

# Revised Risk Management Plan 2081 Bay Road East Palo Alto, California

United HOPE Builders  
1852 Bay Road | East Palo Alto, California 94303

March 31, 2023 | Project No. 403999001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

March 31, 2023  
Project No. 403999001

Ms. Nicole Palazzolo  
U.S. EPA Region 9  
75 Hawthorne Street  
San Francisco, California 94105

Subject: Revised Risk Management Plan  
United HOPE Builders  
2081 Bay Road  
East Palo Alto, California

Dear Ms. Palazzolo:

In accordance with your request, Ninyo & Moore has prepared this Revised Risk Management Plan (RMP) for 2081 Bay Road, East Palo Alto, California (Site).

This RMP provides soil and groundwater handling requirements based on the findings of previous environmental investigations and vapor intrusion mitigation for the three proposed United HOPE Builders (UHB) buildings. This RMP is intended for implementation during the upcoming construction of the UHB buildings at the Site.

We appreciate the opportunity to be of continued service to you on this project.

Respectfully submitted,  
**NINYO & MOORE**



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TJJ/RDB/cas

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# 1 INTRODUCTION

This Revised Risk Management Plan (RMP) with Vapor Intrusion Mitigation System (VIMS) design was prepared for United HOPE Builders (UHB) for the proposed construction and occupancy of three temporary buildings at 2081 Bay Road, East Palo Alto, California (Site). The Site was formerly operated by Romic Environmental Technologies Corporation (Romic) and predecessor companies (Figures 1 and 2). The proposed buildings are:

- Office Building – 80 feet (ft.) by 100 ft. by 14 ft. tall and elevated 2 ft. above grade.
- Manufacturing Building – 150 ft. by 250 ft. by 24 ft. tall on a new 6-inch thick slab with vapor intrusion mitigation system (VIMS).
- Metal Works Building – 80 ft. by 150 ft. by 24-ft. tall on existing 8-inch thick slab.

This RMP, and media-specific limits, will not apply to future developments outside of the UHB buildings and associated activities. Site development beyond UHB development will require a separate stand-alone RMP.

Upon construction completion, the UHB Office Building address will be updated to 2020 Bay Road, East Palo Alto, California. Permits associated with the construction of the UHB buildings reflect the future address of the UHB Office Buildings.

The United States Environmental Protection Agency (U.S. EPA) is the lead environmental agency for 2081 Bay Road, East Palo Alto and works in conjunction with the Department of Toxic Substances Control (DTSC) and San Francisco Bay Regional Water Quality Control Board (RWQCB). This RMP is a requirement of the 2015 Land Use Covenant and Agreement for the Former Romic Environmental Technologies Corporation Facility (DTSC, 2015a; Appendix A).

The response actions set forth in the RMP consist primarily of: institutional controls, fencing with signage (Figure 2), and engineering controls, including maintenance and construction of a cap consisting of a building slab, road-base, asphalt, or concrete to eliminate the pathway of direct exposure to impacted native site soil and, where appropriate, implementing vapor intrusion mitigation systems.

This RMP provides a framework to manage residual contaminants of concern (COC) in a manner that protects users during current and future land use by UHB and its contractors. It specifies measures to mitigate potential risks to the environment, current and future on-site employees and construction and maintenance workers. It provides specifications and details on how risk will be mitigated and managed during future use of the properties identified in this RMP, as may be

amended, including during construction and maintenance. Prior to any amendments, a separate written approval must be obtained from the U.S. EPA and DTSC. This RMP is a requirement of the LUC, designed to be used for soil, soil gas, and groundwater management during earthwork construction activities including, but not limited to, drilling, grading, excavation, utility trenching and installation, and any other subsurface activities associated with the site improvements.

The remedy and mitigation measures in this RMP include: capping impacted soils with a cap consisting of a building slab, road-base, asphalt, or concrete, compliance with the LUC, implementation of this RMP, and use of Site-specific Health and Safety Plans (SSHSP) to manage the potential risks during site development and building occupancy.

This RMP also addresses worker health and safety controls through the requirement that contractors adopt a SSHSP with terms substantially similar to those included in this RMP and Ninyo & Moore's SSHSP included in Appendix B. The RMP also addresses requirements associated with personnel assignments and responsibilities, soil excavation, management of potentially contaminated soils, on-site re-use of soil, soil import requirements, and requirements to reduce potential exposure of workers and the public to contaminants in soil, soil gas, and groundwater. Work performed under this RMP shall be in compliance with Site development or redevelopment specifications, a SSHSP, and applicable local, state, and federal statutes and regulations. The SSHSP to be adopted, used and implemented by the contractor performing activities on the properties shall be prepared by the Contractor's Certified Industrial Hygienist (CIH).

## **2 PROPERTY DESCRIPTION AND ENVIRONMENTAL BACKGROUNDS**

The environmental background information provided below is based on historical environmental investigations conducted for the former Romic facility and the Site known as Bay Road Holdings.

A comparison of historical analytical soil and groundwater data to the current (2019) RWQCB Environmental Screening Levels (ESLs) has been included in this RMP. The underlying documents that make comparisons of the soil and groundwater analytical data to the then applicable ESLs (e.g., 2003, 2005, 2013) and these comparisons are not discussed in this RMP. A generalized summary of COCs analyzed and exceeding the 2019 ESLs for properties identified herein are presented below. Arsenic concentrations in soil have been compared to 11 milligrams per kilogram (mg/kg) rather than the ESLs, which is the background concentration of arsenic in the Bay Area, established by Duverge, and accepted by the RWQCB (Duverge, 2011).

## 2.1 Property Description and Background

The 2081 Bay Road, East Palo Alto property is comprised of parcels 063-121-070, 063-121-110, 063-121-160, 063-121-170, 063-121-390, 063-121-500, and 063-121-510 (Appendix C). As mentioned, these parcels are within the footprint of the former Romic facility.

The property historically operated as a hazardous waste management facility, wherein services provided included solvent recycling, fuel blending, wastewater treatment, and hazardous-waste storage and treatment. Previous facility operations conducted on the Site by the Romic and predecessor companies dating back to the mid-1950s resulted in the release of chemical contaminants to both soil and groundwater. The primary contaminants of concern (COCs) at the Site are volatile organic compounds (VOCs), mostly comprised of halogenated VOCs (HVOCs). The principal HVOC at the Site is trichloroethene (TCE). Other contaminants are non-halogenated VOCs, metals, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, and semi-VOCs (SVOCs). Romic ceased operations in 2008, and the facility was closed and dismantled in 2009.

A land use covenant between the property owners and the DTSC was executed on February 5, 2015, and recorded in the Official Records, County of San Mateo that restricts land use (Appendix A).

### 2.1.1 Previous Property Investigations

Starting in 1985, environmental investigation activities were initiated to assess the nature and extent of subsurface contamination suspected to be the result of chemical releases resulting from the Site's historical operations. These investigations continued through 2021 and included the collection of soil, soil gas, and groundwater samples to assess the Site's subsurface environmental conditions. In addition, the sediment and surface water conditions of the adjacent tidal channels were evaluated.

The Site's previous investigation activities identified the following chemicals as being released to the environment and present at concentrations of potential concern to human health and the environment: VOCs, SVOCs, metals, PCBs, dioxins, and furans. The Site's primary COCs are VOCs, with TCE and its breakdown products cis-1,2-dichloroethylene (cis-1,2-DCE) and vinyl chloride (VC) representing the majority of the HVOC impact. The investigations also identified light non-aqueous phase liquid (LNAPL) at select locations across the Site.



Given the findings of these historical investigation activities, the Site has been divided into the following five general areas of concern which are presented on Figure 2:

- Northern Area—this area of the Site is also identified as the Former Pond Area as it previously contained two ponds, which were constructed to collect storm water and also received wastewater and waste material discharges. These ponds were decommissioned in the late 1970s, backfilled and capped with concrete. Warehouses that were used to process waste drums were constructed on top of the former ponds. Significant environmental impacts are present in this area.
- Central Processing Area—this is the area of the Site where the majority of the waste processing operations were conducted. It includes several of the Site's previous permitted units and solid-waste management units (SWMUs), was used for bulk product storage and contained a formerly unpaved area used for drum storage. Significant environmental impacts are present in this area.
- Western Area—this area of the Site formerly contained another unpaved drum storage area, as well as a permitted tank farm that contained above ground storage tanks with unlined, sandy bottoms. Less significant environmental impacts are present in this area.
- Panhandle and Eastern Area—no operations of concern are known to have occurred in this area of the Site. Minimal environmental impacts are present in this area, with the exception of down-gradient migration of contaminated groundwater and soil gas.
- Truck Wash Area—truck washing activities occurred in this area of the Site. No known environmental impacts resulting from this historical activity are present in this area (Iris, 2013).

The Site's groundwater contamination was additionally evaluated in June and July 2015 through conducting an investigation using membrane interface probe (MIP) technology and discrete-depth groundwater sampling. The results of this investigation are documented in the Supplemental Groundwater Investigation Data Summary Report, dated September 2015 (Iris, 2015), prepared by Iris Environmental. This supplemental investigation was performed in areas of the Site where groundwater monitoring data was limited and included sampling depths that are not represented by the monitoring wells' screen intervals.

Soil-vapor investigations conducted in 2011 and 2021 along buried utilities or utility backfill trenches found that VOCs were generally not migrating away from the impacted areas along these utility zones (Iris, 2013 and Ninyo & Moore, 2021a). The January 2021 soil-vapor investigation identified methane in the Northern Area and near the horizontal-well boring locations at 17.2 to 67.7% methane and at 0.1 to 0.4% methane at the property lines (Ninyo & Moore, 2021a). Methane is a biodegradation byproduct and is expected to be generated during groundwater bioremediation. The January 2021 soil-vapor investigation analytical results indicated VC is present above the Environmental Screening Level (ESL) from San Francisco Bay Regional Water Quality Control Board (SFB-RWQCB) 2019 for

Subslab/Soil Gas Commercial/Industrial. May 2021 soil-gas methane readings were collected from SVP-3 and VP-6 in the vicinity of the proposed Administration Building with a GEM 2000 meter. SVP-3 soil-gas readings were 0.0% methane prior to and during substrate injection into the groundwater on May 6, 2021. VP-6 soil-gas readings were 0.0% methane prior to substrate injection and 0.7% methane during substrate injection on May 27, 2021.

Soil vapor is limited in volume by the shallow groundwater elevations at the Site. The Northern and the Eastern Areas are the highest portions of the Site, whereas the Central Processing Area is the lowest portion of the Site. Groundwater elevations in the Northern and the Eastern Areas ranged from 4.22 ft. below mean sea level (RW-11A) to 6.15 ft. below mean sea level (RW-11A) since 2015. Groundwater elevations in the Central Processing Area ranged from 5.90 ft. below mean sea level (RW-32A) to 1.18 ft. above mean sea level (RW-10A) since 2015. Based on the limited vertical extent of the vadose zone, soil-gas impacts are generally in the Northern Area (a vadose zone of approximately 5 ft. thick) and the Central Processing Area (a vadose zone of approximately 2 ft. or less).

### **3 KEY TERMS AND DEFINITIONS**

#### **3.1 Project Team Roles and Responsibilities**

This section describes the general project team relevant to the excavation, handling, transportation, reuse, and, as applicable, off-site disposal of contaminated materials and groundwater if encountered at the site.

##### **3.1.1 Owner**

The Property Owner for this project is the Site Bay Road Holdings. Bay Road Holdings, in addition to the Property Lessee, is responsible for maintenance, engineering controls, and compliance with this RMP at the Site during the lease term, and will be the point of contact for the U.S. EPA and DTSC during that time.

##### **3.1.2 Lessee**

The Property Lessee for this Project is UHB. UHB is responsible for maintenance, engineering controls, and compliance with this RMP at the Site during the lease term, and will be the point of contact for the U.S. EPA and DTSC during that time.

##### **3.1.3 Project Manager**

UHB, or his or her designated party, shall be the Project Manager during its ownership period and will oversee construction activities associated with the UHB buildings. The Project

Manager will serve as the point of contact between the Owner, the Contractors, Subcontractors and Environmental Consultant, and will coordinate with the involved parties.

#### **3.1.4 Contractor**

The Contractor includes any contractor or subcontractor that is disturbing soil during excavation, grading or maintenance activities at any given property. Each Contractor responsible for construction or maintenance activities must be provided a copy of this RMP and will be required to comply with this RMP addressing excavation and management, direct-loading, temporary stockpiling, possible off-site disposal, and measures to protect worker/public health and the environment from impacts caused by the Contractor's activities. The Contractor shall be responsible for assigning competent and qualified personnel to execute the work, and for selecting and supervising the work of other subcontractors assigned to the project. The Contractor and any subcontractors must be provided a copy of this RMP prior to any construction activities.

The Contractor shall provide a site Superintendent, who will be responsible for site activities. The site Superintendent's responsibilities will include oversight of equipment, labor, materials, and resources needed to complete the project as it involves the COC-impacted materials.

#### **3.1.5 Subcontractors**

The Contractor may utilize subcontractors to execute subtasks of this project, subject to approval by the Project Manager. The supervision, inspection, and approval of such subcontractor work will be the responsibility of the Contractor.

#### **3.1.6 Health and Safety Manager**

Each Contractor shall retain a Health and Safety Manager (HSM) or equivalent, who is a CIH, or who is under the direct supervision of a CIH, with the appropriate training, certificates, and experience. The HSM will be responsible for preparing and overseeing implementation of the SSHSP. The SSHSP shall list the various safety-related Contractor personnel and their duties and responsibilities. The SSHSP is discussed in further detail in Section 10.

#### **3.1.7 Environmental Consultant**

The Environmental Consultant shall monitor earthwork construction activities during excavation and grading activities in areas of known contamination and in areas of unknown contamination if such areas are exposed during construction activities. The Consultant shall provide guidance on segregation of excavated soils, as necessary, and assist in

characterization and profiling contaminated soils, as necessary. The consultant shall meet the definition of a “competent person,” as defined, herein. The Consultant shall be a California Certified Professional Engineer or Professional Geologist.

### **3.1.8 Competent Person**

A competent person shall have demonstrated knowledge of, and professional experience in the observation and documentation of environmental excavating activities; environmental and geologic conditions in the project area; and recognition of, and testing for, hazardous materials and conditions. A competent person shall have appropriate, current Occupational Safety and Health Administration (OSHA) training and certificates, and the authority to respond to changed conditions. Typically, a competent person will be a state-licensed geologist, engineer, or health professional with sufficient knowledge of local conditions and environmental regulations, or a person working under the direct supervision of such a geologist or engineer.

## **4 PHYSICAL SETTING**

### **4.1 Geology/Hydrogeology**

The subsurface is composed of heterogeneous sediment deposits consisting of sands and gravels interbedded with silts and clays. The subsurface units encountered below the Site included permeable zones separated by less permeable units, which have been designated as follows (Arcadis, 2007):

- A Zone — a semiconfined unit present between approximately ground surface and 20 ft. below ground surface (ft. bgs), consisting of discontinuous layers of clayey to silty sands and gravels interbedded with silts and clays, with organic matter occasionally observed.
- A/B Aquitard — a laterally discontinuous confining unit, ranging between 8 and 25 ft. in thickness.
- B Zone — a semiconfined unit present between approximately 20 and 60 ft. bgs, with a similar composition as the A Zone consisting of discontinuous layers of clayey to silty sands and gravels interbedded with sandy silts and clays.
- B/C Aquitard — a locally-identified confining unit, ranging between 9 and 24 ft. in thickness.
- C Zone — a confined unit present between approximately 60 and 80 ft. bgs, consisting of a relatively continuous layer of sand and silty sand interbedded with silt and clay lenses.
- C/D Aquitard — a regionally found confining unit, approximately 70 ft. or greater in thickness.
- D Zone — a confined unit present below approximately 160 ft. bgs, consisting of clayey sands and gravels interbedded with clays and clay with gravel.

Groundwater is present beneath the Site in two regional aquifers: The Newark Aquifer, which includes the A, B and C Zones; and the Centerville Aquifer, which includes the D Zone. Groundwater has been first encountered at depths typically ranging between 2 and 8 ft. bgs. The Site's groundwater gradient has been estimated to generally flow west away from the San Francisco Bay, with relatively shallow hydraulic gradients. A downward hydraulic gradient has been observed between the A and B Zones, whereas an upward hydraulic gradient has been observed from the C to B Zone and from the D to C Zone. These vertical gradients may be affected by tidal fluctuations. Tidal influence studies indicate a minimal vertical hydraulic gradient exists from the A Zone toward the tidal channels (Arcadis, 2007).

A 2018 tidal analysis study determined that in general, groundwater elevations and specific conductivity decline from east to west across the Site and vary minimally from low to high and high to low tides. A "freshwater" lens lies above the saltwater horizon and extends into the upper screened interval of the select wells (RW-20B, RW-24B and RW-26B) in the Northern Area (Ninyo & Moore 2019).

## **4.2 Site Surface and Groundwater**

The Site is located approximately 0.5 mile west of San Francisco Bay at 2081 Bay Road, East Palo Alto, San Mateo County, California (Figure 1). Bordering the Site's northern and eastern boundaries are two narrow tidal channels, respectively identified as the North Slough and the East Slough, which drain to the San Francisco Bay. A former 130-acre saltwater evaporation pond is located further to the east, which has been reclaimed and reconstructed as a marsh and wetland designated as the Ravenswood Open Space Preserve. The Site is located within the 100-year flood plain and is protected by levees to mitigate flooding hazards (U.S. EPA, 2007).

In general, depth to groundwater ranges from approximately 2 to 11 ft. bgs.

## **5 PLANNED FUTURE TEMPORARY SITE DEVELOPMENT**

The planned temporary site use is to build three UHB buildings (Office, Manufacturing, and Metal Works) for workers to construct homes with Conex boxes. The homes will be transported offsite after construction for installation. The three temporary UHB buildings will be occupied for up to, but not longer than, four years. The construction of these buildings and the capping of the soil-water interface of eight horizontal wells will result in the excavation of approximately 1200 cubic yards (CY) of soil.

Article IV of the LUC as provided in Appendix A precludes the following Site uses: (1) a residence, including any mobile home or factory built housing, constructed or installed for use as residential habitation; (2) a hospital for humans; (3) a public or private school for persons under 18 years of age; (4) a day care center for children. The homes built by UHB will not be used for residential purposes on Site.

The LUC also precludes the following activities at the Site: (1) drilling for any water, oil, or gas without prior written approval by U.S. EPA and DTSC; (2) extraction or removal of groundwater without a Groundwater Management Plan pre-approved by U.S. EPA and DTSC; (3) activity that may alter, disturb, interfere with, or otherwise affect the integrity or effectiveness of, or access to, any investigative, remedial, monitoring, operation or maintenance system or activity required for the Site without prior written approval of U.S. EPA and DTSC.

## **6 CONTAMINANTS OF CONCERN AND SCREENING CRITERIA**

The objective of the RMP is to reduce human exposure to site COCs to below the acceptable risk range by severing or minimizing the pathway of direct human exposure to native soil, soil gas, and groundwater containing COCs at levels exceeding applicable criteria as modified by Ambient Concentrations. The measures and protocols in this RMP will be implemented during redevelopment activities to help ensure that future site users' exposure to COCs in different media (soil, soil gas, and groundwater) are at or below acceptable limits. The RWQCB ESLs are used as a screening tool to evaluate potential exposure of future site users to COCs in soil and soil gas during and after construction activities. The U.S. EPA Regional Screening Levels (RSLs) are used as screening tool to evaluate potential exposure of future Site users to COCs in groundwater and indoor air. Additional COCs may be identified if additional assessments are warranted (i.e., in the event of unanticipated conditions) or performed for properties that may be incorporated into this RMP.

### **6.1 Soil Contaminants of Concern**

Identified COCs in soil at the Site are based on prior Site operations and placement of undocumented fill. Based on the previous Site investigations, COC-impacted soil has been reported in the fill material and native soils, generally ranging from the surface to approximately 10 ft. bgs (Iris, 2013). These COCs have been identified as including:

- total petroleum hydrocarbons as gasoline (TPHg),
- total petroleum hydrocarbons as diesel (TPHd),

- total petroleum hydrocarbons as motor oil (TPHmo),
- VOCs,
- SVOCs,
- organochlorine pesticides (OCPs),
- PCBs (Iris, 2013),
- Metals including lead and mercury (Iris, 2013).

PCBs, some SVOCs, some VOCs, and some OCPs are potential carcinogens (NIOSH, 2021). Lead and mercury can cause organ damage (NIOSH, 2021).

Surficial soil samples in discrete locations within the planned digging area contained exceedances of lead and mercury. The sample locations with lead and mercury with exceedances are shown on Figure 3. Soil screening criteria are discussed in the Soil Management Plan in Appendix D.

## 6.2 Groundwater Contaminants of Concern and Screening Criteria

Identified COCs in groundwater at the Site are based on previous site operations and investigations. In general, the historic analytical groundwater data with COCs exceeding the U.S. EPA RSLs have included VOCs, with TCE and its breakdown products cis-1,2-dichloroethylene (cis-1,2-DCE) and vinyl chloride (VC) representing the majority of the VOC impact. Variations of trichloroethane (TCA) and its breakdown products, variations of dichloroethane (DCA) are present along with benzene, toluene, ethylbenzene, and xylenes (BTEX) and other VOCs.

SVOCs and metals have been detected in groundwater in a few wells at concentrations which do not suggest a risk to receptors (DTSC, 2015a). PCBs have been detected in oily and sediment-entrained groundwater, but have not been detected in sediment-free groundwater samples (DTSC, 2015a).

The groundwater at the Site in the A Zone is brackish, and in the B and C Zones is salt water, and is generally unusable for domestic and municipal purposes. Water is supplied to the site by Veolia North America on behalf of the City of East Palo Alto, a regulated water purveyor, and the extraction of groundwater for purposes other than groundwater monitoring, site remediation, or construction is prohibited through the LUC (DTSC, 2015a). Therefore, potential groundwater receptors would likely be construction worker exposure during excavation activities. Worker

protection through direct contact with groundwater will be achieved through compliance with the SSHSP (Appendix B).

### 6.3 Soil-Gas and Indoor-Air Contaminants-of-Concern and Screening Criteria

Soil-gas analytical data collected at the Site in January 2021 exceeded the methane LEL (5%), however subsequent methane readings in May and July 2021 were below 1% methane and below the LEL. Methane is denser than air and can accumulate in low-lying areas (e.g. trenches). Methane can be both a flammable gas and an asphyxiant.

The RWQCB Commercial/Industrial Subslab/Soil Gas ESLs were exceeded for the following VOCs at some of the sample locations in January and/or July 2021:

- Benzene
- 1,1-DCA
- 1,2-DCA
- Cis-1,2-DCE
- PCE
- 1,1,2-TCA
- TCE
- Vinyl chloride

Benzene, vinyl chloride, and TCE are carcinogens and 1,2-DCA, PCE, and 1,1,2-TCA are potential carcinogens (NIOSH, 2021).

#### 6.3.1 Soil-Gas Screening Criteria

The screening criteria for methane in soil gas will be 75% of the methane LEL, 3.75% by volume. The screening criteria for soil-gas VOCs will be the RWQCB 2019 ESLs, Table SG-1, Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels, Commercial/Industrial.

#### 6.3.2 Indoor-Air Screening Criteria

The screening criteria for indoor-air methane will be 1.25% by volume. This indoor-air methane limit will be used to determine if additional vapor mitigation measures are necessary. A 1.25% methane limit is the indoor air limit in California Code of Regulations (CCR) Title 27 §20921 and Los Angeles Ordinance No. 175790. The CCR Title 27 §20921 indoor air limit is intended for structures built on active and former solid waste management units (SWMU) that generate methane through biodegradation of waste in the subsurface (CCR 27 §20920). The generation of methane through biodegradation of waste in the subsurface is similar and the Site is a former hazardous-waste processing facility and, therefore it would be applicable. The LA Ordinance No. 175790 is intended for structures built in the Methane Zone or Methane Buffer Zone. The DTSC and RWQCB do not have an indoor-air limit for methane. The U.S. EPA has methane limits for solid waste facilities under Subtitle D, but



these limits are not directly applicable for monitoring methane in indoor-air. The screening criteria for indoor-air VOCs from a soil-gas source will be the U.S. EPA's, Region 9, May 2021, Composite-Worker RSLs for Indoor Air. The U.S. EPA's RSLs are a merger of Region 3's Risk-Based Concentrations (RBC) Table, Region 6's Human Health Medium-Specific Screening Levels (HHMSSL) Table, and the Region 9's Preliminary Remedial Goals (PRGs) (EPA, 2020). The screening criteria for indoor-air TCE from a soil-gas source will be based upon the EPA Region 9's 2014 Response Action Levels and Recommendations to Address Near-Term Inhalation Exposures to TCE in Air from Subsurface Vapor Intrusion. The EPA Composite-Worker RSLs for the primary COCs at the Site and the TCE limit are summarized in Table 2.

If the U.S. EPA Indoor-Air Composite Worker RSLs are exceeded, Site-specific risk will be evaluated and mitigation may be implemented, if warranted, in accordance with the Figure 6 flow chart. Personnel may be exposed to acceptable on-Site indoor-air levels for no more than four years while the temporary buildings are in use. The U.S. EPA acceptable carcinogenic risk range is 1/1,000,000 to 1/10,000.

## **7 MEDIA MANAGEMENT OBJECTIVES AND ACTIONS**

Media (i.e., soil, groundwater, and soil gas) management objectives (MMOs) for the site are to eliminate the pathway of exposure to contaminants on site. The MMOs are intended for implementation during UHB redevelopment and building occupation activities at the Site in order to prevent exposure of future site users and reduce the potential exposure of workers during earthwork construction activities to soil, groundwater, and/or soil gas that contain COCs above applicable screening criteria.

### **7.1 Groundwater Management Objectives and Action**

The groundwater management objectives for the Site are to protect contractors and future Site users from contact with groundwater and to ensure the appropriate management of construction-generated water.

The LUC provided in Appendix A prohibits groundwater use other than for groundwater monitoring, site remediation, or construction through the LUC (DTSC, 2015a). This legally binding and enforceable document will remain in perpetuity, unless terminated by the DTSC, to limit exposure to residual COCs, and to ensure the effectiveness and compliance with this RMP in the short and long-term, and prohibit certain activities (e.g., use of groundwater) that could create

significant risk. Should future Site occupants not comply with the LUC, the DTSC may take enforcement action to compel compliance.

Groundwater from the A, B, and C Zone is not currently being used as a drinking water supply and is not likely to be used in the foreseeable future. According to the City of East Palo Alto's hydrogeology firm Todd Groundwater, the Site's D Zone, which is considered the "upper portion of the regional deep aquifer zone", may be in communication with the deeper zones pumped by the nearby municipal well Gloria Way, which is screened from 258 to 280 and 318 to 323 ft. bgs (Craig, 2021). Municipal drinking water is provided to the Site and there is no need to use shallow groundwater for drinking water, industrial, or agricultural activities. In general, VOCs, chlorinated and petroleum, are the primary COCs impacting groundwater. It is anticipated that the enhanced reductive dechlorination groundwater recirculation system followed by natural processes will result in attenuation of pollutants in groundwater, restoring water quality at the Site.

## **7.2 Soil-Gas Management Objectives and Actions**

The soil-gas management objectives actions include ensuring that future construction workers and site users are protected from significant vapor-intrusion risk through a combination of approaches: administrative controls, engineering controls, building design, and vapor intrusion mitigation systems (VIMS). The vapor intrusion mitigation combination will vary by building. Potential soil-gas chemicals include methane and VOCs listed in Section 6.3.

### **7.2.1 Cap and Containment (Engineering Controls)**

A surface cap, such as a building slab, concrete, pavement, or road base will be established/maintained within the earth-work construction and proposed UHB areas as shown on Figure 3. Soil above the current cap within the proposed UHB areas will be either removed or placed beneath a cap. The cap within the UHB area will be inspected annually.

A cap involves the placement of a containment material over impacted soils, thus preventing direct contact with the impacted soils, off-site migration of soil via wind-blown dust, and erosion from surface water runoff. A cap is also installed with the intent to prevent exposure to human and ecological receptors from site COCs.

### **7.2.2 Construction Activities**

Soil-gas in construction areas is expected to contain methane and VOCs. A combustible gas meter (CGI) or equivalent meter calibrated for methane shall be used to assess and monitor excavated areas prior to workers entering the excavation bodily and/or with electrical tools. The maximum OSHA permissible methane where workers are actively working is 10% of the

methane LEL (OSHA, 2021). The methane LEL is 5% methane therefore, 10% of the LEL is 0.5% methane by volume. Oxygen will also be monitored in low lying areas and excavations where workers will be actively working. The minimum acceptable oxygen level is 19.5% oxygen.

VOCs, specifically the carcinogen benzene, may be present in soil gas. VOCs will also be monitored with a photoionization (PID) gas meter. The SSHSP included in Appendix B provides additional vapor monitoring and mitigation procedures during earth-work construction activities.

### **7.2.3 All Buildings**

The three proposed buildings will have methane detectors set to warn at 0.5% methane (i.e. 10% of the methane LEL) and alarm at 1.25% methane to evacuate the building. If 0.5% methane is detected within a building, indoor air should be replaced/diluted with fresh outside air by opening windows or turning on HVAC system and the potential source of vapor intrusion should be investigated. If 1.25% by methane is detected and the alarm is activated, all building occupants should evacuate and open windows and doors on their way out, if feasible. After evacuating the building, a shop foreman or similar will call 9-1-1 to report the alarm condition. After the methane level falls below 1.25% as indicated by the methane detector, a shop foreman or similar in conjunction with a Health and Safety manager will determine if it is safe to reenter the building. Additionally, an investigation will be conducted to determine the source/location of the vapor intrusion and identify proposed remedial actions. A building will not be occupied if the methane levels are at or above 1.25%.

Utility-conduit slab-penetrations of all three buildings and floor-penetrations in the elevated building will be sealed to prevent uninhibited flow of soil-gas into the respective building with Stego® Mastic or equivalent (Figure 4). Dry conduits will be sealed with a polyurethane closed-cell foam sealant.

Prior to building occupation, one month after occupancy, and every six months while the buildings are occupied soil-gas and indoor-air methane readings and samples for VOC analysis will be collected. Additionally, pressure/vacuum readings will be collected from the soil-gas probes and ambient air methane readings and VOC samples will be collected. Soil-gas sample locations are illustrated on Figure 2. Soil gas samples will be collected and analyzed in general accordance with the Advisory – Active Soil Gas Investigations (DTSC, 2015). Soil-gas samples will be collected using 1-liter Summa® canisters and analyzed for VOCs using EPA Methods TO-15 and fixed gases helium, oxygen, methane and

carbon dioxide using ASTM Method D 1946 (Table 1). Should soil-gas concentrations exceed the Soil-Gas Screening Criteria, the applicable Decision Flow Chart will be followed, Figure 5 for methane and Figure 6 for VOCs.

#### **7.2.4 Office Building**

The Office Building will be an elevated building constructed 2-ft. above an existing slab on concrete footings. The area between the existing slab and the base of the building (air gap) will be kept open on all sides of the building to allow for natural air flow and inhibit the accumulation of VOC vapors. If this air gap does not sufficiently prevent indoor-air methane and/or VOC levels from exceeding the indoor-air criteria, contingency measures as illustrated on Figure 5 for methane and Figure 6 for VOCs and discussed below will be implemented as appropriate.

The eight horizontal wells that pass under or near the Office Building will be capped / plugged with grout where they penetrate the soil-water interface (Figures 7 and 8).

#### **7.2.5 Manufacturing Building**

The Manufacturing Building will be built upon a passive VIMS and new slab. The VIMS will consist of a 15-mil vapor barrier and 4-inch diameter vapor collection piping and vent risers. Each vent riser will have an accessible test port where air velocity, temperature, methane, and VOC measurements will be collected from using calibrated handheld devices during routine, scheduled monitoring events. These measurements will be used to evaluate the performance of the VIMS.

During monitoring events, vent risers, sampling ports, and rain caps will be inspected for cracks, corrosion, and any damage that could impact the operation or monitoring of the vent system. Vent riser terminuses will be inspected for any observed conditions that could obstruct air flow from the piping. Any problems will be noted in the inspection form and the necessary repairs will be made. The VIMS system is illustrated on the figures and details included in Appendix E.

#### **7.2.6 Metal Works Building**

Areas of the Metal Works Building slab with spalling and/or large cracks will be repaired with concrete and the slab surface will be sealed with 320 CrownShield® Epoxy or similar to minimize vapor migration through the concrete slab. The 320 CrownShield® specification sheet and chemical resistance guideline and chart are included in Appendix F.

### **7.2.7 Additional Mitigation Measures**

Additional soil-gas mitigation measures may include a combination of the following:

- indoor-air methane readings (applicable at all buildings),
- indoor-air sampling (applicable at all buildings),
- sealing off pathways where methane is entering a building (applicable at all buildings),
- adding a retro-coat style barrier to the top of the slab (applicable at Office Building),
- converting the passive VIMS to an active VIMS (applicable at Manufacturing Building),
- increasing building ventilation (applicable at Metal Works Building), and
- installing a vapor interception trench (applicable at Office Building).

## **7.3 Indoor-Air and Ambient-Air Objectives and Actions**

The indoor-air management objectives actions include ensuring that building occupants are protected from indoor-air risk from soil gas through a combination of soil-vapor mitigation approaches: administrative controls, engineering controls, building design, and VIMS. The vapor intrusion mitigation combination will vary by building. Potential soil-gas chemicals include methane and VOCs listed in Section 6.3.

Indoor-air and ambient-air samples will be collected in 6-liter Summa® canisters with 8-hour flow regulators positioned approximately 5 to 6 ft. above the building floor while the building is unoccupied. Indoor-air and ambient air samples will be analyzed for VOCs and TPHg using EPA Methods TO-15. Indoor-air sample quantity in each building is summarized in Table 1 and the laboratory TO-15 method report limits for indoor-air samples are presented in Appendix G.

Pre-occupancy indoor-air samples will be collected with the ventilation systems off and the doors and windows closed. If the initial indoor-air results exceed acceptable risk levels, a petition will be submitted to the U.S. EPA and DTSC to resample with the ventilation system(s) operating.

## **8 DUST, SOIL, UNKNOWN CONTAMINANTS, STORM WATER, AND GROUNDWATER MANAGEMENT PROTOCOL**

This section provides a discussion of the protocol for monitoring COC-impacted dust, soil, unknown contaminant material, groundwater, and soil gas that may be encountered during grading and/or excavation.

## 8.1 Dust Monitoring Plan

Dust will be monitored, sampled, and mitigated as presented in Appendix H. Dust management measures will include, but not be limited to, using water with a hand held sprayer or by water trucks, as-needed, on the surface of active work areas. Care will be exercised to minimize the overuse of water so as not to create surface water runoff or excessively saturated conditions. Dust control will also be conducted at the Site entrance during construction activities.

## 8.2 Soil Management Plan

The Contractor shall mitigate dust following the guidelines presented in the Soil Management Plan presented in Appendix D.

## 8.3 Unknown Contamination

If hazardous substances or conditions are encountered which present an immediate threat or injury to human health or water quality, the Contractor shall secure the area and shall notify the Project Manager, Environmental Consultant, City of East Palo Alto, U.S. EPA, and DTSC within 24 hours. The Contractor or any person shall call "911" to summon the emergency services, as necessary. Any Site cleanup activities of unknown contamination that give rise to an emergency condition, will be halted and abated by the Contractor if it is safe to do so. Emergency clean-up activities will need to be approved by the Environmental Consultant, U.S. EPA, and DTSC, and conducted under all applicable laws.

If previously unknown hazardous substances or conditions are encountered that do not present an immediate threat to human health or water quality, the Contractor shall immediately notify the Project Environmental Consultant and the Project Manager. As necessary, the area surrounding the discovery of unknown contamination will be isolated and secured by the Contractor with markings, fencing, or a suitable barrier so that construction activities can be excluded from the zone of impact. The Environmental Consultant and the Project Manager will then decide whether immediate excavation, segregation, stockpiling, containerization, and/or other activities are warranted as well as notification of the appropriate regulatory authority.

Professional judgement will be employed in determining when any previously unknown encountered subsurface materials require excavation or remediation (including, but not limited to, tanks, pipes, odorous soils, stained soils, etc.). Should remediation be required, work will stop and the Environmental Consultant will notify the U.S. EPA and DTSC within 24 hours. If Odorous or Stained substances are encountered, work will stop and the Contractor will notify the Environmental Consultant.

Any encountered, abandoned subsurface structures that may contain liquids (e.g., sumps, storage tanks, and pipelines), will be treated as possible COC-contaminated materials or potential sources of COCs to soil and groundwater. If these features are encountered, the following guidelines shall be applied:

- Any obvious leakage or drainage will be collected, contained and stopped as rapidly as can be safely accomplished by the contractor;
- Regulatory agencies will be notified and applicable paperwork, such as an Underground Tank Closure Plan with County of San Mateo Health Service, will be initiated;
- Residual liquids in the sump(s), tank(s), and/or pipe(s) will be removed, contained, tested as required for disposal, and appropriately disposed;
- Sumps and tanks will be cleaned and closed in place or excavated and appropriately disposed;
- If it is not necessary to remove all of a discovered pipe to complete construction, then the pipe will be cut, the portion of the pipe required to be removed to complete construction will be removed and appropriately disposed, and the ends of the pipe remaining in place will be capped;
- Visibly contaminated or odorous soil, whether or not it is associated with encountered subsurface sumps, tanks, or pipes, will be subject to the soil management procedures discussed above; and
- If residual liquids are determined to contain COCs or hazardous compounds other than chlorinated hydrocarbons and petroleum hydrocarbon constituents at significant concentrations or quantities, U.S. EPA and DTSC staff will be contacted, and additional environmental assessments will be conducted in accordance with the U.S. EPA's and DTSC guidance and in accordance with all laws and regulations.

## 8.4 Storm Water Pollution Prevention Plan

It is estimated that less than one acre of soil will be disturbed for this project. As such, a Storm Water Pollution Prevention Plan (SWPPP) is not required prior to soil disturbance activities.

Typical storm water pollution prevention best management practices are:

- Sediment and erosion control:
  - Construct temporary berms or erect silt fences around exposed soil
  - Place straw bale barriers or sediment traps around catch basins or other entrances to storm drains
  - Cover soil stockpiles with plastic sheeting or tarps during rainfall events
  - Thoroughly sweep paved areas exposed to soil excavation or grading
  - During storm events, prevent stockpiled soil from entering the storm drain system

- Waste containment:
  - Secondary containment (as applicable)
  - Spill prevention

## 8.5 Groundwater Management

Activities associated with site earthwork construction activities will involve subsurface excavations, and could encounter groundwater when excavating to cap the horizontal-well soil-water interfaces. Based on previous investigations, groundwater has been encountered at approximately 7 to 9 ft. bgs in the southern area of the Site (Ninyo & Moore, 2021b). If groundwater is encountered, and dewatering is necessary, the groundwater shall be captured and analyzed for Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by Method 6010. The groundwater results will be reviewed with the U.S. EPA and DTSC. If the results are acceptable, the groundwater will be reinjected into the subsurface through the on-Site A Zone groundwater-recirculation remediation systems. If the results are unacceptable, the groundwater will be removed and disposed of at an approved facility. If dewatering is required, the Contractor will be responsible for providing equipment to contain and reinject groundwater.

## 8.6 Soil Gas

Soil gas may contain methane, a flammable gas, and carcinogenic and non-carcinogenic VOCs. If flammable and / or VOC vapor levels, monitored with hand-held gas meters, reach OSHA limits, work will stop in the area until concentrations decline to beneath the OSHA limits. Wind, fans, and/or a VOC-suppressing spray may be used to reduce vapor levels in the work zone.

## 9 POST-CONSTRUCTION RISK MANAGEMENT

Post-construction risk management will address precautions that will be undertaken for mitigation of future potential risks to human health and the environment after completion of cleanup and development. Fencing will be erected to prevent workers from entering areas of the property not covered under this RMP. Signage shall also be posted along the fence line to warn workers of the potential hazards related to historical site use and remediation activities. The signage will also include contact information for the Responsible Party or their representative. For maintenance or construction workers who may occasionally disturb subsurface soils below a cap or cover soil, protective health and safety procedures will be implemented in accordance with a SSHSP. Where a soil-gas mitigation system is required, annual and/or five year reviews may be required by U.S. EPA and / or DTSC staff to verify the mitigation system is functioning as intended, in accordance



with the DTSC Vapor Intrusion Guidance (DTSC, 2011), or applicable soil gas guidance documents at the time the mitigation system is installed and is functional.

Any future subsurface construction or maintenance activities that may encounter potentially COC-impacted soil will be completed in a manner consistent with soil and groundwater management procedures set forth in this RMP to ensure protection of human health, the environment and compliance with applicable laws.

Workers excavating COC-impacted soil as part of future site redevelopment or maintenance will be required to define adequate measures to protect construction worker, occupants, tenants, visitors, and nearby off-site residents and workers. For subsurface work to be performed on a property, a SSHSP will be prepared in accordance with Section 10.

## **9.1 Restriction Use Under This RMP**

The UHB temporary buildings will be occupied for up to, and not beyond, four years. The LUC precludes: (1) drilling for any water, oil, or gas without prior written approval by the U.S. EPA and DTSC; (2) extraction or removal of groundwater without a Groundwater Management Plan pre-approved by the U.S. EPA and DTSC in writing; (3) activity that may alter, disturb, or interfere with, or otherwise affect the integrity or effectiveness of, or the access to, any investigative, remedial, monitoring operation or maintenance system (e.g. cap, vapor extraction system, monitoring system, groundwater extraction system) or activity required for the Property without prior written approval of the U.S. EPA and DTSC (Appendix A).

## **9.2 Long-Term Compliance**

The soil and groundwater management protocols specified in this RMP are based on the current understanding of site environmental conditions. All future owners, tenants, developers, contractors and any other entities with responsibility for site activities shall continue to have the obligation (1) to review and determine the adequacy of this RMP in light of the conditions actually encountered at the Site and the intended or current land use of the property; (2) to evaluate the current understanding of the health effects of identified COCs, to the extent health effects assumed in this RMP may change; and (3) to comply with all applicable regulatory policies, laws, and regulations including any appropriate notifications to U.S. EPA, DTSC, RWQCB and/or City of East Palo Alto staff regarding material changes or identified site conditions.

## 10 SITE HEALTH AND SAFETY PLAN

During capping of the horizontal wells, where impacted groundwater and soil will be encountered, Hazardous Waste Operations and Emergency Response (HAZWOPER) certification per 29 CFR 1910.120 is required for construction workers who may directly contact soil and/or groundwater containing COCs.

During soil excavation, loading, and grading of the Manufacturing Building area, where metal-impacted soil may be encountered, HAZWOPER is required for construction workers who may directly contact soil containing COCs.

