tack welding front and back as each sheet is laid. This is to prevent movement and exposing workers to a fall or falling material.

8. Roof panels shall be nailed front and rear per panel to prevent roof failure.

9. When work is performed with the use of a ladder and the employee is above the safety cable he/she be tied off from above or the safety cable.

10. Workers required to reach out beyond the edge of the structure to guide or place the panel shall be tied off. To avoid reaching a push pole or rod should be used to guide the material.

11. "A" frame ladders shall be used in the full open position with the feet on secure ground. Leaning of "A" frame ladders is not permitted.

12. Extension ladders used for access to panel connections and adjustment shall have the feet secure and tied off or held to avoid tipping or slipping.

13. Face the ladder when ascending and descending.

14. Workers are not permitted to stand on the top two rungs or steps of ladder.

15. When working on scaffolding (stationary or rolling) mid rails and top rails are required when the fall distance exceeds 6ft. If rails are not available harnesses and soft stop lanyards shall be used.

16. Workers are not permitted to bring, wear or use lanyards without soft stop protection.

17. Workers shall be instructed in these procedures before work begins and from time to time during each project.

Emergency Response / Evacuation

Reference and familiarize yourself with the project site plan; note locations of vehicular obstructions and ongoing work. Ingress and egress pathways routinely change.

1. In the event of an emergency call 911, notify your supervisor and Devcon immediately.

2. Instruct Workers to direct emergency personnel from the street to incident location.

3. Provide First Aid/CPR until relieved by paramedics or other emergency personnel.

4. Shut down equipment and safe off area if it is safe to do so.

5. Designated assembly area located near the support trailers. Supervisors shall perform a head count and report any missing persons to the authorities and their last know location.

Electrical:

1. Only qualified electricians shall work on electrical equipment.

2. Temporary power boxes will be available on site. The boxes are GFI protected and shall remain in working order. The electrical contractor shall repair damaged receptacles and GFI's immediately.

3. All trades shall check electrical tools and cords weekly. Any tool or cord in poor condition is to be removed for repair or replacement. Disconnect cords and tools before repair.

4. Work shall not be performed on energized lines or equipment. When in doubt, discuss the matter with the job supervisor.

5. Special care shall be exercised when working near proximity to energized equipment, systems or conductors, for 600 volts, nominal or less. Should a problem occur or you are in doubt, discuss the situation with the supervisor.

6. For any job where the work is in the near proximity of energized lines or equipment exceeding 600 volts nominal, special job site rules shall be applicable to that operation. Electrical contractor supervisors shall provide safety guidance.

7. After electrical work has been performed, temporary protective equipment, etc. shall be removed and permanent covers and/or barriers installed. The supervisor is to complete a safety inspection prior to allowing work in that area by other trades.

8. Use a lock out tag out system for energized circuits to protect against electrical shock.

Lockout and Tagging of Circuits and / or Equipment:

1. Subcontractor shall place locks and tags on controls that are to be deactivated during the course of work on energized or de-energized equipment or circuits.

2. Equipment or circuits that are de-energized shall be rendered inoperative and have locks and tags attached at all points where such equipment or circuits can be energized.

3. Lift trucks, scissor lifts and other motorized equipment shall have the keys removed at end of workday.

4. Fork lift type equipment shall have the forks, booms and masts lowered with the forks resting on the ground.

Housekeeping / Waste Disposal:

1. Each subcontractor is responsible for arranging for the removal of all scrap material generated during each project.

2. During the course of construction, renovation, alteration, or repairs, all construction debris shall be kept clear from all work areas and not be allowed to accumulate.

3. All materials shall be disposed of properly according to federal, state and local guidelines.

4. Subcontractors shall ensure that enough trash receptacles are located within their respective work areas.

5. Containers shall be clearly marked for the contents to be disposed of. (E.g. oily rags, metal, paper waste, etc.)

6. Covers shall be provided for containers used to collect garbage, solvents and other flammable wastes, Hazardous wastes such as acids or caustics.

7. Building materials shall be arranged such that they do not pose a hazard to personnel in or around the area.

8. Walking and working surfaces shall remain clear of materials and or debris. Cords and hoses must be out of walkways or elevated 7 feet above floor level.

9. The subcontractor shall provide periodic cleanup as necessary to provide working conditions that are clean, sanitary, orderly, and safe.

10. Materials such as paints, taping mud, adhesives, etc. shall be disposed of properly. Environmental concerns and the proximity to the Bay make cleaning and washing of material in janitor sinks and storm drains prohibitive. The materials shall be taken off site for proper disposal.

Tools and Equipment:

1. All tools and equipment shall be maintained in good condition. Only appropriate tools shall be used for the job.

2. Portable electric tools shall not be lifted or lowered by means of power cord. Ropes or other appropriate devices shall be used.

3. Electric cords shall not be exposed to damage from vehicles or equipment.

4. Workers shall ensure that all guards and other protective devices or equipment are in proper places and adjusted. Equipment shall be taken out of service if any deficiencies exist. Notify the shop immediately.

5. Materials, tools or other objects shall not be thrown from buildings or structures.

6. Extension ladders are to be tied off and Workers are to face ladder and use both hands while climbing. The top three rungs or cleats of stepladders shall not be used without fall protection.

7. Workers shall immediately report to the supervisor any damage or improper condition of scaffolds, lifts or other supporting structures.

8. No employee shall operate machinery or equipment unless authorized by his or her direct supervisor.

9. Machinery shall not be serviced, repaired or adjusted while in operation, nor shall oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards.

Ladders / Scaffolding:

1. Extension ladders are to be tied off, workers are to face ladder and use both hands while ascending and descending.

2. Do not step on the top cap or the step below the top cap.

3. Immediately report to your supervisor any damage or improper condition of ladders, scaffolds, lifts or other supporting structures.

4. Scaffolding shall be set up and dismantled according to Cal/OSHA regulations.

1. Scaffolding shall be properly railed, planked and have ladder access. .

6. Users shall check condition of scaffolds daily before use. Deficiencies shall be corrected immediately.

Hot Work: Permit Required

"Hot Work" is defined as any work requiring the use of burning or welding equipment, brazing equipment, explosives, open fires, portable grinders, explosion-activated tools, or any other flame or spark producing equipment.