Each earthwork construction or maintenance contractor with workers who may directly contact native site soils or groundwater containing COCs (e.g., during site preparation, grading, and foundation construction) shall prepare their own SSHSP which will be signed by a CIH.

The SSHSP shall include procedures for earthwork construction personnel to manage encountered/disturbed soil that is obviously impacted, as identified by visual observation of staining, odors or elevated organic vapor readings, and to handle encountered abandoned subsurface structures such as tanks, sumps, and pipes. The SSHSP will also include groundwater management protocol, should groundwater be encountered during the proposed redevelopment activities.

Field personnel shall be required to review the SSHSP and provide written acknowledgement of their review and understanding of the SSHSP and willingness to abide by its requirements. In addition, the Contractor's site Superintendent will perform a daily tailgate safety meeting held at the beginning of each workday to discuss relevant task-specific safety issues. Additionally, daily site visitors will be required to review the SSHSP and sign the acknowledgement sheet.

## 11 HAZARD NOTIFICATION

UHB employees will be notified of the Site's impacted soil and soil gas and the potential for impacts to indoor air through brief, easy to understand, hazard information documents. The hazard information documents shall summarize:

- Historical site use;
- Key contaminants in soil, soil-gas, and / or indoor air (e.g. vinyl chloride and benzene);
- Hazards associated with these key contaminants; and
- Mitigation and monitoring being performed to make sure the indoor-air is safe for the employees.

## 12 AGENCY NOTIFICATION AND SOIL DISTURBANCE ACTIVITIES

The Owner, as defined in Section 3.1.1, must notify the City of East Palo Alto prior to performing ground disturbance activities.

Prior to and during earthwork construction activities related to redevelopment of the Site, applicable permits and notifications shall be the responsibility of the Contractor. The Contractor shall be responsible for notifying California OSHA in accordance with the Contractor's Annual Trenching and Excavation Permit and notifying Underground Service Alert. If unknown contamination is found on a property, the Project Manager and Environmental Consultant will be immediately informed. A description of the project team's roles and responsibilities is included in Section 3.1.

If earth-disturbing activities need to be completed after the completion of the UHB building construction and during UHB building occupation, pre-approval is required from the U.S. EPA and DTSC.

### 12.1 Redevelopment Activities

Following implementation of this RMP and any required vapor intrusion mitigation measures (as needed), the Owner will submit a Completion Report documenting compliance with this RMP and any required vapor mitigation measures. The Completion Report shall also document final vapor intrusion mitigation measure plans and pre-occupancy testing and contingency evaluation as required by this RMP.

### 12.2 Documentation

#### 12.2.1 Completion Report

The Environmental Consultant shall prepare a Completion Report for building construction and vapor mitigation activities. The report will be signed by the Environmental Consultant and include the following information. The report shall be submitted to, and approval obtained, from the EPA and DTSC before the buildings are occupied.

- Summarize the activities involving COC-impacted materials;
- Site map showing the lateral extent and depths of the soils excavated at the property;
- Any soil analytical results collected during the improvement project;
- If soils are transported off Site, an accounting of the materials transported and disposed, weight tickets, waste manifests, and/or bills of lading; and

- Any vapor intrusion data, including the documentation of installation of mitigation measures, any pre-occupancy testing (e.g., coupons, smoke test overseen by a third party).

### **12.2.2 Soil-Gas and Air Reporting**

Soil-gas and indoor-air complete analytical lab reports for EPA Method TO-15 and tabulated results and will be submitted via email to the U.S. EPA and DTSC with corresponding lab reports and a Site plan within 45 days of receiving the lab reports.

Pre-occupancy analytical results will be submitted to, and approval obtained, from the EPA and DTSC before the buildings are occupied.

## **13 LIMITATIONS**

No representation or warranty is made by any present or future owner or developer of the site or their consultants, agents, and contractors as to the applicability or sufficiency of this RMP with respect to future site conditions or alterations made to the site conditions. This RMP should be reviewed periodically and updated by the Owners of the site to reflect any pertinent changes in the state of knowledge regarding the COCs, conditions, or legal requirements impacting the site or its use and occupancy.

This RMP has been prepared in general accordance with current regulatory guidelines and the standard-of-care exercised in preparing similar plans in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this plan. Variations in site conditions may exist and conditions not observed or described in this plan may be encountered during subsequent activities. Please also note that this plan did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this plan, are based on limited subsurface assessments. Further assessment of potential adverse environmental impacts from past onsite and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored.

The environmental interpretations and opinions contained in this plan are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site, and on work

performed by others. The testing and analyses have been conducted by independent laboratories, which are certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis of work performed by others. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results and work performed by others.

Our conclusions and opinions are based on an analysis of the observed Site conditions and work performed by others. It should be understood that the conditions of a Site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this plan may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This plan is intended exclusively for use by United HOPE Builders. Any use or reuse of the findings, conclusions, and/or recommendations of this plan by parties other than the client is undertaken at said parties' sole risk.

## 14 REFERENCES

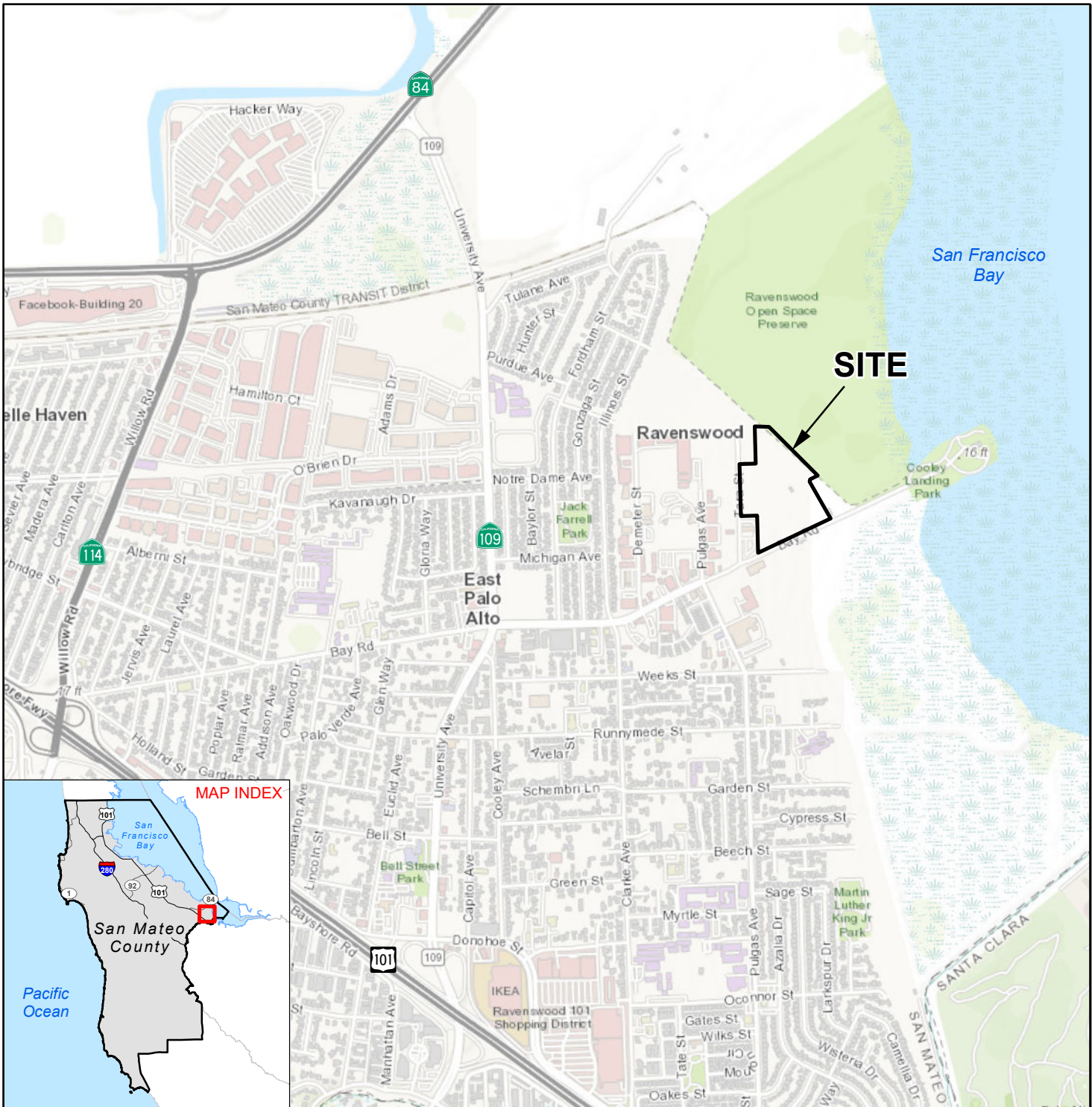
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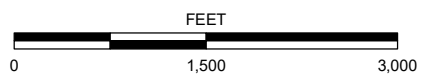
# FIGURES





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NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE. | SOURCE: ESRI WORLD TOPO, 2021





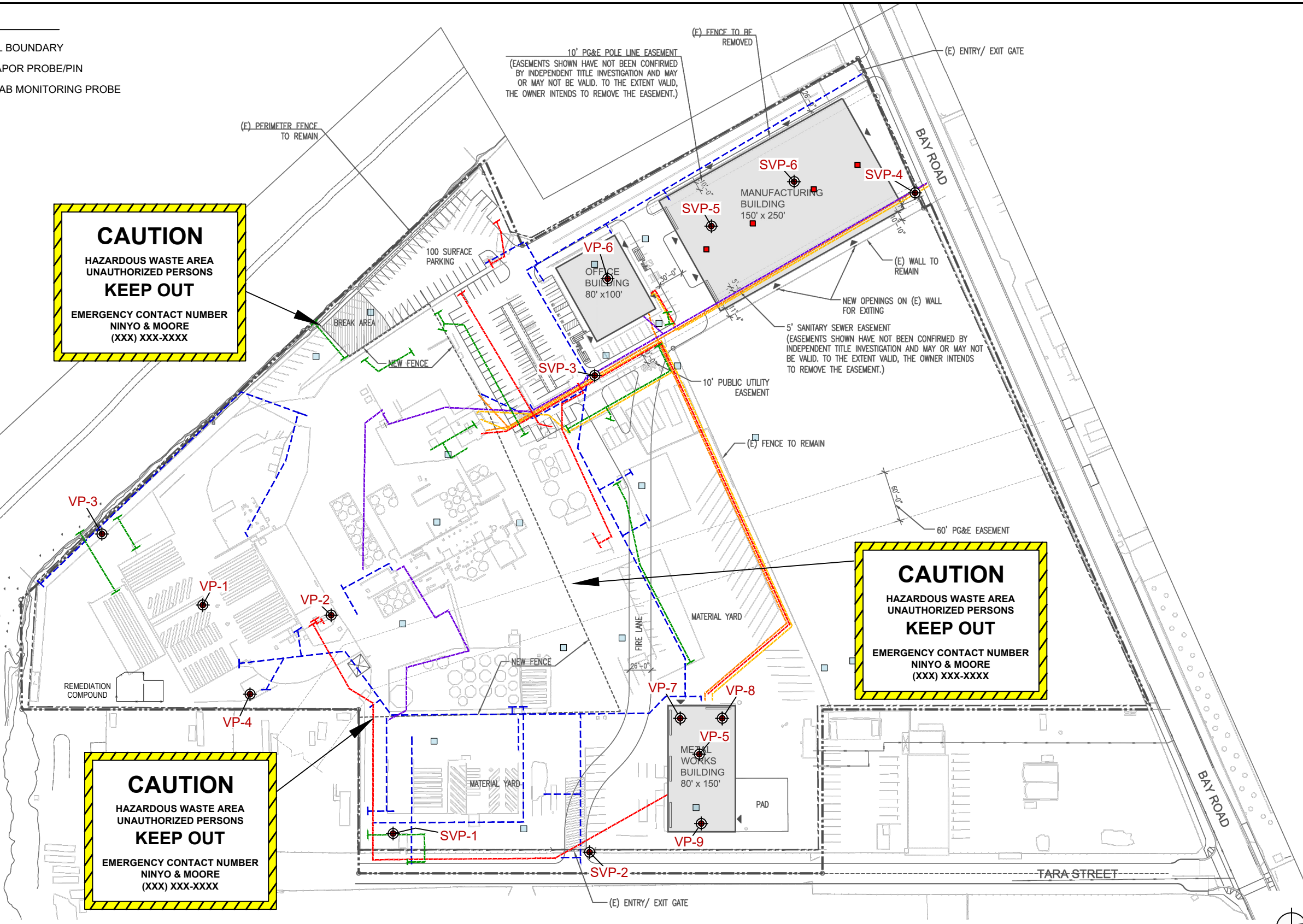
**FIGURE 1**

**SITE LOCATION**

UNITED HOPE BUILDERS SITE  
 2020 BAY ROAD  
 EAST PALO ALTO, CALIFORNIA  
 403999001 | 01/23

**LEGEND**

- PARCEL BOUNDARY
- VP-5  SOIL VAPOR PROBE/PIN
-  SUB-SLAB MONITORING PROBE

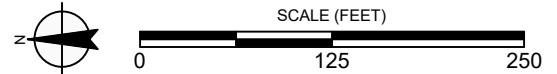


**CAUTION**  
HAZARDOUS WASTE AREA  
UNAUTHORIZED PERSONS  
**KEEP OUT**  
EMERGENCY CONTACT NUMBER  
NINYO & MOORE  
(XXX) XXX-XXXX

**CAUTION**  
HAZARDOUS WASTE AREA  
UNAUTHORIZED PERSONS  
**KEEP OUT**  
EMERGENCY CONTACT NUMBER  
NINYO & MOORE  
(XXX) XXX-XXXX

**CAUTION**  
HAZARDOUS WASTE AREA  
UNAUTHORIZED PERSONS  
**KEEP OUT**  
EMERGENCY CONTACT NUMBER  
NINYO & MOORE  
(XXX) XXX-XXXX

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE | REFERENCE: TCR, 2020



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**LEGEND**

--- PROPOSED UNITED HOPE BUILDERS AREA

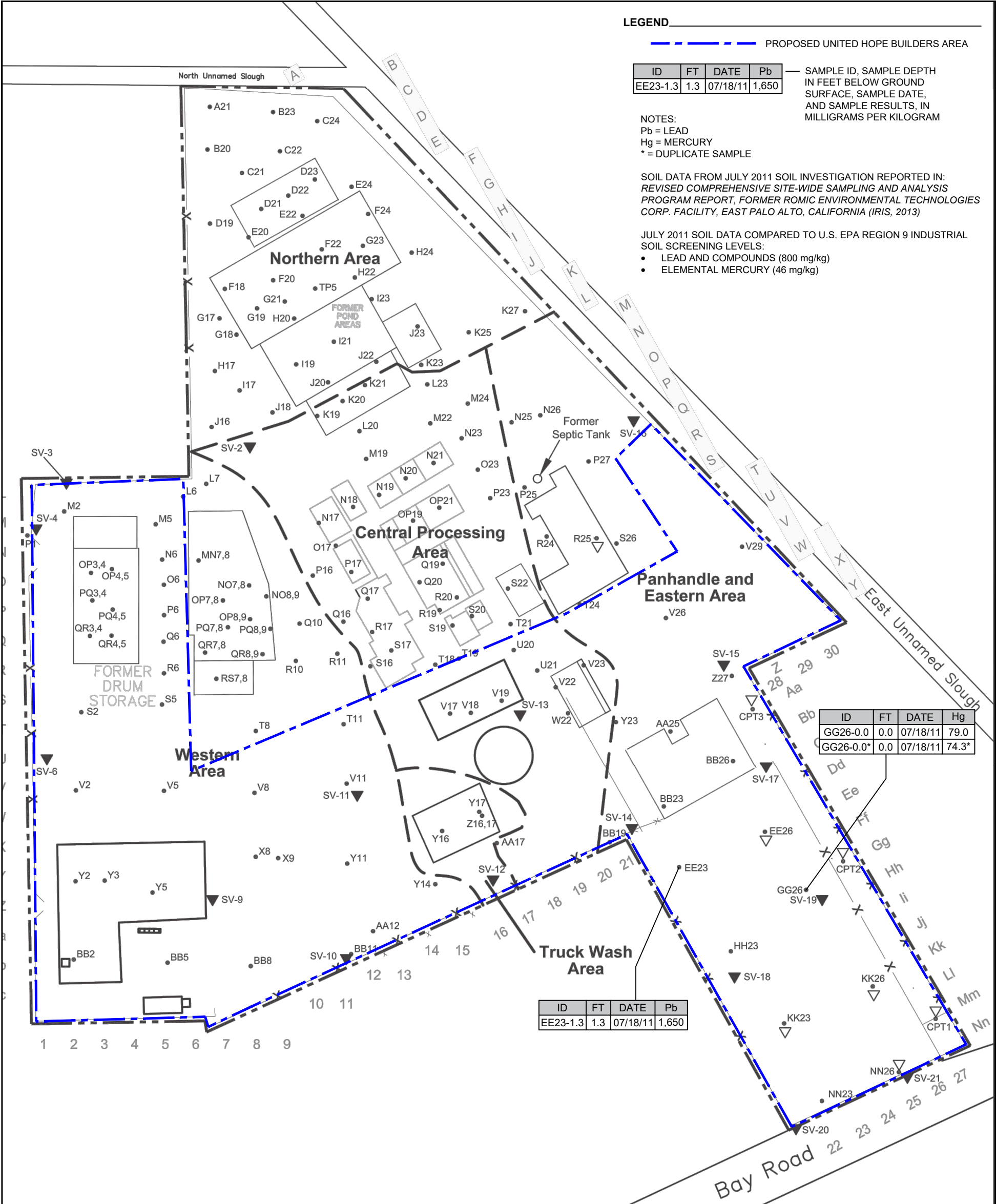
ID	FT	DATE	Pb
EE23-1.3	1.3	07/18/11	1,650

— SAMPLE ID, SAMPLE DEPTH IN FEET BELOW GROUND SURFACE, SAMPLE DATE, AND SAMPLE RESULTS, IN MILLIGRAMS PER KILOGRAM

NOTES:  
 Pb = LEAD  
 Hg = MERCURY  
 \* = DUPLICATE SAMPLE

SOIL DATA FROM JULY 2011 SOIL INVESTIGATION REPORTED IN: REVISED COMPREHENSIVE SITE-WIDE SAMPLING AND ANALYSIS PROGRAM REPORT, FORMER ROMIC ENVIRONMENTAL TECHNOLOGIES CORP. FACILITY, EAST PALO ALTO, CALIFORNIA (IRIS, 2013)

JULY 2011 SOIL DATA COMPARED TO U.S. EPA REGION 9 INDUSTRIAL SOIL SCREENING LEVELS:  
 • LEAD AND COMPOUNDS (800 mg/kg)  
 • ELEMENTAL MERCURY (46 mg/kg)



ID	FT	DATE	Hg
GG26-0.0	0.0	07/18/11	79.0
GG26-0.0*	0.0	07/18/11	74.3*

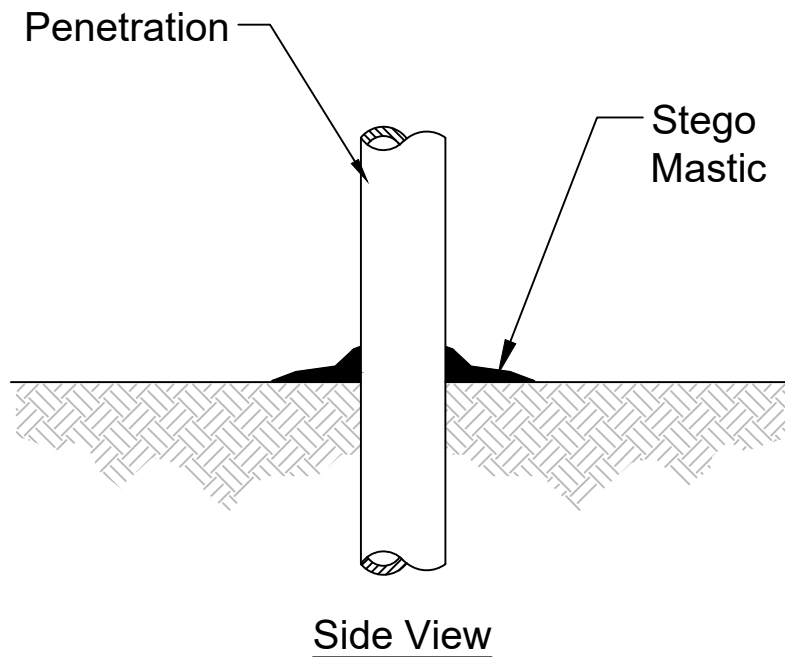
ID	FT	DATE	Pb
EE23-1.3	1.3	07/18/11	1,650

**Explanation**

- Soil boring and sample location
- ▽ Groundwater sample location
- ▼ Soil vapor sample location
- X8 Soil boring location identifier

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE | REFERENCE: IRIS, 2013

402643001\_SOIL.dwg 07/08/2021 AEK



403999001.dwg\_06/02/2021\_AEK

FIGURE 4

403999001.dwg\_05/18/2021\_AEK

### ADMINISTRATION, MANUFACTURING, AND METAL WORKS BUILDINGS

1A. DOES SOIL-GAS METHANE LEVEL EXCEED 3.75%?

NO

1B. STOP

YES

2A. DOES INDOOR-AIR METHANE LEVEL EXCEED 0.5%?

NO

2B. STOP

YES

3A. DOES INDOOR-AIR METHANE LEVEL EXCEED 1.25%?

NO

3B. FIND THE LOCATION(S) WHERE THE METHANE IS ENTERING THE BLDG AND SEAL IT OFF. CIRCLE BACK TO STEP 2A.

YES

4. EVACUATE BUILDING UNTIL METHANE LEVELS ARE BROUGHT BELOW 1.25% BY IMPLEMENTING THE NEXT STEP(S), DEPENDING ON THE BUILDING.  
**ADMIN. BLDG:** SEAL SLAB BENEATH BUILDING AND CIRCLE BACK TO STEP 2A. IF THIS SOLUTION IS INSUFFICIENT, INSTALL SOIL-GAS INTERCEPTION TRENCH.  
**MANUFACTURING BLDG:** MAKE VIMS ACTIVE AND CIRCLE BACK TO STEP 2A.  
**METAL WORKS BLDG:** INCREASE BUILDING VENTILATION AND CIRCLE BACK TO STEP 2A.

### MANUFACTURING BUILDING

1A. DOES SOIL-GAS METHANE LEVEL EXCEED 3.75%?

NO

1B. STOP

YES

2. MAKE VIMS ACTIVE

#### NOTES:

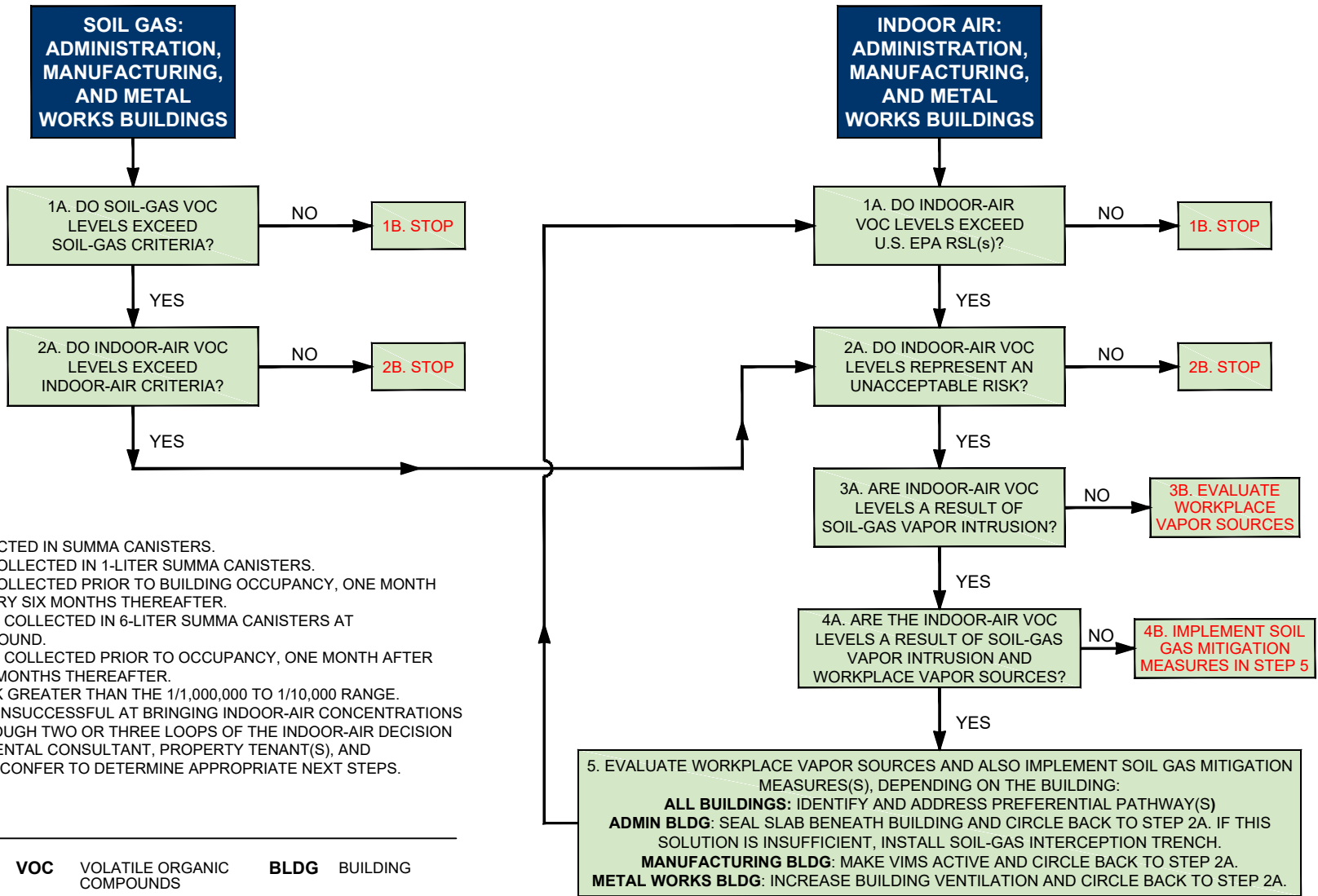
METHANE LEVELS WILL BE MEASURED WITH A HAND-HELD METHANE METER. SOIL-GAS AND INDOOR-AIR MEASUREMENTS WILL BE COLLECTED PRIOR TO BUILDING OCCUPANCY, ONE MONTH AFTER OCCUPANCY, AND EVERY SIX MONTHS THEREAFTER WHILE THE BUILDING(S) IS/ARE OCCUPIED. INDOOR-AIR METHANE MEASUREMENTS WILL BE COLLECTED WHEN THE BUILDING(S) IS/ARE OCCUPIED.

#### LEGEND

VIMS VAPOR INTRUSION MITIGATION SYSTEM    BLDG BUILDING    ADMIN ADMINISTRATION

FIGURE 5

403999001.dwg 10/07/2021 AEK



**NOTES:**  
 VOC SAMPLES WILL BE COLLECTED IN SUMMA CANISTERS.  
 SOIL-GAS SAMPLES WILL BE COLLECTED IN 1-LITER SUMMA CANISTERS.  
 SOIL-GAS SAMPLES WILL BE COLLECTED PRIOR TO BUILDING OCCUPANCY, ONE MONTH AFTER OCCUPANCY, AND EVERY SIX MONTHS THEREAFTER.  
 INDOOR-AIR SAMPLES WILL BE COLLECTED IN 6-LITER SUMMA CANISTERS AT APPROXIMATELY 6' ABOVE GROUND.  
 INDOOR-AIR SAMPLES WILL BE COLLECTED PRIOR TO OCCUPANCY, ONE MONTH AFTER OCCUPANCY, AND EVERY SIX MONTHS THEREAFTER.  
 UNACCEPTABLE RISK IS A RISK GREATER THAN THE 1/1,000,000 TO 1/10,000 RANGE.  
 IF MITIGATION EFFORTS ARE UNSUCCESSFUL AT BRINGING INDOOR-AIR CONCENTRATIONS TO ACCEPTABLE LEVELS THROUGH TWO OR THREE LOOPS OF THE INDOOR-AIR DECISION FLOW CHART, THE ENVIRONMENTAL CONSULTANT, PROPERTY TENANT(S), AND REGULATORY AGENCIES WILL CONFER TO DETERMINE APPROPRIATE NEXT STEPS.

**LEGEND**

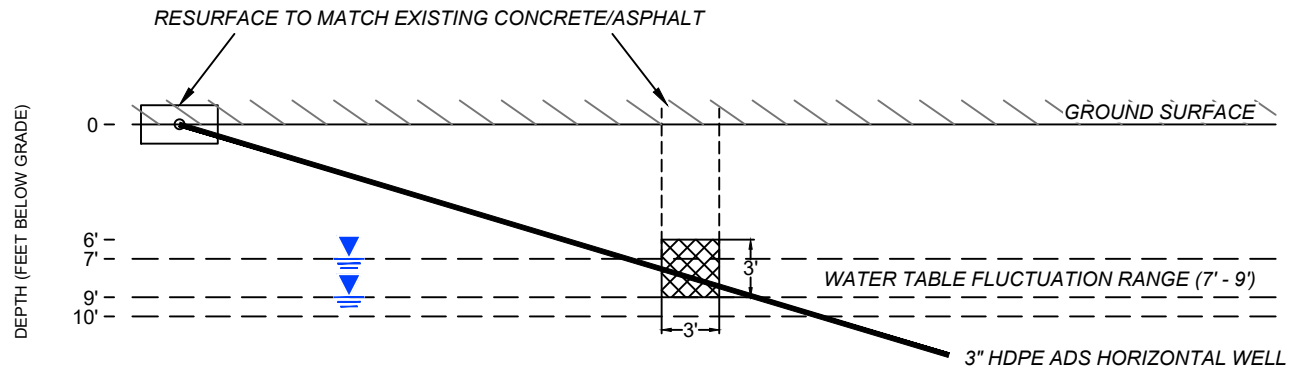
<b>VIMS</b>	VAPOR INTRUSION MITIGATION SYSTEM	<b>VOC</b>	VOLATILE ORGANIC COMPOUNDS	<b>BLDG</b>	BUILDING
<b>ADMIN</b>	ADMINISTRATION	<b>U.S. EPA RSL(s)</b>	U.S. ENVIRONMENTAL PROTECTION AGENCY INDOOR AIR RISK SCREENING LEVELS FOR A COMPOSITE WORKER		

**5. EVALUATE WORKPLACE VAPOR SOURCES AND ALSO IMPLEMENT SOIL GAS MITIGATION MEASURES(S), DEPENDING ON THE BUILDING:**  
**ALL BUILDINGS:** IDENTIFY AND ADDRESS PREFERENTIAL PATHWAY(S)  
**ADMIN BLDG:** SEAL SLAB BENEATH BUILDING AND CIRCLE BACK TO STEP 2A. IF THIS SOLUTION IS INSUFFICIENT, INSTALL SOIL-GAS INTERCEPTION TRENCH.  
**MANUFACTURING BLDG:** MAKE VIMS ACTIVE AND CIRCLE BACK TO STEP 2A.  
**METAL WORKS BLDG:** INCREASE BUILDING VENTILATION AND CIRCLE BACK TO STEP 2A.

**FIGURE 6**

**VOC MITIGATION DECISION FLOW CHART**

RISK MANAGEMENT PLAN  
 UNITED HOPE BUILDERS  
 2081 BAY ROAD, EAST PALO ALTO, CALIFORNIA  
 403999001 | 01/23

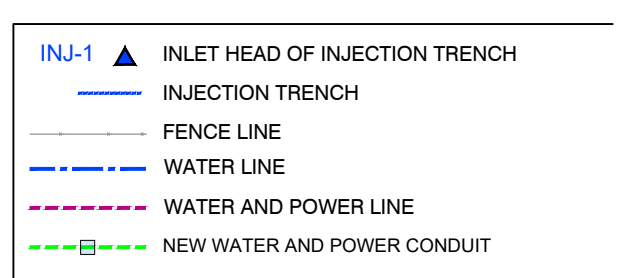
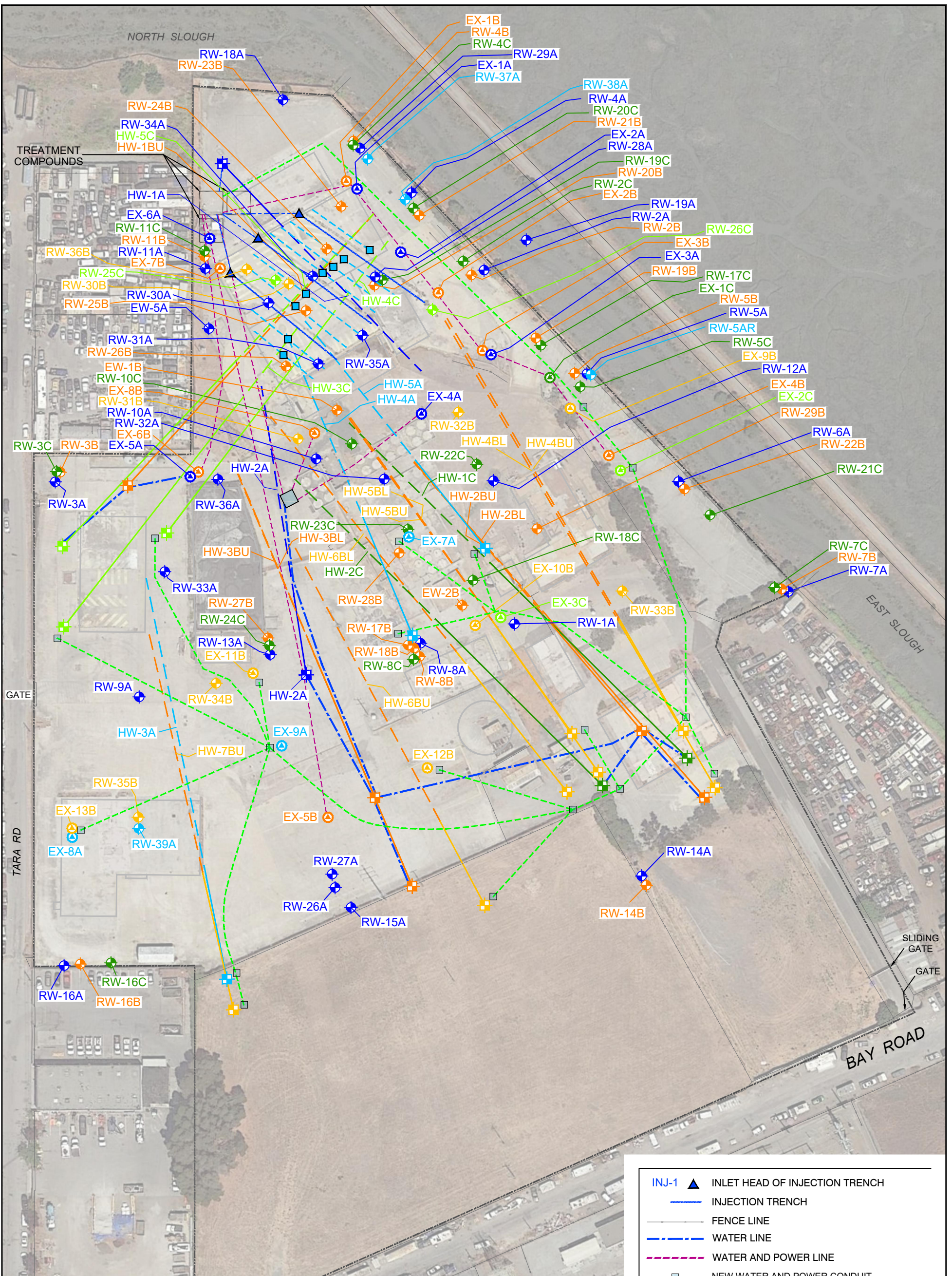


WELL	SLOPE
HW-2BU	10:3
HW-2BL	20:5
HW-4BU	20:5
HW-4BL	20:5
HW-5BU	20:5
HW-5BL	20:7
HW-1C	10:3
HW-2C	10:3

SCOPE:  
 CAP/PLUG WITH GROUT, ~1 CY AT DEPTH RANGE 6-9'  
 SHORING, SUCH AS TRENCH BOXES TO BE UTILIZED  
 RESURFACING TO BE COMPLETED TO MATCH EXISTING CONCRETE/ASPHALT

403999001.dwg, 06/01/2021 AEK

**FIGURE 7**



**LEGEND**

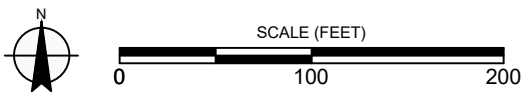
RW-1A	⊕	A ZONE MONITORING WELL	RW-2B	⊕	B ZONE MONITORING WELL	RW-2C	⊕	C ZONE MONITORING WELL
EX-1A	⊖	A ZONE EXTRACTION WELL	EX-1B	⊖	B ZONE EXTRACTION WELL	EX-1C	⊖	C ZONE EXTRACTION WELL
HW-1A	⊕	A ZONE HORIZONTAL INJECTION WELL HEAD	HW-1BL	⊕	B ZONE HORIZONTAL INJECTION WELL HEAD	HW-2C	⊕	C ZONE HORIZONTAL INJECTION WELL HEAD
---		HORIZONTAL INJECTION WELL SCREENS	---		HORIZONTAL INJECTION WELL SCREENS	---		HORIZONTAL INJECTION WELL SCREENS
---		HORIZONTAL INJECTION WELL RISER PIPES	---		HORIZONTAL INJECTION WELL RISER PIPES	---		HORIZONTAL INJECTION WELL RISER PIPES

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE | SOURCES: TOWILL, INC., DECEMBER 2016; WILSEY HAM, 2018; GOOGLE EARTH, 2019

402643001.dwg 04/06/2021 AEK

**FIGURE 8**

**EXISTING REMEDIATION WELL LAYOUT**



RISK MANAGEMENT PLAN  
 UNITED HOPE BUILDERS  
 2081 BAY ROAD, EAST PALO ALTO,  
 CALIFORNIA 403999001 | 01/23





# TABLES

**Table 1 – Soil-Gas, Indoor-Air, and Ambient-Air Sample Matrix**

Building Area	Soil Gas, Indoor Air, or Ambient Air	Frequency	Sample ID	VOCs and TPHg (EPA Method TO-15)	Fixed Gases (ASTM D 1946)	Methane (ASTM D 1946)	Methane (GEM 2000)
Manufacturing	Soil Gas	Routine	SS-1 through SS-4	X	X	X	
Manufacturing	Indoor Air	Routine	IA-1 through IA-4	X			X
Manufacturing	VIMS Vents	Routine	VIMS-1 through VIMS-6	X	X	X	
Office	Soil Gas	Routine	VP-6	X	X	X	
Office	Indoor Air	Routine	IA-5 and IA-6	X			X
Metal Works	Soil Gas	Routine	VP-5, VP-7 through VP-9	X	X	X	X
Metal Works	Indoor Air	Routine	IA-7 and IA-8	X			X
Background	Ambient Air	Routine	AA-4	X		X	

**Notes:**

Ambient Air - ambient air samples will be collected upwind of the buildings while the indoor air samples are also being collected

Fixed gases for soil gas samples include helium, oxygen, and carbon dioxide

Fixed gases will be analyzed using ASTM Method D 1946

GEM 2000 is a handheld meter used to detect and measure methane levels

Manufacturing Building - on-slab building with Vapor Intrusion Mitigation System (VIMS)

Metal Works Building - building on existing slab sealed with epoxy

Office Building - elevated building approximately 2 feet above grade

Routine Frequency - includes prior to building occupation, one month after building occupation, and every six months thereafter while the buildings are still being occupied

TPHg - total petroleum hydrocarbons as gasoline

VIMS - Vapor Intrusion Mitigation System

VOCs and TPHg will be analyzed using EPA Method TO-15

VOCs - volatile organic compounds

**Table 2 – Indoor-Air U.S. EPA RSLs and California OSHA PELs**

Contaminant	EPA Risk Screening Level (RSL)	Cal OSHA Limits
	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
Benzene	1.6	1,600
Chlorobenzene	220	46,000
Chloroethane	44,000	264,000
Chloroform	0.53	9,800
Dichlorobenzene, 1,2-	880	150,000
Dichloroethane, 1,1-	7.7	400,000
Dichloroethane, 1,2-	0.47	4,000
Dichloroethene, 1,1-	880	4,000
Dichloroethene, cis-1,2-	NA	790,000
Dichloroethene, trans-1,2-	180	790,000
Dichloropropene, 1,1-	NA	NA
Ethylbenzene	4.9	22,000
Freon 113	22,000	7,600,000
Isopropyl benzene (Cumene)	1,800	245,000
Methylene Chloride	1,200	87,000
MTBE	47	144,000
Naphthalene	0.36	500
Tetrachloroethene (PCE)	47	170,000
Tetrahydrofuran	8,800	590,000
Toluene	22,000	37,000
Trichloroethane, 1,1,1-	22,000	1,900,000
Trichloroethane, 1,1,2-	0.77	45,000
Trichloroethene (TCE)	8.0 <sup>a</sup> , 3.0 <sup>b</sup>	135,000
Trimethylbenzene, 1,2,4-	260	123,000
Trimethylbenzene, 1,3,5-	260	123,000
Vinyl Chloride	2.8	2,600
Xylenes (Total)	440	435,000

**Notes:**

µg/m<sup>3</sup>- micrograms per cubic meter

a - TCE EPA non-carcinogenic RSL taken from EPA Region 9 Response Action Levels and Recommendations to Address Near-Term Inhalation Exposures to TCE in Air from Substance Vapor Intrusion, July 2014

b - TCE EPA carcinogenic RSL taken from EPA 2021 Indoor Air Composite Worker Excel Workbook

RSL - Risk Screening Level values are most conservative limits taken from EPA 2021 Indoor Air Composite Worker Excel Workbook

OSHA - Occupational Safety and Health Association limits are 8-hr Ceiling from OSHA Occupational Chemical Database, retrieved August 2021

CAL-OSHA - California Occupational Safety and Health Association limits are for 8-hr Ceiling from Table AC-1; retrieved August 2021



# APPENDIX A

## Land Use Covenant

RECORDING REQUESTED BY:  
Romic Environmental Technologies  
Corporation  
2081 Bay Road  
East Palo Alto, California 94303

WHEN RECORDED, MAIL TO:

Department of Toxic Substances Control  
700 Heinz Avenue  
Berkeley, California 94710  
Attention: Romic Project Manager  
Brownfields and Environmental  
Restoration Program

**2015-010662 CONF**

2:41 pm 02/05/15 DR Fee: NO FEE

Count of pages 134

Recorded in Official Records

County of San Mateo

Mark Church

Assessor-County Clerk-Recorder



\* R 0 0 0 1 9 7 2 5 2 0 \*

---

SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE  
For the benefit of the People in California, no recording fee is required.  
(Government Code Section 27383)

## LAND USE COVENANT AND AGREEMENT

### ENVIRONMENTAL RESTRICTIONS

County of San Mateo, Assessor Parcel Number(s): 063-121-070-5, 063-121-390-7, 063-121-510-1, 063-121-500-1, 063-121-110-9, 063-121-160-4, and 063-121-170-3  
FORMER ROMIC ENVIRONMENTAL TECHNOLOGIES CORPORATION FACILITY,  
2081 BAY ROAD, EAST PALO ALTO, CALIFORNIA  
DTSC PROJECT CODE 551066

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This Land Use Covenant and Agreement ("Covenant") is made by and between Romic Environmental Technologies Corporation (the "Covenantor"), the current owner of property located 2081 Bay Road, East Palo Alto, in the County of San Mateo, State of California (the "Property"), and the Department of Toxic Substances Control (the "Department"). Pursuant to Civil Code section 1471, the Department has determined that this Covenant is reasonably necessary to protect present or future human health or safety or the environment as a result of the presence on the land of hazardous materials as defined in Health and Safety Code section 25260. The Covenantor and the Department hereby agree that, pursuant to Civil Code section 1471 and Health and Safety Code section 25202.5, the use of the Property be restricted as set forth in this

benefit of, and shall be enforceable by, the United States Environmental Protection Agency ("U.S. EPA"), as a third party beneficiary pursuant to general contract law, including, but not limited to, Civil Code Section 1559.

ARTICLE I  
STATEMENT OF FACTS

1.1. Property Location. The Property that is subject to this Covenant, totaling approximately 12.58 acres, is more particularly described in the attached Exhibit A "Recorded Deeds and Legal Description" and depicted in Exhibit B-1 "Parcel Map" and Exhibit B-2, "Map of Site Location and Map of Facility Legal Boundaries." The Property is located in the area now generally bounded by Bay Road and an electrical substation and a former chemical manufacturing facility (now vacant) to the south. The Property is bordered on the west, south and part of the east by current or former auto-wrecking yards. On the east, the Property is bordered by a narrow tidal slough (the "east slough") which drains to San Francisco Bay. Between the east slough and San Francisco Bay is a 130-acre former salt evaporation pond which has been reclaimed as a wetland. Immediately north of the Property, another channel (the "north slough") drains into the east slough. The Property is also identified as County of San Mateo, Assessor Parcel Number(s) 063-121-070-5, 063-121-390-7, 063-121-510-1, 063-121-500-1, 063-121-110-9, 063-121-160-4, and 063-121-170-3.

1.2. Remediation of Property. This Property is being remediated under the oversight of U.S. EPA pursuant to an Administrative Order on Consent (1988), Docket No. RCRA-09-88-0015. U.S. EPA is overseeing the investigation and cleanup of subsurface soil and ground water contamination pursuant to Resource Conservation and Recovery Act (RCRA) corrective action authority. The Covenantor has conducted interim remedial measures at the Property under U.S. EPA corrective action oversight, including using enhanced biological treatment to directly remediate some of the contaminated soil and ground water. On July 28, 2008, U.S. EPA selected a final remedy for the soil and ground water contamination at the Facility. U.S. EPA's "Final Remedy Decision for Former Romic Environmental Technologies Corporation Facility, East Palo Alto, California and Response to Public Comments on September 2007

Statement of Basis, July 28, 2008” is attached hereto as Exhibit C and incorporated by reference into this Covenant.

The Covenantor owned and operated a hazardous waste facility at the Property pursuant to a Hazardous Waste Facility Permit issued by the California Department of Health Services on or about May 21, 1986 and modified by the Department on or about July 23, 1990 and March 23, 2000. The Covenantor also operated pursuant to a Permit issued on or about July 23, 1990 by U.S. EPA pursuant to RCRA for hazardous waste storage. The Covenantor’s Hazardous Waste Facility Permit expired on or about May 21, 1991 but because the Covenantor timely filed its application for renewal and, as provided by regulation, the Covenantor was authorized to continue to operate the hazardous waste facility under the terms and conditions of its expired Modified Hazardous Waste Facility Permit during the renewal process. On August 29, 2007, the Department and Covenantor signed a Stipulation and Order (Docket HWCA 2006-1227) requiring the Covenantor to close the hazardous waste facility. The Stipulation and Order required, in part, the Covenantor to stop receiving offsite waste and required the Covenantor to cease treatment of offsite waste and eliminate all inventory. In addition, the Stipulation and Order required the Covenantor to revise its Closure Plan and submit the revised Closure Plan to the Department for review. Finally, the Stipulation and Order required the Covenantor, within 30 days of the Department’s approval of the revised Closure Plan, to conduct closure activities in accordance with the conditions of the Stipulation and Order and the Department approved Closure Plan.

The Covenantor stopped accepting waste on August 3, 2007 and is undergoing closure. The Covenantor submitted the Closure Plan to the Department for approval on October 26, 2007. The Department approved the Closure Plan for the hazardous waste facility on August 27, 2008. The Covenantor has conducted partial closure under the regulatory oversight of the Department (Phase I). U.S. EPA and the Department developed a joint two-phased strategy that synchronizes the facility closure with the corrective action. The aboveground hazardous waste management units were closed and removed in 2009; however, concrete containment floors were left in place as a temporary protective barrier and need to be addressed as part of corrective action. Phase II closure activities include (a) sub-surface soil characterization and remediation

under hazardous waste management units, which have been deferred as part of the RCRA corrective action under the oversight of U.S. EPA, and (b) closure work for surface soil, subsurface soil and groundwater at the Facility.

Hazardous waste, as defined in Health and Safety Code section 25117, remain on portions of the Property. The most significant type of hazardous waste in the soil and ground water are volatile organic compounds ("VOCs"). The ground water and soil contamination from VOCs extends below most of the Property to a depth of at least 80 feet. Other hazardous waste such as semi-volatile organic compounds ("SVOCs"), polychlorinated biphenyls ("PCBs") and metals are also present at the Property. An oily layer is present on the surface of the ground water in the northwestern portion of the Property (e.g., Extraction Well 6A).

1.3. Basis for Environmental Restrictions. The Covenantor and the Department (collectively, the "Parties") therefore intend that the use of the Property be restricted as set forth in this Covenant to protect human health, safety and the environment. It is anticipated that some or all of the Restrictions in this Covenant may become unnecessary after adequate remediation of the Property. The Covenantor is conducting corrective action to address release(s) of hazardous waste at the Property under the oversight of U.S. EPA. A land use covenant is necessary to preclude potential exposure to hazardous wastes and/or hazardous materials which remain at the Property, to preclude disruption of the response actions and to limit potential exposure to hazardous wastes and/or hazardous materials identified in soil and groundwater beneath the Property. As a result of the presence of hazardous wastes, which are also hazardous materials as defined in Health and Safety Code section 25260, at the Property, the Department has concluded that it is reasonably necessary to restrict the use of the Property in order to protect present or future human health or safety or the environment. Depending on the final corrective measures implemented at the Property, this Covenant may be amended by the Department and Owner, with prior notice to and an opportunity to comment by U.S. EPA, to ensure compliance with requirements of the final corrective measure(s).

///

///



ARTICLE II  
DEFINITIONS

2.1. Department. "Department" means the California Department of Toxic Substances Control and includes its successor agencies, if any.

2.2. Environmental Restrictions. "Environmental Restrictions" means all protective provisions, covenants, restrictions, requirements, prohibitions, and terms and conditions as set forth in this Covenant.

2.3. Improvements. "Improvements" includes, but is not limited to buildings, structures, roads, driveways, improved parking areas, wells, pipelines, or other utilities.

2.4. Lease. "Lease" means lease, rental agreement, or any other document that creates a right to use or occupy any portion of the Property.

2.5. Occupant. "Occupant" or "Occupants" means Owner and any person or entity entitled by ownership, leasehold, or other legal relationship to the right to occupy any portion of the Property.

2.6. Owner. "Owner" or "Owners" means the Covenantor, and any successor in interest including any heir and assignee, who at any time holds title to all or any portion of the Property.

2.7. U.S. EPA. "U.S. EPA" shall mean the United States Environmental Protection Agency, Region 9 and shall include its successor agencies or other successor entity, if any.

2.8. Construction activities. For purposes of this Covenant, "Construction activities" shall mean any demolition work or any above ground or below ground construction of any structure, including utility lines.

ARTICLE III  
GENERAL PROVISIONS

3.1. Runs with the Land. This Covenant sets forth Environmental Restrictions that apply to and encumber the Property and every portion thereof no matter how it is improved, held, used, occupied, leased, sold, hypothecated, encumbered, or conveyed. This Covenant: (a) runs with the land pursuant to Civil Code section 1471 and Health and Safety Code section 25202.5; (b) inures to the benefit of and passes with each and

every portion of the Property; (c) is for the benefit of, and is enforceable by the Department; and (d) is imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof. Additionally, pursuant to Health and Safety Code section 25202.5(b)(2), this Covenant shall be binding upon all of the Owners of the land, their heirs, successors, and assignees, and the agents, employees, and lessees of the Owners, heirs, successors, and assignees.

3.2. Binding upon Owners/Occupants. This Covenant: (a) binds all Owners of the Property, their heirs, successors, and assignees; and (b) the agents, employees, and lessees of the Owners and the Owners' heirs, successors, and assignees. Pursuant to Civil Code section 1471, all successive Owners of the Property are expressly bound hereby for the benefit of the Department; this Covenant, however, is binding on all Owners and Occupants, and their respective successors and assignees, only during their respective periods of ownership or occupancy except that such Owners or Occupants shall continue to be liable for any violations of, or non-compliance with, the Environmental Restrictions of this Covenant or any acts or omissions during their ownership or occupancy.

3.3. Incorporation into Deeds and Leases. This Covenant shall be incorporated by reference in each and every deed and Lease for any portion of the Property.

3.4. Conveyance of Property. The Owner and new Owner shall provide Notice to the Department, U.S. EPA and the City of East Palo Alto, not later than 30 calendar days after any conveyance or receipt of any ownership interest in the Property (excluding leases, and mortgages, liens, and other non-possessory encumbrances). The Notice shall include the name and mailing address of the new Owner of the Property and shall reference the site name and site code as listed on page one of this Covenant. The Notice shall also include the Assessor's Parcel Number(s) noted on page one. If the new Owner's property has been assigned a different Assessor Parcel Number, each such Assessor Parcel Number that covers the Property must be provided. The Department or U.S. EPA shall not, by reason of this Covenant, have authority to approve, disapprove, or otherwise affect proposed conveyance, except as otherwise provided by law or by administrative order.

3.5. Costs of Administering the Covenant to Be Paid by Owner. The Department has already incurred and will in the future incur costs associated with this Covenant. Therefore, the Covenantor hereby covenants for the Covenantor and for all subsequent Owners that, pursuant to California Code of Regulations, title 22, section 67391.1(h), the Owner agrees to pay the Department's costs in administering, implementing and enforcing this Covenant.

#### ARTICLE IV

##### RESTRICTIONS AND REQUIREMENTS

4.1. Corrective Action, Closure and Post-Closure Activities. All corrective action approved in writing by the U.S. EPA or the Department, or closure, or post-closure activities approved in writing by the Department are exempted from the requirements and restrictions set forth in this Covenant. This exemption includes, but is not limited to, excavation and trenching, drilling borings, installation of wells, extraction of groundwater for monitoring and remedial purposes, injection of groundwater for remedial purposes, installation of subsurface and above ground utilities, and construction of remedial facilities.

4.2. Prohibited Uses. The Property shall not be used for any of the following purposes without prior written approval by the Department and U.S. EPA:

- (a) A residence, including any mobile home or factory built housing, constructed or installed for use as residential human habitation.
- (b) A hospital for humans.
- (c) A public or private school for persons under 18 years of age.
- (d) A day care center for children.

4.3. Prohibited Activities. The following activities shall not be conducted at the Property:

- (a) Drilling for any water, oil, or gas without prior written approval by the Department and U.S. EPA.
- (b) Extraction or removal of groundwater without a Groundwater Management Plan pre-approved by the Department and U.S. EPA in writing.
- (c) Activity that may alter, disturb, interfere with, or otherwise affect the

integrity or effectiveness of, or the access to, any investigative, remedial, monitoring, operation or maintenance system (*e.g., cap, vapor extraction system, monitoring system, groundwater extraction system*) or activity required for the Property without prior written approval of the Department and U.S. EPA.

4.4. Construction Activities. Construction activities at the Property are subject to the following restrictions in addition to any other applicable Environmental Restrictions:

Construction activities shall not be conducted at the Property without prior written approval by the Department and U.S. EPA. Any person desiring to conduct construction activities, including subsurface utility demolition or construction, at the Property shall apply in writing to the Department and U.S. EPA for approval to do so. The Department and U.S. EPA may require preparation and implementation of a risk management plan (as described in “Final Remedy Decision for Former Romic Environmental Technologies Corporation Facility, East Palo Alto, California and Response to Public Comments on September 2007 Statement of Basis, July 28, 2008”) providing for proper management of any contaminated soil and/or groundwater as a condition of granting its approval.

4.5. Soil Management Activities. Soil management activities at the Property are subject to the following requirements in addition to any other applicable Environmental Restrictions:

- (a) All activities that will disturb the soil at the property (*e.g., excavation, grading, removal, trenching, filling, earth movement, mining, or drilling*) are prohibited unless conducted pursuant to or in accordance with a Soil Management Plan pre-approved by the Department and U.S. EPA in writing.
- (b) Any soil brought to the surface by grading, excavation, trenching or backfilling shall be managed in accordance with all applicable provisions of state and federal law.

4.6. Access for Oversight. The Department and U.S. EPA shall have reasonable right of entry and access to the Property for inspection, investigation, remediation, monitoring, and other activities as deemed necessary by the Department

or U.S. EPA in order to protect human health or safety or the environment. Nothing in this Covenant shall limit or otherwise affect U.S. EPA's right of entry and access, or U.S. EPA's authority pursuant to RCRA, as amended by the Hazardous and Solid Waste Amendment of 1984, U.S. EPA's authority to take response actions, under Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 ("CERCLA"); the National Contingency Plan, 40 Code of Federal Regulations Part 300 (1997) and its successor provisions; or other applicable federal law. Nothing in this Covenant shall limit or otherwise effect the Department's right of entry and access, or authority pursuant to Chapter 6.5, Division 20 of the California Health and Safety Code, or authority to take response actions, under CERCLA; the National Contingency Plan, 40 Code of Federal Regulations Part 300 (1997) and its successor provisions; Chapter 6.8, Division 20 of the California Health and Safety Code; California Civil Code, or other applicable state law.

4.7. Access for Implementing Operation and Maintenance, Corrective Action or Post-Closure Care. The entity or person responsible for implementing the operation and maintenance activities, corrective action, or post-closure care, shall have reasonable right of entry and access to the Property for the purpose of implementing such activities until the Department and U.S. EPA determines that no further action is required.

4.8. Inspection and Reporting Requirements. The Owner shall conduct an annual inspection of the Property verifying compliance with this Covenant and shall submit an annual inspection report to the Department and U.S. EPA for its approval by January 15th of each year. The annual inspection report must include the dates, times, and names of those who conducted the inspection and reviewed the annual inspection report. It also shall describe how the observations that were the basis for the statements and conclusions in the annual inspection report were performed (e.g., drive by, fly over, walk in, etc.). If any violation is noted, the annual inspection report must detail the steps taken to correct the violation and return to compliance. If the Owner identifies any violations of this Covenant during the annual inspection or at any other time, the Owner must within 10 calendar days of identifying the violation: (a) determine

the identity of the party in violation; (b) send a letter advising the party of the violation of the Covenant; and (c) demand that the violation cease immediately. Additionally, a copy of any correspondence related to the violation of this Covenant shall be sent to the Department and U.S. EPA within 10 calendar days of its original transmission.

4.9. Consultation Between U.S. EPA and the Department. U.S. EPA, and the Department shall consult with one another prior to making decisions in connection with Sections 4.1, 4.2, 4.3, 4.4 and 4.5 above and shall ensure that their decisions are consistent with any orders or permits issued by U.S. EPA or the Department regarding the Property.

## ARTICLE V ENFORCEMENT

5.1. Enforcement. Failure of the Owner or Occupant to comply with this Covenant shall be grounds for the Department or U.S. EPA to require modification or removal of any Improvements constructed or placed upon any portion of the Property in violation of this Covenant. Violation of this Covenant, such as failure to submit (including submission of any false statement) record or report to the Department or U.S. EPA, shall be grounds for the Department or U.S. EPA to pursue administrative, civil, or criminal actions, as provided by law.

5.2. Enforcement Rights of U.S. EPA as A Third Party Beneficiary. U.S. EPA, as a third party beneficiary, has the right to enforce the Environmental Restrictions of this Covenant.

## ARTICLE VI VARIANCE, REMOVAL AND TERM

6.1. Variance from Environmental Restrictions. Any person may apply to the Department for a written variance from any of the Environmental Restrictions imposed by this Covenant. Such application shall be made in accordance with Health and Safety Code section 25223. A copy of the application shall be submitted to U.S. EPA simultaneously when it is submitted to the Department. No variance may be granted under this paragraph without prior notice to and an opportunity to comment by U.S.

EPA.

6.2 Removal of Environmental Restrictions. Any person may apply to the Department to remove any of the Environmental Restrictions imposed by this Covenant or terminate the Covenant in its entirety. Such application shall be made in accordance with Health and Safety Code section 25224. A copy of the application shall be submitted to U.S. EPA simultaneously when it is submitted to the Department. No removal may be granted under this paragraph without prior notice to and an opportunity to comment by U.S. EPA.

6.3 Term. Unless ended in accordance with paragraph 6.2, by law, or by the Department in the exercise of its discretion, and after providing notice to and an opportunity to comment by U.S. EPA, this Covenant shall continue in effect in perpetuity.

ARTICLE VII  
MISCELLANEOUS

7.1. No Dedication or Taking Intended. Nothing set forth in this Covenant shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Property, or any portion thereof, to the general public or anyone else for any purpose whatsoever. Further, nothing set forth in this Covenant shall be construed to effect a taking under federal or state law.

7.2. Recordation. The Covenantor shall record this Covenant, with all referenced Exhibits, in the County of San Mateo within 10 calendar days of the Covenantor's receipt of a fully executed original.

7.3. Notices. Whenever any person gives or serves any Notice ("Notice" as used herein includes any demand or other communication with respect to this Covenant), each such Notice shall be in writing and shall be deemed effective: (a) when delivered, if personally delivered to the person being served or to an officer of a corporate party being served; or (b) five calendar days after deposit in the mail, if mailed by United States mail, postage paid, certified, return receipt requested:

To Owner: Romic Environmental Technologies Corporation  
2081 Bay Road  
East Palo Alto, California 94303  
Attention: Wayne Kiso  
President/CEO

To Department: Department of Toxic Substances Control  
700 Heinz Avenue  
Berkeley, California 94710  
Attention: Romic Project Manager  
Brownfields and Environmental Restoration Program

To U.S EPA: United States Environmental Protection Agency,  
Region 9  
75 Hawthorne Street  
San Francisco, California 94105  
Attention: Manager, RCRA Branch, Corrective Action  
Section (LND-4-1)

To City of East Palo Alto: City Manager  
City of East Palo Alto  
2415 University Avenue, 2nd Floor  
East Palo Alto, CA 94303

Manager, Planning Department  
City of East Palo Alto  
1960 Tate Street  
East Palo Alto, California 94303

Any party may change its address or the individual to whose attention a Notice is to be sent by giving advance written Notice in compliance with this paragraph.

7.4. Partial Invalidity. If this Covenant or any of its terms are determined by a court of competent jurisdiction to be invalid for any reason, the surviving portions of this Covenant shall remain in full force and effect as if such portion found invalid had not

been included herein. 7.5. Statutory References. All statutory or regulatory references include successor provisions.

7.6. Incorporation of Exhibits. All exhibits and attachments to this Covenant are incorporated herein by reference.


///

///



IN WITNESS WHEREOF, the Covenantor and the Department hereby execute this Covenant.

Covenantor: Romic Environmental Technologies Corporation

By:  \_\_\_\_\_

Title: \_\_\_\_\_  
Wayne Kiso, President/CEO

Date: 1/20/2015

Department of Toxic Substances Control:

By:  \_\_\_\_\_

Title: \_\_\_\_\_  
Denise Tsuji, Unit Chief

Date: Jan. 27, 2015

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of San Francisco

On January 20, 2015 before me,

M. Elizabeth Veverka, Notary Public  
(space above this line is for name and title of the officer/notary),

personally appeared Wayne Kiso, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal,

M. Elizabeth Veverka (seal)  
Signature of Notary Public



A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California  
County of Alameda

On January 27, 2015 before me,

Nicole Thuemmler Notary Public

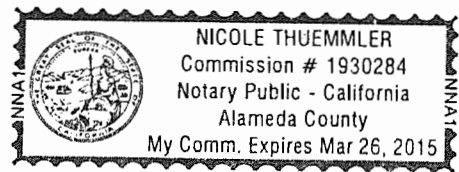
*(space above this line is for name and title of the officer/notary),*

personally appeared Denise M. Tsuji, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal,

Nicole Thuemmler (seal)  
Signature of Notary Public



**Exhibit A - Recorded Deeds and Legal Description**

Assessor's Parcel Number	Recorder's Serial Number
063-121-070-5	60059AL
063-121-390-7	84006079
063-121-510-1	96096378
063-121-500-1	93006245
063-121-110-9	86161200
063-121-160-4	87106712
063-121-170-3	87106712

RECORDER'S OFFICE SAN MATEO COUNTY

063 12 101 170 063 121 170

RECORDING REQUESTED BY

First California Title

600468/129361

AND WHOM OFFERED HERE BY

Romic Chemical Corp.  
2081 Bay Road  
East Palo Alto, CA 94301

60059AL

RECORDED AT REQUEST OF

VOL 7573 PAGE 667

FIRST CALIFORNIA TITLE COMPANY

AUG 12 12 43 PM 1977

MERVIN CHURCH RECORDER  
SAN MATEO COUNTY  
OFFICIAL RECORDS

WITH THE STATEMENTS IN  
HEREIN ARE AS ABOVE

Computed on Full Value \$ 247.50  
APPEX (P.S. 1) IN THIS SPACE

SPACE ABOVE CONTAINS INFORMATION FOR THE STATE'S USE  
COMPUTED ON FULL VALUE OF PROPERTY CONVEYED  
COMPUTED ON FULL VALUE LESS LIENS/ENCUMBRANCES  
REMAINING THEREON AT TIME OF SALE

FIRST CALIFORNIA TITLE COMPANY

San Mateo County

063-121-170

### Corporation Grant Deed

Documentary Transfer Tax  
\$ 1.00 - 0.419  
San Mateo County  
Recorder's Office

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,  
P-D ELECTRONIC PROPERTIES, INC.,  
a corporation organized under the laws of the state of New York  
hereby GRANTS to

ROMIC CHEMICAL CORPORATION, a corporation,

the following described real property in the East Palo Alto  
County of San Mateo State of California:

(See description attached)

In Witness Whereof, said corporation has caused its corporate name and seal to be affixed hereto and this instrument to be executed by its President and Secretary thereon duly authorized.

P.D. Electronic Properties, Inc.

Dated: July 20, 1977

STATE OF CALIFORNIA  
COUNTY OF San Francisco  
On July 20, 1977, I, the undersigned Notary Public in and for said County and State, personally appeared William R. Smith, known to me to be the President, and Robert M. Holt, known to me to be the Secretary of the Corporation that executed the within instrument, known to me to be the persons who executed the within instrument on behalf of the Corporation therein named, and acknowledged to me that their execution executed the within instrument pursuant to the by laws or a resolution of its board of directors.

By William R. Smith President  
By Robert M. Holt Secretary

WITNESSES my hand and official seal  
Notary Public in and for said County and State  
Martin J. Dinkel-Spiel  
Notary Public in and for said County and State

MARTIN J. DINKEL-SPIEL  
NOTARY PUBLIC CALIFORNIA  
CITY AND COUNTY OF  
SAN FRANCISCO  
My Commission Expires March 28, 1980

ALL that certain plot, piece or parcel of land with the buildings and improvements thereon erected, situate, lying and being in the County of San Mateo, State of California, bounded and described as follows:

BEGINNING at a point in the center line of Bay Road, said point being the most southerly corner of the land conveyed by deed from Frank Vera to Archilo Dellanaglore and Americo Charcella dated February 14, 1939 and recorded April 5, 1939 in Book 825 of Official Records of San Mateo County at page 413 (56490-D); thence from said point of beginning, along the southwesterly line of said land, North 30° 16' West 912.67 feet to the easterly line of the Pulgas Rancho; thence North 44° 30' East, along said easterly line 305.40 feet; thence leaving said Rancho line, South 87° 33' West 123.68 feet; thence South 0° 59' East 595.72 feet; thence North 88° 33' East 525.21 feet; thence South 30° 16' East 496.54 feet to a point in the center line of Bay Road; thence North 68° 20' East 20.10 feet to the point of beginning.

TOGETHER with a non-exclusive easement for railroad purposes over a strip of land 12 feet wide, lying 6 feet on each side of the following described center line.

BEGINNING at a point on the northwesterly line of the land described in the deed from Frank Joe Crist and Eugenia M. Crist to John P. Demeter, dated June 12, 1952 and recorded June 20, 1952 in Book 2755 of Official Records of San Mateo County at page 714 (11614-K) said point being distant thereon South 88° 47' 40" West 9.79 feet from the most northerly corner of said land; thence from said point of beginning North 44° 13' 10" West, parallel with the easterly line of the Pulgas Rancho and its northwesterly prolongation 1271.42 feet to a point; thence northwesterly and northerly, on the arc of a curve to the right, said curve having a radius of 478.34 feet, a central angle of 52° 31' 56" and being tangent to the last mentioned course at the last mentioned point, a distance of 439.53 feet to a point on the westerly line of Block 22 of "Tract No. 549, University Village Map No. 3 in the unincorporated Territory, San Mateo County, California", filed in the Office of the Recorder of San Mateo County on February 21, 1952 in Book 34 of Maps at pages 27, 28, 29 and 30, said point being distant South 20° 01' West 43.31 feet from the most easterly corner of Lot 9 of said Block 22.

Vol 7573 p 2668

RECORDING REQUESTED BY  
 Founders Title Company  
 778986  
 063-121-080

APN \_\_\_\_\_  
 WHEN RECORDED MAIL TO \_\_\_\_\_

Name \_\_\_\_\_  
 Street \_\_\_\_\_  
 Address \_\_\_\_\_  
 City & State \_\_\_\_\_  
 ROMIC CHEMICAL  
 Attn: Mr. Schneider  
 2081 Bay Road  
 East Palo Alto, CA 94301

RF	4
LN	
MF	14
	455

8A006079  
 RECORDED AT REQUEST OF  
 FOUNDERS TITLE COMPANY  
 JAN 18 9 52 AM 1984  
 HARVIN CHURCH, RECORDER  
 SAN MATEO COUNTY  
 OFFICIAL RECORDS

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Grant Deed

RECORDER'S OFFICE SAN MATEO COUNTY

63/12/8

The undersigned grantor(s) declare(s)  
 Documentary transfer tax is \$ 30.50  
 ( ) computed on full value of property conveyed, or  
 ( ) computed on full value less value of liens and encumbrances remaining at time of sale.  
 ( ) Unincorporated area: (XX) City of East Palo Alto  
 ( ) Realty not sold.  
 FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged.

Lorne R. Stanley and Geraldine C. Stanley, husband and wife

hereby GRANT(S) to  
 ROMIC CHEMICAL CORPORATION,

that property in City of East Palo Alto, San Mateo County, State of California, described as:  
 Per legal description attached hereto and made a part hereof.

Documentary Transfer Tax  
 PAID  
 San Mateo County  
 Rec'd By \_\_\_\_\_  
 Deputy Recorder

8A006079

Mail tax statements to \_\_\_\_\_ same as above

Date January 17, 1984  
 STATE OF CALIFORNIA  
 COUNTY OF San Mateo } SS

On January 17, 1984 before me, the undersigned,  
 a Notary Public in and for said State, personally appeared,  
 LORNE R. STANLEY and GERALDINE C. STANLEY

*Lorne R. Stanley*  
 Lorne R. Stanley  
*Geraldine C. Stanley*  
 Geraldine C. Stanley

personally known to me \_\_\_\_\_  
 to be the person(s) whose name(s) \_\_\_\_\_  
 subscribed to the within instrument and acknowledged that  
 they executed the same. Witness my hand and official seal.

Signature \_\_\_\_\_  
 JOANNA ROSENGART  
 Name (Typed or Piped)

OFFICIAL SEAL  
 JOANNA ROSENGART  
 NOTARY PUBLIC, CALIFORNIA  
 Principal Office in SAN MATEO COUNTY  
 My Commission Expires APRIL 29, 1984

FTD-0001

MAIL TAX STATEMENTS AS DIRECTED ABOVE



RECORDER'S OFFICE SAN MATEO COUNTY



FOUNDERS TITLE COMPANY  
ORDER NO. 778986

*Legal Description*  
EXHIBIT "A"

BEGINNING at the point of intersection of the Easterly boundary of the Rancho de las Pulgas with the centerline of Bay Road and running thence along the said centerline of Bay Road South 65° 31' West 239.03 feet to the true point of beginning; thence leaving the said centerline North 30° 16' West 427.50 feet; thence North 63° 20' East 111.13 feet to a point on the said Rancho boundary line; thence along the said Rancho line North 44° 30' West 755.12 feet; thence leaving the said Rancho line South 88° 33' West 129.60 feet; thence South 00° 58' East 595.72 feet; thence North 88° 33' East 525.21 feet; thence South 30° 16' East 495.54 feet to a point on the centerline of Bay Road; thence along the said centerline North 63° 20' East 20.10 feet to the said true point of beginning.

The above description taken from that certain "Approval of Lot Line Adjustment", recorded December 28, 1983, under Recorder's Serial No. 83142854.

Excepting therefrom that certain parcel of land conveyed to Romic Chemical Corporation, a corporation, by Deed recorded August 12, 1977, in Book 7973, at Page 667, Official Records, described as follows:

BEGINNING at a point in the centerline of Bay Road, said point being the most southerly corner of the land conveyed by Deed from Frank Vera to Archie Dellamaggiore and America Ciardella dated February 14, 1939 and recorded April 5, 1939, in Book 825 of Official Records of San Mateo County at Page 413 (56490-D); thence from said point of beginning, along the Southwesterly line of said land, North 30° 16' West 912.67 feet to the Easterly line of the Pulgas Rancho; thence North 44° 30' West along said Easterly line 305.40 feet; thence leaving said Rancho line, South 88° 33' West 129.60 feet; thence South 00° 58' East 595.72 feet; thence North 88° 33' East 525.21 feet; thence South 30° 16' East 495.54 feet to a point in the center line of Bay Road; thence North 63° 20' East 20.10 feet to the point of beginning.

A.P.N. 063-121-080

J.P.N. 63-12-121-8

THIS AREA SHALL BE USED ONLY AS A PARKING LOT OR OTHER USE ALLOWED IN ITS DESIGNATED ZONING.

8406079

RECORDER'S OFFICE COUNTY OF SAN MATEO

When recorded mail to

Romic Environmental  
Technologies  
2081 Bay Road  
East Palo Alto, Calif. 94301



OFFICIAL RECORDS OF SAN MATEO COUNTY  
ASSESSOR-COUNTY CLERK-RECORDER  
WARREN BLOOM

Recorded at Request of  
ROMIC ENVIRONMENTAL TECHNOLOGIES  
96-096378 08/06/96 02:37

Recording Fee 14 MTRCA 91

GRANT DEED

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP., a California Corporation, formerly known as ROMIC CHEMICAL CORPORATION, A California Corporation being the present title owners of record of the herein described parcel of land, do hereby make an irrevocable offer of dedication to the City of East Palo Alto and its successor or assign, for street and sidewalk purposes, the real property situated in the City of East Palo Alto, County of San Mateo, State of California, described as follows:

SEE EXHIBIT A ATTACHED HERETO

It is understood and agreed that the City of East Palo Alto and its successor or assign shall incur no liability with respect to such offer of dedication and shall not assume any responsibility for the offered parcel of land or any improvements thereon or therein, until such offer has been accepted by appropriate action of the City Council, or of the local governing body of its successor or assign.

The provisions hereof shall inure to the benefit of and be binding upon the heirs, successors, assigns, and personal representatives of the respective parties hereto.

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP. formerly known as ROMIC CHEMICAL CORPORATION

BY [Signature]  
H. Michael Scardina

7.6.96  
Date

96096378

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

NOTARY

State of California  
 County of San Mateo  
 On 8/6/96 before me, Kymm Terlau, Notary Public  
DATE NAME TITLE OF OFFICER (i.e. Notary Public)  
 personally appeared H. Michael Schneider  
(NAME(S) OF SIGNER(S))

personally known to me - OR -  proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Kymm Terlau  
SIGNATURE OF NOTARY

86096378

RECORDER'S OFFICE COUNTY OF SAN MATEO

OPTIONAL

Though the data below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent reattachment of this form.

CAPACITY CLAIMED BY SIGNER

- INDIVIDUAL
- CORPORATE OFFICER
- PARTNER(S)
  - LIMITED
  - GENERAL
- ATTORNEY-IN-FACT
- TRUSTEES
- GUARDIAN/CONSERVATOR
- OTHER

DESCRIPTION OF ATTACHED DOCUMENT

TITLE OR TYPE OF DOCUMENT  
 NUMBER OF PAGES  
 DATE OF DOCUMENT  
 SIGNER(S) OTHER THAN NAMED ABOVE

SIGNER IS REPRESENTING:  
(NAME OF PERSON(S) WHO REPRESENTS)

©1993 NATIONAL NOTARY ASSOCIATION • 2226 Piedmont Ave., P.O. Box 2184 • Concord, PA, CA 91309-7184

RECORDER'S OFFICE COUNTY OF SAN MATEO

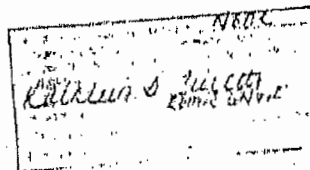
EXHIBIT A

All that certain real property situated in the City of East Palo Alto, County of San Mateo, State of California described as follows:

Beginning at the most southerly corner of Parcel 2 and the centerline of Bay Road ( 40 feet wide ) as shown on that certain Record of Survey filed in Book 13 of ELS Maps at page 71, San Mateo County Records, thence running along the centerline of Bay Road North 65° 20' East 195.22 feet to a point, thence running North 30° 16' West 30.14 feet to a point, thence running parallel with the centerline of Bay Road and distant 30.00 feet when measured at right angles to said centerline, South 65° 20' West 195.22 feet to the Southwest boundary line of said Parcel 2, thence running South 30° 16' East 30.14 feet to the centerline of Bay Road and the point of beginning.

Containing approximately 0.134 Acres of land.

prepared by Steven A. Arnold  
Civil Engineer  
CE 22301



*This conveyance conforms a change of name and the parties and grantees granted all the same party*

26 July 76

88086378





RECORDER'S OFFICE COUNTY OF SAN MATEO

93006245

State of California

County of Santa Clara

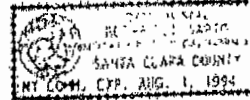
SS.

Title or Type of Document Grant Deed  
Number of Pages 2 Date of Preparation 1/13/93  
Legal or Other Description Yes

On 1/13/93 before me, Betsy DeLoach  
Notary Public, personally appeared Betsy DeLoach  
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature Betsy DeLoach (Seal)



AMERICAN TITLE INSURANCE COMPANY

ATD-1 (Revised 11/92)

RECORDER'S OFFICE COUNTY OF SAN MATEO

AMERICAN TITLE INSURANCE COMPANY

State of California

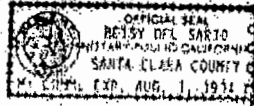
County of Santa Clara

SS.

Title or Type of Document Consent Deed  
Number of Pages 2 Date of Document 11/12/93  
Specialty Paper, Blue Impaled Edges Yes

On 11/12/93 before me, Reisy DFL Sarto  
Notary Public, personally appeared Michael J. ...  
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.  
Signature Reisy DFL Sarto (Seal)



93006245

ATD-1 (Revised 11/92)



RECORDER'S OFFICE COUNTY OF SAN MATEO

EXHIBIT A

DEMETER TO ROMIC — — —

Beginning for reference at the point of intersection of the centerline of Bay Road with the southwesterly boundary line of the lands described in the deed from John P. Demeter and Kathleen Demeter, his wife, to Hadley R. Bramel, dated April 4, 1956 and recorded April 9, 1956 in Book 3002 of Official Records of San Mateo County at Page 102 (43795-M): thence N 30° 16' W, 371.54' along said southwesterly boundary line to the True Point of Beginning; thence continuing along said line 149.75', thence S 65° 20' 00" W, 248.37' to the southwesterly boundary line of the tower line right of way also being the northeasterly line of the lands described in Parcel One of the deed from John P. Demeter and wife to Warren A. Slack, et al, dated February 25, 1955 and recorded February 25, 1955 in Book 2749 of Official Records of San Mateo County, at Page 190 (29016-M): thence along the northeasterly and southerly boundary lines of the last mentioned lands S 18° 47' 15" W, 722.87'; thence S 59° 54' 23" W, 186.68' to the most southern corner also being a point in the westerly boundary line of the lands described in the deed from Frank Lee Crist and wife to John P. Demeter, dated June 12, 1953 and recorded June 20, 1953 in Book 2256 of Official Records of San Mateo County thence S 00° 58' 00" E, 10.00' along said westerly boundary line of the lands described in the deed to John P. Demeter; thence N 65° 20' 00" E, 465.43' to the point of beginning and containing 0.08 acres more or less.

93006245

RECORDER'S OFFICE COUNTY OF SAN MATEO

RECORDING REQUESTED BY  
Founders Title Company

AND WITH RECORDED MAIL TO

NAME ROMIC CHEMICAL CORP.  
ADDRESS C/o Marvin Siegel, Esq.  
1100 Alma Street, Suite 210  
CITY & STATE Menlo Park, Ca. 94025

Documentary Transfer Tax  
PAID  
San Mateo County  
Rec'd By: [Signature]  
Deputy Recorder

Title Order No. S.22015 Escrow No. A.P.N. 063-121-100 and 063-121-110

SPACE ABOVE THIS LINE FOR RECORDER'S USE

WITH THE STATEMENTS TO  
NAME Same as Above  
ADDRESS  
CITY & STATE

Documentary Transfer Tax 1,385.00  
XX Computed on full value of property conveyed, or  
□ Computed on full value less liens and encumbrances  
remaining thereon at time of sale.  
[Signature] Founders Title Co.  
Signatures of declarant or agent determining tax - See code.

### Individual Grant Deed

WESTERN TITLE FORM NO 104

FOR VALUE RECEIVED, LYRA BETH LEMMON, formerly LYRA BETH BRAMEL, an unmarried woman

GRANT E to ROMIC CHEMICAL CORPORATION, A California Corporation

all that real property situate in the City of East Palo Alto,

County of San Mateo

State of California, described as follows:

Described on Exhibit "A" attached hereto and incorporated herein.

Assessor's Parcel No. 063-121-100 and 063-121-110

86161200

RF	4
LN	
MF	1
AF	2
HB	7

86161200  
RECORDED AT REQUEST OF  
FOUNDERS TITLE COMPANY  
DEC 12 1 09 PM 1986

MARY H CHURCH, RECORDER  
SAN MATEO COUNTY  
OFFICIAL RECORDS

Dated November 24, 1986

[Signature]  
LYRA BETH LEMMON

STATE OF CALIFORNIA  
County of SANTA CLARA } n

On Nov. 24, 1986 before me, the undersigned, a Notary Public  
in and for said State, personally appeared LYRA BETH LEMMON

personally known to me or proved to me  
on the basis of satisfactory evidence to be the person whose name is  
subscribed to the within instrument, and acknowledged to me that she executed it.

[Signature]  
NOTARY PUBLIC  
Cecelia A. Prigge

FOR NOTARY SEAL OR STAMP  
\*\*\*\*\*  
OFFICIAL SEAL  
CECELIA A. PRIGGE  
NOTARY PUBLIC - CALIFORNIA  
SANTA CLARA COUNTY  
MY COMMISSION EXPIRES NOV. 4, 1989  
\*\*\*\*\*

MAIL TAX STATEMENTS AS DIRECTED ABOVE

EXHIBIT "A"

PARCEL ONE:

BEGINNING at a point in the center line of Bay Road, where the said center line intersects the Southwesterly line of the lands described in the Deed from John P. Demeter, also known as John Peter Demeter and Kathleen Demeter, his wife to Hird Chemical Refining Corporation, a corporation, dated July 21, 1954 and recorded July 29, 1954, in Book 2624 of Official Records of San Mateo County at Page 643 (74680-L); thence from said point of beginning along the said center line of Bay Road South 65° 20' West 150 feet; thence leaving said center line and parallel to the said Southwesterly line of the lands of Hird Chemical Refining Corporation, North 30° 16' West 300 feet; thence parallel to the said center line of Bay Road, North 65° 20' East 150 feet to the said Southwesterly line of the lands of Hird Chemical Refining Corporation; thence along the last mentioned line South 10° 16' East 300 feet to the point of beginning.

PARCEL TWO:

BEGINNING at a point on the center line of Bay Road distant thereon South 65° 20' West 25 feet from the most southerly corner of the lands described in the Deed from John P. Demeter and wife to Madley R. Bramel, dated October 15, 1954, and recorded October 15, 1954, in Book 2670 of Official Records of San Mateo County at Page 222 (94423-L), said point of beginning also being distant South 65° 20' West 434.13 feet from the intersection of the Easterly boundary of the Rancho de las Pulgas with the said center line of Bay Road, North 65° 20' East 25 feet to the said most southerly corner of the lands of Bramel; thence along the Southwesterly and Northwesterly lines of the lands of Bramel, North 30° 16' West 300.00 feet and North 65° 20' East 150.00 feet to the Southwesterly line of the lands described in the Deed from John P. Demeter and wife to Hird Chemical Refining Corporation, a corp. dated July 21, 1954, and recorded July 29, 1954, in Book 2624 of Official Records of San Mateo County at Page 643 (74680-L); thence along said Southwesterly line of Hird Chemical Refining Corporation North 30° 16' West 195.54 feet to an angle point therein; thence along the southerly line of the said lands of Hird Chemical Refining Corporation, South 00° 33' West to a point therein which bears North 30° 16' West from the point of beginning; thence South 30° 16' East in a direct line to the point of beginning.

A.P.N. 063-121-100.  
A.P.N. 063-121-110.

J.P.N. 63-12-121-10.  
J.P.N. 63-12-121-11.