1. Hot Work Permits are required and shall be obtained from Devcon Construction on a per task / daily bases. Obtain permit from Devcon.

2. Fire extinguishers shall be within 10’ of hot work.

3. Dampen the immediate area with water from a spray bottle before and after hot work.

4. Re-check hot work area before leaving for the day.

5. Turn in completed hot work permit to Devcon.

Fire Protection:

1. When using heat producing equipment make certain the area is clear of fire hazards and sources of potential fire are eliminated.

2. Have fire extinguisher located within 10' of hot work operations.

3. Dampen the work area of wood and combustibles when using torches or other flame producing equipment with a spray bottle of water before and after work.

4. Re check all hot work areas at the end of workday for potential fire.

5. Fire extinguishers shall be located at the bottom and top of each stairway and floor.

6. Turn in used or discharged fire extinguishers for recharging.

Welding and Burning:

1. Hot Work Permit required. Utilize a watch person, barricades or shields where practical.

2. Wear helmet and protective eyewear when burning, chipping and grinding.

3. Welding cables and leads shall be connected properly.

4. Good ventilation and fire extinguishers are required for safety.

5. Fire blankets and similar protection shall be used to protect materials, finishes (ex: glass / metal) and waterproof membranes.

6. Coordinate work to avoid welding over other trades and co-workers.

Motor Vehicles and Mechanized Equipment:

1. Workers assigned or operating company vehicles shall have a current driver's license and obey the rules of the road. Only authorized personnel may drive company vehicles.

2. Vehicles will be maintained in good working condition.

3. Company vehicles should be locked when unattended. Keys are not to be left in ignition.

4. If there is a question as to the safe operation of any vehicle, do not drive such vehicle. Notify supervisor of the problem.

2. Scissors lifts; forklifts, lulls, zoom booms and other equipment are to be used by trained and/or experienced personnel.

Tenant Safety and Public Awareness:

1. Traffic controls are to be used when heavy equipment is entering or leaving the job site.

2. Debris or material shall be cleaned up immediately. Food scraps are to be disposed of in trash barrels.

3. Fences are to be maintained in good condition and the gates locked during non-working hours.

4. Housekeeping in occupied buildings shall be continuous.

5. Offensive language and graffiti shall not be tolerated.

"Safety Starts With Me"

Heat Illness Prevention Plan

Policy & Procedure – Heat Illness Prevention – Cal OSHA Title 8, CCR 3395

Purpose:

- Heat Illness Prevention, Title 8, CCR 3395 is intended to provide awareness for workers exposed to temperatures above 80 degrees during an eight hour shift, of the potential health effects of heat on the body and means and methods of prevention. Key items include: Work site acclimation, shade, water, monitoring signs & symptoms of heat stress and training.

- **80° is the trigger for Devcon Heat Illness Prevention and Awareness**

Monitoring Weather

The Devcon Superintendent or person in charge of the site will monitor current and future weather forecasts using tools linked to National Weather Service. An example is Intellicast website or the OSHA Heat Safety Tool app for smart phones.

Environmental Risks

When evaluating the work site, environmental risk factor must be considered in addition to ambient air temperature. Examples to be considered: relative humidity, radiant heat from the sun and other sources such as operating equipment, conductive heat sources such as ground, air movement, workload severity and duration, protective clothing and PPE.
Pre-task plans should be completed when environmental risks have been identified.

Acclimation

- The level of heat stress a person encounters depends on age, weight, level of fitness, medical condition, and acclimatization to the heat. Heat stress occurs when body muscles are being used for physical labor and less blood is available to flow to the skin and release the heat.
- An employee newly assigned to a high heat area shall be closely observed for the first 14 days.
- Acclimation takes from 4-14 days in most people based on at least 2 hours of work per day in heat.
- All employees shall be closely observed during a “Heat Wave”. **“Heat Wave”** means any day in which the predicted high will be at least 80 and at least 10 degrees higher than the average high daily temperature in the preceding 5 days.
- Supervisors and workers shall be aware of the signs and symptoms of heat exhaustion and heat stroke.
- Frequent breaks and drinking of additional water may be necessary for 10-14 days.

Water

- Water will be provided free of charge regardless of the temperature. Water to be fresh and pure and available from clean sources such as domestic water. If a domestic water source is not available, individual employee jugs with name, bottled water or coolers and cups will be provided.

- Where single-service cups are supplied, a sanitary container for the unused cups and a receptacle for disposing of the used cups will be provided.
- The water must be cooler then the ambient temperature.
- Instruct workers to drink small amounts of water, up to 4 cups per hour (quart) when the temperature is above 80° and employees are likely to be sweating profusely.
- Water shall be available at the start of each shift and replenished as needed.
- Water shall be located as close as practicable to the work areas.
- On Multi-story sites water should be placed on every floor.
- The "HIP" monitor shall check several times during the day for adequate water supply.
- Encourage workers to eat fresh fruit, especially bananas, and avoid sweet drinks and highly caffeinated products. High energy drinks are discouraged.
- Water should be available in the shade/rest areas.

Shade

- Air conditioned trailers, tents, and covered areas including natural settings such as trees.
- Shade shall be provided when the temperature is expected to exceed 80°.
- Shade is required to accommodate the number of employees on recovery/rest periods.
- Shade areas will be set up away from hazardous areas and unpleasant conditions (toilets)
- Employees should not have to cross traffic or waterways to reach the shade.
- Employees are allowed to take breaks within the shaded / air conditioned areas.
- Access to shade is available upon employees request and or as needed.
- During meal periods there shall be enough shade to accommodate employees on meal period.

Monitoring

- Employees on cool-down rest shall be monitored for signs of heat illness.
- Employees shall be encouraged to remain in the shade and drink water.
- Employees shall not be ordered back to work until any signs or symptoms of heat illness have been abated. In no event rest shall not be less than 5 minutes plus time to get to the shade.
- If employee shows signs of heat illness provide appropriate first aid and/or emergency response if needed.
- Employees exhibiting signs or symptoms of heat illness shall not be left alone or sent home without being offered onsite first-aid or EMS.