88161300

RECORDER'S OFFICE COUNTY OF SAN MATEO

RECORDING REQUESTED BY

AND WHEN RECORDED MAIL TO

Name  
Street  
Address  
City  
State  
Zip

Jorgensen, Congress, Stuart & McClure  
Attorneys at Law  
1180 Alca Street Suite 218  
Menlo Park, Ca. 94025

RE	6
CG	
LR	
MP	1
AT	24
BR	11

87106712

RECORDED AT REQUEST OF

*[Signature]*

JUL 8 1 25 PM '87

WARREN BLOCH RECORDER  
SAN MATEO COUNTY  
OFFICE

MAIL TAX STATEMENTS TO

Name  
Street  
Address  
City  
State  
Zip

ROMIC CHEMICAL CORPORATION  
2081 Bay Road  
East Palo Alto, CA 94303  
Attention: H.M. Schneider

SPACE ABOVE THIS LINE FOR RECORDER'S USE

DOCUMENTARY TRANSFER TAX'S NB# A

COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,  
OR COMPUTED ON FULL VALUE LESS LIENS AND  
LIABILITIES REMAINING ACTIVE ON SALE

*W. H. [Signature]* Attorney  
Signature of Declarant or Agent representing the same

\* Deed confirms title vested in Grantee and was given without consideration.

TRANSFER TAX \$

### QUITCLAIM DEED (CORPORATION)

(Form No. \_\_\_\_\_)

87106712

By this instrument dated July 11, 1987 for a valuable consideration,

AMERICAN FINANCIAL REALTY, INC., a corporation, ("Grantor")

do hereby remise, release and forever quitclaim to

ROMIC CHEMICAL CORPORATION, a California corporation, ("Grantee")

the following described Real Property in the State of California, County of San Mateo

City of East Palo Alto and more particularly described on Exhibit A attached hereto and made a part hereof.

By executing this Quitclaim Deed, Grantor hereby acknowledges that its intent is to thereby remise, release, relinquish and forever quitclaim to Grantee all rights, title and interest Grantor may have in and to the Real Property pursuant to that certain Real Property Option Agreement, dated February 22, 1985, for which a Notice of Option was recorded on March 25, 1985 as Instrument No. 85026848 in the Official Records of San Mateo County, California, in which Grantee granted to Grantor an option to purchase the Real Property.

AMERICAN FINANCIAL REALTY, INC., a corporation

*[Signature]*  
By: Edgar M. Thrift, Jr.  
Its: Vice President

Form No. 749 Revised 9-87

STATE OF CALIFORNIA

COUNTY OF

On \_\_\_\_\_ 19\_\_\_\_ before me, the undersigned, a Notary Public in and for said County and State, personally appeared \_\_\_\_\_

and \_\_\_\_\_ known to me to be the \_\_\_\_\_

and \_\_\_\_\_ respectively of the Corporation that executed the within instrument on behalf of the Corporation therein named, and acknowledged to me that said Corporation executed the same.

Notary's Signature

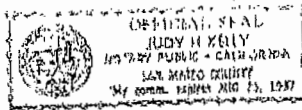
MAIL TAX STATEMENTS AS DIRECTED ABOVE

RECORDER'S OFFICE COUNTY OF SAN MATEO

STATE OF CALIFORNIA )  
 ) SS  
COUNTY OF SAN MATEO )

On this 11<sup>TH</sup> day of June, in the year 1987, before me, JUDY H. KELLY, a notary public in and for said County and State, personally appeared Edgar M. Thrift, Jr., personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed the within instrument as Vice President on behalf of AMERICAN FINANCIAL REALTY, INC., a California corporation and acknowledged to me that the corporation executed it.

87106712



Judy H. Kelly  
Notary Public, County of SAN MATEO  
State of California

The real property described below is situated in the State of California, County of San Mateo, City of East Palo Alto and is described as follows:

PARCEL ONE:

BEGINNING at a point in the center line of a 40 foot right of way known as Laurel Avenue, said point being South 65° 20' West along the center line of Bay Road, 1098.3 feet from its intersection with the Easterly line of the Rancho de las Pulgas to said centerline of Laurel Avenue and North 0° 58' West along said center line of Laurel Avenue, 414 feet to said point of beginning; thence from said point of beginning along said center line of Laurel Avenue North 0° 58' West 252 feet; thence at right angles South 89° 02' West 170 feet; thence South 0° 58' East 252 feet; thence North 89° 02' East 170 feet to the point of beginning.

PARCEL TWO:

BEGINNING at the Northwesterly corner of lands conveyed to Warren A. Slack et al, by deed dated September 21, 1950 and recorded September 28, 1950, in book 1947 of Official Records at Page 216, Records of San Mateo County, California; thence from said point of beginning along the Westerly boundary line of said lands South 0° 58' East 252 feet to the Southwesterly corner thereof; thence at right angles South 89° 02' West 25 feet; thence at right angles North 0° 58' West 252 feet; thence at right angles North 89° 02' East 25 feet to the point of beginning.

A.P.N. 063-121-160

J.P.N. 63-12-121-16

PARCEL THREE:

BEGINNING at a point in the center line of a 40 foot right of way known as Laurel Avenue, said point being S. 65° 20' W. along the center line of Bay Road 1098.3 feet from its intersection with the Easterly line of the Rancho de las Pulgas to said center line of Laurel Avenue and N. 0° 50' W. along said center line of Laurel Avenue 666 feet to said point of beginning; thence from said point of beginning along said center line of Laurel Avenue N. 0° 50' W. 300 feet; thence at right angles S. 89° 02' W. 170 feet; thence S. 0° 58' E. 300 feet; thence N. 89° 02' E. 170 feet to the point of beginning.

DESCRIPTION CONTINUED. . .

EXHIBIT "A"

OPC:lvw

87106712

EXHIBIT "A" DESCRIPTION CONTINUED. . .

PARCEL FOUR:

BEGINNING at the Southwesterly corner of lands conveyed to Irving A. Klein and wife by Deed dated August 13, 1953 and recorded August 13, 1953 in Book 2459 of Official Records at Page 230 in the office of the County Recorder of San Mateo County; thence from said point of beginning along the Southerly prolongation of the Westerly line of said lands of Klein S. 0° 58' E. 300 feet to the Northwesterly corner of the lands conveyed to Warren A. Slack, et al by Deed dated September 21, 1950 and recorded September 28, 1950 in Book 1947 of Official Records at Page 216, in the office of the County Recorder of San Mateo County; thence along the Westerly prolongation of Northerly line of said lands of Slack S. 89° 02' W. 25 feet; thence at right angles N. 0° 58' W. 300 feet; thence at right angles N. 89° 02' E. 25 feet to the point of beginning.

A.P.N. 063-121-170

J.P.N. 63-12-121-17

PARCEL FIVE:

An easement for ingress and egress and public utilities over the following described parcel:

BEGINNING at the Northwesterly corner of the lands conveyed to Irving A. Klein and wife by Deed dated August 13, 1953, and recorded August 13, 1953, in Book 2459 of Official Records at Page 230, Records of San Mateo County, California; thence along the Westerly boundary of said lands and its Southerly prolongation South 0° 59' East 1318.50 feet to the Northerly line of Bay Road; thence along said Northerly line of Bay Road South 65° 20' West 54.57 feet to the Southeasterly corner of lands conveyed to Allan L. Pezer, et ux, by Deed dated September 18, 1952 and recorded October 10, 1952 in Book 2309 of Official Records at Page 476, Records of San Mateo County, California; thence along the Easterly boundary of said lands and continuing along the Northerly prolongation thereof North 0° 58' West (called West 1° 03' West in said Deed) 1439.23 feet to the Northerly boundary of the lands of Demeter; thence along said Northerly boundary North 88° 33' East 50 feet to a point which bears North 0° 58' West from the point of beginning; thence South 0° 56' East 99.32 feet to the point of beginning.

EXCEPTING THEREFROM so much as lies within Parcels One and Three herein.

87106712

**Exhibit B-1 – Parcel Map**

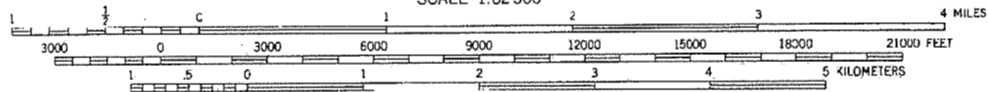




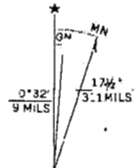
**Exhibit B-2 – Map of Site Location  
and Map of Facility Legal Boundaries**



SCALE 1:62500



QUADRANGLE LOCATION



U'M GRID AND 1961 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Reference: U.S.G.S. 15-minute Palo Alto Quadrangle, California.



**SITE LOCATION MAP**  
 Romic Environmental Technologies Corporation  
 2081 Bay Road  
 East Palo Alto, California

RC000519.0009

FIGURE

**1**



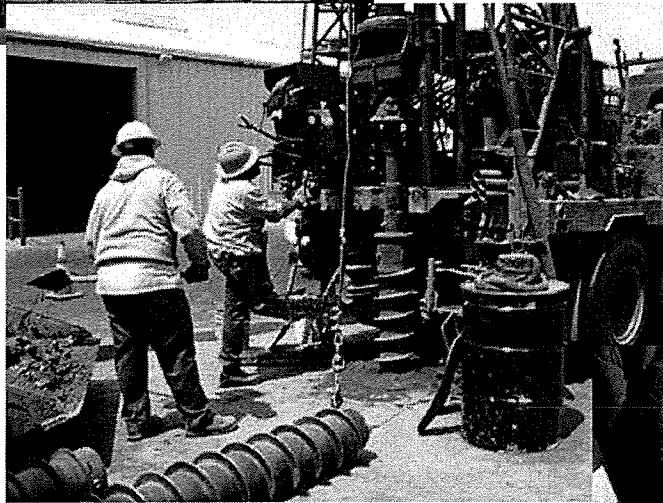
**Exhibit C**

**Final Remedy Decision for Former Romic Environmental  
Technologies Corporation Facility, East Palo Alto, California  
and Response to Public Comments on September 2007  
Statement of Basis, July 28, 2008**

**U.S. EPA**



**Final Remedy Decision  
for  
Former Romic Environmental  
Technologies Corporation Facility  
East Palo Alto, California**



**and  
Response to Public Comments  
on September 2007  
Statement of Basis**



**U.S. ENVIRONMENTAL PROTECTION AGENCY**

Region 9  
July 2008

**Final Remedy Decision**

**for**

**Former Romic Environmental Technologies  
Corporation Facility  
East Palo Alto, California**

**ID# CAD009452657**

**and**

**Response to Public Comments  
on September 2007 Statement of Basis**

**Prepared by**

**U.S. Environmental Protection Agency, Region 9  
San Francisco, California**

**July 28, 2008**

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Former Romic Environmental Technologies Corporation Facility  
East Palo Alto, California**

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## 1. Executive Summary

This Final Remedy Decision and Response to Public Comments (Final Remedy Decision) explains the final soil and ground water remedy that the U.S. Environmental Protection Agency, Region 9 (U.S. EPA or Agency) has selected for the former Romic Environmental Technologies Corporation (Romic) facility, East Palo Alto, California. This Final Remedy Decision also responds to the public comments U.S. EPA received on the “Statement of Basis for Soil and Ground Water Remedy, Romic Environmental Technologies Corporation, East Palo Alto, California,” September 14, 2007 (September 2007 Statement of Basis).

U.S. EPA’s September 2007 Statement of Basis was subject to a 45-day public comment period that began on September 17, 2007 and closed on November 1, 2007. The September 2007 Statement of Basis presented U.S. EPA’s proposed remedy to address soil and ground water contamination at the former facility. U.S. EPA received 139 public comments on the September 2007 Statement of Basis. Appendix A of this Final Remedy Decision is U.S. EPA’s response to the public comments. Please also refer to Section 3 below for details on public participation related to this final remedy selection and modifications made to the proposed remedy contained in the September 2007 Statement of Basis.

U.S. EPA coordinated with the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) in selecting the remedy.

Romic was a 12.6 acre hazardous waste management facility where historical operations included solvent recycling, fuel blending, wastewater treatment, and hazardous waste storage and treatment. The primary contaminants in the soil and ground water are volatile organic compounds (VOCs). Ground water contamination extends below most of the former facility to a depth of at least 80 feet below ground surface. Ground water at the site flows east toward San Francisco Bay. Ground water at the former Romic facility is not a drinking water source.

The final remedy U.S. EPA has selected includes the following:

- a site wide subsurface investigation;
- ground water and soil remediation;
- ground water and surface water monitoring;
- financial assurance for construction, operation, monitoring and maintenance of the ground water and soil remediation system;
- land use restrictions with a risk management plan;
- five-year remedy performance evaluation reports; and
- progress reports.

The final remedy is further described in Section 5, Final Remedy for Soil and Ground Water Contamination, of this Final Remedy Decision.

The remedial approach selected by U.S. EPA to clean up contamination at the former Romic facility uses enhanced biological treatment, monitored natural attenuation, excavation and removal of contaminated soils, and maintenance of the existing site cover. Enhanced biological

treatment involves injecting a mixture of cheese whey, molasses and water into the solvent-contaminated soil and ground water to enhance the natural breakdown of the contaminants. Romic is currently using biological treatment to remediate contaminated soil and ground water at several locations throughout the former facility as part of a U.S. EPA approved interim remedial measure. Expansion of the interim remedial measure, using enhanced biological treatment, is the one of the remedial technologies selected to address the contamination at the former facility.

The final remedy also includes cleanup objectives that specify action levels for ground water, surface water and indoor air vapor intrusion for future redevelopment. The cleanup objectives for (1) ground water are the Maximum Contaminant Levels (MCLs) for drinking water, (2) surface water are the Surface Water Estuarine Screening Levels, developed by the RWQCB and (3) indoor air vapor intrusion are U.S. EPA's risk-based concentrations for ambient air. The cleanup objectives are further described in Section 6, Media Cleanup Objectives, of this Final Remedy Decision.

Contaminated sediments in the slough adjacent to Romic's eastern boundary are not addressed in this Final Remedy Decision but will be covered in a later action. Additional ecological studies are being conducted at the slough to gather further data on the extent of contamination and its possible impacts on organisms that live in the sediment.

The former Romic facility stopped accepting waste on August 3, 2007 and is undergoing closure. Regulatory oversight of the facility closure is the responsibility of DTSC. U.S. EPA will oversee the investigation and cleanup of subsurface soil and ground water contamination. U.S. EPA and DTSC developed a joint two-phased strategy that clearly separates yet synchronizes the facility closure with the site cleanup. In Phase 1, the aboveground hazardous waste management units are closed and removed. Phase 2 work will begin with a subsurface investigation followed by development of a cleanup plan. The two-phased strategy is further described in Section 5, Final Remedy for Soil and Ground Water Contamination, of this Final Remedy Decision.

U.S. EPA has selected the final remedy for the former Romic facility based on public input, new information, and further analysis. Based on all the information available to date, U.S. EPA believes that the final remedy is protective of human health and the environment and has the best chance of attaining the media cleanup objectives. It is also effective at remediating source areas, limiting off-site migration of volatile organic compounds from the source areas and limiting the potential for vapor intrusion into structures. The selected remedy will be implemented through a 1988 U.S. EPA corrective action consent order.

## **2. Introduction**

This Final Remedy Decision presents U.S. EPA's remedy to address soil and ground water contamination at the former Romic facility. It contains background information, a discussion of how the final remedy differs from the proposal contained in the September 2007 Statement of Basis, a description of the final remedy and how it will be implemented, final media cleanup objectives, remedy performance standards and U.S. EPA's response to the public comments on the proposed cleanup plan.

This Final Remedy Decision is organized into the following sections:

- Section 1. Executive Summary
- Section 2. Introduction
- Section 3. Final Remedy Decision and Public Comments
- Section 4. Summary of Site Background, Environmental Setting and Extent of Contamination
- Section 5. Final Remedy for Soil and Ground Water Contamination
- Section 6. Media Cleanup Objectives
- Section 7. Remedy Performance Standards
- Section 8. Implementation of Final Remedy
- Section 9. Regulatory Authority of Other Agencies
- Section 10. U.S. Environmental Protection Agency Concurrence
- Section 11. Reference Documents

### **3. Final Remedy Decision and Public Comments**

This section discusses the public comments U.S. EPA received on the proposed remedy, changes that were made to the proposed remedy as a result of the public comments and the community involvement activities that are part of the U.S. EPA response to the public comments.

#### **3.1 Public Comments on the Proposed Remedy**

On September 17, 2007, U.S. EPA began a 45-day public comment period during which it solicited comments on its proposed remedy to address soil and ground water contamination at the former Romic facility. The proposed remedy was documented in U.S. EPA's September 2007 Statement of Basis. The comment period closed on November 1, 2007.

U.S. EPA conducted a public meeting and hearing on October 10, 2007 in East Palo Alto, California. Approximately 35 people attended the public meeting and hearing. U.S. EPA received verbal comments from 14 individuals and written comments from two people during the public hearing portion of the meeting. A court reporter recorded the verbal comments and prepared a transcript. In addition, U.S. EPA received written comments through both electronic and U.S. Postal Service mail. U.S. EPA received a total of 139 public comments from 19 individuals and organizations on the proposed remedy. Appendix A of this Final Remedy Decision contains U.S. EPA's response to the public comments.

U.S. EPA has selected the final remedy for the former Romic facility based on public input, new information, and further analysis. The Agency considered the public comments it received on the September 2007 Statement of Basis during the public comment period and other new information it received such as additional ground water monitoring data.

The administrative record contains all of the documents, correspondence, data, and other information U.S. EPA considered in making the final remedy decision. The reference documents, which U.S. EPA used to prepare this Final Remedy Decision, are listed in Section 11. The reference documents along with a list of all items in the administrative record are available for public review at the East Palo Alto Public Library located at 2415 University Avenue, East

Palo Alto, California 94303. Hard copies of the full administrative record are available for public review at the U.S. EPA office, located at 75 Hawthorne Street, San Francisco, California 94105.

### 3.2 Differences Between the Proposed and Final Remedy

In response to public comments on the September 2007 Statement of Basis, U.S. EPA modified the proposed cleanup plan by adding two new requirements into the final remedy. The new requirements include: (1) a site wide subsurface investigation of the former facility that will take place after closure is completed, and (2) use of clean diesel technologies, clean fuels and/or clean construction practices for diesel powered construction equipment (greater than 25 horsepower) that will be used in the site cleanup.

#### Site Wide Subsurface Investigation

U.S. EPA is requiring that Romic conduct a site wide subsurface investigation after closure and removal of all aboveground permitted hazardous waste management units at the former facility. This investigation will identify the nature and extent of contamination across the site, including beneath the process plant and other areas that were previously inaccessible. Romic will use this information in conjunction with this Final Remedy Decision to develop a plan for implementing the final remedy. This plan, called a Corrective Measures Implementation Plan or CMIP, will describe the approach and details of how the facility will be cleaned up.

#### Mitigation of Diesel Particulate Emissions from Construction Equipment

To address the potential health risks associated with diesel exhaust during the site cleanup, U.S. EPA is requiring that Romic take actions to mitigate emissions from diesel powered engines (greater than 25 horsepower) used in the cleanup of the former facility. The new requirement, "Actions to Mitigate the Effects of Diesel Particulate Emissions from Construction Equipment", is described below.

Romic will determine, subject to U.S. EPA review and approval, the level of such diesel mitigation on a case-by-case basis for earth movement, drilling, and transportation activities at the site.

Mitigation may include:

(1) the highest level of verified diesel technologies be installed on off-road and on-road diesel powered equipment, such as diesel particulate filters and diesel oxidation catalysts. Such controls will be required for off-road equipment by the California Air Resources Board's (CARB's) Final Regulation Order for In-Use Off-Road Diesel Vehicles beginning in 2009 which applies, in part, to the rental sector which may own such equipment,

(2) idling of construction equipment, trucks and vehicles be limited to five minutes or less,

- (3) engines be tuned to manufacturers' specifications,
- (4) ultra low sulfur diesel and/or another clean fuel be used in off-road and on-road diesel equipment,
- (5) trucks meet emission standards, and
- (6) a plan be developed and implemented to limit truck traffic through the community.

In addition, for drilling applications which require portable engines, at least Tier 2 engines will be required if feasible. Tier 2 engine standards for off-road engines are a series of emission standards for engines constructed between the years of 2001 and 2006.

### 3.3 Community Involvement

The U.S. EPA response to public comments discusses community involvement activities associated with different parts of the Final Remedy Decision. Community involvement for Land Use Restrictions and petitions to cease or reduce active treatment, make contingency changes to the final remedy (see Section 5.2) and/or make significant adjustments to the remedy implementation are all discussed in the response to comments.

The community involvement activities discussed in the response to comments are summarized below:

- (1) Using fact sheets, notices, emails or other appropriate means to notify the community of important activities related to the Romic cleanup;
- (2) Consultations with the City of East Palo Alto regarding significant issues such as petitions from Romic to cease or reduce enhanced biological treatment;
- (3) Make workplans and other key documents available for public review;
- (4) Have small informal group meetings as appropriate to discuss important issues if there is sufficient interest from the community for such a gathering.

The complete text of U.S. EPA's discussion of community involvement activities is contained in Appendix A, U.S. EPA Response to Public Comments, Response to Comments 11.16 and 11.17, Response to Comment 16.2 and Response to Comments 10.1, 10.2, 10.3, 10.4, and 10.5.

## **4. Summary of Site Background, Environmental Setting and Extent of Contamination**

The following is a summary of site background, environmental setting and the extent of contamination. For additional detail on these areas, please refer to the September 2007 Statement of Basis.

#### 4.1 Site Background

Romic was a 12.6 acre hazardous waste management facility located at the east end of Bay Road in East Palo Alto, California (see Figure 1). This area of East Palo Alto is zoned for light and heavy industrial use. The nearest residential neighborhood is approximately 1250 feet (0.25 miles) to the west of the former facility. Historical facility operations included solvent recycling, fuel blending, wastewater treatment, and hazardous waste storage and treatment. Waste management practices dating back to the 1950s resulted in the contamination of soil and ground water beneath the former facility.

#### 4.2. Environmental Setting

The geology beneath the site is comprised of sand, silt and clay layers that have been subdivided into aquifer and aquitard units. Aquifers typically contain permeable sand and gravel zones; aquitards contain mostly clay layers, which are not as permeable as the sand/gravel aquifers. The units have been designated A, B, C, and D from shallowest to deepest. First contact with ground water is at a depth of about 3 to 8 feet below ground surface. Ground water in all zones flows east toward San Francisco Bay. Ground water is brackish (salty) and unsuitable as a drinking water source. The City of East Palo Alto does not use ground water near the Romic facility. The municipal water supply is largely derived from the San Francisco Hetch Hetchy Reservoir system.

Surface water resources near the former Romic facility include two connected tidal channels (sloughs) and adjacent wetland. To the east, the former facility is bordered by a narrow tidal channel (east slough) which drains to San Francisco Bay. A former salt evaporation pond, which has been reclaimed as a wetland, is located between the slough and San Francisco Bay. Immediately north of the former facility, another channel (north slough) drains into the eastern tidal slough. The north slough is a discharge point for East Palo Alto storm water runoff, drains to the east slough, adjacent to Romic. The former facility is within the 100-year flood plain zone, but it is protected by a levee. No major stream channels are located near the site, except the two artificially created tidal sloughs.

#### 4.3. Extent of Contamination

Soil and ground water beneath the former Romic facility are contaminated with hazardous constituents. The primary contaminants in the soil and ground water are volatile organic compounds or VOCs. Typical VOCs include dry cleaning chemicals, carburetor cleaning

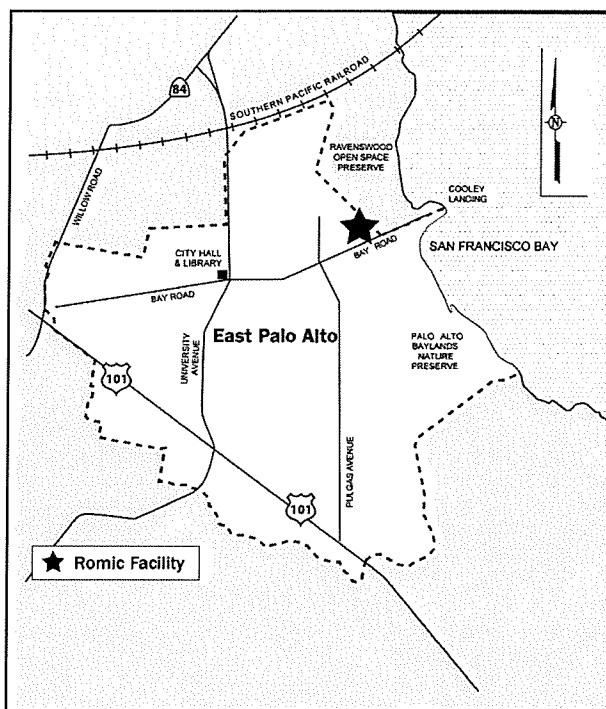


Figure 1 Site Location Map

liquids, paint thinners, and chemicals used to manufacture computers. Ground water contamination extends across most of the former facility to a depth of at least 80 feet below ground surface.

Dense Non-Aqueous Phase Liquids (DNAPLs) are believed to be present below the contamination source areas (i.e., central processing area, former ponds, and drum storage areas). A DNAPL is a liquid that is denser than water and does not dissolve or mix easily in water (it is immiscible). In the presence of water DNAPLs form a separate phase from the water. Many chlorinated solvents, such as trichlorethene (TCE), may be present at a hazardous waste site as a DNAPL and/or mixed with water (i.e., dissolved phase). DNAPLs are rarely found as a separate phase in monitoring wells, but their presence at a site can be inferred by site history, ground water contaminant concentrations, and contaminant trend analysis.

Ground water monitoring wells at Romic have been sampled for semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and dioxins/furans. SVOCs and metals have been detected in a few wells at concentrations which do not suggest a risk to receptors. Based on laboratory analytical results, dioxins and furans have not been detected in ground water at the former facility.

PCBs were detected in oily and sediment-entrained ground water samples, but have not been detected in any sediment-free ground water samples. PCBs are relatively immobile in ground water and unlikely to migrate to the slough.

VOCs have been detected in the surface water of the sloughs located to the north and east of former facility. Concentrations of VOCs in the surface water currently do not exceed the surface water cleanup objectives. The surface water is monitored on a quarterly basis.

The contamination came from past releases of hazardous wastes (e.g., spent solvents) and/or hazardous constituents from the central processing area, former drum storage areas and former wastewater receiving ponds. These releases have occurred as a result of accidental spills, tank and container overfills, flooding events, and breaks in pipes. In addition, a trough connecting the central process area and the former wastewater receiving ponds also may have acted as a source of contamination.

One documented release to the environment occurred during the winter season of 1972-1973 when tidal flooding breached the levees resulting in discharge from the ponds to the sloughs. The California Regional Quality Control Board issued a Cleanup and Abatement Order on March 23, 1973, which estimated a release of approximately 20,000 gallons per day of waste liquids from the former east pond to the adjacent slough. As a result of the Order, Romic rebuilt levees, improved surface drainage, and connected to the sanitary sewer.

## **5. Final Remedy for Soil and Ground Water Contamination**

The final remedy includes a site wide subsurface investigation; ground water and soil remediation; ground water and surface water monitoring; financial assurance for construction, operation, monitoring and maintenance of the ground water and soil remediation system; land

use restrictions with a risk management plan; five-year remedy performance evaluation reports; and progress reports. The final remedy also includes contingency measures as discussed in Section 5.2 of this Final Remedy Decision.

The former Romic facility is undergoing closure. Regulatory oversight of facility closure is the responsibility of DTSC. The U.S. EPA will oversee the investigation and cleanup of subsurface soil and ground water contamination. U.S. EPA and DTSC developed a joint two-phased strategy for the facility closure and site cleanup. In Phase 1, the closure plan addresses Decontamination, Disassembly and Disposal (DD&D) of the aboveground hazardous waste management units (i.e. tanks, distillation towers). Once the Phase 1 DD&D work is completed, Phase 2 work will begin with a site wide subsurface investigation which will further assess the nature and extent of contamination beneath the former facility. Romic will then submit a Corrective Measures Implementation Plan or CMIP that details the cleanup work that will take place at the former facility. The CMIP will be developed using the requirements of the Final Remedy Decision and from information gathered during the site wide subsurface investigation. The CMIP will specify the cleanup approaches such as treatment and/or excavation for different areas of the former facility.

U.S. EPA will require that Romic monitor and mitigate vapor emissions from cleanup work such as excavation of contaminated soils. Romic will prepare Health and Safety plans that contain requirements to protect on-site workers during the investigation and cleanup effort. In addition, to address the potential health risks associated with diesel exhaust during the site cleanup, U.S. EPA is requiring that Romic use clean diesel technologies, clean fuels and/or clean construction practices on diesel powered engines greater than 25 horsepower. The CMIP will include such requirements for construction equipment that will be used during the site cleanup.

The facility is not operating and is undergoing closure. The potential health impacts from further investigation and cleanup of the former facility are temporary and will be mitigated.

### 5.1 Final Remedy

Site Wide Subsurface Investigation - The site wide subsurface investigation will take place after the removal of above ground permitted hazardous waste management units during closure of the former facility. The investigation will cover the entire facility including areas that were formerly inaccessible (e.g., former ponds areas, central processing area, and former drum storage areas). The purpose of the investigation is to further assess the nature and extent of contamination such that a cleanup plan can be developed. The data collected during the site wide subsurface investigation will meet the needs of both the facility closure and site cleanup.

Soil and Ground Water Remediation - The final remedy to address soil and ground water contamination involves the use of enhanced biological treatment, monitored natural attenuation, and excavation and removal of contaminated soils. In addition, Romic will continue to maintain the existing site cover or cap.

Enhanced biological treatment involves enhancing a natural process that is already occurring in the ground water beneath the site. Romic tested the enhanced biological treatment approach in



the field and demonstrated its effectiveness at reducing contaminant concentrations in ground water. With U.S. EPA's approval, Romic expanded the test locations and is currently using biological treatment at several areas at the former facility. The enhanced biological treatment approach involves injecting a mixture of cheese whey, molasses and water into the solvent contaminated soil and ground water. Cheese whey is the watery part of milk that is separated from the curd in the process of making cheese. The cheese whey and molasses act as a food source for natural microbes that live in the subsurface. These microbes breakdown the solvents, cheese whey, and molasses into carbon dioxide, water and salt. All soils at the site below a depth of about 3 to 8 feet are saturated with water. Since saturated soils and ground water are closely linked, any remediation of the ground water will also benefit the saturated soils.

Enhanced biological treatment will be used together with monitored natural attenuation (MNA) to cleanup the soil and ground water. Enhanced biological treatment will first be used to significantly reduce contaminant concentrations and be followed-up with the MNA until the media cleanup objectives are achieved. MNA allows natural processes to reduce contamination in soil and ground water. These processes include biodegradation, dispersion, dilution, sorption, and volatilization. Implementation of monitored natural attenuation typically involves continued monitoring of contaminant concentrations to quantify attenuation rates and progress toward meeting the media cleanup objectives

In general, U.S. EPA will use the following guiding principles to determine when MNA becomes an appropriate remedial approach:

- Ground water contaminant concentrations in the given area should be reasonably close to their corresponding media cleanup objectives.
- Contaminant concentrations in the ground water should either be decreasing or maintaining a stable level.

Soil excavation and removal will be directed to areas of the former facility where it is more practical to remove rather than treat the contaminated soils. The size of the areas to be excavated will be determined after the currently inaccessible areas are investigated.

The proposed remedy requires that the existing concrete-asphalt cap be maintained to prevent direct contact with any contaminated soils. If in the future, removal of any cover material becomes necessary to facilitate closure and/or cleanup of the former facility, new asphalt-concrete or other appropriate material will be installed in the affected area if needed.

Ground Water and Surface Water Monitoring - Romic currently has a ground water and surface water monitoring plan that was finalized on April 24, 2003. U.S. EPA approved the plan on May 21, 2003. Approximately 56 ground water monitoring wells and surface water locations in the adjacent slough are sampled on a periodic basis (once, twice or four times per year). The monitoring plan will be revised to ensure consistency with the soil and ground water remedy.

Financial Assurance - The cost estimate for the final remedy is \$2.5 million. Under the U.S. EPA Remedy Decision, Romic is required to pay for the cleanup of the former facility and, in

addition, set aside funding equivalent to another \$2.5 million as financial assurance (surety bond). Should Romic default on its obligation to address the contamination, U.S. EPA would use the money set aside as financial assurance to complete the cleanup at the former facility.

Financial assurance is required for monitoring, construction, and operation and maintenance of the final remedy. Romic has set aside money to assure that the required remediation work will be completed now and in the future. In June 2007 Romic established an interim financial assurance mechanism for remediation of the former facility. This mechanism is a surety bond for \$1.5 million. The cost estimate for the final remedy as discussed in the September 2007 Statement of Basis is \$2.5 million. Within 60 days after Romic receives written notice of this Final Remedy Decision, Romic will be required to increase the amount of the existing surety bond or obtain another mechanism with a combined value of \$2.5 million.

The financial assurance mechanism will stay in place or be adjusted based on a determination from U.S. EPA. The first step in the process requires Romic to prepare a petition to U.S. EPA requesting that the level of financial assurance be reduced based on the work completed. The petition will document Romic's rationale for making the request.

U.S. EPA will then evaluate the petition and coordinate with the other involved agencies. In general, U.S. EPA will use the following guiding principles to evaluate Romic's petition and make a determination:

- The level of financial assurance should be consistent with the anticipated costs of future monitoring, operation and maintenance, and/or remediation work that still needs to be completed.
- The level of financial assurance for operation and maintenance of remediation systems should be maintained for sometime after the system or portions of the system are shutdown to allow sufficient time to evaluate potential rebound effects. For example, financial assurance for the enhanced biological treatment of contaminated ground water and soil at Romic should remain in place for sometime after the treatment system or portions of the system have been shutdown. During this time, ground water monitoring data will be used to assess whether contaminant concentrations are increasing or decreasing. If contaminant concentrations show an increasing trend after system shutdown, then further enhanced biological treatment will be needed.

Land Use Restrictions - In light of the extent of soil and ground water contamination at the Romic facility, the final remedy requires that restrictions be imposed on future land use activities. The restrictions are necessary to protect human health and the environment, and to maintain the short and long term protectiveness of the remedy. The restrictions will be imposed through a "Covenant to Restrict Use of Property" (Covenant) which is an enforceable institutional control mechanism. The Covenant restrictions "run with the land" and apply no matter who owns the property. The land use restrictions may, with regulatory agency approval, be revised if site conditions should change in the future (e.g., new land use).

Development of the specific language for the Covenant will begin after U.S. EPA notifies Romio of the Final Remedy Decision. The Covenant restrictions specify that U.S. EPA or DTSC can approve an RMP, U.S. EPA and DTSC are both parties to the Covenant and as such have authority to approve certain required documents. The language of the Covenant will include a discussion of agency responsibilities.

The following is a summary of the land use restrictions that will be included in the Covenant:

- Use of the property is restricted to commercial and industrial purposes only.
- The property shall not be used for any of the following purposes:
  - A residence for human habitation, including any mobile home or factory-built housing
  - A hospital or hospice
  - A public or private school for persons under 21 years of age
  - A day care center for children or day care center for Senior Citizens
- The following activities shall not be conducted at the property:
  - Animal husbandry (i.e., raising cattle, pigs, sheep)
  - Growing food crops or any agricultural products
  - Installation of wells for the production of oil, gas or drinking water
  - Extraction of ground water for purposes other than ground water monitoring, site remediation or construction dewatering
  - Any activity that may disturb or adversely affect the operation and maintenance of the ground water monitoring network and site remediation system that is not part of a U.S. EPA or California EPA, Department of Toxic Substances Control (DTSC) approved corrective action workplan or facility closure plan for the property without written approval from U.S. EPA or DTSC.
  - Any activity that may disturb or adversely affect the integrity of the paved/concrete facility cover that is not part of a U.S. EPA or DTSC approved corrective action workplan or facility closure plan for the property without written approval from U.S. EPA or DTSC.
  - Any redevelopment of the property until a Risk Management Plan (RMP) is prepared for the specific project and is approved in writing by U.S. EPA or DTSC. A RMP identifies, at a minimum, the specific project proposed for construction, the previous site history, the nature and extent of contamination from all media, the potential pathways of receptor exposure and health impacts

from existing site contamination, and practical ways to mitigate the impacts for the specific project. The Covenant and the RMP work together to ensure that potential impacts from exposure to contaminated soils, ground water or other media are managed in a manner that is protective of human health and the environment. The RMP may be revised or amended. Any RMP or amended RMP approved in writing by U.S. EPA or DTSC is incorporated by reference into this Covenant and supersedes any existing RMP

- The activities specified below shall not be conducted on the property unless the following conditions are satisfied:
  - Any activities that will disturb the soil or ground water, such as excavation, grading, removal, trenching, filling, earth moving or mining, shall only be permitted on the property pursuant to a corrective action work plan or facility closure plan approved in writing by U.S. EPA or DTSC, or an RMP approved in writing by U.S. EPA or DTSC.
  - Any contaminated media brought to the surface by grading, excavation, trenching, or backfilling shall be managed in accordance with all applicable provisions of local, state and federal regulations.

Five Year Remedy Performance Evaluation Reports - The purpose of these reports is to provide an evaluation of the long-term effectiveness and reliability of the remedy including enhanced biological treatment and MNA with recommendations for improvement. The report, which is submitted every 5 years, examines such questions as: Are the media cleanup objectives and remedy performance standards being achieved? How well are things working? Are contaminant concentrations levels trending downward? What improvements are necessary and how will they be implemented? The first report is due five years from the date U.S. EPA approves the CMIP.

Progress Reports - Progress reports are being required to update U.S. EPA, the community and other regulatory agencies on the status of the investigation and remediation activities at the former facility. The number of progress reports could vary over time. U.S. EPA will determine the frequency of progress reporting based on site specific conditions. To begin the process, U.S. EPA is requiring that Romac initially submit progress reports every three months. The first progress report is due 90 calendar days from the date DTSC approves the facility Closure Plan.

## 5.2 Remedy Contingencies

The final remedy contains the following contingencies:

Demonstration of System Performance: Romac will hydraulically and chemically monitor the performance of the remediation system. If monitoring data indicates that the system is not meeting the five remedy performance standards as described in Section 7, Remedy Performance Standards of this Final Remedy Decision, modifications to the remedy will be required. Such

modifications include, but are not limited to, the following: installation of additional injection or monitoring wells, modifications to the injection technology, or modifications to the well design.

Excavation and Removal of Contaminated Soil: The proposed remedy includes excavation and removal of approximately 3,072 cubic yards of contaminated soils from the former facility. However, several areas at the site are currently inaccessible and will be investigated following facility closure and removal of aboveground permitted hazardous waste management units. The size of the excavation will be determined based on investigation results. U.S. EPA reserves the right to require excavation and removal as necessary to meet the remedy performance standards as described in Section 7, Remedy Performance Standards of this Final Remedy Decision. Alternatively, Romic may petition U.S. EPA for permission to excavate and remove contaminated soils as necessary to meet the remedy performance standards. U.S. will evaluate and decide whether to approve Romic's petition at that time.

Treatment of Excavated Soil: After excavation, any contaminated soil shall be managed in accordance with all applicable provisions of state and federal laws.

Other New Information that Changes Current Conditions: If new information becomes available, or significant environmental changes occur on or off-site, additional remedial measures may be required. U.S. EPA reserves its right to modify the soil and ground water remedy as necessary to ensure that the remedy performance standards (including media cleanup objectives) are met. If significant changes to the final remedy are necessary, these will be required through modification of this Final Remedy Decision.

## **6. Media Cleanup Objectives**

U.S. EPA has selected one cleanup objective for ground water, one objective for surface water and one objective for indoor air vapor intrusion for future redevelopment. These cleanup objectives are based on protection of human health and the environment. Each of the media cleanup objectives are discussed below along with the compliance points (where cleanup levels should be achieved) and a timeframe goal for meeting the objectives (time to implement the remedy and achieve cleanup levels at the point of compliance). Table 1 lists the final media cleanup objectives for 24 of the 26 volatile organic compounds known to be present at the former facility. There are currently no published screening levels available for 1,1 - dichloropropene and isopropyl benzene. If screening levels for these two compounds are developed in the future, they will be incorporated by reference into this Final Remedy Decision as media cleanup objectives.

The media cleanup objectives for ground water and surface water are taken from "Screening for Environmental Concerns at Sites with Contaminated Soil and Ground water, California Regional Water Quality Control Board, San Francisco Bay, Interim Final, February 2005" (Environmental Screening Levels), Table F-1a, Ceiling Value (Taste & Odor) and Drinking Water (Toxicity), and Table F, Estuarine Screening Levels. The media cleanup objectives for indoor air vapor intrusion are taken from the U.S. EPA Region 9 Preliminary Remediation Goal Table, October 2004 (PRGs). Should the U.S. EPA at some time in the future revise the PRGs used for the cleanup objectives in this Final Remedy Decision, the most current PRGs available at the time of

redevelopment shall apply to the former Romic facility and be incorporated by reference into the Final Remedy Decision. If additional contaminants are identified at the former facility that are not listed on Table 1, applicable screening levels from the above cited documents as amended shall apply to the Romic facility and be incorporated by reference into this Final Remedy Decision. To the extent that this part of the Final Remedy Decision is inconsistent with the documents cited above, the above cited documents shall control.

## 6.1 Final Cleanup Objectives

Ground Water - Maximum Contaminant Levels (MCLs) for drinking water are the site-wide media cleanup objectives for all ground water zones (A,B,C and D) (Table 1). The ground water media cleanup objectives are the lowest of the California EPA Primary MCLs for drinking water based on toxicity and Secondary MCLs based on taste and odor. U.S. EPA PRGs are used when there are no MCLs available for a given contaminant.

The final remedy is intended to eventually reduce contaminant concentrations in the impacted ground water to concentrations equal to or below the media cleanup objectives. The compliance point for this objective is the ground water in Zones A, B, C and D.

The MCLs are both protective of human health and the environment and feasible for long-term property re-use. The proposed MCLs are all lower than the screening levels for vapor intrusion found in the RWQCB Environmental Screening Levels (Table E-1a) referenced above using the most conservative assumptions (residential land use scenario and high permeability vadose zone soil type). The screening levels for vapor intrusion address the ground water to indoor air pathway.

Ground water at former facility is salty due to the close proximity to the San Francisco Bay. Thus, the ground water at the former facility is not currently being used as a drinking water supply and is not likely to be used for this purpose in the future. The majority of drinking water supplied to East Palo Alto residents and businesses is provided by the San Francisco Hetch Hetchy system, which originates in the Sierra Nevada Mountains.

Surface Water Estuarine Screening Level - This media cleanup objective applies to surface water in the sloughs near the Facility. The estuarine screening levels are derived from various regulatory sources (e.g., California Toxics Rule, Criterion for Continuous Concentration) and generally represent the most stringent of available action levels for aquatic habitat protection. They are designed to be protective of both human health and the environment by accounting for potential bioaccumulation of chemicals in aquatic organisms and subsequent human consumption of these organisms. Locally, the areas south of the Dumbarton Bridge are considered to be estuarine.

Indoor Air Vapor Intrusion Objective for Future Redevelopment - Any future redevelopment of the former facility property will need to meet U.S. EPA's risk-based concentrations for vapor intrusion. Specifically, the ambient air goals included in the U.S. EPA Region 9 PRGs (October

Table 1 - Final Media Cleanup Objectives for Romic East Palo Alto			
Contaminant	Ground Water Cleanup Objective <sup>1</sup>	Surface Water Cleanup Objective <sup>2</sup>	Indoor Air Vapor Intrusion Objective <sup>3</sup>
	(ug/L)	(ug/L)	(ug/m <sup>3</sup> )
Benzene	1	46	0.25
Chlorobenzene	50	25	62
Chloroethane	12	12	2.3
Chloroform	70	470	0.083
Dichlorobenzene, 1,2-	10	10	210
Dichloroethane, 1,1-	5	47	520
Dichloroethane, 1,2-	0.5	99	0.074
Dichloroethene, 1,1-	6	3.2	210
Dichloroethene, cis-1,2-	6	590	37
Dichloroethene, trans-1,2-	10	260	73
Dichloropropene, 1,1-	NA	NA	NA
Ethylbenzene	30	30	1100
Freon 113	59000 <sup>3</sup>	NA	31000
Isopropyl benzene	NA	NA	NA
Methylene Chloride	5	1600	4.1
MTBE	5	180	7.4
Tetrachloroethene (PCE)	5	8.9	0.32
Tetrahydrofuran	1.6 <sup>3</sup>	NA	0.99
Toluene	40	40	400
Trichloroethane, 1,1,1-	200	62	2300
Trichloroethane, 1,1,2-	5	42	0.12
Trichloroethene (TCE)	5	81	0.017
Trimethylbenzene, 1,2,4-	12 <sup>3</sup>	NA	6.2
Trimethylbenzene, 1,3,5-	12 <sup>3</sup>	NA	6.2
Vinyl Chloride	0.5	530	0.11
Xylenes (Total )	20	100	110

1. "Screening for Environmental Concerns at Sites with Contaminated Soil and Ground water, California Regional Water Quality Control Board, San Francisco Bay, Interim Final, February 2005" (Environmental Screening Levels), Table F-1a, Ceiling Value (Taste & Odor) and Drinking Water (Toxicity)
  2. See 1 above, Table F, Estuarine Screening Levels
  3. US EPA Preliminary Remediation Goals (PRGs) - October 2004
- ug/L - micrograms per liter  
ug/m<sup>3</sup> - micrograms per cubic meter  
NA - Not Available

2004 and any future revisions in effect at the time of redevelopment) will need to be met in any existing structures that remain in place or new structures built on the property as part of a redevelopment project.

The PRG table lists the one in one million ( $10^{-6}$ ) excess cancer risk concentrations and hazard index concentrations equivalent to 1 for non-carcinogenic compounds. Table 1 lists the PRG ambient air goals for the 26 VOCs present at the former facility. Although U.S. EPA generally allows a risk range of 1 in 10,000 ( $10^{-4}$ ) to 1 in 1,000,000 ( $10^{-6}$ ), we feel that using a ( $10^{-6}$ ) value is protective because there are multiple volatile organic compounds present at the site, and the PRG table is not considerate of cumulative effects of exposure to multiple chemicals.

## 6.2 Timeframe Goal for Meeting the Cleanup Objectives

The proposed goal for meeting the media cleanup objectives is seven years after closure of the former facility is completed. The timing is based on completion of closure because most contaminated soils (contaminant source areas) are not currently accessible to investigation and remediation. Many of these areas are covered by buildings, tanks, and the process plant which were used when the facility was operational.

The former Romic facility is undergoing closure. The aboveground permitted hazardous waste management units will be removed during the closure process. Once these units have been removed, a site wide investigation will be conducted to further assess the nature and extent of contamination beneath the former facility. Romic will then submit a cleanup plan called a Corrective Measures Implementation Plan or CMIP that details the cleanup work that will take place. This approach is part a joint two phase strategy developed by U.S. EPA and DTSC that clearly separates yet synchronizes the facility closure with the site cleanup.

## 6.3 Achievement of Media Cleanup Objectives

Romic may petition U.S. EPA to cease or reduce active treatment when it believes that the cleanup objectives have been partially or completely achieved in all or part of the former facility. The petition must include a rationale, data and other information that supports Romic's request. U.S. EPA will evaluate Romic's petition and determine if it is acceptable at that time. U.S. EPA will keep the community informed about any petitions to cease or reduce active treatment (see Section 3.3 of this Final Remedy Decision).

## 7. Remedy Performance Standards

The final soil and ground water remedy for the former Romic facility must achieve the following remedy performance standards:

Protect Human Health and the Environment. Protection of human health and the environment is the general mandate from the RCRA statute and is thus included as the first performance standard.



Attain Media Cleanup Objectives. The cleanup objectives address media cleanup levels (chemical concentrations) and points of compliance (where cleanup levels should be achieved). Cleanup levels for any medium (e.g., soil, ground water) are set at levels that are protective of human health and the environment. They are also based on appropriate assumptions regarding current and reasonably anticipated land use(s) and current and potential beneficial uses of water resources. See Section 6, Media Cleanup Objectives, of this Final Remedy Decision for the media cleanup objectives selected for the former Romic facility.

Remediate the Sources of Releases. Remediate the sources of releases so as to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may pose a threat to human health and the environment. U.S. EPA believes that treatment should be used to address principal threats posed by a site whenever practicable and cost-effective. “Sources” includes both the location of the original release as well as locations where significant mass of contaminants may have migrated. Note that while U.S. EPA expects facilities to use treatment technologies to address principal threats, U.S. EPA also expects that containment technologies as well as institutional controls can be used to address wastes that pose relatively low long-term threats.

#### Limit Off-site Migration of Contaminated Ground Water

This performance standard considers how effectively a remedy alternative limits the off-site migration of contaminated ground water. Ground water contaminated with VOCs is migrating off-site from the Romic facility to the northeast toward San Francisco Bay. Interim remedial measures using enhanced biological treatment are currently being used along the downgradient boundary of the facility to partially limit off-site migration.

#### Limit Potential for Vapor Intrusion into Structures

This performance standard considers how effectively a remedy alternative limits vapor intrusion from contaminated subsurface media into structures. Vapor intrusion is the migration of chemical vapors, primarily volatile organic compounds, from the subsurface into indoor air. Vapor intrusion occurs due to the pressure and concentration differentials between indoor and outdoor air. Indoor environments are often negatively pressurized with respect to outdoor air. This pressure difference allows subsurface vapors to preferentially migrate into indoor air. Contaminated subsurface matrices may include ground water, soil or soil gas. Contaminants of concern typically include halogenated VOCs such as TCE, tetrachloroethene (PCE), and vinyl chloride, but may also include aromatic VOCs such as benzene, toluene and xylenes. Vapor intrusion has been identified as an important exposure pathway at many contaminated sites, including Superfund, RCRA, and Brownfield sites.

### **8. Implementation of the Final Remedy**

U.S. EPA is selecting this remedy under the authority of the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendment of 1984. In 1988, Romic entered into a RCRA 3008(h) Administrative Order on Consent (Consent Order) with U.S. EPA that required Romic to perform a RCRA Facility Investigation (RFI), develop a

Corrective Measures Study (CMS) to evaluate remedial options, and implement a remedy selected by U.S. EPA to correct past releases to the environment from the former facility.

The final remedy for soil and ground water contamination will be implemented through the Consent Order. This Final Remedy Decision is hereby incorporated by reference into the Consent Order. As such, this Final Remedy Decision is enforceable under the provisions of the Consent Order. Romic is thus subject to stipulated penalties and the other provisions of the Consent Order.

#### **9. Regulatory Authority of Other Agencies**

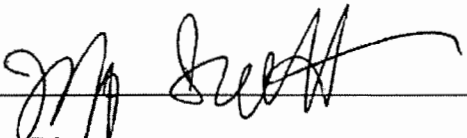
U.S. EPA has selected a final remedy for contaminated soils and ground water at the former Romic facility under RCRA, as amended. The final remedy does not prevent DTSC, RWQCB or other relevant regulatory agencies in the state of California from enforcing their regulations and statutes at the former facility.

Implementation of the final remedy for the former Romic facility must be in compliance with all applicable state, federal and local regulations. The parties implementing the final remedy are responsible for obtaining all necessary and applicable State, federal and local permits.

#### **10. U.S. Environmental Protection Agency Concurrence**

The proposed remedy Alternative 3 (Enhanced Biological Treatment) in the September 2007 Statement of Basis, as modified herein based on public comments, new information and further analysis, is hereby selected as the final soil and ground water remedy for the former Romic facility. Based on all the information available to date, U.S. EPA believes that the final remedy is protective of human health and the environment and has the best chance of attaining the cleanup objectives. It is also effective at remediating source areas, limiting off-site migration of volatile organic compounds from the source areas and limiting the potential for vapor intrusion into structures.

In addition, the final remedy using enhanced biological treatment with cheese whey and molasses is environmentally friendly (green). This is because it uses less energy and therefore produces less green house gas emissions than the ground water extraction and treatment alternative.

  
\_\_\_\_\_

Jeff Scott, Director  
Waste Management Division  
U.S. EPA Region 9

Date: 7 | 28 | 08

## 11. Reference Documents

Key documents used as a reference in preparing this Final Remedy Decision are listed below:

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Esquire Deposition Services. 2008. Official Transcript of U.S. EPA's October 10, 2007 Public Hearing, Proposed Cleanup Plan for Soil and Ground Water Contamination at the Romic Environmental Technologies Corporation Facility, East Palo Alto, California.

Evans, Keisha A. and Sandra Webster, Youth United for Community Action, Ujima Security Council, Environmental Justice Group of East Palo Alto. 2007. Letter to Ronald Leach, Project Manager, U.S. EPA, comments on U.S. EPA's proposed soil and ground water remedy for Romic East Palo Alto facility. October 31.

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James, Alvin, City Manager, City of East Palo Alto, 2007. Letter to Ronald Leach, Project Manager, U.S. EPA, comments on U.S. EPA's proposed soil and ground water remedy for Romic East Palo Alto facility. October 26.

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Naranjo, Brenda, Resident, East Palo Alto, California. 2007. Letter to Ronald Leach, Project Manager, U.S. EPA, comments on U.S. EPA's proposed soil and ground water remedy for Romic East Palo Alto facility. October 24.

Romero, Carlos, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from planning commission). 2007. Email to Ronald Leach, Project Manager, U.S. EPA, comments on U.S. EPA's proposed soil and ground water remedy for Romic East Palo Alto facility. November 1.

Tarr, Brad, Resident, City of East Palo Alto. 2007. Written comment submitted at U.S. EPA public hearing on proposed soil and ground water remedy for Romic East Palo Alto facility. October 10.

Tschang (Chang), David, Resident, City of East Palo Alto. 2007. Written comment submitted at U.S. EPA public hearing on proposed soil and ground water remedy for Romic East Palo Alto facility. October 10.

U.S. EPA 1988. Administrative Order on Consent US EPA Docket No. RCRA-09-88-0015. December.

\_\_\_\_\_ 2004. User's Guide and Background Technical Document for US EPA R9's Preliminary Remediation Goals (PRG) Table. October.

\_\_\_\_\_ 2007a. Statement of Basis for Proposed Soil and Ground Water Remedy, Romic Environmental Technologies Corporation, East Palo Alto, California, U.S. Environmental Protection Agency, Region 9. September 14.

## Glossary of Terms

*Administrative Order* - A legal agreement signed by U.S. EPA and an individual, a business, or other entity through which the responsible party agrees to perform or pay the cost of a site Remediation. The order describes actions to be taken at a site and can be enforced in court. A consent order does not have to be approved by a judge.

*Administrative Record* - The documents and information that are considered or relied upon to make a remedy selection decision for a site. These documents are available for public inspection usually at the nearest public library to the site.

*Aerobic* - with oxygen, or oxygen-rich. Aerobic ground water typically contains greater than 0.5 mg/l dissolved oxygen.

*Anaerobic* - without oxygen, or very low in oxygen. Anaerobic ground water typically contains less than 1.0 mg/l dissolved oxygen.

*Aromatic VOC's or Aromatic Volatile Organic Compounds* include, but are not limited to, benzene, toluene, ethylbenzene and xylenes.

*Aquifer* - An underground formation composed of materials such as sand or gravel that can store and supply ground water to wells and springs.

*BTEX* - Abbreviation for the compounds benzene, toluene, ethylbenzene and xylene.

*Cal-EPA or California Environmental Protection Agency, DTSC or Department of Toxic Substances Control, or Department of Health Services (DHS), DTSC* - The state agency which is responsible for regulating hazardous waste in California. DTSC has the authority to enforce federal and state hazardous waste regulations.

*Chlorinated Solvents* - See Ahalogenated VOCs.@ Chlorinated solvents are a subset of halogenated VOCs.

*Corrective Action* - Those actions taken to investigate and clean-up contaminant releases from hazardous waste treatment, storage, and disposal facilities.

*Corrective Measures Study (CMS)* – A study conducted by the facility owner or operator to identify and evaluate alternative remedies to address contaminant releases at a site.

*Corrective Measures Implementation (CMI)* - During the CMI, the facility owner or operator designs and constructs the remedy selected by U.S. EPA. The owner or operator must also operate, maintain, and monitor the system after construction.

*DNAPL* - Dense, Non-Aqueous Phase Liquid. A chemical compound which is liquid at ambient temperature, and denser than water. Generally refers to highly concentrated volumes of chlorinated solvents such as trichloroethene, tetrachloroethene, or their transformation products.

Because these chemicals are denser than water, they can move down through the water table and contaminate deeper aquifers. Also used to describe less volatile compounds such as creosote and other wood-treating chemicals.

*Downgradient* - Similar to downstream, ground water flows from upgradient to downgradient.

*Environmental Screening Levels (ESLs)* - ESLs are chemical specific concentrations that are used for human health and ecological screening. The ESLs were developed by the San Francisco Bay Regional Water Quality Control Board. The ESLs are used to determine if further evaluation is warranted, in prioritizing areas of concern, in establishing initial cleanup goals, and in estimation of potential human health risks. For carcinogens, the human health ESLs are based on a target excess cancer risk of one in a million. This represents the upper (most health protective) end of the acceptable range of one-in-ten thousand to one-in-a million recommended by the U.S. EPA for contemplating remediation of sites.

*Ground Water* - Water, found beneath the earth's surface, which often supplies wells and springs.

*Halogenated VOC's or Halogenated Volatile Organic Compounds* include, but are not limited to, the following compounds that contain chlorine: tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), trans-1,2-dichloroethene (1,2-DCE), carbon tetrachloride, 1,1,1-trichloroethane (1,1,1-TCA), chloroform and methylene chloride.

*In-situ Treatment* - Treatment of contamination in-place.

*Interim Remedial Measures* - Short-term actions taken to prevent human or environmental exposure to contaminants from a hazardous waste site, to control a source of contamination, or to limit the spread of contamination prior to the implementation of a long-term remedy plan.

*Land Use Restrictions or "Covenant to Restrict Use of Property"* - A clause in a deed restricting the manner in which a property can be used, based on a remaining environmental issue. For example, a deed for a residential property may contain restrictions that would prohibit water wells on the property, due to underlying ground water pollution.

*Semivolatile Organic Compound (SVOC)* - An organic (carbon containing) compound that does not evaporate easily at room temperature. SVOCs at the Romco facility include isophorone and bis (2-chloroisopropyl) ether.

*Maximum Contaminant Level or MCL* means the maximum permissible level of a contaminant in water delivered to any user of a public water system. MCLs are enforceable standards. Primary MCLs take into account a chemical's health risks.

*Metals (heavy metals)* - Metallic elements with high atomic weights, such as chromium, cadmium, arsenic and lead. Heavy metals can damage living things at low concentrations and tend to accumulate in the food chain.

*Polychlorinated biphenyls (PCBs)* - Polychlorinated biphenyls are a group of man-made chemicals that contain 209 different compounds with varying toxicity. PCBs have been used widely as coolants and lubricants in transformers, capacitors and other electrical equipment. The manufacture of PCBs in the United States stopped in 1977 because of evidence that PCBs accumulate in the environment and may cause health hazards.

*RCRA Facility Investigation (RFI)* - An in-depth study to determine the nature and extent of contamination at a RCRA treatment, storage, or disposal facility; establish criteria for remediating the site; identify preliminary alternatives for remediating the site; and support the technical and cost evaluation of the alternatives.

*Resource Conservation and Recovery Act (RCRA)* - A federal law that established a regulatory system to track hazardous waste from the time of generation to disposal. The law requires facilities to obtain a permit if they treat, store or dispose of hazardous waste. RCRA is designed to prevent new, uncontrolled hazardous waste sites.

*Risk-Management Plan* - The risk management plan contains practical ways to mitigate risk for occupants and workers presented by exposure to pollutants that are present in soil and/or ground water on a property. Such measures often engineering controls (i.e. capping with asphalt or buildings) and institutional controls (deed restrictions, preventing certain uses of a property). This document also serves to disclose site conditions and provide public information.

*Slough* - A creek in a marsh or tidal flat. The sloughs north and east of the Romic facility drain into San Francisco Bay.

*Trichloroethene (TCE)* - A liquid used as a solvent, metal degreasing agent, and in other industrial applications. TCE may be a human carcinogen.

*µg/l* - Micrograms of contaminant per liter of water, approximately equivalent to parts per billion.

*Vadose Zone* - The zone between the land surface and the surface of the saturated zone. The surface of the saturated zone is also referred to as the ground water table.

*Volatile Organic Compound (VOC)* - Any organic (carbon containing) compound that evaporates easily at room temperature. VOCs are commonly used in dry cleaning, paint stripping, metal plating, and machinery degreasing.

*Well* - A bored, drilled, or driven shaft whose purpose is to reach underground water (ground water). In the case of the Romic facility, there are two types of wells in the area; monitoring wells which are used for gathering samples in order to detect and evaluate ground water pollution, and injection wells which are used to inject cheese whey and molasses into contaminated ground water for enhanced biological treatment.

*10<sup>-4</sup> to 10<sup>-6</sup> lifetime cancer risk*: A 10<sup>-4</sup> to 10<sup>-6</sup> lifetime cancer risk illustrates a range of the theoretical likelihood of developing cancer as a result of the environmental exposure of interest.

The range represents the probability of developing cancer in excess of the background cancer rate. In the United States, roughly 33% of the population will develop cancer over the course of their life, which means that, on average, approximately 333,000 individuals in a population of one million individuals, will develop cancer. A  $10^{-4}$  risk represents one additional case of cancer in a population of 10,000 (or 100 in a population of one million), while a  $10^{-6}$  cancer risk level suggests that one additional case of cancer will develop in a population of one million.



**Appendix A**

**U.S. EPA Response to Public Comments**

**On**

**Proposed Soil and Ground Water Remedy  
for the Former Romic Environmental Technologies Facility,  
East Palo Alto, California**

## **I. Introduction**

On September 17, 2007, the U.S. Environmental Protection Agency (U.S. EPA) began a 45-day public comment period during which it solicited comments on its proposed remedy to address soil and ground water contamination at the former Romic Environmental Technologies Corporation facility in East Palo Alto, California (Romic facility). The proposed remedy was documented in U.S. EPA's September 14, 2007 Statement of Basis for Proposed Soil and Ground Water Remedy, Romic Environmental Technologies Corporation, East Palo Alto, California (September 2007 Statement of Basis or SB). The comment period closed on November 1, 2007.

U.S. EPA conducted a public meeting and hearing on October 10, 2007 in East Palo Alto, California. Approximately 35 people attended the public meeting and hearing. U.S. EPA received verbal comments from 14 individuals and written comments from two people during the public hearing portion of the meeting. A court reporter recorded the verbal comments and prepared a transcript. In addition, U.S. EPA received written comments through both electronic and U.S. Postal Service mail.

U.S. EPA coordinated with the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) in developing and finalizing the remedy.

This appendix presents each of the 139 public comments U.S. EPA received on the proposed remedy together with U.S. EPA's responses.

## **II. Public Comments on Proposed Remedy**

Nineteen individuals and organizations provided U.S. EPA with 139 comments on the proposed remedy. The 139 comments and the U.S. EPA responses are organized into the following 18 subject areas:

1. Coordination of Facility Closure and Site Cleanup Plan (5 comments)
2. Enforcement of Cleanup Plan (2 comments)
3. Exposure Assessment for Human Health (14 comments)
4. Extent of Contamination (9 comments)
5. Facility Closure (1 comment)
6. Financial Assurance (9 comments)
7. Five Year Remedy Performance Evaluation Reports (2 comments)
8. Ground Water Cleanup (9 comments)
9. Investigation and Remediation of Inaccessible Areas (15 comments)
10. Land Use Restrictions and Risk Management Plan (8 comments)
11. Media Cleanup Objectives (18 comments)
12. Miscellaneous (10 comments)
13. Public Participation (14 comments)
14. Redevelopment of Romic Property (2 comments)

- 15. Remedial Technologies (5 comments)
- 16. Remedy Contingencies (4 comments)
- 17. Slough Investigation and Remediation (8 comments)
- 18. Timing of Site Cleanup and Plan Approvals (4 comments)

The 19 individuals and organizations listed below submitted comments on the proposed remedy either in writing or verbally at the public hearing held on October 10, 2007. For each commenter, the following information is provided:

- Name
- Affiliation
- Source of Comment (e.g., letter, public hearing testimony)
- “Comments related to”: This section briefly describes the comment topic and subject area where the comment and U.S. EPA response can be found in this document. The subject area for each comment is shown in parentheses following the topic. For example, a typical entry may look like this: Responsibility for Slough Sediment Cleanup (see Slough Investigation and Remediation). The comment topic is “Responsibility for Slough Sediment Cleanup” and it is located in the Slough Investigation and Remediation subject area. Thus, to locate this comment from the individual or organization, the reader would look in the Slough Investigation and Remediation section.

**1. Alvarez, Alvaro, Youth United for Community Action, October 10, 2007 Public Hearing Testimony and October 24, 2007 letter**

Comments related to: Least Information on Most Contaminated Areas (see Extent of Contamination), Responsibility for Slough Sediment Cleanup (see Slough Investigation and Remediation), Monitored Natural Attenuation (see Ground Water Cleanup), Investigation of Inaccessible Areas (see Investigation and Remediation of Inaccessible Areas) and Statement of Basis Complexity (see Miscellaneous)

**2. Cruz, Miriam, Youth United for Community Action, Resident, City of East Palo Alto, October 10, 2007 Public Hearing Testimony and October 22, 2007 letter**

Comments related to: Removal of Facility Structures and Site Cleanup (see Investigation and Remediation of Inaccessible Areas)

**3. Deboe, Vita, Youth United for Community Action, October 10, 2007 Public Hearing Testimony**

Comments related to: Informing the Community (see Public Participation)

**4. Domingo, Charisse, Youth United for Community Action, October 10, 2007 Public Hearing Testimony and November 1, 2007 email**

Comments related to: Risk Estimates Not Based on Vulnerable Populations (see Exposure Assessment for Human Health), Covenant to Restrict Use of Property (see Land Use Restrictions and Risk Management Plan), Ground Water Cleanup Objectives - Maximum Contaminant Levels for Drinking Water (see Media Cleanup Objectives), Surface Water Estuarine Screening Levels (see Media Cleanup Objectives), October 10, 2007 U.S. EPA Open House and Public Meeting/Hearing (see Public Participation), Responsibility for

Slough Sediment Cleanup (see Slough Investigation and Remediation), and Timing for Cleanup Plan Approval (see Timing of Site Cleanup and Plan Approvals)

**5. Evans, Keisha, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony**

Comments related to: October 10, 2007 Open House and Public Meeting/Hearing (see Public Participation), Appointment of Citizens Committee (see Public Participation), Timing of Project (see Timing of Site Cleanup and Plan Approvals), Migration of Contaminated Ground water (see Extent of Contamination), Level of Financial Assurance (see Financial Assurance), Action on Slough Contamination Needed (see Slough Investigation and Remediation), and Documentation of Remedy Effectiveness Needed (see Ground Water Cleanup)

**6. Evans, Keisha A., Sandra Webster, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter**

Comments related to: Violations of Cleanup Plan (see Enforcement of the Cleanup Plan), Timing for Cleanup Plan Approval (see Timing of Site Cleanup and Plan Approvals), Closure and Site Cleanup (see Coordination of Facility Closure and Site Cleanup Plan), Responsibility for Slough Sediment Cleanup (see Slough Investigation and Remediation), Revision of Land Use Covenant and City Review of Covenant to Restrict Use of Property (see Land Use Restrictions and Risk Management Plan), Ground Water Cleanup Objectives - Cumulative Effects of Chemicals (see Media Cleanup Objectives), Procedures to Amend Cleanup Plan (see Remedy Contingencies), Informing the Community about Investigation Findings (see Investigation and Remediation of Inaccessible Areas), Inaccessible Area Investigation/Remediation (see Investigation and Remediation of Inaccessible Areas), Capping - Containment - Permits - Transformation of Chemicals - Impacts on People (see Remedial Technologies), Sensitive Receptors Should Be Considered in Human Health Risk Assessment (see Exposure Assessment for Human Health), Comprehensive Human Health Risk Assessment Needed (see Exposure Assessment for Human Health), What is Process if Cleanup Costs are Higher than Financial Assurance (see Financial Assurance) and Concrete Site Cover Impacts on Redevelopment (see Redevelopment of Romic Property)

**7. Evans, Peter, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony**

Comments related to: Appointment of Citizen Committee (see Public Participation) and Cleanup Permit (see Miscellaneous)

**8. Flores, Oscar, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony**

Comments related to: Maximize Financial Assurance (see Financial Assurance) and Romic Gila River Facility in Arizona (see Miscellaneous)

**9. Gardner, Paul, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony**

Comments related to: Adequacy of Financial Assurance (see Financial Assurance) and Community Designated Consultant (see Public Participation)

**10. Holmes, Lorraine, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony**

Comments related to: Future Development (see Redevelopment of Romic Property)

**11. Huerta, Bernardo, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony**

Comments related to: Doubts Effectiveness of Enhanced Biological Treatment (see Ground Water Cleanup)

**12. James, Alvin, City Manager, City of East Palo Alto, October 26, 2007 letter**

Comments related to: Expedited Site Cleanup (see Miscellaneous), Reliability of Existing Risk Assessment Reports (see Exposure Assessment for Human Health), Recreational Exposure Along Slough Trail (see Exposure Assessment for Human Health), Contamination on Adjacent Property and Contamination on Adjacent Parcels – Infinity Salvage (see Extent of Contamination), Background Figures (see Extent of Contamination), Pollution Legal Liability and Cleanup Cost Cap Insurance (see Financial Assurance), Cost Estimates for Remedy Alternatives and Insurance (see Financial Assurance), Monitored Natural Attenuation (see Ground Water Cleanup), Potential Residential Uses and Day Care Prohibition (see Land Use Restrictions and Risk Management Plan), Residual Contamination (see Media Cleanup Objectives), Achievement of Media Cleanup Objectives – Romic Petition (see Media Cleanup Objectives), Proposed Excavation of 3072 Cubic Yards of Contaminated Soil (see Remedial Technologies), Timing for Slough Remediation (see Slough Investigation and Remediation), Timeframe to Complete Remediation (see Timing of Site Cleanup and Plan Approvals) and Size of Former Romic facility (see Miscellaneous)

**13. Loya, Annie, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony**

Comments related to: Coordination of Facility Closure and Site Cleanup (see Coordination of Facility Closure and Site Cleanup Plan), Question and Answer Session of Public Meeting (see Public Participation) and Community Oversight (see Public Participation)

**14. Mena, Gabriel, Youth United for Community Action, October 10, 2007 Public Hearing Testimony and October 23, 2007 letter**

Comments related to: Ground Water Cleanup Objectives - Maximum Contaminant Levels for Drinking Water (see Media Cleanup Objectives) and Ground Water Use (see Media Cleanup Objectives)

**15. Naranjo, Brenda, Resident, East Palo Alto, California, October 24, 2007 letter**

Comments related to: Removal of Facility Structures and Site Cleanup (see Investigation and Remediation of Inaccessible Areas), October 10, 2007 U.S. EPA Open House and Public Meeting/Hearing (see Public Participation), Complexity of Statement of Basis (see Miscellaneous)

**16. Romero, Carlos, Vice-Chair, East Palo Alto Planning Commission (Individual Comment, Not from Planning Commission), November 1, 2007 email**

Comments related to: Coordinated Agency Approach for Closure and Site Cleanup (see Coordination of Facility Closure and Site Cleanup Plan), Potential Health Impacts from Contaminated Soil Excavation (see Exposure Assessment for Human Health), Exposure Pathway for Fish May Need More Examination (see Exposure Assessment for Human Health), Ground water Monitoring in C and D -zones (see Extent of Contamination), Definition of Facility Closure Needed (see Facility Closure), Third Party Review of Cost Estimate and Cost Overrun Contingency (see Financial Assurance), Enhanced Biological Treatment (see Ground Water Cleanup), Monitored Natural Attenuation (see Ground Water Cleanup), Effectiveness of Monitored Natural Attenuation (see Ground Water Cleanup), Community Involvement for Phase 2 Work (see Investigation and Remediation of Inaccessible Areas, Removal of Structures and Site Cleanup (see Investigation and Remediation of Inaccessible Areas), Timeframe Goals for Phase 2 Investigation and Remediation (see Investigation and Remediation of Inaccessible Areas), Soil Excavation and Removal (see Investigation and Remediation of Inaccessible Areas), City Involvement in Land Use Restrictions and Risk Management Plan (see Land Use Restrictions and Risk Management Plan), Approval of Risk Management Plan (see Land Use Restrictions and Risk Management Plan), Ground Water Cleanup Objectives (see Media Cleanup Objectives), Achievement of Media Cleanup Objectives (see Media Cleanup Objectives), Community Involvement for Contingency Changes (see Remedy Contingencies), Specify Specific Time for Slough Remediation (see Slough Investigation and Remediation) and Responsibility and Timing for Slough Cleanup (see Slough Investigation and Remediation)

**17. Tarr, Brad, Resident, City of East Palo Alto, Written Comment, U.S. EPA Public Hearing, October 10, 2007**

Comment related to: Fugitive Contamination (see Extent of Contamination)

**18. Tschang (Chang), David, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony and U.S. EPA Comment Form, October 10, 2007**

Comments related to: Education of Community (see Public Participation), State Landuse Regulation - Land be Used for Small Businesses (see Redevelopment of Romic Property), Cleanup Costs (see Financial Assurance), Reports on DVD (see Public Participation), Public Hearing Transcript (see Public Participation) and Size of Drum Storage Area and Process Plant (see Miscellaneous)

**19. Turner, Anna, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony**

Comments related to: Violations of Cleanup Plan (see Enforcement of Cleanup Plan), Life of 5-Year Remedy Performance Evaluation Reports (see Five Year Remedy Performance Evaluation Reports), Soil Excavation and Removal (see Investigation and Remediation of Inaccessible Areas), October 10, 2007 U.S. EPA Open House and Public Meeting/Hearing (see Public Participation), Proactive Approach for Cleanup (see Public Participation) and Investigation in Public Areas (see Miscellaneous)

### III. U.S. EPA RESPONSE TO PUBLIC COMMENTS ON PROPOSED REMEDY

The 139 public comments along with U.S. EPA responses are organized into the 18 subject areas listed below. The subject areas are in alphabetical order.

#### 1. Coordination of Facility Closure and Site Cleanup Plan

**The following four comments raise similar concerns and are addressed in a single U.S. EPA response:**

##### *Comment 1.1. Closure and Site Cleanup*

*This Clean up plan was written before the DTSC order to Romic dated August 30, 2007. How does the closure plan mandated by DTSC affect this clean up plan and visa versa? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

##### *Comment 1.2. Closure Plan and Cleanup Plan*

*The Closure Plan and Cleanup Plan must happen at the same time and the two responsible agencies must work together for the benefit of our community. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

##### *Comment 1.3. Coordination of Facility Closure and Site Cleanup*

*In regards to the closure tendencies. So in 2005, U.S. EPA realized East Palo Alto has the tendency of all these different agencies to double up on plans. In 2005, EPA released a draft permit for the ROMIC facility and the EIR. It raised the concern that there were going to be two comment periods happening every where, everyone we talked to and anywhere else we read we found out that has never been done before. We found out this was a very unique situation and as someone called it, during that time. Well, usually there's a report, and EIR is released and there's a project. EIR is released, our comments are made and addressed, then there's a decision at that original EIR. Soon after will follow a draft permit comment period, but for East Palo Alto, we had the opportunity, we were blessed to have two periods at the same time.*

*So, two years later in 2007 we find ourselves in a similar situation. U.S. EPA has issued for comments the cleanup plan which will soon be followed by DTSC and Romic's disclosure plan. So, we find ourselves in a very confusing place. How do we comment on cleanup while we're thinking on closure? How do we comment on closure when we're thinking of cleanup. How do we best stand to be concerned on two separate yet related documents? How do we then we ask ourselves, when is the best route to properly address, properly address these concerns to really clean and decontaminate this site would be to do statement disclosure and cleanup happen simultaneously. We think so. (A. Loya, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

*Comment 1.4. Coordinated Approach for Closure and Site Cleanup*

*The Statement of Basis (SB) calls for U.S. EPA & DTSC to coordinate the closure of the facility with the remediation of soil and ground water contamination. Where is this coordination spelled out and how is it to occur? Will a joint oversight body to be established? This coordination process should be clearly delineated within the SB/remedy since various aspects of the closure will affect the timing of the remediation, i.e. additional soil and ground water studies, removal of structures obstructing contaminated areas, etc.*

*I suggest that a more coordinated approach would be to modify and approve the proposed remedy once DTSC has approved the Facility Closure Plan. By doing so U.S. EPA could influence and help define the timing and removal of structures during the facility closure period that obstruct remediation efforts. DTSC's approval process appears to be only a few months behind U.S. EPA's approval of a final remedy so the delay of the final remedy would be minimal. Moreover, this approach would provide for more articulated coordination between the two plans. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

**Response to Comments 1.1, 1.2, 1.3 and 1.4:** The facility closure plan and site cleanup plan work together. The former Romic facility is undergoing closure. Regulatory oversight of facility closure is the responsibility of DTSC. The U.S. EPA will oversee the investigation and cleanup of subsurface soil and ground water contamination. U.S. EPA and DTSC developed a joint two-phased strategy for the facility closure and site cleanup. In Phase 1, the closure plan addresses Decontamination, Disassembly and Disposal (DD&D) of the aboveground hazardous waste management units (i.e. tanks, distillation towers). Once the Phase 1 DD&D work is completed, Phase 2 work will begin with a site wide subsurface investigation which will further assess the nature and extent of contamination beneath the former facility. Romic will then submit a Corrective Measures Implementation Plan (CMIP) that details the cleanup work that will take place at the former facility. The CMIP will be developed using the requirements of the Final Remedy Decision and from information gathered during the site wide subsurface investigation. The CMIP will specify the cleanup approaches such as treatment and/or excavation for different areas of the former facility.

*Comment 1.5. Agency Coordination for Cleanup*

*What is the relationship between USEPA and DTSC in controlling/supervising this clean up? The cleanup relationship between the two agencies, USEPA and DTSC, is very unclear to the public. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 1.5:** DTSC is the lead agency for overseeing the Decontamination, Disassembly and Disposal (DD&D) of all of the aboveground permitted units that are closing. Romic's closure plan details all of the processes involved with DD&D of all equipment, systems and structures. The decontamination and testing of the concrete surfaces will also be done in this phase.



U.S. EPA is the lead agency for overseeing a site wide subsurface investigation followed by remediation of subsurface soil and ground water contamination. The site wide investigation will gather information that will meet the regulatory requirements of both facility closure and site cleanup. This phase will begin with the sampling of soils and ground water beneath the decontaminated concrete surfaces once the closure DD&D activities have been completed. U.S. EPA, DTSC and the RWQCB will review the site wide investigation workplan. U.S. EPA will assemble the comments from all three agencies into a single response to Romic.

## **2. Enforcement of Cleanup Plan**

**The following two comments raise similar concerns and are addressed in a single U.S. EPA response:**

### *Comment 2.1. Violations of Cleanup Plan*

*First we believe that it is paramount that USEPA have a plan in the case that Romic violates this plan. There is no indication of what USEPA would do in that situation. USEPA has the authority to obtain civil penalties for any violation (maximum no less than \$10K per day). 271.16(a)(3)(i) under RCRA § 3006. Will USEPA include the penalties for violating the plan in the plan? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

### *Comment 2.2. Violations of Cleanup Plan*

*If anyone violates this plan, what is U.S. EPA prepared to do? I hear earlier statements that we're not out looking for violations, okay. That may be true, but knowing ROMIC'S history, what are you going to do as U.S. EPA to be proactive and not just waiting for something to happen? My Mom always said have a plan A and if plan A doesn't workout, we need to have something just in case. What is that just in case for us? We don't have to wait for something to happen, hold a public hearing, step back, look at it. That might be too late. (A. Turner, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comments 2.1 and 2.2:** The investigation and cleanup work at the former Romic facility is required under an enforceable U.S. EPA Consent Order. In 1988, Romic entered into a RCRA 3008(h) Administrative Order on Consent (Consent Order) with U.S. EPA that required Romic to perform a RCRA Facility Investigation, develop a Corrective Measures Study to evaluate remedial options, and implement a remedy selected by U.S. EPA to correct past releases to the environment from the facility. Romic must pay stipulated penalties as required by the Consent Order if the cleanup plan is not developed and/or carried out in accordance with the final remedy selected by U.S. EPA.

### 3. Exposure Assessment for Human Health

**The following six comments raise similar concerns and are addressed in a single U.S. EPA response:**

#### *Comment 3.1. Comprehensive Human Health Risk Assessment Needed*

##### *Precautionary Principle*

*All risk estimates associated with the exposure scenario were beneath or within EPA's target level of acceptable risk and hazard. ..This is in reference to "inhalation pathway of exposure as the sole human exposure pathway." You state that "direct contact with contaminants in surface water and sediment...is considered to represent an infrequent exposure at best, the magnitude of which should not engender significant excess carcinogenic risk or non-cancer hazard." What is this statement based on? USEPA must take into account the high cancer rates in East Palo Alto? What kind of "receptors" was the report based on? We have a huge elderly and child population here).*

*It is imperative that there be a COMPREHENSIVE health risk assessment of East Palo Alto residents and workers especially with concerns around the excavation of soil and the VOC' s that are supposed to be in the soil. This should be completed at the beginning of Romic's Closure Plan and in the early stages of this remedy plan. A complete health risk assessment should be carried out NOW with as little delay as possible in order to benefit those affected. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

#### *Comment 3.2. Sensitive Receptors Should be Considered in Health Risk Assessment*

*My primary concerns, however, are around the Health Risk Assessments. In the Health and Human Risk Assessment section of the report, you write, "All risk estimates associated with the exposure scenario were beneath or within EPA's target level of acceptable risk and hazard." This is in reference to "inhalation pathway of exposure as the sole human exposure pathway." They said that "direct contact with contaminants in surface water and sediment is considered to represent an infrequent exposure at best, the magnitude of which should not engender significant excess carcinogenic risk or non-cancer hazard." What is this statement based on? Again, did you take into account the high cancer rates in East Palo Alto? What kind of "receptors" did you base it on? Did you take into account that seniors and young children make a big portion of our community? (C. Domingo, Youth United for Community Action, November 1, 2007 email)*

#### *Comment 3.3. Health Risk Assessment for Romic Workers and City Residents*

*Health Risk Assessment of the Romic workers and the residents is a MUST. This should not be put off for years, but can be carried out efficiently in the shortest possible time - within months. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

#### *Comment 3.4. Risk Assessment for Workers and Vulnerable Populations*

*My next comment relates to that because you used incomplete Health Assessments - especially in the 1999 HRA that DTSC used in their permitting process to claim Romco was safe. This health assessment did not evaluate the risk on current and future on-site workers and nearby off-site workers who may be exposed to volatile chemicals in soil and ground water via inhalation of ambient air nor "adult and child residents living in the nearby houses who may be exposed to volatile chemicals in soil and ground water via inhalation of ambient air."*

*In 2004, our organization conducted a health survey on 760 residents in the area and we found alarming statistics that no agency could give us. We found that 1 in 4 children under the age of 21 have asthma; 1 in 7 residents have asthma; and 1 in 32 have cancer. How do these statistics play a part in determining the cancer risk your agency is allowed to tolerate?*

*Even more so, the health risk assessment has no testing on workers, who are most vulnerable. Given Romco's horrible track record of worker safety, if your agency does not take into account the safety of the workers who will be implementing this clean-up plan, then your agency would be just as guilty and irresponsible as Romco.*

*Without a complete health risk assessment, this plan will be incomplete at best and irresponsible at worst. (C. Domingo, Youth United for Community Action, November 1, 2007 email)*

#### *Comment 3.5. Risk Estimates Not Based on Vulnerable Populations*

*My name is Charisse Domingo and I'm also with YUCA Youth for Community Action and I'm very concerned to the exposure to human health receptor of this report. In the report, U.S. EPA identified three main receptors who could be exposed as a result of the cleanup. So, you all identified the onsite workers and the nearby offsite workers working at the junkyard, the adult and child recreational users of the bike path at the slough and the adult and child residents living in the houses. They use the health issue assessment developed in the 1990's including the 1999 HRA study that bases the health risk assessments only on the occasional recreational users of the bike path, and then after that, you conclude that despite, again, to find them, you still say this cleanup is safe because the risk estimates associated with the exposure scenario are beneath or within EPA's target level for and acceptable risk and behavior.*

*So, the first thing we were concerned about that these risk estimates are not based on the kinds of vulnerable population that live in East Palo Alto. We did a health survey in 2004. One in four young people under the age of 21 have asthma, one in seven residents have asthma. One in 32 have cancer. The second thing, the second thing is that, oh, yes, let me remind folks that. U.S. EPA's track records are saying something is safe. Only seven days after the World Trade Center collapsed, the U.S. EPA head administrator, Christine Todd Whitman said: "Given the scope of the tragedy from last week, I am glad to reassure the people of New York that their air is safe to breathe and the water is safe to drink". At the time EPA tests at ground zero had already found elevated levels of dioxin, pcb's, lead and chromium which are all toxic. Later the EPA found benzene, a colorless liquid that evaporates quickly and can cause Leukemia in long term exposure measuring 58 times greater than the Federal limits and the EPA did not release these*

*results for two weeks, as an oversight, a spokes woman described as an oversight, and you know what the cost was in November of 2006, the Village Voice reported that 75 recovery workers at ground zero will be diagnosed with blood cell cancers that a half a dozen top doctors and epidemiologists have confirmed as having been likely caused by ground zero. By June of 2007, 10,000 people had filed claims against the city of New York regarding exposure to ground zero toxics. Then, days after Hurricane Katrina, despite the fact that Louisiana is home to over 125 oil and chemical plants in the chemical corridor, known as "cancer alley" between New Orleans and Baton Rouge where a series of low-income, predominantly African-American low-income families live, the U.S. EPA still called the toxic soup that flowed out of the chemical industry mixed with the flooding sick.*

*So, now that we know that the U.S. EPA track record is saying what it is saying what is safe and how your standards of safety obviously puts people at risk. So, we demand a complete up-to-date health risk assessment for the sake of the workers who will be working on the excavation of the soil and for the residents who live here in East Palo Alto and we demand that this be completed before phase two where the excavation hopefully not evacuation will take place. And without this, this report will be complete, at best, and irresponsible at worst. So, this is your chance to make it right. Don't put any more of the lives of people at risk. You're supposed to protect the health and environment of our people. So, get this one right. (C. Domingo, Youth United for Community Action, October 10, 2007 Public Hearing Testimony)*

### *Comment 3.6. Sensitive Receptors Should be Considered in Human Health Risk Assessment*

*The discussion of Exposure to Human Health and Ecological Receptors involved information on human health and ecological risk assessments that have been conducted based upon exposure to chemicals released by Romic.*

*The Exposure Pathway goes from 1) source 2) how strong that retention method is, 3) the receptor, 4) the route (route-inhalation, swallowing, etc). Because one source is UNDER concrete (but not the slough), there presently exists an incomplete exposure pathway). Because there is contamination in the slough, the health and ecological risk assessments presently are necessary there.*

*Identified who can be exposed:*

- *On-site workers and nearby-offsite workers working at the junkyard or City Public Works employees*
- *Adult and child recreational users of the bike path and the tidal slough*
- *Adult and child residents living in the houses.*

*We have the following questions:*

*What kind of receptors did USEPA base this on? Did you take into account the sensitive and vulnerable populations of East Palo Alto given that we have the highest cancer and asthma rates*

*in San Mateo County? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comments 3.1, 3.2, 3.3, 3.4, 3.5 and 3.6:**

The protection of on-site workers and the residents of East Palo Alto is U.S. EPA's top priority. U.S. EPA will require that Romic monitor and mitigate vapor emissions from cleanup work such as excavation of contaminated soils. Romic will prepare Health and Safety plans that contain requirements to protect on-site workers during the investigation and cleanup effort. In addition, to address the potential health risks associated with diesel exhaust during the site cleanup, U.S. EPA is requiring that Romic use clean diesel technologies, clean fuels and/or clean construction practices on diesel powered engines greater than 25 horsepower. U.S. EPA is also requiring confirmatory sampling and a risk analysis for any redevelopment of the property after the cleanup work has been completed.