High-heat procedures

- **High Heat Procedures – Temperatures equal to or above 95°**
- Observe workers for signs & symptoms of heat illness.
    - Designee to monitor 20 or less employees, or
    - Mandatory buddy system, or
    - Regular communication with individual employee via cell phone or radio.
- Daily before work starts, review the High Heat Procedures, remind workers to drink water frequently and take cool-down rest when necessary. (Devcon High Heat form)
- Watch over new hires for 14 days to ensure acclimatization.
- Use radios / cell phones to summon emergency assistance. Anyone can call 911 for help.
- Have emergency procedures in place.
- Adjust work hours to avoid peak heat during the day.

Training

- All personnel (Supervisors & Workers) will be trained and informed of Heat Illness Prevention using a power point program covering the Cal/OSHA and or Federal OSHA standards.
- Training shall be documented including names and dates of training. (Sample training material attached.)
- Weekly Tailgate Meetings during hot weather will include tips on heat illness prevention.
- Signage for Heat Illness Prevention will be posted on site.
- Provide at minimum shade as requested or at the temperature trigger point listed.
- Heat Illness Prevention material will be available for personnel.

Emergency Response Procedures

- ANY worker can call 911 for a medical or other emergency on site.
    - ASAP notify the Devcon person in charge of the site.
    - The Devcon person in charge will confirm that 911 has been called.
- When an individual shows signs and symptoms of heat illness provide:
    - Immediate access to shade
    - Provide small amounts of water
    - Place wet, cool / cold towels to head, back of neck and arm pits.
    - Monitor him/her for alertness and consciousness
    - In the event of decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions call 911 immediately.
- When medical services are notified give clear and exact address to project.
- Station one or more individuals at the project entrance and within the site to assist with getting the responders to the ill worker.

Environmental and Personal Risk Factors of Heat Illness

Environment

- **Temperature – 80-85°**
- Radiant heat from the sun or a heat source
- Humidity
- Air velocity

Personal Risks of heat stress

- Rise in body temperature and heart rate
- Loss of concentration and difficulty in focusing on a task
- Increased irritability or sickness
- Little or no desire to drink
- Fainting and possible death if person is not removed from the source of the heat stress

Heat Illness Risk Reduction

- Job site trailers, containers, air conditioned vehicles or tents shall provide shade.
- Maintain an adequate supply of clean, cool, potable water.
- Encourage employees to drink water to replace lost fluids
- A combination of heat and high humidity above 90 F may affect workers and production
- Recognize heat stress symptoms
- Provide First Aid for heat stress disorders
- First Aid personnel recognize heat stress

- Move to a cooler place, find shade, and rest during breaks
- Slow down or reduce the work load during hot periods
- Wear cotton garments and use sunscreen, hard hats, and sunglasses
- Be aware of medication effects during hot spells
- Weight reduction helps prevent heat stress

Signs & Symptoms of Heat Stress

Heat Stroke

- Body's failure to regulate its core temperature. Most serious and may result in death.
- Mental confusion, delirium, loss of consciousness, convulsions, or coma.
- Body temperature of 106° or higher.
- Hot, dry skin that may be red, mottled, or bluish.

Treatment & Care – Report to supervisors.

- Call for medical help – 911
- Move the victim to a cool / shaded area.
- Soak the victims clothing with cool water, loosen tight clothing.
- Fan the individual vigorously to increase cooling.

Heat Exhaustion:

- Loss of fluids through sweating and not drinking enough fluids.
- The worker still sweats but experiences extreme weakness or fatigue, pale skin giddiness, nausea, or headache.
- The skin is clammy and moist, while body temperatures are Norman or slightly elevated.

Treatment & Care

- The victim should rest in a cool / shaded place.
- Drink water or an electrolyte solution, such as a sports drink used by athletes to restore potassium and salt.
- Severe cases, in which the victim vomits or loses consciousness, may require longer treatment under medical supervision.

Heat Cramps:

- Painful spasms of the muscles, caused by loss of the body's salt.

Treatment & Care

- Similar to heat exhaustion, the individual should drink an electrolyte sports drink.
- Seek medical aid for severe cramping.

Fainting:

- May occur when a worker is or is not acclimatized to a hot environment.

Treatment & Care

- Allow the victim to lie down or his or her back.
- Monitor consciousness and call for medical aid is necessary.

Heat Rash:

- Also known as prickly heat may be extensive and complicated by infection. It may disrupt sleep and cause temporary disability.

Treatment & Care

- Place the victim in a cool place and allow the skin to dry.

Excavations & Trenching

Every subcontractor performing excavation work on site must have a properly trained and designated competent person. Subcontractor shall maintain on site all required excavation documentation in accordance with the provisions of Cal OSHA Article 6. All such records shall be available for inspection upon request.

General Requirements

1. USA Underground Alert and / or utilities shall be contacted, advised of the proposed work, and asked to establish the location of the utility underground installations prior to the start of actual excavation.

2. No employee shall be permitted underneath loads handled by lifting or digging equipment.

3. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials

4. Excavations must be barricaded to alert pedestrians and vehicle traffic.

5. Spoil dirt may be used to barricade one side of an excavation.

6. The spoil pile must be at least three (3) feet high (if used as a barricade) and also must be piled at least three (3) feet from the edge of the excavation,

7. Access and egress must be provided for all excavations. Ladders shall be provided at depths of 4 feet or more with travel distances no greater than 25 feet. Ladders must extend at least three (3) feet above the top of the excavation and must be secured at top and bottom.

8. Walkways shall be provided where employees or equipment are required or permitted to cross over excavations. Guardrails shall be provided where walkways are 6 feet or more above lower levels-

9. Adequate barrier physical protection shall be provided at all remote excavations. All wells, pits, shafts, etc., shall be barricaded or covered.

10. Upon completion of tasks, excavation must be back-filled.

11. Excavations must be sloped or shored when deeper than five (5) feet.

12. A competent person must check all sloping prior to anyone entering the excavation. Excavations shall comply with Cal OSHA regulations for sloping or shoring.

13. A registered professional engineer shall design sloping or benching for excavations greater than 20 feet. The approved contract drawing must be kept on site.

14. The competent person shall conduct an inspection prior to the start of work and as needed throughout the shift.

15. Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins, failure of protective systems, hazardous atmospheres, or other hazardous conditions.