The facility is not operating and is undergoing closure. The potential health impacts from further investigation and cleanup of the former facility are temporary and will be mitigated.

Mitigation of Off-Site Exposure to Community: U.S. EPA will require that Romic prepare a Corrective Measures Implementation Plan or CMIP after the final remedy is selected for the facility. The CMIP defines the cleanup work that will be done and all of the safety measures that will be taken to ensure the community is protected during the investigation and cleanup. U.S. EPA will ensure that the CMIP contains measures to monitor and mitigate volatile organic compound emissions from excavation of contaminated soils and the transport of the soils off-site. The exact nature of the safety measures are not known at this time since the CMIP has not yet been prepared. U.S. EPA, DTSC and/or RWQCB representatives will be periodically present at the site to observe the field work and ensure that it is being done in accordance with the approved CMIP.

Health and Safety Plans to Protect Workers: On-site workers at the former facility will be involved with the further investigation and remediation of soil and ground water contamination. U.S. EPA is requiring that Romic prepare comprehensive Health and Safety (H&S) Plans for all investigation and remediation work to be conducted at the facility. The H&S Plans, which must comply with Occupational Safety & Health Administration regulations, describe in detail how remediation workers will be protected during the investigation and cleanup work at the facility. The H&S Plans will require that all workers have certified hazardous waste training, medical monitoring and personal protective equipment. The H&S Plans will also require that field monitoring equipment be used to assess concentrations of volatile organic compounds in the air.

Actions to Mitigate the Effects of Diesel Particulate Emissions from Construction Equipment

U.S. EPA is requiring that Romic take actions to reduce emissions from diesel powered engines used in the cleanup of the former facility. Romic will determine, subject to U.S. EPA review and approval, the level of such diesel mitigation on a case-by-case basis for earth movement, drilling and transportation activities at the site.

Mitigation may include:

- (1) the highest level of verified diesel technologies be installed on off-road and on-road diesel powered equipment, such as diesel particulate filters and diesel oxidation catalysts. Such controls will be required for off-road equipment by the California Air Resources Board's (CARB's) Final Regulation Order for In-Use Off-Road Diesel Vehicles beginning in 2009 which applies, in part, to the rental sector which may own such equipment,
- (2) idling of construction equipment, trucks and vehicles be limited to five minutes or less,
- (3) engines be tuned to manufacturers' specifications,
- (4) ultra low sulfur diesel and/or another clean fuel be used in off-road and on-road diesel equipment,
- (5) trucks meet emission standards, and
- (6) a plan be developed and implemented to limit truck traffic through the community.

In addition, for drilling applications which require portable engines, at least Tier 2 engines will be required if feasible. Tier 2 engine standards for off-road engines are a series of emission standards for engines constructed between the years of 2001 and 2006.

Risk Analysis for Future Redevelopment: The final remedy requires a risk analysis for any redevelopment of the site after the cleanup work has been completed. A Risk Management Plan (RMP) is required in the Covenant to Restrict Use of the Property (Covenant) for any redevelopment of the site. The Risk Management Plan will identify, at a minimum, the previous site history, the nature and extent of contamination from all media, the potential pathways of human exposure, estimates of health impacts from existing site contamination, and practical ways to mitigate the impacts for the specific project. The risk analysis will rely on pre-reviewed estimates of each compounds toxicity or potency. Those estimates were derived to account for the wide range of sensitivities in the general population. Therefore, estimates of health impact following site cleanup will be considerate of the sensitive subgroups in the East Palo Alto community.

The Covenant and the RMP work together to ensure that potential impacts from exposure to contaminated soils, ground water or other media are managed in a manner that is protective of human health and the environment.

**The following three comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 3.7. Why did you (USEPA and DTSC) mislead the community into thinking Romic was safe when you did not evaluate workers and residents in the 1999 HRA? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 3.8. Especially in the 1999 HRA that DTSC used, there were incomplete Health Assessments! You (USEPA & DTSC) did not evaluate the risk on current and future on-site workers and nearby off-site workers who may be exposed to volatile chemicals in soil and ground water via inhalation of ambient air. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 3.9. You (USEPA & DTSC) did not evaluate "adult and child residents living in the nearby houses that may be exposed to volatile chemicals in soil and ground water via inhalation of ambient air." (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comments 3.7, 3.8 and 3.9:** The comments refer to past risk assessments that were developed when the facility was operating. The situation is very different now. The facility is not operating and is undergoing closure. The potential health impacts from further investigation and cleanup of the former facility are temporary and will be mitigated. In addition, as discussed in the Response to Comments 3.1, 3.2, 3.3, 3.4, 3.5 and 3.6 above, U.S. EPA is requiring that Romic (1) monitor and mitigate vapor emissions from cleanup work and (2) prepare Health and Safety Plans to protect on-site workers. U.S. EPA is also requiring a risk analysis for any redevelopment of the property after the cleanup work has been completed. The estimates of a chemical's toxicity, a necessary input variable for the redevelopment risk analysis, were developed to be considerate of the wide range of human sensitivity in the general population.

**The following two comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 3.10. Exposure Pathway for Fish May Need More Examination*

*The exposure pathway through fish may need more examination. Many EPA residents are from immigrant backgrounds who fish and consume the fish they catch in the area. The SB seems to assume that little fish consumption from the neighboring area is occurring. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

*Comment 3.11. Local People Fish in Sloughs and Bay Near Romic*

*People do fish in the sloughs and Bay near Romic and the risk is more than minimal. The people in this community continue to eat the fish due to custom and for economic reasons. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comments 3.10 and 3.11:** This remedy decision is for on-site contamination at the former Romic facility and does not address the eastern tidal slough (see September 2007 Statement of Basis). U.S. EPA will address the sediment contamination in a separate remedy

decision. However, U.S. EPA believes that fish that swim in the slough are not at significant risk from site related volatile organic compound contamination because concentrations of these contaminants in the slough surface water are all below the appropriate Surface Water Estuarine Screening Levels. These screening levels are the media cleanup objectives for surface water selected by U.S. EPA as part of the final remedy. The estuarine screening levels, which were developed by the RWQCB, are derived from various regulatory sources (e.g., California Toxics Rule, Criterion for Continuous Concentration) and generally represent the most stringent of available action levels for aquatic habitat protection. They are designed to be protective of both human health and the environment by accounting for potential bioaccumulation of chemicals in aquatic organisms and subsequent human consumption of these organisms. Locally, the areas south of the Dumbarton Bridge are considered to be estuarine. The Estuarine Screening Levels are discussed in further detail in the September 2007 Statement of Basis which was prepared by U.S. EPA. Fish population surveys discussed in previous ecological assessment reports indicate that the fish in the tidal slough are few in number, small in size and are of a species not typically consumed by humans.

*Comment 3.12. Reliability of Existing Risk Assessment Reports*

*Page 21, Table. How reliable are these studies when the most recent one is 8 years old? Also, the most recent study was the least comprehensive. The last comprehensive study was done in 1993, which was 14 years ago. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comment 3.12:** The risk assessments were prepared assuming there was an operational facility in place and are not applicable to the site cleanup process. A risk management plan is required for any future redevelopment of the Romic property. The risk management plan will evaluate the risks for a proposed redevelopment project and identify possible mitigation measures after the cleanup process has been completed at the facility.

*Comment 3.13. Recreational Exposure Along Slough Trail*

*The City's vision is for the Bay to provide more recreational and transportation opportunities for East Palo Alto residents and people throughout the Bay Area. In June 2007, the East Palo Alto City Council adopted the Bay Access Master Plan (BAMP), which includes open space improvements near the north and east sloughs.*

*Specifically, the BAMP calls for a trail along the northern edge of the Romic property that crosses the east slough to connect to the existing Bay Trail, a pocket park at the intersection of the aforementioned trails, and the establishment of Cooley Landing as a major recreational center. Cooley Landing might provide water recreation such as kayaking, canoeing, and fishing. The BAMP is available at:*

*[www.ci.east-palo-alto.ca.us/economicdev/images/BAMP%20Final%205%2023%2007.pdf](http://www.ci.east-palo-alto.ca.us/economicdev/images/BAMP%20Final%205%2023%2007.pdf)*

*Page 19, last paragraph. The potential for recreational exposure will greatly increase as the Bay Trail is completed and as Cooley Landing is developed. See comment above regarding Cooley Landing. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*



**Response to Comment 3.13:** Since the facility is not operating and is closing, the potential health impacts from further investigation and cleanup are temporary and will be mitigated.

Volatile organic compounds (VOCs) have been detected in the surface water of the sloughs located to the north and east of former facility. Concentrations of VOCs in the surface water currently do not exceed the surface water cleanup objectives. The surface water is monitored on a quarterly basis.

The 1999 Environ risk assessment report examines the potential impact on a canoeist using the slough. The canoeist would be located directly on the surface water of the slough and thus would incur the maximum exposure to VOCs because of close proximity to the source (surface water). Thus, this represents a worst case scenario. Since the risk assessment indicates that inhalation impacts to the canoeist are acceptable, we can also conclude that impacts to potential users of the bike path, who would be much farther away from the surface water, shall also be acceptable. The 1991 Harding Lawson human health risk assessment did consider pedestrians and bikers on the walking path and at Cooley Landing and found risk estimates to be within the acceptable range of one-in-ten thousand to one-in-a million.

*Comment 3.14. Potential Health Impacts from Contaminated Soil Excavation*

*The SB concludes that VOC's in the air are the main exposure pathway to humans, thus the moving and off-hauling of contaminated soils from the site expose EPA residents to these contaminants. According to the concluding paragraph of this section (pg. 22), the inhalation exposure pathway needs additional study if future development is to occur. Who will produce this study and when? The quantitative data needs to be generated and standards drawn up for the City and residents to have an objective standard to judge appropriate exposure levels. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

**Response to Comment 3.14:** U.S. EPA is requiring that Romic (1) monitor and mitigate vapor emissions from cleanup work and (2) prepare Health and Safety Plans to protect on-site workers. In addition, U.S. EPA is requiring a risk analysis for any redevelopment of the property after the cleanup work has been completed. The discussion on page 22 of the September 2007 Statement of Basis states that the exposure pathway for inhalation of indoor air by on-site workers and nearby off-site workers has not been quantitatively evaluated. The potential exposure pathway discussed is for vapor intrusion. Vapor intrusion is the migration of chemical vapors, primarily volatile organic compounds, from the subsurface into indoor air. This pathway is being addressed by U.S. EPA's final remedy through the adoption of ground water media cleanup objectives that are more stringent (lower) than the San Francisco Bay-RWQCB Commercial/Industrial Ground water Screening Levels for Evaluation of Potential Vapor Intrusion Concerns and by a focused indoor air monitoring effort consistent with the land use restrictions/risk management plan for redevelopment of the property (see page 26 of the September 26, 2007 Statement of Basis).

#### 4. Extent of Contamination

**The following three comments raise similar concerns and are addressed in a single U.S. EPA response:**

##### *Comment 4.1. Fugitive Contamination*

*Please address “fugitive” contamination offsite that originated at the Romic facility – e.g., spread to Infinity Salvage, Bay Road, etc. – considering that the “plume area in Figure 1 of the September 2006 “Romic Expands Treatment of Contaminated Ground water” fact sheet is shown to have so traveled. (B. Tarr, Resident , City of East Palo Alto, Written Comment, U.S. EPA Public Hearing, October 10, 2007)*

##### *Comment 4.2. Contamination on Adjacent Property*

*How will existing and future potential contamination on parcels adjacent to the Romic site be addressed? Figure 5 (Page 17) shows B-Zone VOCs contamination at both the Infinity auto dismantling site to the southeast of Romic and the adjacent Romic-owned "buffer" along Bay Road (Page 10). The Plan should include the Romic "buffer" land (Page 10) because it has VOC contamination, the ground water flows east through this site, and because Romic owns the site. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

##### *Comment 4.3. Contamination on Adjacent Parcels – Infinity Salvage*

*What is the plan for addressing the existing ROMIC-generated contamination that migrated, and additional contamination that will migrate to the Infinity auto dismantling site to the southeast of Romic? The Infinity site should be included-if not in this Remedy decision to avoid delays in the initiation of cleanup-in the later action related to the slough adjacent to Romic's eastern boundary. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comments 4.1, 4.2 and 4.3:** U.S. EPA will require that Romic address any off-site contamination that came from their former facility. As part of the site wide subsurface investigation that will take place after the closure and removal of all permitted hazardous waste management units (e.g., tanks, towers), Romic will be required to investigate the possible off-site migration of contaminated ground water downgradient onto Infinity Salvage property.

If the site wide subsurface investigation shows that contaminated ground water is migrating from the former facility onto the “buffer” land, U.S. EPA will require that Romic address the contamination. The “buffer” land is located adjacent to the southeast boundary of the former facility (outside fence line), occupies approximately 4.6 acres and extends to the southeast to Bay Road.

**The following two comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 4.4. Least Information on Most Contaminated Areas*

*So, what I want to talk about is something that not only I feel is just that everyone else feels, that when people read the report, they're isn't much information, or let alone, there isn't enough information that people can even understand. So, this report has the least information on the most contaminated areas on ROMIC. Now, one of the sites, it could be like the former pond area, the central processing area and the southwest storage areas, but these areas have yet to be tested. So, knowing that all around ROMIC is all contaminated stuff, how are we supposed to know what's in there if it hasn't yet been tested? It could be worse. It could be less, but you never know. It's still contaminated as everyone knows. Now, as your report says that 100,000 gallons of wastewater passes under ROMIC. Now, for the people that can't quite picture it that good, it's probably half of this room and 25 feet up. That's 100,000 gallons that passes per week. That's just only per week.*

*Like I also said on the other sites that I just mentioned, why is it like in the areas that are probably more contaminated or either we don't know how contaminated they are, but like for the other areas that are most contaminated, that's the least information. There is other information for other areas that are least contaminated. There are tons of information that we already know. (A. Alvarez, Youth United for Community Action, October 10, 2007 Public Hearing Testimony)*

*Comment 4.5. Least Information on Most Contaminated Areas*

*I would like to say that this report has the least information on the most contaminated areas at Romic. We don't know enough on the most contaminated areas since this report is very repetitive on the least contaminated ones. It is very important to us to know about these areas especially on the most contaminated areas at Romic. Some examples would be the former pond areas, the central processing areas, and the southwest storage areas. We want more information and not just to keep reading about small areas that have some contamination. Your report also talks about 100,000 gallons of wastewater that passes under Romic per week. Now if Romic already has BIG areas that are contaminated and there is no information in them then how do we know what goes or stays under Rornic? We know that knowing about these areas are important but knowing about that most contaminated areas are even more important. (A. Alvarez, Youth United for Community Action, October 24, 2007 letter)*

**Response to Comments 4.4 and 4.5:** Following closure and removal of all aboveground permitted hazardous waste management units (e.g., tanks, towers), Romic will conduct a site wide subsurface investigation. This investigation will provide sufficient information to adequately characterize the site for future cleanup work.

The potentially most contaminated areas of the site have been least investigated because they were not accessible due to the operational units located above them. These areas will be accessible for investigation after the units are removed during the closure process. The final

remedy uses a two phased approach which clearly separates yet synchronizes the facility closure and site cleanup. The first phase focuses on the closure of the permitted units. The second phase would then proceed with the subsurface investigation and remediation to achieve cleanup goals.

The 100,000 gallon per week figure cited by the commenter is the estimated amount of wastewater Romic discharged into the two on-site ponds during the early 1970s. This is discussed in Section 5.3.1. (Former Pond Area) of the September 2007 Statement of Basis.

*Comment 4.6. Background Figures*

*Page 12, Figure 2. It would be helpful to combine this map with the VOCs in Figure 5 and the locations of the monitoring wells in Figure 6. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comment 4.6:** A single map containing the potential source areas, plume maps and monitoring well locations would be helpful in concept but difficult to comprehend with so much information on a single page. U.S. EPA believes that having three separate but less complex maps would help readers more fully understand the relationship between the potential source areas and the ground water contamination.

*Comment 4.7. Ground water Monitoring in C and D -zones*

*The SB states that fewer ground water monitoring wells have been installed in Zone C than in Zone B even though Zone C shows only slightly lower contaminant levels than B. It would seem prudent to introduce more monitoring wells into Zone C as part of this remedy, however the SB states that only if necessary would further wells be installed.*

*A somewhat more controversial recommendation is that at least one additional monitoring well be installed in Zone D. At present only one has been drilled. We understand U.S. EPA's desire not to contaminate the D-Zone with pollutants from the Zone C by penetrating unnecessarily the aquatard that separates them. However, the present single monitoring well into this site appears to be insufficient. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

**Response to Comment 4.7:** U.S. EPA will assess the appropriate level of monitoring for the A, B and C- ground water zones following completion of the site wide remediation and cleanup. It is likely that one or more additional monitoring wells will be installed in the C-zone to monitor the effectiveness of the enhanced biological treatment.

U.S. EPA believes that it is risky to install additional monitoring wells in the D-zone ground water. Ground water in the on-site D-zone monitoring well is not contaminated. There is a risk that contamination from the upper A-, B- and C-zones could be spread into the D-zone during the well drilling process. There is an aquitard, approximately 80 feet thick, primarily clay, with thin lenses of sand or gravel, that separates the C-zone from the D-zone. This aquitard, which is the most laterally continuous aquitard at the Romic site, provides a robust barrier to contaminant migration in the ground water from the C-zone to the D-zone.

Installing new monitoring wells into the D-zone ground water could involve drilling through the contaminated A, B and C-zones as well as the 80 foot thick C/D aquitard before reaching the D-zone. This process could create a direct conduit for contamination to move downward. U.S. EPA believes that despite drilling techniques that may reduce the chances of cross contamination, that the benefits of collecting the additional data do not outweigh the risks of possibly contaminating the D-zone aquifer.

*Comment 4.8. Description of Site Contamination*

*There must be a better description of chemicals that are/were there and amounts that were/are there. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 4.8:** Romic will conduct a site wide investigation of subsurface soil and ground water contamination following completion of closure and removal of all aboveground permitted hazardous waste management units. DTSC is the lead agency for overseeing the Decontamination, Disassembly and Disposal of the aboveground permitted units. U.S. EPA is the lead agency overseeing the site wide subsurface investigation. The site wide investigation will provide much more detailed information on the location, depth and type of contamination present at the facility. U.S. EPA will make this information available to the community.

*Comment 4.9. Migration of Contaminated Ground water*

*Offsite migration of contamination from contaminated ground water, this lady acted like I was thinking that the contaminant would go, and then it would go around, don't play with me. I want to understand how the contaminant moves. I know it's not the same as water. I am not a hydrologist. I am not an engineer or chemical engineer. I don't understand all the -- but I know that it moves differently, if it has a lot of chemicals in it if it has a lot of chemicals, if it does, than just water. So, don't play me cheap and acting like it's going to go (indicating)? These folks do that all the time -- these people are dumb, they don't know what they're talking about. I resent it. It makes me angry and I want you to stop it. Listen when we speak and then process what we said and then respond. Don't assume because my skin is black that I am dumb, don't assume because I'm a woman and I'm old that I don't know what I am talking about. You do it all the time. I'm tired of it. Our community is tired of it. We want some honesty. You get paid out of our taxes. We want honesty from you. (K. Evans, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comment 4.9:** In general, the volatile organic compounds flow with the ground water beneath Romic. This is because these compounds are sufficiently soluble to mix and combine with the slowly moving ground water. Ground water is flowing eastwards toward San Francisco Bay away from the City of East Palo Alto.

## 5. Facility Closure

### *Comment 5.1. Definition of Facility Closure Needed*

*The SB refers extensively to Facility Closure but no precise definition is given that defines when this event is considered to have occurred. A more concise definition as understood by U.S. EPA is called for. Does this term mean:*

- a) Ceasing of processing operations?*
- b) Above ground decommissioning of Romic's tanks and processing units?*
- c) A scraped or razed site?*

*If the timing of the cleanup is conditioned on facility closure then an accurate definition of what is meant by closure of the facility is needed. Without such a definition, setting up a realistic seven year timeline for meeting the media cleanup objectives will be difficult. Moreover, this definitional ambiguity could cause confusion within the community. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

**Response to Comment 5.1:** Closure of the facility is when the approved Closure Plan has been fully implemented and DTSC has certified that the closure is complete. For more details on the closure of the former facility, please see the Closure Plan. DTSC is the lead regulatory agency overseeing the closure process.

## 6. Financial Assurance

**The following four comments raise similar concerns and are addressed in a single U.S. EPA response:**

### *Comment 6.1. Adequacy of Financial Assurance*

*And, finally, how do we know that this six million dollars I have heard talked about is going to be enough for this cleanup, because if it's going to take somewhere between ten and maybe 20 years, it's sounding like six million is going to be inadequate, and, well, basically, that's it. How do we know if that's going to be enough money to do the job? Thank you. (P. Gardner, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

### *Comment 6.2. Cost Estimates for Remedy Alternatives and Insurance*

*Page 34. Both Alternatives. How much risk is involved in these estimates given that the EPA has not tested the ground under the buildings? Does the budget include a contingency or a Clean-up Cost Cap insurance requirement? (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

*Comment 6.3. Level of Financial Assurance*

*When you said there is a 1.5 million surety bond and on the next page, the process is going to cost 2.5 million, that makes no sense, that makes no sense. You have time to change that, but we're supposed to miss it or not read it. Most of the time Americans don't read, okay? We get a lot of stuff like watching TV, but you know what? You're with a group of people who read. We have all been mentored by Peter Evans and one of the things we learned from him is we read. We don't read it one time. We read it twice. We read it three times if you don't understand it. Don't waste our time. Don't waste our time. Be honest enough to let me say, look, guys, I don't have time. We're not coming down to East Palo Alto. Send us a letter, okay? We'll send it and the final thing was slough contamination. (K. Evans, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

*Comment 6.4. Maximize Financial Assurance*

*I want to talk about the surety bond. In terms of that, I would want to ask for the U.S. EPA to go for the ceiling in terms of cost and have ROMIC pay up front, not later so you guys don't have to go through any litigation or beg them to give you the money. (O. Flores, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comments 6.1, 6.2, 6.3 and 6.4:** Romic has separate financial assurance mechanisms for closure and site cleanup. Romic's financial assurance for Closure of the facility is a surety bond worth approximately \$5.5 million. DTSC is the lead regulatory agency for facility closure. DTSC will evaluate the \$5.5 million and determine if it is adequate to cover current closure costs for the facility. If DTSC determines that the \$5.5 million is not adequate, additional financial assurance will be required.

The cost estimate for the site cleanup is \$2.5 million. Under the U.S. EPA Remedy Decision, Romic is required to pay for the cleanup of the former facility and, in addition, set aside funding equivalent to another \$2.5 million as financial assurance (surety bond). Should Romic default on its obligation to address the contamination, U.S. EPA would use the money set aside as financial assurance to complete the cleanup at the former facility.

The final corrective action remedy for the former Romic facility requires financial assurance for monitoring, construction, and operation and maintenance of the remedy. In 2007, Romic established an interim financial assurance mechanism in the form of a surety bond worth \$1.5 million dollars. U.S. EPA has selected a final soil and ground water cleanup remedy for the facility. The estimated cost of the final remedy is \$2.5 million. Within 60 days after U.S. EPA selects the final remedy, Romic will be required to increase the amount of the existing surety bond or obtain another mechanism with a value of \$2.5 million.

U.S. EPA will evaluate the appropriate levels of financial assurance as new information is obtained. If U.S. EPA determines that \$2.5 million dollars is not adequate, additional financial assurance will be required. For example, Romic will conduct a site wide subsurface investigation after closure and removal of all aboveground permitted units. This investigation will identify the nature and extent of contamination across the site, including beneath the process

plant and other structures. Romic will use this information to develop a plan for implementing the final remedy selected by U.S. EPA. This plan, called a Corrective Measures Implementation Plan or CMIP, will describe the approach and details of how the facility will be cleaned up. Included in the CMIP will be an updated cost estimate that reflects the findings of the site wide subsurface investigation. If the updated cost estimate exceeds \$2.5 million, U.S. EPA will require Romic to increase the level of financial assurance to equal the latest cost estimate. Romic's updated cost estimate will include a contingency factor. The final remedy does not require Romic to obtain Cleanup Cost Cap insurance because Romic already has established financial assurance through a surety bond.

**The following two comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 6.5. Third Party Review of Cost Estimate and Cost Overrun Contingency*

*The financial assurance section of the cleanup plan requires Romic to post a surety bond for the cost for the selected remedy. A third party should review the cost estimate for the remediation and an inflation factor or cost overrun contingency should be added to the value of the surety bond. I suggest a minimum of cost plus 10%-15%, a standard within the construction industry when dealing with below ground costs. In addition, the City of East Palo Alto should be a named an additional beneficiary on the surety bond. Lastly, the bond should stay in place for several years after the cleanup has been completed in anticipation of unforeseen contamination surfacing after completion. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

*Comment 6.6. What is the Process if Cleanup Costs are Higher than Financial Assurance?*

*What is the process if the proposed clean up plan is not effective and/or if the clean up costs are higher than the present estimated financial assurance bonds? Will USEPA make any change of plans part of the bond? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comments 6.5 and 6.6:** The cost estimate for the site cleanup is \$2.5 million. Under the U.S. EPA Remedy Decision, Romic is required to pay for the cleanup of the former facility and, in addition, set aside funding equivalent to another \$2.5 million as financial assurance.

U.S. EPA will evaluate the adequacy of the cost estimate for completing the site cleanup. If U.S. EPA determines that the cost estimate is not adequate, Romic will be required to revise the estimate.

The City of East Palo Alto cannot be named as a beneficiary of the surety bond. U.S. EPA is the regulatory agency responsible for cleaning up the site contamination if Romic should default on its obligation to complete corrective action. U.S. EPA would use the money from the surety bond to complete the cleanup of the facility.



The financial assurance mechanism will stay in place or be adjusted based on a determination from U.S. EPA.. The first step in the process requires Romic to prepare a petition to U.S. EPA requesting that the level of financial assurance be reduced based on the work completed. The petition will document Romic's rationale for making the request.

U.S. EPA will then evaluate the petition and coordinate with the other involved agencies. In general, U.S. EPA will use the following guiding principles to evaluate Romic's petition and make a determination:

- The level of financial assurance should be consistent with the anticipated costs of future monitoring, operation and maintenance, and/or remediation work that still needs to be completed.
- The level of financial assurance for operation and maintenance of remediation systems should be maintained for sometime after the system or portions of the system are shutdown to allow sufficient time to evaluate potential rebound effects. For example, financial assurance for the enhanced biological treatment of contaminated ground water and soil at Romic should remain in place for sometime (2-3 years) after the treatment system or portions of the system have been shutdown. During this time, ground water monitoring data will be used to assess whether contaminant concentrations are increasing or decreasing. If contaminant concentrations show an increasing trend after system shutdown, then further action will be needed (e.g., restart active treatment).

If the final remedy to address subsurface soil and ground water contamination is not effective, U.S. EPA will require that Romic evaluate and develop a new cleanup plan. U.S. EPA would solicit community input on any new cleanup plan for the facility.

**The following two comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 6.7. Minimum Cleanup Costs*

*What is minimum cost per square foot to clean up the land? (D. Tschang (Chang), Resident, East Palo Alto, California, U.S. EPA Comment Form, October 10, 2007 Open House, Public Meeting and Public Hearing)*

*Comment 6.8. Cleanup Costs for Best Cleanup*

*Best cleanup – cost per square foot. (D. Tschang (Chang), Resident, East Palo Alto, California, U.S. EPA Comment Form, October 10, 2007 Open House, Public Meeting and Public Hearing)*

**Response to Comments 6.7 and 6.8:** U.S. EPA does not have data on the minimum or maximum costs for the site cleanup. There are only estimated costs that are used for financial assurance.

*Comment 6.9. Pollution Legal Liability and Cleanup Cost Cap Insurance*

*Did Romic carry Pollution Legal Liability Insurance? If it did, mention the type and amount of coverage, and clarify whether or not it covers the cost of the existing and or potential contamination on the Infinity parcel. Please attach a copy of the Certificate of Insurance. Will Romic and/or its successors be required to purchase Clean-up Cost Cap Insurance to ensure sufficient funds to clean up the affected areas? Consider adding Cost Cap insurance as an additional Financial Assurance. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comment 6.9:** Romic does carry Sudden Pollution Legal Liability Insurance (SPLLI). The SPLLI covers third party damage from environmental releases at the facility. The level of SPLLI insurance is \$1 million dollars per occurrence and \$2 million dollars aggregate which is sufficient to meet the permit/closure requirements of DTSC. There is no requirement from U.S. EPA for SPLLI for the site cleanup.

Clean-up Cost Cap Insurance is a type of insurance that may be used to fulfill financial assurance requirements. Romic has chosen instead to use the surety bond to meet its financial assurance obligations. Thus, Romic and/or its successors will not be required to obtain Clean-up Cost Cap Insurance.

U.S. EPA will monitor the appropriate levels of financial assurance as new information is obtained. If increases in the level of financial assurance are warranted, U.S. EPA will require that Romic increase the value of the surety bond that is currently in place or obtain a new mechanism with a higher face value.

## **7. Five Year Remedy Performance Evaluation Reports**

**The following two comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 7.1. If a report is made every 5 years, how long will it continue? Will USEPA continue to monitor in perpetuity? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 7.2. I have maybe about four or five questions, and my first question is regarding the update report. So, it says on your lovely presentation that the update report will happen every five years. Until when? Until forever? When will the report stop and how is that date determined? Was it just thrown out of the blue or is there a specific reason why your report is going to stop after 10 years, 15 years, 20 years? What is that all about? Okay. (A. Turner, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comments 7.1 and 7.2:** The requirement to submit Five Year Remedy Performance Evaluation Reports (Five Year Reports) will stay in place or be adjusted based on a determination from U.S. EPA. Romic may petition U.S. EPA when it believes that the Five Year

Reports are no longer necessary or that the submission schedule needs to be revised. U.S. EPA will evaluate Romic's petition and any supporting documentation. U.S. EPA may consider many factors in making this determination including whether the five remedy performance objectives have been achieved. The five remedy performance objectives are: protect human health and the environment, attain media cleanup objectives, remediate the sources of releases, limit off-site migration of contaminated ground water and limit potential for vapor intrusion into structures. These performance objectives are described in further detail in Section 13, Evaluation of Corrective Action Remedial Alternatives/Recommended Alternative, of the September 2007 Statement of Basis.

## **8. Ground Water Cleanup**

**The following five comments raise similar concerns and are addressed in a single U.S. EPA response:**

### *Comment 8.1. Monitored Natural Attenuation*

*The remedy proposes using monitored natural attenuation (MNA) to reduce overtime the contaminants in the ground water to the proposed media cleanup objective. According to the SB, "At some point, active remediation will cease and the concentrations of contaminants in ground water will be allowed to attenuate naturally to eventually achieve the media cleanup objectives for restoration of ground water quality."*

*It is not clear within the remedy when this will occur or what objective standard will be used to determine the commencement of the MNA phase. (At what rate does MNA occur?) Moreover how would one determine the start of the MNA phase if there seems to be an absence of data regarding MNA degradation of the media or any reference to MNA standards in the SB. Without an objective standard as to when to start this process, what would prevent a premature suspension of active bio-remediation and conversion to MNA, thus prolonging the cleanup unnecessarily? (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

### *Comment 8.2. Monitored Natural Attenuation*

*Please be more specific in explaining when is the "some point" of natural attenuation? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

### *Comment 8.3. Monitored Natural Attenuation*

*Page 5, 3rd paragraph. Please be more specific at which point active remediation will cease and the standard and/or the threshold that will be used to determine that it is safe. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

*Comment 8.4. Monitored Natural Attenuation*

*I also have two questions that I demand to be answered. My first question is when will the "some point" of natural attenuation will happen? [Note that the second question relates to when the investigation will start in the inaccessible areas and is addressed in the Investigation and Remediation of Inaccessible Areas section of this document.] (A. Alvarez, Youth United for Community Action, October 24, 2007 letter)*

*Comment 8.5. Monitored Natural Attenuation*

*Another thing is, is the question that I have is that: When is the some point of natural attenuation will happen? (A. Alvarez, Youth United for Community Action, October 10, 2007 Public Hearing Testimony)*

**Response to Comments 8.1, 8.2, 8.3, 8.4 and 8.5:** Enhanced biological treatment will be used together with monitored natural attenuation (MNA) to remediate the soil and ground water. Enhanced biological treatment will first be used to significantly reduce contaminant concentrations and be followed-up with the MNA until the media cleanup objectives are achieved. MNA allows natural processes to reduce contamination in soil and ground water. These processes include biodegradation, dispersion, dilution, sorption, and volatilization. Implementation of monitored natural attenuation typically involves continued monitoring of contaminant concentrations to quantify attenuation rates and progress toward meeting the media cleanup objectives.

In general, U.S. EPA will use the following guiding principles to determine when MNA becomes an appropriate remedial approach:

- Ground water contaminant concentrations in the given area should be reasonably close to their corresponding media cleanup objectives.
- Contaminant concentrations in the ground water should either be decreasing or maintaining a stable level.

If volatile organic compound concentrations begin to increase in the ground water after MNA has been implemented, this suggests that MNA is not effective and may necessitate additional enhanced biological treatment. If trends in the contaminant concentrations show continued declines, this suggests that MNA is working.

**The following two comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 8.6. Doubts Effectiveness of Enhanced Biological Treatment*

*I was born in this community hot-rodged motorcycles and cars since I was ten years-old. I worked at the local auto parts store. I lived here for twenty years. I was born and raised here. I got to know a lot of the homeless people on Bay Road. They would live by the wrecking yards. I*

*know what they died of. They pretty much faded away. They all died of cancer. What I am trying to get at is I am not sold of this cheese-whey molasses mix that is going to fix everything for East Palo Alto, not at all. I need to be absolutely sure that which is this is going to work. I want to see five litres of the material that you pulled out of ROMIC, the contaminated water and have your cheese whey fix those portions still, because I'm a plumber. I take water to different companies to have it analyzed. I don't know exactly what's in there and if you want to talk about clean drinking water, I can tell you what clean drinking water is and how to make it. So, I need to be sold on this process. I don't want to be hustled or sound like I'm going to be hustled, but right now, I doubt this cheese whey and molasses mix is going to work. I'm doubting it. Prove it to me that it's going to work, that it does work and like and one way to prove it to me, like I say, is pull five litres from, that put a few drops of molasses and whey and show, show me how that's going to fix that and I guess the constant temperature of that soil, I doubt it, I really seriously doubt it. I think we discover the best, the best products you spoke of earlier, whatever it takes. I'm just not sold on that and the community is, pretty much still feels the same. U.S. EPA has now been around for 20 years and all of a sudden it says, well, this is going to work. I can't say that to anybody else here in East Palo Alto that this cheese whey product that you're telling me it's going to work, that you're going to give me all kinds of paperwork that it's going to do this, but when it's hard to discern, I want to know how it works and that it works by me testing that myself. Like I said, I know the places where to take it to find out what's in it when I get it in its raw form, and through the process that you guys say it will work, and how long. let's see, I'll bet it won't work. Thank you. (B. Huerta, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

*Comment 8.7. Documentation of Remedy Effectiveness Needed*

*One day, some of you folks will understand what I am saying and some of you will not take what we're saying and make it sound stupid, someday. Like Langston Hughes had a poem, said I guess that's going to be me, myself, telling my story and forget all the others. Last year, I think this group came to East Palo Alto and made a presentation on the whey and molasses, what was going on down at Romic. I don't understand why we don't have the results of that, that molasses and whey business. You have been doing it for awhile. You have put down those wells. You have made the presentation to us. We were there. We still have those things you passed out. Why there is no tangible results of the cheese whey and molasses that you can present to our community this year, I don't know. So, we're still here saying, well, does it work? Well, EPA said it works. Well, measurable, it's called qualify, quantify. (K. Evans, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comments 8.6 and 8.7:** Enhanced biological treatment involves injecting a mixture of cheese whey, molasses and water into the solvent-contaminated soil and ground water. The cheese whey and molasses act as a food source for natural microbes that live in the subsurface. These microbes breakdown the solvents into carbon dioxide, water and salt.

The effectiveness of enhanced biological treatment to reduce volatile organic compound concentrations at the former Romic facility has been proved during pilot testing and use at other heavily contaminated areas of the site. For example, volatile organic compound concentrations in monitoring wells located along the eastern (downgradient) boundary of the facility show a

consistent decreasing trend and in some cases are below detection limits. As shown in the following three examples, contaminant levels have significantly decreased as a result of the enhanced biological treatment using cheese whey and molasses injections.

A-zone. Concentrations of Cis-1,2-Dichloroethylene in well RW-2A went from 21,000 ug/L in September 2003 to non-detect at 2.5 ug/L in December 2007. Cheese whey and molasses injections in this area began in 2003.

B-zone. Concentrations of Trichloroethylene in well RW-5B went from 12,000 ug/L in June 2005 to 14 ug/L in December 2007. Cheese why and molasses injections in this area began in 2005.

C-zone. Concentrations of vinyl chloride in well RW-17C went from 2,600 ug/L in December 2005 to 370 ug/L in December 2007. Cheese why and molasses injections in this area began in 2005.

Reference: Third and Fourth Quarter 2007 Semiannual Ground water Monitoring Report, Romic Environmental Technologies Corporation, February 13, 2008

Further quantification of the effectiveness of enhanced biological treatment can be found in the U.S. EPA September 2007 Statement of Basis and the following reports prepared by Romic's consultant Arcadis U.S., Inc.: Pilot Test Status Report, August 21, 2001, Start-up Report – Interim Remedial Measures, May 14, 2004 and Start-up Report - Expansion of the Ground water Interim Remedial Measures, January 28, 2005. These documents are available for viewing at the U.S. EPA information repository for the cleanup plan selection which is located at the East Palo Alto Public Library.

Since enhanced biological treatment needs an anaerobic (low oxygen) environment to work, it is not possible to take a sample of contaminated ground water out of a well and mix it with cheese whey and molasses to confirm that the process works. The anaerobic environment is one without oxygen and is very difficult to recreate out of the natural subsurface conditions.

If the enhanced biological treatment is not effective, U.S. EPA will require that Romic develop a new cleanup plan for addressing soil and ground water contamination beneath the facility.

#### *Comment 8.8. Enhanced Biological Treatment*

*In general, the use of in-situ enhanced biological treatment as the preferred remedial technology appears to be a prudent approach. Assuming that this process is as effective at scale as it has been during the limited test phase period, it offers greater protection against off gassing of VOCs into the air and reduces human exposure to those chemicals. Pump and treat technologies would be far less acceptable due to the potential for surface level exposure by residents and workers within the vicinity of the site. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

**Response to Comment 8.8:** U.S. EPA agrees. Pump and treatment technologies would also be much less effective at cleaning up the contaminated ground water.

*Comment 8.9. Effectiveness of Monitored Natural Attenuation*

*Lastly, on this issue, there seems to be an internal contradiction within the SB concerning MNA effectiveness. The SB states on page 24, that "...results of the comparison [of sediments] indicate that the concentrations and distribution of VOCs in sediment are similar to concentrations previously observed in the sampling conducted in the early 1990's." This juxtaposition of theory vis-à-vis fact is somewhat alarming. Assuming 15 years have past and no measurable attenuation has occurred, how long would it take to remediate the ground water by using MNA? The SB is very unclear with regard to this issue. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

**Response to Comment 8.9:** The rate of volatile organic compound degradation in sediments and ground water are not comparable. They are two different media and have different chemical processes affecting the breakdown of contaminants.

Monitoring is a big part of Monitored Natural Attenuation or MNA. Once MNA is in place, U.S. EPA will closely evaluate future monitoring data to identify any trends. If volatile organic compound concentrations begin to increase in the ground water after MNA has been implemented, this suggests that MNA is not effective and may necessitate additional enhanced biological treatment. If trends in the contaminant concentrations show continued declines, this suggests that MNA is working.