16. Inspections shall also be made after every rainstorm or other hazard-increasing occurrence. These inspections are only required when employee exposure can be reasonably anticipated,

17. Where the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, exposed employees shall be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.

18. Employees shall not work in excavations in which there is accumulated water, or in excavations, in which water is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation.

19. If water is controlled or prevented from accumulating by the use of water removal equipment, a competent person shall monitor the water removal equipment and operations to ensure proper operation.

20. Review and follow the safety requirements for work in the soil impacted areas.

Fall Protection

Cal OSHA Article 24 regulations require fall protection when an individual has a fall potential from structure or building. To insure the safety & health of employees and subcontractors the work methods are:

1. Site specific plans to follow.

2. All individuals shall wear harnesses with soft stop lanyards per Cal OSHA regulations. Harnesses and soft stop lanyards shall be worn and attached when operating zoom booms, JLG's or similar personnel lifts.

3. Work requiring personnel to get outside the guard rails shall be tied off to a substantial anchor point with the soft stop lanyard and harness during all activities.

4. "A" frame ladders shall be used in the full open position with the feet on secure ground.

5. Extension ladders used for access to panel connections and adjustment shall have the feet secure and tied off or held to avoid tipping or slipping. The ladder shall extend 3 ft. above the landing.

6. Face the ladder when ascending and descending. Use both hands to hold onto the ladder when ascending and descending. Secure a rope at the top of the ladder to raise and lower tools and equipment.

7. Employees are not permitted to stand on the top two rungs or steps of ladder without being tied off from above.

8. When working on scaffolding (stationary or rolling) mid rails and top rails are required when the fall distance exceeds 6ft. If rails are not available, harnesses and soft stop lanyards shall be used.

9. Floor, wall and roof openings must be guarded and protected at all times. Covered holes shall be secured and marked "opening do not remove". Covered skylights shall be covered or have barricades of wood installed during work in progress.

Scaffolding

All scaffolds shall be inspected, erected and/or dismantled under the supervision of a competent person. No subcontractor on this site shall allow any employee to erect or use as scaffold without being properly trained.

Subcontractors are required to comply with all requirements of Cal OSHA Article 21-23 regulations dealing with scaffold erection, inspection and training. The following provisions shall be used as guide only. Subcontractor shall maintain a comprehensive program on scaffold erection and use.

General Requirements:

1. Qualified and competent contractors or user shall erect scaffolding with competent trained personnel.

2. The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks, shall not be used to support scaffolds or planks.

2- No scaffold shall be erected, moved, dismantled, or altered except under the supervision of competent persons.

3. Guardrails and toe boards shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor, except needle beam scaffolds and floats. Scaffolds 4 feet to 10 feet in height, having a minimum horizontal dimension in either direction of less than 45 inches, shall have standard guardrails installed on all open sides and ends of the platform.

4. Guardrails shall be 2 x 4 inches or equivalent, approximately 42 inches high, with a mid-rail. Supports shall be at intervals not to exceed 8 feet. Toe boards shall be a minimum of 4 inches in height.

5. Where persons are required to work or pass under the scaffold, scaffolds shall be provided with a screen between the toe board and the guardrail, extending along the entire opening, consisting of No. 18 gauge U.S. Standard wire 1/2 inch mesh, or the equivalent.

6. Scaffolds and their components shall be capable of supporting without failure at least 4 times the maximum intended load.

7. Any scaffold including accessories such as braces, brackets, trusses, etc., weakened from any cause shall be immediately repaired or replaced.

8. All load-carrying timber members of scaffold framing shall be a minimum of 1,500 psi- fiber (Stress Grade) construction grade lumber. All dimensions are nominal sizes as proved in the American Lumber Standards, except that where rough sizes are noted, only rough or undressed lumber of the size specified will satisfy the minimum requirements.

9. All planking shall be scaffold grades, or equivalent, as recognized by approved grading rules for the species of wood used.

10. Planks shall be overlapped (minimum 12 inches), or secured from movement.

11. An access ladder or equivalent safe access shall be provided.

12. Scaffold planks shall extend over end supports not less than 6 inches or more than 12 inches.

13. The poles, legs, or uprights of scaffolds shall be plumb, and securely and rigidly braced to prevent swaying and displacement.

14. Overhead protection shall be provided for men on a scaffold exposed to overhead hazards.

15. Slippery conditions on scaffolds shall be eliminated as soon as possible after they occur.

16. No welding, burning, riveting, or open flame work shall be performed on any staging suspended by means of fiber or synthetic rope. Only treated or protected fiber or synthetic ropes shall be used for or near any work involving the use of corrosive substances or chemicals- Specific requirements for boatswain's chairs and float or ship scaffolds are contained in the Cal OSHA manual.

17. Wire, synthetic, or fiber rope used for scaffold suspension shall be capable of supporting at least 6 times the rated load.

18. The use of shore or lean-to-scaffolds in prohibited.

Wood Framing Guidelines

ERECTION AND CONSTRUCTION

Truss and Beam Requirements

Trusses and beams must be braced laterally and progressively during construction to prevent buckling or overturning. The first member shall be plumbed, connected, braced, or guyed against shifting before succeeding members are erected and secured to it……**1709(b)**
An erection plan and procedure must be provided for trusses and beams more than 25 ft. long. The plan must be prepared by an engineer (Ca PE), and it must be followed and kept available on the job site for inspection by Cal/OSHA staff.
…….…....**1709(d)**

Wood/Light Gauge Steel, Residential and Light Commercial Frame Construction

Joists, beams, or girders of floors below the floor or level where work is being done, or about to be done, must be covered with flooring laid close together……**1635(a)(1)**
Employees shall not work from or walk on structural members until they are securely braced and supported…… **1716.2(d)**
Before manually raising framed walls that are 15 ft. or more in height, temporary restraints, such as cleats on the foundation or floor system or straps on the wall bottom plate must be installed to prevent inadvertent horizontal sliding or uplift of the framed wall bottom plate. Anchor bolts alone shall not be used for blocking or bracing when raising framed walls 15 feet or more in height.
……**1716.2(c)**
When installing windows, wall openings shall be guarded as required by **1632**, however the guardrail may be removed for actual window installation if necessary……**1716.2(h)**
Scaffolds used as an edge protection platform must be fully planked, not more than 2 feet below the top plate, and located no more than 16 inches from the structure……..**1716.2(i)(3)**
Employees exposed to fall hazards must be trained to recognize and minimize the fall hazard.
……..…**1716.2(j)**
Employees performing framing activities who are exposed to fall heights of 15 feet or greater must be protected by guardrails, person fall protection systems or other effective means……..**1716.2(e)**

Forms, False work and Vertical Shoring

By definition, concrete forms are considered false work. False work, however, also includes support systems for forms, newly completed floors, bridge spans, ramps, decks, etc., that provide support until appropriate curing or stressing processes have been completed. See below for selected safety orders:

A. Design of false work

1. Concrete formwork and false work must be designed, supported, and braces to safely withstand the intended load.
2. False work design, detailed calculations, and drawings must be signed and approved by an engineer (Ca PE) if the false work height (sill to soffit) exceeds 14 ft., if the individual horizontal span length exceeds 16 ft., or if vehicle or railroad traffic goes through the false work.

Note: For other false work, a manufacturer's representative may provide approval or a licensed contractor's qualified representative.

3. False work plans must be available at the job site.
4. Minimum design loads are as follows:
   a) Total combined live and dead load; 100 puff
   b) Live load and formwork: 20 psf
5. Additional loads must be considered in the design.

B. Erection of false work

1. False work must be erected on a stable, level, compacted base and supported by adequate pads, plates, or sills.
2. Shore clamps (metal) must be installed in accord with manufacturer's instructions.

C. Inspection

1. Before pouring concrete on false work requiring design approval, an engineer (Ca PE) or the engineer's representative must inspect for and certify compliance with plans.

Note: For other false work, a manufacturer's representative may provide the inspection and certification or a licensed contractor's qualified representative.

2. A copy of the inspection certification must be available at the job site.

D. Access to forms and false work

1. Joists (5 ½ in. wide) at not more than 36 in. o.c. may be used as walkways while forms are placed.
2. A plank (12 in. wide) may be used as a walkway while joists are placed.

E. Fall protection

Periphery rails are required as soon as supporting members are in place.

Note: The area under formwork is a restricted area and must be posted with perimeter warning signs.

Cranes

1. Staging is critical, check with Devcon before proceeding.
2. Crane operator is to check the crane before work and have crane certifications available.
3. Pre plan with all trades to avoid conflicts and traffic congestion.
4. Pre walk the site for crane set up. Note where outriggers will be located. Check for secure ground.
5. Dunnage (minimum of 2’ X 2’ square pads of 2” material or similar steel strength required under the out riggers.
6. Pre plan swing area and storage of material. Barricade off the area.
7. Avoid prolonged overhead routes.
8. Use a “tag line” to control load.
9. Coordinate signals with crane operator.
10. Use an air horn to warn workers of overhead loads.
11. Slings and attachments must be inspected for damage or defects. Remove damaged or defected slings from service
12. A manufacturer’s label with capacity listed must be attached to the sling.
13. Chain or wire rope slings must not be shortened by knots, bolts, or other means.
14. Sling legs must not be kinked. Slings must not be overloaded.
15. Slings must be padded to protect against damage from sharp loads.
16. Deformed or defective sling hook and rings must not be used.
17. Safety-type hooks (or their equivalent) must be used when loads must pass over workers or occupied passageways.
18. Secure all material and equipment before hoisting. **No loose items or loads**.
19. Check rigging, hooks and cables. Remove and replace worn rigging.
20. All trades shall insure the rigger(s) or competent person trained.
21. All trucks, vehicles and personnel are to stay a safe distance from the railroad tracks. Observe barriers at all times

Hazardous Material Communication Program

A. Policy Statement:

The Hazardous Material and Communication Program have been developed to protect the safety and health of our Workers.

1. As a company we intend to provide information about hazardous chemical substances used in construction with this program as the vehicle.

2. This written program applies to all operations, which may expose Workers and subcontractors to hazardous substances because of normal work conditions.

3. The program is available upon request to Devcon's Workers, their designated representatives, subcontractors and State and Federal OSHA agencies.

4. The office, shop and job site will have a designated person (usually the supervisor) responsible for the program. Outside consultants will be used as needed to assist in the effort and training of key people as necessary.

B. Identification of Hazardous Substances used in the Workplace:

1. "Hazardous substances" are materials or mixtures, which are physical or health hazards or are included by CAL/OSHA on the Director's List of Hazardous Substances Safety Order 339.

2. "Exposure" is any situation arising from work conditions where a worker may ingest, inhale, absorb or otherwise be exposed to a hazardous substance.

3. Each jobsite will maintain a list of hazardous materials which workers may be exposed, using the same chemical name referenced on the appropriate SDS for those substances.

4. A master list of products purchased by Devcon will be maintained at the company office as a back up for the jobsite. It is the responsibility of the supplier or vendor to provide the SDS's.

5. Earth work, renovation or remodeling work may require special safety measures due to such exposures as water and soil contamination, asbestos exposure or other chemical exposures. These areas will be covered with specific safety measures per activity.

C. Labels:

1. When hazardous materials are received the supervisor shall examine the containers to determine if the labels provide the following information:
   a. The identity of the substances.
   b. Appropriate warning of the physical and health hazards.

2. When substances are transferred into portable containers the supervisor shall ensure the portable containers are labeled with the following:
   a. The name and appropriate warnings of the physical and health hazardous of the product.

3. Portable containers may be labeled with an extra copy of the manufacturer's label or with a printed label that will not rub off.

a. EXCEPTION: When a worker transfers substances into a container for his/her own immediate use the container need not be labeled.

4. Supervisors will ensure the labels on containers are not removed or defaced. Containers and labeling will be maintained in good order.

D Safety Data Sheets (SDS):*

1. Material Safety Data Sheets (MSDS) are documents, which supply information about a particular substance or mixture. Manufacturers are required to provide SDS.

2. Safety Data Sheets contain the following information:

Sections 1-3	Product Information
Sections 4-6	Emergency Situations
Sections 7-10	Hazard Prevention & Personal Protection
Sections 11-16	Other Specific Information

E. Information and Training:

1. When Workers may be exposed or are exposed by mistake to substances considered hazardous to health, they shall be provided information and training by the supervisor based on the data contained in the SDS.