## **9. Investigation and Remediation of Inaccessible Areas**

**The following six comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 9.1. Removal of Structures and Site Cleanup*

*Based on the need for additional investigation in inaccessible areas, the proposed remedy should call for, at a minimum, the razing of those structures that are within the three primary contaminated areas identified in the SB: the former pond area, the central processing area, and the southwest storage area.*

*Again, it seems counterintuitive to approve the proposed remedy when that very document appears incomplete unless these areas have been fully investigated. Conditioning the approval of the SB on the demolition and removal of the structures within or near the contaminated areas would incentivize Romic to move quickly in that direction. Ideally, the buildings should be removed before Phase 2 begins. U.S. EPA should mandate that. Alternatively, the structures should be completely removed during the closure period in order to ascertain the full extent of the contamination. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

*Comment 9.2. Removal of Facility Structures and Site Cleanup*

*Figure 5 on page 17 and figure 2 on page 11 of the SB illustrate the extent of existing contamination and potential contamination, respectively, on the site. As noted earlier in these comments, the three primary contaminated or potentially contaminated areas per these illustrations are the former pond area, the central processing area, and the southwest storage area. All of these areas have structures above them. The remedy will be incomplete or at a minimum significantly delayed unless it requires the removal of any structures above or next to these areas. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

*Comment 9.3. Removal of Facility Structures and Site Cleanup*

*First of all, a closed site is not clean until it's flat. In order for the Romic facility to be clean, all the buildings on this land need to be removed so that proper testing and clean-up can occur all over this property. Chris Stampolis, Director of Government and Community Relations at Romic, has told our community, "A closed site is not necessarily a flat site." But, phase 2 of the clean-up REQUIRES tear-down of the buildings in order to drill and conduct testing. Page 32 of the "Statement of Basis" reads: "Phase 2 remediation is directed at currently inaccessible areas that become available either during or after Facility Closure." Therefore, the clean-up and the teardown of the buildings have to be gone by the time Phase 2 begins. How would USEPA respond to Mr. Stampolis' assertion? What actions will USEPA take to enforce this, especially since Mr. Stampolis is informing the community about their plans? (M. Cruz, Youth United for Community Action, Resident City of East Palo Alto, California, October 22, 2007 letter)*

*Comment 9.4. Removal of Facility Structures and Site Cleanup*

*We want to see it nothing and ugly site is a not a flat site. A closed site is not cleaned up until it's flat. So, in order for this site to be cleaned, all of the buildings from this land need to be removed so that testing and cleanup can occur all over this property. Chris Stampolis has told the community that a closed site is not a flat site, but phase two of the cleanup requires that teardown of buildings in order to drill and conduct testing and cleanup buildings are supposed to be gone by then. How would you respond to Chris? And how is this going to be enforced? In the history section you said that the most contaminated areas are where this building stands on. So, how would you clean this site if the buildings are there? I would like you guys to address my concerns in the cleaning part and it's logical that there should be no buildings on this site to be left there and we would like to see that site like this with no ROMIC there, no buildings. Thanks. (M. Cruz, Youth United for Community Action, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

*Comment 9.5. Removal of Facility Structures and Site Cleanup*

*In the Operations History Section, it states that:*

*Past releases of hazardous wastes (e.g., spent solvents) and/or hazardous constituents from the central processing area, former drum storage areas and former wastewater receiving*



*ponds have impacted soil and ground water at the Facility. These releases have occurred as a result of accidental spills, tank and container overfills, flooding events, and breaks in pipes. In addition, a trough connecting the central process area and the former wastewater receiving ponds also may have acted as a source of contamination.*

*It further states that:*

*Many of these potential sources of contamination have been investigated as part of previous Facility investigations; however, those that have not yet been evaluated, such as the Administration/Laboratory Building Septic Tank and Drainfield, will be evaluated during or following implementation of the Facility Closure Plan.*

*Therefore, potentially, the most contaminated areas of the Romic site are where these buildings are located. So, how would USEPA proceed to clean this site if the buildings were there?*

*I would like for you to address my concerns in the clean-up section of your report. It's only logical that there should be no buildings on this site in order for the Romic land to be cleaned thoroughly. (M. Cruz, Youth United for Community Action, Resident City of East Palo Alto, California, October 22, 2007 letter)*

*Comment 9.6. Removal of Facility Structures and Site Cleanup*

*A clean site is a flat site. The report contains the least amount of information on the most contaminated areas. It also says that the most contaminated areas are directly under current structures. But the report does not spell out if these structures will be removed. Thus, a clean site is a flat site. These structures must be removed in order to conduct testing and perform clean up. (B. Naranjo, Resident, East Palo Alto, California, October 24, 2007 letter)*

**Response to Comments 9.1, 9.2, 9.3, 9.4, 9.5 and 9.6:**

It is U.S. EPA's current understanding that all structures and units on the former Romic facility property will eventually be removed. However, this may change. The Closure Plan addresses Decontamination, Disassembly and Disposal (DD&D) of the aboveground permitted hazardous waste management units (i.e. tanks, distillation towers). Please refer to the DTSC Closure Plan for details on how this will occur. DTSC is the lead regulatory agency for closure of the former facility. Removal of non permitted units such as office buildings is on a strictly voluntary basis since they are not part of the Closure Plan.

**The following five comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 9.7. Soil Excavation and Removal*

*The extent of soils off-hauling activity is also contingent on the Phase 2 investigations. Off gassing of additional contaminants that may be found in the soil below the three primary inaccessible contaminated areas is also of concern. The City and residents should be informed*

*of the results of Phase 2 investigations and the respective remedy that will be used once the investigation is completed.*

*Also of concern is the toxicity of the 3100 cubic yards of soil proposed to be removed and any off-gassing that may occur during the process of staging and transportation. In addition, with the potential for additional excavated soil to be removed from the site during Phase 2, the SB should define in more precise language how this excavation and off-hauling process will be conducted. At present the SB states only that it " shall be managed in accordance with State and Federal Laws." Additional elucidation is needed. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

#### *Comment 9.8. Soil Excavation and Removal*

*My second question is regarding the haul off process, so, if and when U.S. EPA or ROMIC decides to remove some chemicals, specifically within the phase two section while we're examining that unknown territory, if the chemicals have to be removed, what is the process and how will that soil be contained, if it has all those volatile inorganic compounds and how will we be assured that all the soil is going to be contained within the trucks, if not in East Palo Alto? We have had that problem in the past. We just make to sure if it's getting out of here, we just want to make sure it's getting out of here and not to someone's backyard. (A. Turner, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

#### *Comment 9.9. Soil Excavation and Removal*

*Why has off-haul and excavate the soils been proposed since there are VOC's present? If the change is so significant, is there going to be an addition to the plan and another public hearing? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

#### *Comment 9.10. Community Involvement for Phase 2 Work*

*The remedy proposes to divide the ground water and soils investigation into two phases. However, the remedy seems incomplete without knowing the results of the Phase 2 investigation. Because Phase 2 entails investigating and remediating currently inaccessible areas of the Romic site, approving this proposed remedy may be premature.*

*At the very least, U.S. EPA should hold another public hearing to let the City and the community know what has been discovered during the second investigative phase. Ideally, both the City and the community should have an opportunity to comment on the results and the proposed remediation of any new contaminants discovered during Phase 2 investigations. Alternatively, the approval of the remedy could be conditioned on an approved timeline submitted by Romic for removing structures and commencing testing of these inaccessible areas. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

*Comment 9.11. Informing the Community about Investigation Findings*

*There seems to be the least information on the most contaminated areas of this site because this is where the buildings still are. 1) Former pond areas, 2) central processing areas, 3) Southwest storage areas*

*What is the plan for informing the Public of what is found once the buildings are removed and the soil and water beneath are tested? Will there be an addendum to the plan and another Public Hearing? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comments 9.7, 9.8, 9.9, 9.10 and 9.11:** The September 2007 Statement of Basis and this Final Remedy Decision provide a conceptual framework for the site cleanup. The conceptual framework calls for using excavation of contaminated soils and enhanced biological treatment to address ground water contamination. The details of how the technologies will be used at the former facility (e.g., location and depths of excavations) will be included in a cleanup plan called a Corrective Measures Implementation Plan (CMIP). Following closure and removal of all permitted units and other structures, Romic will conduct a site wide subsurface investigation to identify areas of contamination. Information from the site wide investigation will be used in conjunction with the conceptual framework to develop the CMIP. Thus, the details of where and how much soil excavation will take place will not be known until Romic completes the site wide subsurface investigation.

The CMIP defines the cleanup work that will be done and all of the safety measures that will be taken to ensure the community and nearby workers are protected during the cleanup process. U.S. EPA will ensure that the CMIP contains measures to mitigate volatile organic compound emissions from excavation of contaminated soils and the transport of such soils off-site. The exact nature of the safety measures are not known at this time since the CMIP has not yet been prepared. U.S. EPA, DTSC and/or RWQCB representatives will be periodically present at the site to observe the field work and ensure that it is being done in accordance with the approved CMIP.

U.S. EPA will keep the community informed throughout the investigation and cleanup process. This effort includes making copies of the site wide investigation report and CMIP available for review by community members. If there are significant changes from the remedy proposed in the September 2007 Statement of Basis, U.S. EPA will propose an amended remedy and solicit public comments.

**The following four comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 9.12. Timeframe Goals for Phase 2 Investigation and Remediation*

*According to the SB, "...most contaminated soils (contaminant source areas) are not currently accessible to investigation and remediation." Further on in the paragraph it states "Phase 2*

*Remediation is directed at currently inaccessible areas that become available either during or after Facility Closure” (pg. 28).*

*This timing issue poses a conundrum by putting into question the approval of this plan if we do not have the data for most of the contaminated source areas. I believe this is the reason U.S. EPA’s is proposing a two-phased remedy. However, this approach makes it difficult for the City and the community to comprehend fully the extent of the cleanup. At a minimum, we would require this data in order to develop an accurate cleanup timeline. If the remedy made some provision for public input into the Phase 2 investigation results, this concern might become less of an issue. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

*Comment 9.13. Inaccessible Area Investigation/Remediation*

*When will the investigations occur in inaccessible areas? How will the work be done? When and how will the Public be notified of this process? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 9.14. Inaccessible Area Investigation/Remediation*

*Now, that's a question that I have, and another is that when will the investigation occur in the inaccessible areas, how, when and when the public know about that? (A. Alvarez, Youth United for Community Action, October 10, 2007 Public Hearing Testimony)*

*Comment 9.15. Inaccessible Area Investigation/Remediation*

*I also have two questions that I demand to be answered.....And my second question is, when will the investigation start in the inaccessible areas? (A. Alvarez, Youth United for Community Action, October 24, 2007 letter)*

**Response to Comments 9.12, 9.13, 9.14 and 9.15:** The investigation of subsurface soil and ground water contamination for the currently inaccessible areas and other parts of the facility will begin after aboveground permitted hazardous waste management units and other structures are removed during the closure process. Romic will prepare a single workplan for investigating the subsurface contamination. The single site wide investigation will satisfy the regulatory requirements of both facility closure and site cleanup.

U.S. EPA will keep the community informed by providing an opportunity for informal public review of the investigation workplan and the cleanup plan called a Corrective Measures Implementation Plan or CMIP (see Response to Comments 11.16 and 11.17 for details). The CMIP defines the cleanup work that will be done and all of the safety measures that will be taken to ensure the community and nearby workers are protected during the cleanup process.

## **10. Land Use Restrictions and Risk Management Plan**

**The following five comments raise similar concerns and are addressed in a single U.S. EPA response:**

### *Comment 10.1. City Involvement in Land Use Restrictions and Risk Management Plan*

*Since the City of East Palo Alto through its constitutionally granted police powers is empowered to regulate land use within its city limits, the land use restriction provisions of the Remedy should be developed in consultation with the City's Planning Department and Commission. This latter body serves as the advisor and recommender of land use policy to the City Council and implementer of those policies adopted by the Council. In addition, the City of East Palo Alto should be a third party to the oversight and enforcement of these covenants. Lastly, revisions to the land use covenants should trigger a noticed public hearing that would again require City participation in the review process.*

*Related to the issue of land use restrictions on the Romic land is the Risk Management Plan (RMP) that will be required before any development activity may occur on the site. Again, the City should be a party to the review and approval of any RMP plans. It should be the obligation of the developer or proponent of the RMP to pay for all costs associated with administrative review or revision of any proposed plan. (C. Romero, Vice-Chair, East Palo Alto Planning Commission*

### *Comment 10.2. Approval of Risk Management Plan*

*The Remedy wording as to which agency approves the RMP is ambiguous. It states, "a Risk Management Plan (RMP) is prepared for the specific project and is approved in writing by U.S. EPA or DTSC." Some clarification is required. Under what circumstances would the respective agencies approve the plan? Is only one agency approval necessary? Again, regardless of whether it is DTSC or U.S. EPA or both that approve the plan, the City of East Palo Alto should play a role in this process. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

### *Comment 10.3. Covenant to Restrict Use of Property*

*You are proposing to restrict future land use through a "Covenant to Restrict Use of Property". How is your agency working with the City of East Palo Alto's Planning Commission, Planning Department, and City Council to ensure that the land use fits the future plans of the area? (C. Domingo, Youth United for Community Action, November 1, 2007 email)*

### *Comment 10.4. City Review of Covenant to Restrict Use of Property*

*USEPA wants to restrict future land use through a "Covenant to Restrict Use of Property". The proposed remedy must include "land use restrictions with a risk management plan". We believe that the City of East Palo Alto must be one of the agencies that reviews and approves any such covenants. The City of East Palo Alto must insure that this process actually works due to its*

*implications for the success of the Ravenswood Business District. We want to insure that there are no 'unilateral' covenants to restrict uses of the property so that they function as a 'crutch' to evade the total clean up by Romco, DTSC, and/or USEPA. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 10.5. Future Development*

*I'm Lorraine Holmes. I have lived in the community since 1958. I have seen the good, the bad and the ugly and let me tell you I live in Gardens and that's what it was. It was the Gardens. You couldn't park a vehicle on the street when I moved here. You had a two-car garage and two-car driveway. That's where you parked your vehicles. You couldn't have a commercial truck in the residential area. I am here representing the seniors of East Palo Alto. Like I say, the air was good when I moved here and throughout the years. Then, with the people coming in, vehicles coming in, pollution business and everything like that, but the worse thing you could ever do is compromise your health for the almighty dollar. It's not worth it, and like I say, you know, and I'm taking your word as faith, you know, that you will clean all this up. Once chemicals are put into the ground, you can't clean them up. Have you ever tried to clean up a bleach stain once it stains something? You can't do it. You can hope it goes away. We got a lot of churches here. We'll pray it goes away, but that's it. What we need to have is an understanding with any developer that comes in here is that the community has to be first and foremost informed about their intentions, nothing underneath the cover, because sooner or later whatever is underneath the cover is going to come out. Thank you. (L. Holmes, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comments 10.1, 10.2, 10.3, 10.4 and 10.5:** U.S. EPA has and will continue to consult with the City of East Palo Alto on all aspects of the cleanup including the Covenant to Restrict Use of Property (Covenant).

U.S. EPA and DTSC are the regulatory agencies responsible overseeing the facility closure and site cleanup of soil and ground water contamination. As such, it is the role of U.S. EPA and DTSC to be responsible for enforcement of the Covenant which is part of the final remedy for the site. The City of East Palo Alto has ultimate legal authority through the land use permitting process to approve any redevelopment of the Romco property.

U.S. EPA will ensure that the community is informed about any actions related to the Covenant and Risk Management Plan (RMP). See the U.S. EPA Response to Comments 11.16 and 11.17 for details on how U.S. EPA will involve the community for possible changes to the Covenant.

The Covenant restrictions specify that U.S. EPA or DTSC can approve an RMP. U.S. EPA and DTSC are both parties to the Covenant and as such have authority to approve certain required documents. The language of the Covenant will include a discussion of agency responsibilities.

**The following two comments raise similar concerns and are addressed in a single U.S. EPA response:**

**Comment 10.6. Potential Residential Uses**

*(Page 6. 1 st Bullet: Page 19, 2nd Paragraph: Page 34.) Are there any conditions under which residential uses would be feasible? What about high density residential uses over a concrete parking podium? If there are conditions under which residential may be allowed, please limit institutional control restrictions accordingly to provide the City the greatest reuse flexibility. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

*Comment 10.7. Day Care Prohibition*

*Page 7. Would the prohibition on day care include a day care center located within a high density office project? (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comments 10.6 and 10.7:** The land use restrictions may, with U.S. EPA or DTSC approval, be revised if site conditions should change in the future and/or if a Risk Management Plan (RMP) indicates different land uses are acceptable.

The land use restrictions such as the prohibition for residential development or for a day care center are subject to change through the variance provisions of the Covenant to Restrict Use of the Property (Covenant). If the RMP risk analysis indicates that the property is suitable for residential development, the owner or the occupant (with owners written permission) may apply for a variance to the residential development or day care center restriction.

A RMP is required by the Covenant for any future redevelopment of the Romic property. The RMP will evaluate the potential health impacts for a proposed redevelopment project and identify possible mitigation measures after the cleanup process has been completed at the site. The RMP will identify, at a minimum, the previous site history, the nature and extent of contamination from all media, the potential pathways of human exposure, estimates of health impacts from existing site contamination, and practical ways to mitigate the impacts for the specific project. The Covenant and the RMP work together to ensure that potential impacts from exposure to contaminated soils, ground water or other media are managed in a manner that is protective of human health and the environment.

*Comment 10.8. Revision of Land Use Covenant*

*Who will actually be responsible for revising the land use covenant of the property and what are the principles by which these can be revised? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 10.8:** The proposed remedy did not include the exact language that will appear in the Covenant to Restrict Use of the Property (Covenant). The specific language for the Covenant will be developed after U.S. EPA selects the final remedy.

Typically, the Covenant will include variance and termination provisions that specify how the Covenant can be revised or terminated. These provisions usually indicate that the property owner or occupant (with the owners written consent) can apply for a variance to certain requirements or for termination of the Covenant.

U.S. EPA or DTSC can approve a variance and/or termination of the Covenant. The Covenant refers to U.S. EPA or DTSC for the approval of certain documents. U.S. EPA and DTSC are both parties to the Covenant and as such have authority to approve certain required documents. The language of the Covenant will be revised to include a discussion of agency responsibilities.

U.S. EPA and DTSC will consider the rationale, supporting documentation, findings of a Risk Management Plan, input from the other regulatory agencies and input from the community in making a decision on whether to approve an application for a variance or for termination of the Covenant.

## **11. Media Cleanup Objectives**

**The following seven comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 11.1. Ground Water Cleanup Objectives, Maximum Contaminant Levels for Drinking Water*

*One media clean up objective is for the contaminated ground water to reach "Maximum Levels for Drinking Water". Why maximum and not minimum levels of threshold? You say you strive for the stringent levels for aquatic habitat protection. (C. Domingo, Youth United for Community Action, November 1, 2007 email)*

*Comment 11.2. Ground Water Cleanup Objectives, Maximum Contaminant Levels for Drinking Water*

*One media clean up objective is for the contaminated ground water to reach Maximum Levels for Drinking Water". Why maximum threshold levels and not minimum levels of threshold? It appears that USEPA is striving for the most stringent levels for aquatic habitat protection, but are not intending to clean up the ground water contamination all the way. When you review the list of chemicals that are present and potentially could invade the ground water, you will notice how deleterious they are for human use of any kind. "All residual contamination may remain in soil and ground water." However Maximum Cleanup Levels are supposed to "Take into account a chemical's health risks and include a high margin of safety for the public." Please define the wording of "the contaminated ground water to reach MAXIMUM Levels for Drinking water. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*



*Comment 11.3. Ground Water Cleanup Objectives, Maximum Contaminant Levels for Drinking Water*

*Secondly, in Section 10.1 Cleanup Objectives, you report that the USEPA is considering cleaning the water underneath Romco to the "strictest levels". You write:*

*Maximum Contaminant Levels for drinking water are proposed as the site-wide cleanup objective for all ground water at the Facility.*

*Why is East Palo Alto being cleaned to the lowest standards of drinking water? Why are we being screwed and why is our community being put through all this again? How would you feel if you were in our position? In my opinion, the ground water is not clean until you and your staff at USEPA are able to drink the water and let this water quench your thirst on a hot summer day. (G. Mena, Youth United for Community Action, October 23, 2007 letter)*

*Comment 11.4. Ground Water Cleanup Objectives, Maximum Contaminant Levels for Drinking Water*

*So, if it's not drinking water, then just say that. It's not a source and it doesn't have potential. So, if it has potential, then riddle me this: This is the straight contamination of the water, and this is the potential drinking water that Ron said that we could get to. In the level, this is just levels of dirty drinking water (indicating), and this is the cleanest drinking water. East Palo Alto is here, right now, at this point, but what U.S. EPA is just trying to bring us up to here. Now, my question was: Why are we being clean to the lowest standard? Right? Just as the young lady in the back over there, she said that we're tired of being screwed, even though that's not the right word, or a nice word, we're tired of being screwed. So, since the drinking water is the lowest standard and it is potentially a drinking source, this is the water from the bay in East Palo Alto, so, and this is the tap water that we got from our office. Which one would you drink? You know, and I would like you to have this. MR. ARMANN: Thank you. GABRIEL: You're welcome. Take a sip." (Gabriel, Youth United for Community Action, October 10, 2007 Public Hearing Testimony)*

*Comment 11.5. Ground Water Cleanup Objectives, Maximum Contaminant Levels for Drinking Water*

*Why isn't the goal for fully cleaned water as opposed to the dirtiest that humans can 'tolerate'?" (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 11.6. Media Cleanup Objectives for Ground water*

*In the section of Development of Corrective Action the three approaches to cleaning the site are laid out. They are:*

*1. Nothing*

2. Excavation of soil under building - part of closure, not after

3. Bio-Remediation (no extraction in this alternative)

*We believe that the level of cleanliness of the ground water should be based on measurable objective standards. What are the standards? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 11.7. Maximum Contaminant Levels*

*More stringent MCL's (Maximum Contaminant Levels) are required. There can be NO contamination of drinking water. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comments 11.1, 11.2, 11.3, 11.4, 11.5, 11.6 and 11.7:** U.S. EPA proposed Maximum Contaminant Levels (MCLs) for drinking water as the site-wide media cleanup objective for all ground water at the former Romic facility. U.S. EPA Preliminary Remediation Goals (PRGs) were proposed when there were no MCLs available for a given contaminant.

The MCLs are very stringent standards that are used almost universally as ground water cleanup goals for every U.S. EPA Superfund and Resource Conservation and Recovery Act (RCRA) remediation site in the country.

MCLs mean the maximum permissible level of a contaminant in water delivered to any user of a public water supply system. MCLs are enforceable standards for drinking water. Primary MCLs take in to account a chemical's health impacts.

The majority of drinking water supplied to East Palo Alto residents and businesses is provided by the San Francisco Hetch Hetchy system, which originates in the Sierra Nevada Mountains. All of the drinking water supplied to East Palo Alto meets the MCL standards. There is no such thing as minimum contaminant levels.

**The following four comments raise the same concern and are addressed in a single U.S. EPA response.**

*Comment 11.8. Ground Water Use*

*First of all, you as the United States Environmental Protection Agency need to be more clear in your report. In Section 10.1 Cleanup Objectives, you write:*

*Ground water at the Facility is salty due to the close proximity to the San Francisco Bay. Thus, the ground water at the Facility is not currently being used as a drinking water supply and is not likely to be used for this purpose in the future.*

*In Section 6.2 Hydrology, you also write:*

*Ground water is brackish (salty) and unsuitable as a drinking water source.*

*However, later, in Section 10.1 Clean up Objectives, you then further write:*

*However, the ground water at the Facility is subject to the requirements of California's Porter-Cologne Water Quality Control Act and the San Francisco Bay Regional Water*

*Quality Control Board's ("RWQCB") Basin Plan, which mandates the protection of waters of the state for beneficial uses including use as a potential drinking water source.*

*WHICH ONE IS IT? Is the water under Romic NOT a drinking source or a POTENTIAL drinking source? We don't want it to be a drinking source at all because it is toxic and hazardous to East Palo Alto residents, and for any human for that matter. (G. Mena, Youth United for Community Action, October 23, 2007 letter)*

*Comment 11.9. Ground Water Use*

*.....what brings me here tonight was the basis in proposed soil and ground water remedy in regards to the level of ground water cleanup. So, I'm just going to go through this step by step so everyone can get the idea. So, basically, this is ROMIC and this is all their toxics, and basically, these are the wells that they injected the cheese-whey into the contaminated water, and when I had read the report and how Ron Leach has said that it is potentially can become drinking water, but it also said in the report that the water is too dirty to drink. So, one of my questions was: Which one was it? So, if it's not drinking water, then just say that. It's not a source and it doesn't have potential. (Gabriel, Youth United for Community Action, October 10, 2007 Public Hearing Testimony)*

*Comment 11.10. Ground Water Use*

*At one point the discussion says that the ground water to be remediated is not part of the local drinking water. At this point in discussion it is as though the ground water to be remediated DOES become part of the aquifers that serve as local drinking water. Which is it? (S. Webster,*

*K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 11.11. Ground Water Use and Cleanup Objectives*

*Some clarification is called for in this section regarding ground water cleanup objectives. The SB states that the ground water at the site is to be cleaned to maximum contaminant levels allowed for drinking water. However, elsewhere in the document the SB states that the ground water below the site is brackish and unsuitable for drinking. Will this water ever be deemed a drinking/potable water source? If the answer to this question is no, then a qualifying statement*

*to that extent should accompany the ground water media cleanup to avoid confusion among the public. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

**Response to Comments 11.8, 11.9, 11.10 and 11.11:** The ground water down to a depth of approximately 80 feet beneath the former Romic facility is not and probably will never be used as a source of drinking water. However, the ground water is designated as a potential drinking water source by the California's Porter-Cologne Water Quality Control Act and the RWQCB Basin Plan, which mandates the protection of waters of the state for beneficial uses. The ground water, due to its close proximity to San Francisco Bay, is unsuitable for nearly every purpose due to its high salt content.

Total Dissolved Solids (TDS) is a measure of the salt content of water. The maximum recommended TDS for drinking water is 500 milligrams per liter (mg/L). TDS in the A, B, and C ground water zones beneath the former facility exceeds not only the recommended TDS drinking water limit, but approaches (or exceeds) the TDS of seawater. TDS at Romic ranges from 1,200 mg/L to 36,000 mg/L. Seawater ranges from 30,000 to 40,000mg/L. South San Francisco Bay TDS ranges from 20,000 to 30,000 mg/L.

The ground water is heavily contaminated with volatile organic compounds and must be remediated such that the media cleanup objectives (Maximum Contaminant Levels) are achieved. Even if the media cleanup objectives are achieved, the ground water is still too salty to use as a drinking water supply without extensive treatment for human consumption.

The land use restrictions prohibit the extraction of ground water beneath the former Romic facility, except for purposes of ground water monitoring, site remediation or construction dewatering. The land use restrictions are contained in The Covenant to Restrict Land Use of the Property (Covenant).

**The following two comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 11.12. Surface Estuarine Screening Levels*

*One media cleanup objective says that the Surface Estuarine Screening Levels are most stringent levels for aquatic habitat protection. In the glossary, it says that these ESL's are based on a target "excess cancer risk of one in a million. This represents the upper (most health protective) end of the potentially acceptable range of in ten thousand to one in a million recommended by the US EPA for contemplating the remediation of sites." Given East Palo Alto has the highest cancer rates in all of San Mateo County, how will USEPA account for that? Your target risk assessments exist in a vacuum - which would be great if we all lived in one but we don't. (C. Domingo, Youth United for Community Action, November 1, 2007 email)*

*Comment 11.13. Surface Estuarine Screening Levels*

*One media cleanup objective says that the Surface Estuarine Screening Levels are most stringent levels for aquatic habitat protection. In the glossary, it says that these ESL's are based on a target "excess cancer risk of one in a million. This represents the upper (most health protective) end of the potentially acceptable range in ten thousand to one in a million recommended by the US EPA for contemplating the remediation of sites.)" Given East Palo Alto has higher cancer rates in all of San Mateo County, how will USEPA account for these differences? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comments 11.12 and 11.13:** The estuarine screening levels are used to protect biota in the surface water of the sloughs near the former Romic site. The “excess cancer risk of one in a million” statement in the glossary of the U.S. EPA September 2007 Statement of Basis refers to human carcinogens and is not applicable to the estuarine screening levels which are ecologically based action levels.

**The following two comments raise the same concern and are addressed in a single U.S. EPA response.**

*Comment 11.14. Ground Water Cleanup Objectives – Cumulative Effects of Chemicals*

*In the Media Cleanup Objectives Section one of the stated goals set by USEPA is to cleanup the drinking water to a level that is one in one million chances of cancer risk.*

*Please explain why the cumulative effects of the chemicals in the ground water were not taken into account in this discussion. It seems that USEPA left that out of the equation when assessing the cancer risks. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 11.15. Cumulative Effects of Chemicals in Ground Water*

*Before I go off, I just wanted to say: So, why didn't ROMIC take into account the cumulative effects of the chemicals in the ground water when mentioning the cancerous? (Gabriel, Youth United for Community Action, October 10, 2007 Public Hearing Testimony)*

**Response to Comments 11.14 and 11.15:** U.S. EPA proposed Maximum Contaminant Levels (MCLs) for drinking water as the site-wide media cleanup objective for all ground water at the former Romic facility. The ground water media cleanup objectives are the lowest of the California EPA Primary MCLs for drinking water based on toxicity and Secondary MCLs based on taste and odor. U.S. EPA Preliminary Remediation Goals (PRGs) were proposed for four of the 26 volatile organic compounds known to be present at the site since there were no MCLs available for those contaminants.

MCLs mean the maximum permissible level of a contaminant in water delivered to any user of a public water supply system. MCLs are enforceable standards for drinking water that are promulgated through a formal rulemaking process that includes a scientific peer review and public comments. Primary MCLs take in to account a chemical's health risks.

The proposed PRG based media cleanup objectives were developed based on a "one in a million cancer risk" for carcinogenic compounds and a hazard index of 1 for non carcinogenic compounds. It should be noted that ground water impacted by the Romic facility will not be consumed as drinking water. Because the likelihood of developing health impacts from consuming contaminated drinking water is largely contingent upon ingestion of that water, the fact that this ground water is not consumed by humans indicates that there will be no health impacts from either individual or multiple chemical constituents in the water. If, for any reason, the ground water underlying the former Romic facility becomes a source of drinking water, the cumulative impacts from direct ingestion to multiple contaminants will be assessed in a Risk Management Plan (RMP) to ensure the water is safe and does not present an unacceptable level of impact for consumers.

**The following two comments raise the same concern and are addressed in a single U.S. EPA response.**

*Comment 11.16. Achievement of Media Cleanup Objectives*

*According to the SB, " Romic may petition U.S. EPA or the California agencies overseeing implementation of the remedy when it believes that the media cleanup objectives have been achieved in all or part of the Facility" (pg.28). The review process for these petitions should be strengthened to allow for City and community review and oversight of the assumption that cleanup objectives have been met. By making the City a party to the petition review, greater public scrutiny is achieved. Alternatively, an explicit provision for a private right of action to challenge this process would allow the community to engage in this process if they feel the remediation is not complete. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

*Comment 11.17. Achievement of Media Cleanup Objectives – Romic Petition*

*Page 28, 10.3 Romic Petition. The language must be amended to include 1) a specific U.S. EPA established milestone or measurable media clean up objective, and 2) notification to the City of East Palo Alto, and a public notification and participation process. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comments 11.16 and 11.17:** Romic may petition U.S. EPA to (1) cease or reduce active treatment, (2) make contingency changes to the final remedy and/or (3) make significant adjustments to the remedy implementation. For example, Romic may petition U.S. EPA when it believes that monitored natural attenuation will be sufficient to meet the media cleanup objectives. The petition must include a rationale, data and other information that supports Romic's request. U.S. EPA will evaluate Romic's petition and determine if it is acceptable at that time.

U.S. EPA will take the following actions to ensure that the community is informed about any petitions that seek to cease or reduce active treatment, make significant contingency changes, make significant adjustments to the remedy implementation, revise the Covenant to Restrict Use of Property (Covenant) and about any Risk Management Plan's (RMP) received for a redevelopment project.

- The City of East Palo Alto will be consulted regarding any petition(s) that seek to cease or reduce active treatment, make significant contingency changes, make significant adjustments to the remedy implementation and/or any RMP received for a proposed redevelopment project.
- The City of East Palo Alto will be added to the list of agencies to receive any notices that are part of the Covenant.
- Copies of petitions that seek to cease or reduce active treatment, make significant contingency changes, and/or make significant adjustments to the remedy implementation will be made available for public review.
- Copies of the any RMPs submitted by potential developers will be made available for public review.
- The community will be informed through fact sheets, notices, emails or by other appropriate means of any petition that seeks to cease or reduce active treatment, make significant contingency changes, make significant adjustments to the remedy implementation, revise the Covenant and/or consider a RMP for approval.
- Informal community meetings may be held to discuss any petitions that seek to cease or reduce active treatment, make significant contingency changes, make significant adjustments to the remedy implementation, revise the Covenant and/or consider a RMP for approval if there is sufficient interest from the community for such a gathering.

*Comment 11.18. Residual Contamination*

*Page 2, 4th paragraph. How much residual contamination will remain in the soil and ground water? Please explain the standard and/or the threshold that will be used to determine that further treatment is not needed or that residual contamination is safe. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comment 11.18:** The media cleanup objectives for soil and ground water will specify the concentration of contaminants that will be allowed to remain in place after remediation is completed.

The final media cleanup objectives for ground water are the Maximum Contaminant Levels (MCLs) for drinking water (see September 2007 Statement of Basis). The site wide subsurface investigation will include development of media cleanup objectives for soil. The media cleanup objectives will be calculated based on (1) site-specific exposure assumptions specific to

industrial, construction and commercial worker exposure scenarios and (2) cumulative impact from exposure to multiple compounds.

The potential health impacts from this residual contamination will be evaluated in a Risk Management Plan (RMP). U.S. EPA is requiring that a RMP be prepared for any redevelopment of the former Romic facility property. The RMP identifies, at a minimum, the previous site history, the nature and extent of contamination from all media, the potential pathways of receptor exposure and health impacts from existing site contamination, and practical ways to mitigate the impacts for the specific project.

## 12. Miscellaneous

### *Comment 12.1. Expedited Site Cleanup*

*The City of East Palo Alto is eager to facilitate the remediation of the Romic site so that we can protect the environment and our residents and pursue higher and better uses on the Romic site and throughout the Ravenswood. We would like the remediation of the Romic site to occur as quickly as possible. Our comments are intended to facilitate the process so that we can advance our economic development, environmental sustainability, and quality of life objectives. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comment 12.1:** U.S. EPA agrees and is taking action to effectively coordinate site closure and cleanup such that the property is ready for redevelopment as soon as possible.

### *Comment 12.2. Slope of Facility*

*Chris Stampolis told members of the community that the site covered by the buildings is flat. Your information says the "Facility is sloped toward the storm drains." Which is it? Is the facility flat or is it sloped? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 12.2:** Portions of the facility are slightly sloped such that rainwater can drain into onsite sumps. The slopes and contours of the facility are likely to be significantly altered by the site closure and cleanup which will involve removal of structures and excavation of contaminated soils.

### *Comment 12.3. Size of Former Romic facility*

*Page 1, 4th paragraph. The Plan says that the Romic site is a 14 acre site. Our records indicate that the Romic site, not including the "buffer" land along Bay Road, is equal to approximately 12.6 acres. Including the buffer area, the Romic site is a 17 acre site. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*



**Response to Comment 12.3:** The comment is correct. The former Romic facility, not including the “buffer” land along Bay Road, is made up of 7 parcels with a total area of 12.58 acres. If the “buffer” area property is included, the total area is 17.2 acres.

*Comment 12.4. Size of Process Plant and Drum Storage Areas*

*What is the area in square feet of the process plant and drum storage areas? (D. Tschang (Chang), Resident, East Palo Alto, California, U.S. EPA Comment Form, October 10, 2007 Open House, Public Meeting and Public Hearing)*

**Response to Comment 12.4:** U.S. EPA does not know for certain since the size of the process plant and drum storage areas changed over time. The question does not appear to be relevant to the proposed cleanup plan.

*Comment 12.5. Investigation in Public Areas*

*Also, when will investigation occur in public areas? (A. Turner, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comment 12.5:** The only offsite investigation that will take place is in the slough channel adjacent to the former Romic facility where the contaminated sediments will be further evaluated. U.S. EPA is not planning any other investigations in offsite areas (public areas).

*Comment 12.6. Cleanup Permit*

*It's my understanding that ROMIC was supposed to have a cleanup permit on file. We have not seen ROMIC's cleanup permit. The permit cleanup requirement that every folks have when they leave, we need to see that, too, to see at what level are they applying to the cleanup permit. (P. Evans, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comment 12.6:** The investigation and cleanup work at the former Romic facility is required under an enforceable U.S. EPA Consent Order. In 1988, Romic entered into a RCRA 3008(h) Administrative Order on Consent (Consent Order) with U.S. EPA that required Romic to perform a RCRA Facility Investigation, develop a Corrective Measures Study to evaluate remedial options, and implement a remedy selected by U.S. EPA to correct past releases to the environment from the facility.

*Comment 12.7. Romic Gila River Facility Permit*

*In terms of I want to speak on another term of, in terms of Gila River in Arizona where the other ROMIC is, where the other ROMIC river is, I understand right now that EPA is in charge of the permit. I also understand that they had a permit, I guess, a community hearing regarding the permit and right now the recommendation is for the permit to be denied. You guys got some community responses or comments from it and would want you guys to understand that we want for you guys to respect the sovereignty of the Tribal Council which they deny the permit for ROMIC in Gila River and for you guys to do the same. ROMIC is not just as bad for EPA, it's*

*even worse in Gila River and you guys have to respect that. Thank you. (O. Flores, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comment 12.7:** U.S. EPA denied the permit for the Romic Southwest facility located near Chandler, Arizona (Gila River). Waste management activities have ceased and the Chandler facility is undergoing closure on a parallel track with the Romic East Palo Alto facility. For additional information, see the U.S. EPA webpage <http://www.epg.gov/region09/waste/romic/index.html>.

**The following three comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 12.8. Complexity of Statement of Basis*

*Now, another thing is that, moreover, the chart contains a lot of the numbers that we don't understand and I apologize, but these are some of the charts and if I am just starting to read this report. I don't know if you guys might be able to understand it, but to my eyes, I don't know what this means. I don't know what this means, like, what is all this? Like, I just -- what is this? -- you know. It's useless. So, we need things that we are able to understand. You can't just come over here and say tell me right, this information you know, that we can't understand. So, it's things that we are asking from you guys. When you guys make your reports, make them understandable. (A. Alvarez, Youth United for Community Action, October 10, 2007 Public Hearing Testimony)*

*Comment 12.9. Complexity of Statement of Basis*

*More over, the chart contains a lot of numbers and we don't know what they mean. This report use a lot of symbols that to our eyes they mean nothing. We go in circles trying to figure what they mean. This is a report to let the people know what's going on with Romic. This is not supposed to be some kind of riddle that one has to try hard to find out what it means. An example would be "parts for millions" or "NA ". Or just by looking at the charts that has numbers and symbols I already get lost. (A. Alvarez, Youth United for Community Action, October 24, 2007 letter)*

*Comment 12.10. Complexity of Statement of Basis*

*Furthermore, you swear that I, or many others, will be able to understand all those charts in the report. What do they mean? What is the significance? I have always been told that when writing a report, assume the reader has no idea what you are talking about, so you must be as detailed as possible. This report could have been way more detailed. (B. Naranjo, Resident, East Palo Alto, California, October 24, 2007 letter)*

**Response to Comments 12.8, 12.9 and 12.10:** The charts and tables included in U.S. EPA's September 2007 Statement of Basis were intended to better explain the proposed cleanup remedy and provide supporting documentation. U.S. EPA did make an effort to ensure that the Statement of Basis was understandable and will continue to do so when writing documents in the

future. Once U.S. EPA selects the final remedy, staff will be available to discuss the selected cleanup plan and any questions from the community.

### **13. Public Participation**

**The following five comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 13.1. October 10, 2007 U.S. EPA Open House and Public Meeting/Hearing*

*The Public Hearing your agency held on Wednesday, October 10th, 2007 in the East Palo Alto City Hall was a sham. During the "Question and Answer" session which lasted about an hour, community members expressed many concerns and questions regarding the distrustful nature of your agency and the Romic facility and their deep concerns about the clean-up procedure.*

*Your agency representatives were allowed to respond to those questions with such ridiculous comments. For example, when a community member asked your staff how contaminated are the untested areas under Romic, one of your agency reps replied about having a "feeling they know how contaminated it is" and that they pretty much know how Romic is. This is despite the fact that the Statement of Basis - which of course is in documented written form -- repeatedly says your agency does not know the true extent of the contamination under Romic. Since when was "feeling they know how contaminated it is" a unit of measurement? The biggest problem with this is that you never clarified to the community that this section was going to be in the "public record". Thus, not only does that give free license for your reps to say whatever you want without accountability, but it doesn't give any teeth into what needs to be addressed in the final clean-up plan. WHY? Because it's not in the public record. I understand there was a "public hearing" portion in which several community members spoke, including myself. However, by that time, some community members who had very intense concerns had left because of their frustration with your agency and your so-called "public participation" which had the appearance of just going through the motions as opposed to being truly dialogue in nature. Nodding your head and putting your finger under your chin doesn't constitute listening. (C. Domingo, Youth United for Community Action, November 1, 2007 email)*

*Comment 13.2. October 10, 2007 U.S. EPA Open House and Public Meeting/Hearing*

*I would first like to comment that I thought it was irresponsible on USEPA to not have clarified the agenda at the hearing held on October 10<sup>th</sup>. Many residents were outraged that all questions that were asked were not being documented. People brought up really good concerns and because people were unclear when the "formal" hearing began, it was not recorded. (B. Naranjo, Resident, East Palo Alto, California, October 24, 2007 letter)*

*Comment 13.3. Open House and Public Meeting/Hearing. I am a community member and a community worker, so and I just want to say, too, that I really hope that U.S. EPA really takes into consideration these comments and gives it as much as time as you gave that lovely question-and-answer period that was not being recorded on the record. So, let's keep that into consideration for now. (A. Turner, Resident, East Palo Alto, California, October 10, 2007*

*Public Hearing Testimony)*

*Comment 13.4. Open House and Public Meeting/Hearing*

*In East Palo Alto, we who live here, live here by choice. We love where we live. We love our neighbors. We love our friends. We wouldn't live anyplace else; however, we're the victims of very bad press, and so we have a number of people who come into our community ready to disrespect us. Some of us, you work here. Some of you visit here. Some of you are part of regulatory agencies. Some of you are part of the press, but what we get is disrespect too often. In my culture, there's something called trickeration where you take people and you trick them, and I think that what happened with this question-and-answer period was a bit of trickeration, because a lot of comments that people would have made on the record were made during the question-and-answer period, because it was not clear that what was being said, the questions that were being asked that you were then able to answer were not on the record.*

*So, I have a bad feeling standing here. I should be feeling okay. I'm here with this agency, they're going to try and listen, but as long as you're going to continue with this kind of a trickeration you see what happens to our trust of you is just more people coming here disrespecting us. Too bad, but that's the way it is, it seems. (K. Evans, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

*Comment 13.5. Question and Answer Session of Public Meeting*

*I did want to make a mention that I thought the question-and-answer portion of tonight's meeting was a great way to lead out comments and nothing was reported. So, I thought that was very smart tactic on U.S. EPA to not record that. (A. Loya, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comments 13.1, 13.2, 13.3, 13.4 and 13.5:** Thank you for your comments and sharing your frustration that some community members may not have been aware that during the public meeting portion of the evening, questions and answers would not be recorded.