2. Training shall be conducted and documented as a "toolbox" or "tailgate" meeting and shall provide the following:
   a. Information on the hazardous material in the work area.
   b. How to read and interpret information on labels and SDS sheets.
   c. Hazards associated with the use of product.
   d. Personal protective measures and emergency controls.
   e. Emergency procedures for spills fire disposal and first aid.
   f. Detection of hazardous substances in the workplace including odor, visual appearance or monitoring.
   g. The right of Workers or their physicians to receive information on substances to which they may have been exposed.

F. Access to Information by Workers and / or Subcontractors:

1. The "Medical and Exposure Records", if any, will be available through Devcon Safety.

2. If Workers of other contractors or customers may be exposed to hazardous substances while on one of our projects, the employers will be provided with a list of the materials used. If requested the name and address of the suppliers and manufacturers of the substances will be given.

Construction Activities in Hazardous Waste Impacted Soil Introduction

The site was previously an occupied two-story commercial office building with a paved parking lot. Historically, the Redwood Creek bisected the site and in 1960's the creek had been rerouted approx.. 150 feet to the east and channelized, it is now the east boundary of the site. The fill used after the moving of the creek is unknown as to the type, quantity or source of material. The most recent testing resulted in hazardous VOC's / chemicals in the ground, specifically Chromium, Diesel Fuel, and Lead. However, trenching and excavations for the new structure are not anticipated to get into any affected areas. The Industrial Hygiene report dated March 2019 by Acumen IH is attached and available on site.

As a precaution the following plan will be followed during construction activities.

1. All personnel working on site will be informed and trained by their employer regarding the safety measures necessary to protect the health and safety exposures that may be present in the soil. Cal OSHA General Industry Safety Orders Subchapter 7; Group 16; Article 109

2. Property owner shall be responsible for monitoring potential hazardous concentrations in Native soil and some fill material.

3. Exposure if any is expected by way of dermal contact, liquid, vapor and dust inhalation.

4. Implementation and training regarding this plan shall be the responsibility of all employers.

5. Property owner and their representatives will perform test and analytical reporting in suspected areas. Results will be given to employer for informing all individuals and companies.

Worker Safety & Training

The following measures are to protect the health & safety of personnel on site. Each employer is responsible to provide and train his or her employees in the use and care of required personal protective equipment (PPE).

1. During construction, each contractor shall maintain a sign-in log of personnel on site. At the end of each day, a log of work activities and hours for each individual is to be submitted to the contractor.

2. Individuals working in the impacted area may be required to wear Tyvek coveralls and chemical protective gloves for protection. If the ongoing air monitoring indicates exposure levels above the Cal/OHSA permissible limits (PEL) the owner shall have licensed hazardous contractors perform the work.

3. A storage facility for the Tyvek coveralls and other protective gear shall be available on site. At no time shall PPE be removed from the site.

4. Personal hygiene requires all personnel to wash their hands and face before breaks, lunch and/or departing the site. Wash hands before and after using sanitary facilities. Wash stations shall be on site. Smoking should be avoided to cut down on hand to mouth contact.

5. Work areas will be wet down if necessary to control dust exposure in affected areas.

6. All non-essential traffic shall be kept off site.

Personal Protection Equipment (PPE)

It is anticipated that the following level of personal protective equipment (PPE) will be used on this project.

- **Level "D" PPE (Modified) – protection against nuisance contaminants.**

  - Standard work clothing: May include Tyvek suit.
  - Foot wear: Work boot / rain boot
  - Gloves: Protective gloves
  - Safety glasses: Required
  - Hard hats: Required

If necessary, upgrade to Level "C' protection may be necessary.

- **Level "C" PPE - selected when the type and concentration of the contaminant is known and criteria for using air-purifying respirators (APR).**

  - Full face or half mask respirator with appropriate cartridges.
  - Filters on respirators must be combination High-Efficiency Particulate Air (HEPA) filters. Cite 8 CCR 1529.
  - Personal protective clothing, i.e. Tyvek suits or similar clothing.
  - Rubber gloves with other work gloves (canvas or leather).
  - Rubber boots that may be rinsed off.
  - Safety glasses
  - Hard hats

- **Level "A or B" PPE requirements shall be used during remediation. This work shall be performed by others under a separate contract between the owner/developer.**

Medical Surveillance:

The monitoring of the air and ground will be available to all personnel upon request. Written authorization from the worker is required to release information to medical personnel.

Air Monitoring:

The owner / developer shall conduct air monitoring as needed for worker safety and health during excavation, trenching and other underground activities.

If the action levels exceed the permissible limits additional personal protection measures may be required and or remediation by the owner /developer.

Worker Right to Know:

Cal/OSHA and NIOSH standards will be used to assess worker exposure if suspect chemicals are noted. Safety Data Sheets for the suspect products shall be on site. Employer personnel and subcontractor employees will be informed and materials present. All personnel are welcome to review information and request a copy.

Copy of soils report is available on site.

Site Management and Contingency Plan (SMP)

A. Introduction

A Site Management and Contingency Plan (SMP) has been prepared for the subject property and is included as an Appendix in this Site Safety Program. This section summarizes some important information from the SMP. The SMP includes procedures and contingency measures for environmental consultants, demolition and construction contractors and workers, regulators and other property owner representatives for: (1) information regarding known environmental conditions present at the site; (2) protocols for managing soil during site redevelopment activities; (3) protocols for excavation and management of pesticide-affected soils encountered during grading activities in those areas; (4) protocols for implementing contingencies to manage unknown contaminated soil or other environmental conditions in the event that they are unexpectedly found during site demolition or redevelopment construction; (5) protocols for monitoring water levels during dewatering activities; (6) management plan for excavation water during dewatering; and (7) reporting requirements to document the SMP implementation.

B. Activities Covered by the SMP

The following construction activities are covered under the SMP:

- Removal of Existing Construction Trailers and Surface Cover – activities associated with removal of the existing temporary building asphalt and concrete pavement or landscaped areas;
- Excavation and Site Grading – any activity occurring beneath the grade level of existing surfaces;
- Utility Line Work – any subterranean inspection, excavation, demolition, or repair of electrical, telephone, water, sanitary sewer, or storm drains occurring within the planned construction area;
- Excavation Dewatering and Monitoring – subsurface excavation dewatering activities for the subterranean portion of the multi-level parking structure and monitoring of site perimeter groundwater levels to assess effects of dewatering operations; and
- Other – other subgrade activities not expressly listed above.

C. Chemicals of Concern

During environmental subsurface investigation four areas were identified where residual dieldrin, an organochlorine pesticide (OCP), was identified in shallow soils above the commercial/industrial human health direct exposure environmental screening level (ESL) established by the San Francisco Regional Water Quality Control Board (SFRWQCB). Prior to grading operations, the dieldrin affected soil areas identified in the SMP shall be excavated and managed in accordance with the SMP. Detailed properties of dieldrin, as excerpted from the National Institute of Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards website (http://www.cdc.gov/niosh/npg/) is presented in the Appendix of this Site Safety Program.

D. Contingency Procedures for Suspect Soil

In the event suspect soils, that have not been previously identified or evaluated through preliminary environmental investigations, are identified through visual or olfactory observations

during demolition, excavation, site grading or utility line work, work shall halt in the area of suspect material, and the soil management contingency procedures outlined in the SMP will be followed.

E. Dust Control Procedures

During the demolition and construction activities there is a potential to generate nuisance construction dust. Water shall be applied to the active work areas where soil is being disturbed two times a day and on an as needed basis to mitigate the potential for nuisance construction dust. Construction dust monitoring should be conducted to evaluate the potential exposure to site personnel and to off-site downwind receptors. Construction dust monitoring will be performed by the owner's environmental consultant or selected earthwork subcontractor and described in detail in their Site-specific health and safety plan. Monitoring will comply with all Bay Area Air Quality Management District (BAAQMD) regulations to control dust during construction. See attached Site Specific Dust Mitigation Plan. Attached as appendix.

F. Excavation Dewatering

During excavation for construction of the subterranean portion of the multi-level parking garage, shallow groundwater dewatering will be conducted to lower the water table. A dewatering system will be implemented at the site with a treatment process that includes settling tanks, sand filters, and an organoclay filter (if needed) prior to discharge to the existing storm drain system under a National Pollutant Discharge Elimination System (NPDES) permit. Excavation dewatering operations and monitoring procedures are explained in detail in the SMP.

Respiratory Protection Program

1. Purpose:

The purpose of the Respiratory Protection Program is to protect the health of Devcon Workers form airborne hazards of potentially hazardous materials during the performance of their work. Areas are designated as hazardous environments when conditions exist or the potential exists for the formation of a toxic, oxygen deficient or flammable atmosphere. Respirators shall be worn when work conditions present hazardous or potentially hazardous atmospheres that cannot be adequately controlled by engineering methods. This program includes guidelines and procedures for proper selection, maintenance, fitting and training of Workers.

2. General:

A. Hazard Assessment - Hazard assessment and the need for respiratory protection shall be addressed during the pre-job meeting and development of the Job Site Safety Plan.

B. Hazard Control - Due to the varying job site conditions it may not be feasible to institute engineering controls such as ventilation systems for the control of respiratory hazards. The use of personal protective equipment is therefore required.

C. Selection - the respirator and cartridge will be selected on a task-by-task basis using the following guidelines:

- Respiratory equipment shall conform to American National Standards Institute (ANSI) Standard for Respiratory Protection 288.2-1969 and NIOSH approved.
- The nature of the hazard.
- The characteristics of the task or operation.
- The period of time the respirator may be needed.

D. Training - all Workers required to wear a respirator shall receive training adequate for that use, including the following:

- Instruction of the nature, extent and effects of respiratory hazards to which the employee may be exposed
- Explanation of engineering controls in the work area
- A discussion of the respirator's capabilities and limitations
- Instruction in the care of the respirators, daily cleaning methods, inspection prior to use, changing cartridges and filters, and proper storage
- Instruction in the use of the respirator, including use during emergency situation, and procedures to follow when respirator equipment fails
- Instruction on proper procedures for entering an oxygen deficient atmosphere, or a toxic environment
- Instruction on donning respirator, and how to ensure that proper fit is obtained (fit test)
- Documentation of this training will be maintained with the company IIPP records

3. Procedure:

A. Fit Test - A qualitative fit test will be conducted on each new worker. The fit test must assure the adequacy of the seal between the face and mask's sealing surface. A

respirator shall not be issued to persons whose facial hair or other obstruction prevents the attainment of a satisfactory seal by the Qualitative Fit-Test Procedures.

- Facial hair cannot be allowed in the face seal area.
- Contact lens may not be allowed depending on potential chemical exposure.
- See "Respirator User Approval Form" attachment A.

4. The Qualitative Fit Test includes the following:

A. Positive Pressure Test:

Cover the exhalation valve with the thumb or palm and exhale gently into the face piece. The fit is considered satisfactory if slight positive pressure can be built up inside the face piece without breaking the face piece-to-seal.

B. Negative Pressure Test:

Close off the inlet opening of the cartridges by covering with the palm of the hand(s). Inhale gently so that the face piece collapses slightly and hold the breath for approximately 10 seconds. If the face piece remains in its slightly collapsed condition and no inward leakage is detected, the fit of the respirator is considered satisfactory. If an inward leakage is noted, re-adjust the face piece and/or headbands until a satisfactory seal is obtained.

C. Irritant Smoke Test:

The test subject will don the respirator and the tester makes a visual inspection of the face piece-to-face seal. Wear the respirator in a normal atmosphere for approximately 15 minutes prior to the performance of the Irritant Smoke Test. The ends of the ventilation smoke tube and the smoke and / or isoamyl acetate are generated around the entire sealing surface of the mask.

The employee shall be instructed to breathe gently and normally thereafter if no leaks are detected. A note of caution for the employee to keep his eyes closed at this time to avoid eye irritation if a leak exists.

5. Medical / Sanitation / Maintenance / Storage:

A. Medical Monitoring - A medical evaluation shall be completed annually for those Workers who wear respirator in the course of their employment. See "Medical Authorization Form" Attachment B.

B. Respirator Cleaning. Sanitation. Inspection and Maintenance -Respirators shall be cleaned after each use and frequently sanitized. Each employee is responsible to clean and maintained the respirator according the manufactures instructions. Inspection of the condition of the respirator shall be noted before and after each use. If the unit is damaged or broken, notify the supervisor immediately and get a replacement.

C. Storage - When not in use, the respirator shall be stored in plastic bags, metal cans or boxes to avoid dust and damage. Respirators shall not be left unprotected: In toolboxes, job boxes or in direct sunlight, extreme heat, cold or moisture.

EMERGENCY INFORMATION

Vallco Town Center

10123 N Wolf Rd.
Cupertino, CA 95014

Cross Streets: Stevens Creek Blvd.

AMBULANCE / LIFE SQUAD	911
First Aid	On-Site Health & Safety 24 Hours – 510 245-2700
MEDICAL CLINIC	Concentra Medical Center 2737 Walsh Ave. Santa Clara, CA 95051 408 228-8400
HOSPITAL	Kaiser Foundation Hospital 700 Lawrence Expressway Santa Clara, CA 95051 408 851-1000 24 Hrs.

FIRE DEPARTMENT	911 or (408) 299-3144 Santa Clara County Fire
UNDERGROUND ALERT (USA)	1-800-642-2444 (811) 7 AM TO 5 PM weekdays
P G & E	1-800-743-5000
AT&T	1-800-310-2355
DEVCON CONSTRUCTION, INC.	408/942-8200 – Office 408/262-2342 – Fax

ALL ACCIDENTS MUST BE REPORTED TO DCI IMMEDIATELY

Vallco Excavation & Shoring - Site Safety

SUBCONTRACTOR REPLY

EMERGENCY NOTIFICATION

When you have finished reviewing these documents and prior to start of construction on site, please return the bottom of this page.

TO: **Devcon Construction, Inc.**
690 Gibraltar Dr.
Milpitas, CA 95035

ATTN: Dwight Harris, Superintendent

RE: Vallco Town Center
10123 N Wolfe Rd
Cupertino, CA 95014

I have reviewed the Site Logistics Program, Site Safety Program and Code of Safe Practices for the above referenced project.

Our company and its Workers agree to fully comply with all terms, conditions and procedures described in the above referenced programs.

_____ _____
Subcontractor Individual Name and Title

_____ _____ _____
Subcontractor Site Supervisor Signature Date Phone Number

Emergency Contact – after hours:

_____ _____
Name/Title Phone Number

_____ _____
Superintendent Phone Number

Corporate Safety Contact:

_____ _____
Name/Title Phone Number

Provider Referral Services (PRS)
PRS Home | Privacy

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Provider Information

Provider	**Concentra Medical Center**
Address	2737 Walsh Avenue Santa Clara, CA 95051
Phone	408-228-8400
Fax	408-228-8401
Plan Name	Anthem
NPI:	1992261986
Specialty	Occupational Medicine Clinic
Languages Spoken	All Languages Available
Approximate Distance	3.96 mile(s)
Accepting WC Patients?	Y

Text Provider Info To Mobile Phone

Type a phone number Send

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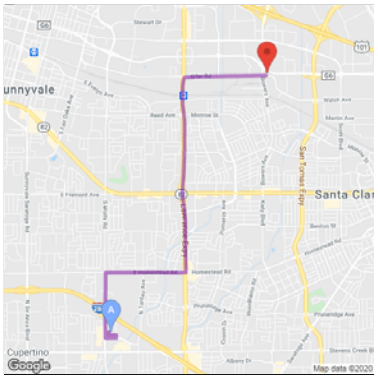

Driving Directions

From: 10123 N Wolfe Rd
Cupertino, CA 95014
New Start Address

To: 2737 Walsh Avenue
Santa Clara, CA 95051

1. Head **south**	131 ft
2. Turn **left** toward **Perimeter Rd**	0.1 mi
3. Turn **right** onto **Perimeter Rd**	194 ft
4. Turn **right** at the 1st cross street onto **Vallco Pkwy**	0.1 mi
5. Turn **right** onto **N Wolfe Rd**	0.8 mi
6. Turn **right** onto **E Homestead Rd**	1.0 mi
7. Turn **left** onto **Lawrence Expy**	2.5 mi
8. Turn **right** onto **Kifer Rd**	1.0 mi
Pass by Carl's Jr (on the left in 1.0 mi)	
9. Continue onto **Walsh Ave**	262 ft
Destination will be on the left	
Estimated driving time: 14 minutes	5.7 mi

Provider Referral Services (PRS)

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Provider Information

Provider	**Kaiser Foundation Hospital**
Address	700 Lawrence Expressway Santa Clara, CA 95051
Phone	408-851-1000
Plan Name	Kaiser
Specialty	Hospital: General Acute Care
Approximate Distance	1.11 mile(s)
Verified	Yes
Date Last Verified	10/16/2020

Text Provider Info To Mobile Phone

Type a phone number Send

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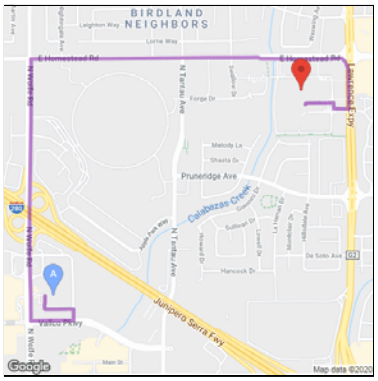

Driving Directions

From: 10123 N Wolfe Rd, Cupertino, CA 95014 — New Start Address

To: 700 Lawrence Expressway, Santa Clara, CA 95051

1.	Head **south**	131 ft
2.	Turn **left** toward **Perimeter Rd**	0.1 mi
3.	Turn **right** onto **Perimeter Rd**	194 ft
4.	Turn **right** at the 1st cross street onto **Vallco Pkwy**	0.1 mi
5.	Turn **right** onto **N Wolfe Rd**	0.8 mi
6.	Turn **right** onto **E Homestead Rd**	1.0 mi
7.	Turn **right** onto **Lawrence Expy**	0.2 mi
8.	Turn **right** at **Lehigh Dr**	259 ft
9.	Turn **right**	95 ft
10.	Turn **left**	486 ft
	Destination will be on the right	
	Estimated driving time: 9 minutes	2.5 mi