U.S. EPA's goal in planning the Open House and Public Meeting/Hearing was to inform the community of U.S. EPA's proposed cleanup plan, create a dialogue with community members to better understand concerns and questions and to formally take public comments on the proposed cleanup plan for the Romic facility.

The meeting agenda included an informal open house with poster boards, a 30 minute presentation followed by a question and answer session and a public hearing where comments were formally taken for the record.

The question and answer session lasted about 15 minutes longer than anticipated due to the volume of questions. U.S. EPA viewed this as positive since answering peoples questions concerning the proposed remedy is an important part of the process.

U.S. EPA made reasonable and good faith efforts to ensure that the community understood that comments would be only recorded during the public hearing portion of the meeting. The U.S. EPA fact sheet which was mailed out to about 800 people and organizations in the East Palo Alto community, the Agenda for the public meeting and hearing which was made available to people as they entered the room and U.S. EPA's introductory remarks for the meeting all stated that formal (recorded) comments on the proposed cleanup plan would only be taken during the public hearing portion of the meeting.

U.S. EPA does not consider the question and answer part of the meeting as public comments because it is a verbal dialogue between the community members and agency representatives. The dialogue involves a back and forth discussion where it may not be clear what is a comment and what is a response. The public hearing format eliminates any confusion regarding the comments and responses. The comments are clearly given, recorded and responded to in writing by the agency.

U.S. EPA organized the public meeting right before the public hearing to allow for discussion and engagement between the community and U.S. EPA on the proposed cleanup plan for Romico. On this matter, U.S. EPA guidance explains that, "public meetings can be especially useful for allowing discussion before a public hearing and can be scheduled immediately before the hearing. Comments made during a public meeting do not become part of the official administrative record as they do during a hearing."

The informal public meeting offers community members the opportunity to discuss issues with the U.S. EPA in an informal way without making a comment. A community member can then choose to make a formal comment during the hearing. U.S. EPA encourages this practice to ensure communities can both discuss the issues comfortably and make formal comments in the same evening. Community members had 22 days following the Open House and Public Meeting/Hearing to submit written comments before the formal public comment period closed on November 1, 2007. However, in the future, U.S. EPA will strive to more clearly delineate the purpose and format of each meeting to the public.

**The following five comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 13.6. Appointment of Citizen Oversight Committee*

*Yes, we need a citizens' oversight committee and maybe they do have to go and get all the proper certifications and go take this, take that. We can do it in here. We've all went to school somewhere. We might not have all the degrees and all the certifications you have, but we can get them. If you got it, we can get it and we can go and be a citizens oversight committee, but if you don't have any respect for us and you don't believe in us, you will continue to play games with us. We don't work all day to come here to this meeting to be played with.*

*AUDIENCE: Right.*

*KEISHA EVANS: We need a citizens' oversight committee of some kind and we need to sit down and help you work it out, and the process is not transparent, because we only understand certain points and certain points and certain points. This process has to be transparent or else don't waste our time. Don't waste our time. (K. Evans, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

#### *Comment 13.7. Appointment of Citizen Committee*

*My concern is the EPA, themselves, in charge of the cleanup. It's like Al Capone judging Al Capone. It's unfortunate that this Agency have repeatedly and deliberately and willfully ignored the people of this community. It's my understanding that ROMIC was supposed to have a cleanup permit on file. We have not seen ROMIC's cleanup permit. The permit cleanup requirement that every folks have when they leave, we need to see that, too, to see at what level are they applying to the cleanup permit. We have very limited almost no confidence in EPA. EPA is the one who violated every effort of integrity and respect of this community. They allowed a serial violator to pollute and destroy our community for year after year and after year and allow them to be self-regulated and these same people here want us to be confident that they will correct this problem. It's unfortunate that they said it's going to take seven years to cleanup this place. We would hope that in the effort of conscience, in the effort of just short of neglect, that deliberately and willfully violated the obligations of this community, that they would appoint a citizen committee in this community to review repeatedly and report to them what's happening. We know that the power that DTSC has, the power that EPA has had has been seriously eroded, has become just almost elementary protecting of a community. EPA has done that deliberately and willfully. We don't trust them. We think they should be run out of town with ROMIC, because they're the one that allowed ROMIC repeatedly not only to violate working conditions, but to murder people. Rodrigo Cruz was murdered<sup>1</sup>, because they refused to buy a \$100.00 mask and that man would be living. Not only did they refuse to buy the mask, this was a repeated violation by ROMIC. So, I would hope that EPA would have to excuse themselves and let a neutral person come in and hold this a citizen committee that would do their job that they didn't do and at least let us see how it's going to happen. The EPA had an opportunity to DTSC to regulate this agency and they refused to do it, and that was at the fault of us and we hoped that EPA would disqualify themselves. We have not protected this community, we have not looked after the people. So, it would be illegal, irregular for us to look over these people. I hope you appoint someone else to come in and look over this project. Thank you. (P. Evans, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

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<sup>1</sup> U.S. EPA made a single revision to the testimony of Mr. Peter Evans in order to correct an error made by the court reporter in the transcript. The revision was made on page 14, line 16 of the transcript: Rodrigo Cruz “is a murderer” was revised to read “was murdered”. Esquire Deposition Services, the transcription company, was unable to make this correction in the final transcript. U.S. EPA staff who attended the public hearing clearly remember Mr. Evans stating that Rodrigo Cruz was murdered. This was confirmed by Mr. Evans in a telephone conversation with U.S. EPA staff on February 1, 2008. U.S. EPA sent Mr. Evans three emails requesting that he concur in writing on the revision. To date, U.S. EPA has not received a response from Mr. Evans.

### *Comment 13.8. Community Oversight*

*How can we also best assure that this cleanup and decontamination is consistent because we have friends in Hunter's Point that receive, who has been trying to work with the EPA on cleaning up the Naval shipyard and it's been taking forever. How do we assure this doesn't happen in East Palo Alto? And, also, to expedite the process at Hunter's Point. Also, based on comments made earlier, the U.S. EPA and ROMIC oversight has been less than motherly on other task forces and we need more stringent hands on agencies than we do on businesses. How do we assure to that the community also oversees this process, the people who live here, the people who work here, the people who eat and sleep here everyday. They should also have a role in this process to make sure it's implemented properly because we cannot put our faith in agencies who have been lacking to do so this past year. Thank you. (A. Loya, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

### *Comment 13.9. Informing the Community*

*Hi, everyone. My name is Vita Deboe and I'm here with YUCA and as a young person, I am very serious about this, and as a, well, we are serious about this and I agree with what some of these people are saying because I actually know, I was born in East Palo Alto. I actually used to live on Bay Road, but now I live on Williard Avenue which is over there (indicating), but what I think is the odd move is because we don't want to worry for all this time. We want to know what's going to happen. People out here are living badly and there is the City is polluted because of what's out there, toxics and all that stuff, and basically, what I am trying to say is will you let us know what is going to happen, let us know what is going to happen and just step up, and that's it. Thank you. (V. Deboe, Youth United for Community Action, October 10, 2007 Public Hearing Testimony)*

### *Comment 13.10. Education of Community*

*My name is David Tschang (Chang). Forget about my name, just remember commission of message. My comment is I will hope that you guys are the ones who can get the thing into a DVD, whatever thing you think can educate our community participation members, and YUCA is our authorized community participation member. Our City Council doesn't represent us. Our developer represents us here, representing developer, so does our planning commission because, nevertheless they don't address the relevant issue. We are very painful that this City has been going through such horrendous, enormous amount of, you know, problem in the developing sense. Redevelopment completely monopolizes all our land and become bedroom and we have nothing left except empty parking lot. We have a lot of empty parking lot because development, basically, you know is they're going to create job by retail people. The retail people cannot give us a good job. A good job is not cranking cash register. So, this is a very serious thing. I am not complaining. I am just telling you the facts. This fact is multiplied by thousands of times. Every city around a big university you have incarcerated city like us and no one is going to lift one single finger. Two miles from Stanford, there is nothing to look at the thing or hear the thing or smell the thing or think about the thing, and this is our last chance. I hope that you people understand that's why I keep mentioning about community participation. They need education. So, I have all the things background. I hope that you give me a chance, too. I got Master's in*

*Mechanical Engineering. I have an electrical background, BS-1. I also study a lot of chemical engineering. This is going to blast people. I am a serious person. I am running for city counsel. I hope I win. So, the important thing is I hope the court would pay attention to this thing. Make sure we as the community had real participation, not just the developer come here, buy the land cheap. Ultimately, it will get voted out, because of gentrification if we don't do anything. These young people don't need to go back to jail. Okay. Thank you very much. (D. Tschang (Chang) , Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comments 13.6, 13.7, 13.8, 13.9 and 13.10:** East Palo Alto residents have the option to form their own Community Advisory Group (CAG). The CAG would meet periodically to discuss issues related to the site cleanup at the former Romic facility. The membership would be made up of voluntary community representatives operating under rules they have developed.

U.S. EPA can assist with organizing an informational meeting to inform the community about how to form and manage a CAG. U.S. EPA would be able to participate in the CAG by offering advice on agendas and attending meetings to listen and answer questions. Please note that while the U.S. EPA is supportive of the community forming a CAG, we are not able to direct the CAG and cannot provide funding for it.

The community may also wish to consider another U.S. EPA program called Technical Assistance Services for Communities (TASC). The TASC pays for an independent consultant to assist communities affected by hazardous waste sites. TASC provides unbiased educational and technical assistance. TASC can help by providing experts to explain hazardous waste problems and U.S. EPA's plans to cleanup a site such as Romic.

U.S. EPA will continue to make workplans available for review by community members and will have informal small group meetings to discuss the plans. We will also keep the community informed about the facility cleanup by mailing out informational fact sheets and having larger public meetings as necessary to discuss the progress of the investigation and remediation effort.

*Comment 13.11. Community Designated Consultant*

*What is the process whereby a community designated consultant can oversee the process of the cleanup? What qualifications must a consultant have? What activities will the consultant be prevented, if any, from being involved with? Will the consultant receive all requested data, reports and communications? (P. Gardner, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comment 13.11:** The U.S. EPA has a program where communities affected by hazardous waste sites can obtain technical support from an independent consultant. The program is called Technical Assistance Services for Communities (TASC). TASC can help by providing experts to explain hazardous waste problems and U.S. EPA's plans to cleanup a site such as Romic.



As does any member of the community, the consultant would have access to all information and data in the administrative record for the remedy decision. The consultant would be involved with most activities including informational meetings and some internal ones. U.S. EPA may have some internal policy making meetings that are not appropriate for the community consultant to attend.

*Comment 13.12. Proactive Approach for Cleanup*

*What can we help you to do to be more proactive in this process so that we just don't have to just step back and wait? We have been waiting for 43 years. One day, low and behold, you just came in here and decided to help East Palo Alto out which is not the case. We have been pressuring you and asking you and now that ROMIC is finally closed we're seeing you more often and that's great. We appreciate that, but, you know what? -- we're tired of waiting. We're going to ask that and we're going to ask that you're more proactive in this process. Don't stand in the back. Lead the process. Don't wait for ROMIC, because they're just not going to help you out. Thank you. (A. Turner, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comment 13.12:** U.S. EPA acknowledges the comment.

*Comment 13.13. Reports on DVD*

*Put report on DVD and distribute to community. (D. Tschang (Chang), Resident, East Palo Alto, California, U.S. EPA Comment Form, October 10, 2007 Open House, Public Meeting and Public Hearing)*

**Response to Comment 13.13:** U.S. EPA will put key documents of the remedy decision for Romic in the information repositories located at the East Palo Alto public library and U.S. EPA office in San Francisco. In addition, U.S. EPA will put copies of some key documents on a U.S. EPA webpage for the facility. The key documents will be in PDF format and that can be downloaded.

*Comment 14. Public Hearing Transcript*

*Copy of transcript requested. (D. Tschang (Chang), Resident, East Palo Alto, California, U.S. EPA Comment Form, October 10, 2007 Open House, Public Meeting and Public Hearing)*

**Response to Comment 13.14:** U.S. EPA will provide a copy of the public hearing transcript to Mr. Tschang.

## **14. Redevelopment of Romic Property**

*Comment 14.1. Concrete Site Cover Impacts on Redevelopment*

*What issues for redevelopment on that site and the surrounding properties will occur due to the proposed concrete cap over ground contamination after the buildings are torn down? (S.*

*Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 14.1:** The final remedy includes keeping the site covered to block direct exposure to contaminated soils beneath the facility. However, sections of the concrete cover will be temporarily removed and replaced during the site investigation and cleanup. A future redeveloper may or may not need to keep the site covered depending on the findings of a Risk Management Plan (RMP) analysis. The cover along with the rest of the property will be evaluated in a RMP that is prepared by a future developer after Romic completes the site cleanup. The RMP is required in the Covenant to Restrict Use of the Property (Covenant) for any redevelopment of the site. The RMP identifies, at a minimum, the proposed redevelopment project, previous site history, the nature and extent of existing contamination from all media, the potential pathways of receptor exposure and health impacts from existing site contamination, and practical ways to mitigate the impacts for the specific project. The Covenant and the RMP work together to ensure that potential impacts from exposure to contaminated soils, ground water or other media are managed in a manner that is protective of human health and the environment.

*Comment 14.2. State Landuse Regulation - Land be Used for Small Businesses*

*State regulation on cleanup that land be used for working space, that small business be set up. (D. Tschang (Chang), Resident, East Palo Alto, California, U.S. EPA Comment Form, October 10, 2007 Open House, Public Meeting and Public Hearing)*

**Response to Comment 14.2:** U.S. EPA and DTSC have no legal authority over direct land use for a specific purpose (e.g. small business). The Covenant to Restrict Use of the Property (Covenant) restricts the use of the property to industrial and commercial purposes only.

## **15. Remedial Technologies**

*Comment 15.1. Containment of Contaminated Ground water*

*Can USEPA do any containment to further prevent the contamination from moving to and through the slough? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 15.1:** Romic has, at the direction of U.S. EPA, installed a network of injection wells along the eastern boundary of the former facility to limit the off-site migration of contaminated ground water. The wells are part of the enhanced biological treatment system and are used to inject cheese whey and molasses into the subsurface. The contaminated ground water is treated in the subsurface before it migrates off-site. The network of wells along the eastern boundary will be further expanded as part of the final remedy.

*Comment 15.2. Transformation of Chemicals*

*In-Situ Treatment: How are the chemicals transformed? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 15.2:** Enhanced biological treatment involves the injection of an easily degradable carbohydrate solution (e.g., molasses, cheese whey) into the ground water, which is metabolized by the naturally occurring microbes in the subsurface. The microbes breakdown the solvents, cheese whey, and molasses into carbon dioxide, water and salt similar to the way a septic system treats sewage from a home. Enhanced biological treatment is safe because it relies on non-harmful microbes that occur naturally in soil.

*Comment 15.3. Need for Permit and Impacts on People*

*Does this process need a permit? What are the impacts on people? Why is this treatment being considered if there is a possibility that people can be further contaminated? How do possible*

*emissions happen? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 15.3:** The investigation and cleanup work at the former Romic facility is required under an enforceable U.S. EPA Consent Order. In 1988, Romic entered into a RCRA 3008(h) Administrative Order on Consent (Consent Order) with U.S. EPA that required Romic to perform a RCRA Facility Investigation, develop a Corrective Measures Study to evaluate remedial options, and implement a remedy selected by U.S. EPA to correct past releases to the environment from the facility.

People are not being further contaminated by using enhanced biological treatment. There are no volatile organic compound emissions from this process since all the biological treatment occurs underground. No contaminated ground water is being brought to the surface.

*Comment 15.4. Capping Should Be Part of Closure Plan*

*Capping the ground should be an option that is added to the Romic closure plan with DTSC. Will USEPA take the opportunity to add it? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 15.4:** DTSC is the lead agency overseeing the closure of the former Romic facility. U.S. EPA does not have authority to make additions to the closure plan. The community will have an opportunity to comment on a draft closure plan for the facility when DTSC begins the public review process. This will be the community's chance to provide direct comments to DTSC on the closure plan.

*Comment 15.5. In the discussion of Technologies Screened Out the different clean-up methods that were considered by USEPA and ruled out and why they were ruled out were reported.*

*The summary of this section is:*

- *Used "public acceptance perspective" as a deterrent to approving the following 2 methods - like on-site landfill", "incineration".*
- *Vertical Barriers - Screened out because doesn't fully prevent migration of chemicals - (They may seep through the barriers and ground water contamination too deep)*
- *Liners - only for landfill technologies*
- *Methods that would require further pump and treat screened out - Soil flushing, solidification, soil vapor extraction, and fracturing, thermal desorption,*
- *'Straight out' taken out because of incompatibility with chemicals - biopiling (aerobic and chemicals are anaerobic); neutralization, acid extraction. soil washing, electro-osmosis extraction*
- *Vapor extraction taken out because of land underneath Romie*

*We want to know why did USEPA screen out vegetative cover when that could be a "green alternative". There is a "green" method that has been known to reduce urban energy demand and atmospheric pollution. It would not only be remedy but also for preventive in the future. We feel this alternative should also be added to the Romie closure plan and as another part of the remedy plan.*

*Bio-berms can be used on the sloughs to prevent further contamination? This is more prevention. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 15.5:** A vegetative cover may be appropriate for the site in the future depending on the land use. However, since the possible future land use is uncertain at this time, U.S. EPA is assuming that the existing site cover will remain in place until a redevelopment occurs. That is why the vegetative cover was screened out from further consideration as a remedial technology.

Remediation of the contaminated sediments in the slough is not part of this remedy decision. This decision addresses soil and ground water contamination at the former facility. U.S. EPA will take separate action in the future to address the contaminated sediments in the eastern slough.

## 16. Remedy Contingencies

### *Comment 16.1. Proposed Excavation of 3072 Cubic Yards of Contaminated Soil*

*Page 8. Soil Excavation. Please explain how this figure was reached and identify the proposed sites for excavation. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comment 16.1:** The 3072 yards of contaminated soil excavation was an approximation used for cost estimating purposes. It assumed that those parts of the former ponds where a thin layer of oil is present on the shallow ground water would be excavated. The exact amount of soil excavation will be determined after Romic completes a site wide investigation of subsurface contamination. This information will be used by Romic to develop a plan for implementing the final remedy selected by U.S. EPA. This plan, called a Corrective Measures Implementation Plan or CMIP, will describe the approach and details of how the facility will be cleaned up including how much soil will be excavated.

### *Comment 16.2. Community Involvement for Contingency Changes*

*Under the Remedy Contingencies section of the SB there is no mention of the City or community's right to know about these contingency changes when they occur. There should be some provision for weigh in on their behalf. In addition, significant changes that require modification of the Remedy Decision should require a new public hearing. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

**Response to Comment 16.2:** U.S. EPA may require or Romic may petition the Agency for a contingency change to the final remedy. Possible remedy contingencies are described in Section 5.2, Remedy Contingencies, of this Final Remedy Decision. The contingency changes may become necessary as work proceeds at the former facility and more is learned about the nature and extent of contamination.

Romic may petition U.S. EPA when it believes that contingency changes are needed for the remedy. Alternatively, U.S. EPA may send a letter to Romic requesting that contingency changes be made to the final remedy. The petition and/or U.S. EPA letter would include a rationale, data and other information that support the given action.

U.S. EPA will gather and consider input from the community before making a final decision on any significant contingency changes. A significant contingency change goes substantively beyond what was envisioned in the September 2007 Statement of Basis.

U.S. EPA will ensure that the community is informed about any significant contingency changes to the final remedy. See the U.S. EPA Response to Comments 11.16 and 11.17 for details on how U.S. EPA will involve the community for significant contingency changes.

### *Comment 16.3. Procedures to Amend Plan*

*What is the procedure if USEPA has to amend the plan as work proceeds? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 16.3:** Once U.S. EPA selects the remedy, Romic will be required to investigate the nature and extent of subsurface soil and ground water contamination and to prepare a Corrective Measures Implementation Plan (CMIP) to implement the final remedy. The site wide investigation will take place after all permitted hazardous waste management units have been removed during the closure process.

Making changes to the final remedy is different from making revisions to the CMIP. The CMIP is a plan that could be adjusted by U.S. EPA by sending a letter to Romic requiring the changes. Making a major change to the final remedy could involve having a new public hearing and comment period.

U.S. EPA will conduct a new public hearing and comment period only if major changes are needed for the remedy decision. Major changes to the final remedy would include the introduction and use of a completely new remedial technology beyond what was included in the remedy decision.

### *Comment 16.4. Pump and Treat Contingency*

*According to the USEPA plan, if Romic (or USEPA ) decided to pump and treat at some point for whatever reason, they couldn't. The only method for the undiscovered site is 1) cheese whey, 2) excavations 3) off-drilling, and 4) monitored natural attenuation. Is there some reason why there is no contingency allowed for pump and treat in this plan? (No one really knows what is under the buildings, or how what is there should be handled.) (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

**Response to Comment 16.4:** U.S. EPA proposed using enhanced biological treatment over pump and treatment because it works better at reducing volatile organic compound concentrations. Existing data to date has shown that enhanced biological treatment is superior to pump and treatment. Romic used pump and treatment from about 1994 to 2003 with limited success. The cheese whey/molasses pilot studies and its use at heavily contaminated parts of the facility has shown consistent reductions in volatile organic compound concentrations. Using pump and treatment of contaminated ground water would be possible at Romic if U.S. EPA amended the final remedy. This is an unlikely scenario since at present there is no good reason to change remedial technologies.

## **17. Slough Investigation and Remediation**

**The following eight comments raise similar concerns and are addressed in a single U.S. EPA response:**

*Comment 17.1. Responsibility and Timing for Slough Cleanup*

*Despite the exclusion of the slough's cleanup from the proposed remedy, it should have been included since its contamination occurred due to activity conducted on the Romic site. According to the SB, recent sediment sampling shows that the sloughs are contaminated. Additional studies must be conducted particularly in light of the fact that the U.S. EPA does not accept the findings of the previous studies done on the slough (page 24). When will the slough cleanup be addressed if it is not part of this remedy? (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

*Comment 17.2. Responsibility for Slough Sediment Cleanup*

*In terms of the slough near Romic which the report says is contaminated, who will be made responsible to clean up the contaminated sediments in the slough? It says it will be "covered in a later action" but it doesn't specify when and whose responsibility that falls on? Will Romic be responsible for the cleanup? If so, this must be clearly stated in the report. (C. Domingo, Youth United for Community Action, November 1, 2007 email)*

*Comment 17.3. Responsibility for Slough Sediment Cleanup*

*We are concerned with the remediation of the slough near Romic. Who will be made responsible to clean up the contaminated sediments in the slough? Your document says it will be "covered in a later action" but it doesn't specify when and whose responsibility it is. We would like to make this a part of the remedy plan or a concrete proposal of when and how this phase will be addressed? (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 17.4. Responsibility for Slough Sediment Cleanup*

*Another concern that we have is about that slough near Romic. I want to know who will be made responsible to clean up the contaminated sediments in the slough? It says that it will be covered in a later action but it doesn't specify when and whose responsibility it will be. (A. Alvarez, Youth United for Community Action, October 24, 2007 letter)*

*Comment 17.5. Responsibility for Slough Sediment Cleanup*

*Now, is one other thing is that in terms of Romic, who will be made responsible to cleanup the contaminated sediments in the slough? It says that it will be covered in a later action, but it doesn't specify when and who is responsible for it. Don't you think that we actually need to know that has least information. (A. Alvarez, Youth United for Community Action, October 10, 2007 Public Hearing Testimony)*

*Comment 17.6. Action on Slough Contamination Needed*

*We'll send it and the final thing was slough contamination. That was very important. In this document, it says we'll take care of it sometime, someplace. Well, you know, the health of the bay lies in the health of the slough. Don't keep just ignoring it. I'm saying to you tonight: You are not talking to a community of dopes. I'm saying to you tonight, we did not come here for you to play us cheap. I'm saying to you tonight, if you have one ounce of integrity in your own personal self, and I'm not talking about the Agency, but I'm talking about your personal self, you have to do a better job than you have done so far. (K. Evans, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

*Comment 17.7. Specify Specific Time for Slough Remediation*

*The proposed remedy states that the remediation of the slough will be addressed at a later date and not in the present document. The slough should be addressed in the Statement of Basis (SB) or at a minimum, reference to a specific date and the document in which this issue will be addressed should be included in this SB. (C. Romero, Vice-Chair, East Palo Alto Planning Commission (individual comment, not from Planning Commission), October 29, 2007 email)*

*Comment 17.8. Timing for Slough Remediation*

*The strategy to incorporate the remediation of the sloughs at a later date is consistent with the goal of beginning the remediation of the site as soon as possible. At what specific point or milestone in this remedy plan process would the analysis of the sloughs begin, and what are the steps and the plan for remediating the sloughs? Please add a description of the slough remedy process and include specific milestones. (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comments 17.1, 17.2, 17.3, 17.4, 17.5, 17.6, 17.7, and 17.8:** Romic, with U.S. EPA oversight, will investigate the sediment contamination in the eastern slough. Romic, at the request of U.S. EPA, submitted a draft work plan for the slough investigation on February 29, 2008. The purpose of the workplan is to gather additional data on the extent of volatile organic compound contamination and its possible impacts on organisms that live in the sediment. U.S. EPA has requested that the U.S. Fish and Wildlife Service and California Department of Fish and Game review the workplan. The investigation will take place in the summer of 2008 after U.S. EPA approves the workplan.

U.S. EPA will consider the data collected from the investigation, along with existing information, and develop a proposed remedy to address the contaminated sediments. U.S. EPA will request public comment on the proposed plan and will have a public meeting and hearing sometime in the Spring of 2009.

## **18. Timing of Site Cleanup and Plan Approvals**

**The following three comments raise similar concerns and are addressed in a single U.S. EPA response:**



*Comment 18.1. Timing for Cleanup Plan Approval*

*You do not list a timeline for approval of the clean-up plan after you have received all the comments. Our community has seen a bogus EIR and permit process implemented by the Department of Toxic Substances Control that took 15 years, and we are tired of the lack of timelines. When will you approve the plan? (C. Domingo, Youth United for Community Action, November 1, 2007 email)*

*Comment 18.2. Timing for Cleanup Plan Approval*

*Based on our previous experiences it is paramount for us to know now what is the USEPA timeline for approval after receiving comments, and approximately when can we expect the agency to approve the plan. A proposed timeline should have accompanied the Proposed Remediation Plan so the public could be informed and could therefore hold the Agency responsible. (S. Webster, K. A. Evans, Youth United for Community Action, Ujima Security Council of East Palo Alto, and the Environmental Justice Group of East Palo, October 31, 2007 letter)*

*Comment 18.3. Timing of Project*

*What are the timelines of this project? What are the timelines? Do we have to always sit and wait for somebody to say, okay, well, at the end of this, then somebody have to do something? Then we'll respond. Then at the end of this, somebody else. We're just constantly waiting for timelines. These aren't benchmarks that you must know. This isn't my field. If it were my field, I would know what the benchmarks are, timelines, things slip all the time, but we have some idea, the community would have some ideas of whether we're talking about five years, ten years, 25 years or what? We don't even know what the benchmarks are. If you don't know what they are, somebody needs to go back in your office, sit down and get those together so that you can make a logical presentation to this community. I call it disrespect. Oh, those people don't know. We just come here with any old thing and pretty posters and all this nice stuff and we're supposed to say, isn't that nice? All these people came to see us. This is our lives. You don't understand that people in our age group, we are burying our friends and our families from contamination over and over, and you come here and show us pretty pictures and won't tell us what is the result of the molasses and whey that you have had in the ground for this while now. This is an insult. (K. Evans, Resident, East Palo Alto, California, October 10, 2007 Public Hearing Testimony)*

**Response to Comments 18.1, 18.2 and 18.3:** U.S. EPA will complete its response to comments and select the cleanup plan in the summer of 2008.

The timeline for the site cleanup is very dynamic. U.S. EPA will keep the residents of East Palo Alto advised about the next steps for the site cleanup during informal consultations with the community.

*Comment 18.4. Timeframe to Complete Remediation*

*(Page 28. 10.2: page 39: page 40. 5th Bullet) Is it possible to shorten the timeframe? How can the timeframe be expedited? Is it through increasing the number of wells or the soil excavated? Why does the plan have a 7 year remediation goal (page 28) and monitoring reports for only 5 years (pages 1, 4, 8, 34, and 35)? Also, what is the 15 year system maintenance and operation mentioned on page 39? (A. James, City Manager, City of East Palo Alto, October 26, 2007 letter)*

**Response to Comment 18.4:** U.S. EPA is committed to making the cleanup happen as safely and as quickly as is practically possible. One thing that has been done to expedite the process is to consolidate the soil and ground water sampling for the facility closure and site cleanup into a single workplan. U.S. EPA, in consultation with DTSC and the RWQCB, has directed Romic to prepare a single site wide subsurface investigation workplan.

Romic will prepare a Remedy Performance Evaluation Report every five years that will evaluate the long-term effectiveness and reliability of the final remedy. The report will examine such questions as: Are the media cleanup objectives and remedy performance standards being achieved? How well are things working? Are contaminant concentrations levels trending downward? What improvements are necessary and how will they be implemented?

The final remedy must be operated and maintained. For example, cheese whey and molasses injections must be done on a periodic basis to ensure that the enhanced biological treatment system remains effective. In addition, ground water monitoring must continue into the future in order to assess the effectiveness of the treatment system. The cost estimate given on page 39 of the September 2007 Statement of Basis assumes 15 years of operation and maintenance of the final remedy.

**County of San Mateo  
Assessor-County Clerk-Recorder  
Mark Church**

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# APPENDIX B

## Site-Specific Health and Safety Plan

# Site-Specific Health and Safety Plan

## 2081 Bay Road

### East Palo Alto, California

United HOPE Builders

1852 Bay Road | East Palo Alto, California 94303

August 25, 2021 | Project No. 403999001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants

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## **ATTACHMENT**

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# 1 SITE DESCRIPTION

United HOPE Builders (UHB) proposes to construct three temporary buildings at 2020 Bay Road, in East Palo Alto, California. The buildings will be on a property also known as 2081 Bay Road, East Palo Alto, California, a site that formerly was operated by Romic Environmental Technologies Corporation (Romic) and predecessor companies. The proposed buildings are:

- Office Building – 80 feet (ft.) by 100 ft. and elevated 2 ft. above grade
- Manufacturing Building – 150 ft. by 250 ft. by 24 ft. tall on a 6-inch thick slab with vapor intrusion mitigation system (VIMS)
- Metal Works Building – 80 ft. by 150 ft. by 24-ft. tall on existing 8-inch thick slab

Previous facility operations conducted on the Site by the Romic and predecessor companies dating back to the mid-1950s resulted in the release of chemical contaminants to both soil and groundwater. The primary contaminants of concern at the Site are volatile organic compounds (VOCs), mostly comprised of halogenated VOCs. The principal halogenated VOC at the Site is trichloroethylene (TCE). Other contaminants are non-halogenated VOCs, metals, polychlorinated biphenyls (PCBs), petroleum hydrocarbons and semi-VOCs. Romic Environmental Technologies Corporation ceased operations in 2008, and the facility was closed and dismantled in 2009.

The Site is a former Resource Conservation and Recovery Act facility undergoing corrective action and closure. The United States Environmental Protection Agency (U.S. EPA) is the lead regulatory agency overseeing the Site's corrective action.

## 2 SCOPE OF WORK

The scope of work at the Site is to excavate and cap around horizontal wells with grout, excavate for building footings, methane sensor testing, install a vapor intrusion mitigation system (VIMS), assemble buildings including building slab installation, gravel and concrete pouring, utility connections, utility dams, sealing existing building slabs, and sample soil gas and indoor air.

### 2.1 Excavation and Trenching

Excavation activities include removing soil to the soil water interface around horizontal wells and to install footings for the Administration Building. Trenching will occur along existing utility lines near the manufacturing building and office building. Trenching depth is expected not to exceed 2 to 3 feet bgs. Excavators and hand digging equipment will be utilized for trenching and excavating to depth. Concrete pouring with a concrete truck and pump will be utilized to backfill excavations.

Workers will potentially be in contact with contaminated soil and groundwater. Methane gas in the soil is expected at levels above the lower explosive limit (LEL). See Section 2.2.

## **2.2 Methane Sensor Testing**

Methane will be monitored at the site with a combustible gas meter or an FID meter during all subsurface activities including working near trenches and excavations. The bottom of each trench and excavation and breathing zone will be measured for methane levels prior to and during work activities. Safe work action level for methane is below the OSHA PEL of 0.5% methane (10% of the methane LEL) (action level). If methane levels are at or above the action level within the excavation or in the breathing zone, stop work will be implemented and engineering controls like forced ventilation will be applied to the work area. Work will not continue until methane levels are below the action level.

## **2.3 Install VIMS**

VIMS will be installed on the concrete pad under the Manufacturing Building and around utility intrusions into the building. A VIMS piping system will be installed north of the office building to mitigate soil vapor from traveling from the north area of the property. The VIMS install will include heavy lifting, bending, and working with hand and power tools.

## **2.4 Assemble Buildings**

Construction of buildings includes: an office building on raised footings, a manufacturing building on a new concrete slab with VIMS, and a metal works building that will be built on an existing concrete slab. Construction will include the use of heavy equipment, working with hand tools and electrical tools, bending, and lifting heavy equipment.

## **2.5 Soil-gas and Indoor Air Sampling**

Soil-gas and indoor air sampling activities include bending, working with hand tools, and utilizing helium gas in an equipment shroud.

### 3 ORGANIZATION AND RESPONSIBILITIES

Personnel responsible for fieldwork are identified in Table 1.

<b>Title/Responsibility</b>	<b>Name</b>	<b>Daytime</b>	<b>After Hours</b>
Ninyo and Moore-Environmental Consultant Project Manager	Trey Jackson	(510) 343.3000 x 15219	(512) 354-6236
Ninyo & Moore Corporate Safety and Health. Manager/Responsible for company health and safety including company field activities	Steve Waide, CIH	(858) 576-1000	(858) 449-8619
United HOPE Builders Representative	Michael Brownrigg	(415) 987-3230	N/A

Each Contractor shall retain a Health and Safety Manager (HSM) with the appropriate training, certificates, and experience. The HSM will be responsible for preparing and overseeing implementation of the Site-specific Health and Safety Plans (SSHSP). The SSHSP shall list the various safety-related Contractor personnel and their duties and responsibilities.

### 4 HAZARD ANALYSIS

Significant hazards identified during the job-hazard analysis include physical, chemical and biological hazards. The following sections provide more information.

#### 4.1 Physical Hazards

Physical hazards identified during the job-hazard analysis include noise, falling, slipping, tripping, manual lifting, heat stress, general physical hazards, underground pipeline hazards, and lifting/twisting hazards.

##### 4.1.1 Excavation and Trenching Hazards

Before the start of trenching and excavation activities, a "competent person" in accordance with 29 CFR 1926.650 (a person who has the knowledge and training to identify hazards and the authority to correct the hazards) will ensure that the following activities are completed:

- Contact utility companies and the property owner to ensure underground installations and utilities are located. Make sure underground installations and utilities are located, protected, supported or removed as necessary to safeguard employees.
- Remove or secure any surface obstacles that have been observed on site (i.e., trees, concrete berms, and metal supports) that may create a hazard.

- The following safety rules must be implemented during excavation activities when personnel are to enter the excavation:
- Keep materials or equipment that might fall or roll into an excavation/trench at least two feet from the edge.
- Adequate protection from falling rock, soil or other materials and equipment will be provided in the form of benching, sloping or shoring.
- Do not work in excavations/trenches where water has accumulated, or is accumulating, unless adequate precautions have been taken.
- Do not cross over an excavation/trench unless walkways are provided. Guardrails must be provided if the walkway is six feet or more above the bottom of the excavation/trench.
- Monitor the work area in and around the trench for organic vapors using a photo-ionization detector (PID) meter.
- If trenches or excavations are greater than four feet, and where hazardous atmospheres exist, or could reasonably be expected to exist, the competent person will test the air before entering the trench or excavation. The competent person will use a PID meter to test for VOCs and a combustible gas indicator (CGI) to test for the presence of oxygen, carbon monoxide, hydrogen sulfide, and explosive concentrations of gases or vapors such as methane. Methane will be monitored continuously during all excavation and trenching activities. See section 2.2 for methane monitoring requirements.

#### **4.1.2 Energized and Rotating Equipment**

Whenever feasible, heavy equipment with rotating shafts, gears or augers will be guarded to prevent accidental contact. Only experienced operators are allowed to work around rotating parts that cannot be adequately guarded. Personnel who must work around rotating equipment will not wear loose-fitting clothes that could get caught. Special precautions should be observed during drilling operations involving casing removal to avoid potential accidents due to equipment failure or breakage.

Site personnel will not operate or handle drilling equipment or heavy equipment owned by subcontractors. The drilling subcontractors will maintain and implement safety procedures according to their safety and health plan. Only qualified subcontractor personnel will operate heavy equipment during field activities. Subcontractors will maintain in operating condition all appropriate safety devices on all machinery and rotating equipment (e.g., backup alarms, emergency stops, guards) at all times. Subcontractors will implement effective safety programs for use of this type of equipment.

### **4.1.3 Vehicle and Heavy Equipment Operation**

Vehicles will only be operated in authorized areas. When moving equipment, caution should be exercised in order not to damage equipment or cause injury. When backing up heavy vehicles (larger than pickup trucks), passenger vehicles, or pickups with obscured rear vision, a guide will be used to direct the vehicle. Extra caution will be exercised during vehicle operation in close spaces. Personnel directing traffic will wear orange vests. Each vehicle will be equipped with a minimum of one fire extinguisher rated 3A:40B:40C.

### **4.1.4 Noise**

Working in direct proximity to heavy equipment can subject workers to noise exposures in excess of allowable limits. Personnel who operate or must work next to the heavy equipment will be required to wear hearing protection (ear plugs or muffs) to reduce their exposure to excessive noise. Persons exposed to noise in excess of 85 decibels (estimated) will be required to wear hearing protection.

### **4.1.5 Falling, Slipping, and Tripping**

Work zone surfaces will be maintained in a neat and orderly state. Foot traffic will avoid areas where materials are stored on the ground. Tools and materials will not be left randomly on surfaces where not in direct use. The field supervisor will assure that the work area around each hand auger operation is maintained in a neat and orderly state.

### **4.1.6 Manual Lifting Techniques**

During any manual material-handling tasks, personnel will be trained to lift with the force of the load suspended on their legs and not on their backs. An adequate number of personnel or an appropriate mechanical device must be used to safely lift or handle heavy equipment. When heavy objects must be lifted manually, workers will keep the load close to the body and will avoid any twisting or turning motions to minimize stress on the lower back.

### **4.1.7 Heat Stress**

Heat stress is an important health consideration in warm weather. Weather conditions, characterized by high temperatures and low humidity, in conjunction with wearing personal protective clothing, may aggravate heat-stress problems. Standard measures, including designating a shaded rest area, taking frequent rest breaks, and performing heat-stress monitoring of workers, may be used to minimize heat-stress-related problems. A readily available supply of liquids, such as water and fluids containing electrolytes, will be available

at the work site to replenish body fluids. Visual observation of workers by the Site Health and Safety Officer (SHSO) for heat-stress-related signs and symptoms, and body core temperature monitoring will be performed when outside temperatures exceed 70 degrees Fahrenheit and impermeable clothing is being worn, when outside temperatures exceed 90 degrees Fahrenheit in street clothes, or whenever other conditions warrant. Signs and symptoms of heat stress include profuse sweating, headache, skin flushing, dizziness, confusion, and rapid heart rate. Workers exhibiting a body core temperature of 100.4 degrees Fahrenheit or greater (measured at the ear drum) will be removed to a cooler area or activity until body core temperature returns to below 99 degrees Fahrenheit.

If persons exhibiting heat-stress symptoms are left untreated, the condition can elevate to heat stroke. Heat stroke is typically manifested by hot, dry skin with a body core temperature of 104 degrees Fahrenheit or greater. Heat stroke can be fatal if treatment is delayed. Therefore, persons exhibiting heat-stroke symptoms need to have their core temperature reduced immediately by use of cold packs, cold water wipes, or immersion. Heat-stroke victims need to be transported to a professional medical facility immediately after the victim's core temperature has been reduced or while the victim's core temperature is being reduced.

#### **4.1.8 General Physical Hazards**

The site may include ditches, areas that are poorly drained, rough or uneven terrain, depressed areas, protruding objects, and impalement hazards. The SHSO will assure that a careful pre-work walkover is made of all work areas and potential access or egress routes. Unsafe areas may be flagged or taped by the SHSO and will be identified to all personnel.

#### **4.1.9 Steam-Cleaning Equipment**

Eye and face protection will be used by steam cleaner operators. Only qualified personnel trained in the safe operation and maintenance of steam cleaners will be authorized to use them. Subcontractors operating such equipment will include safety precautions in their code of safe practices.

#### **4.1.10 Pipelines**

Overhead and buried pipelines containing natural gas and petroleum fuels are common on industrial sites. These pipelines present another source of a potential fire and explosion hazard. All work areas will be cleared by the SHSO or designated safety coordinator prior to soil-intrusive work or movement of heavy equipment into or through utility corridors. Site personnel will obtain written clearances that set forth the detailed requirements for obtaining

clearance to excavate at the site. In addition, when locations of buried lines are uncertain, excavation will always be performed by hand until the utility is located or the area is cleared. The responsible installation operations or maintenance department will review the location of emergency shutoff valves with project personnel at the pre-job meeting or tool box safety meeting prior to working in an area of concern.

#### **4.1.11 Solar Radiation**

The SHSO will encourage program personnel working out of doors to utilize covering or sunblock preparations to minimize the harmful effects of the sun's rays on the skin.

#### **4.1.12 Lifting/Twisting Injuries**

Common-sense safety precautions will be followed such as frequent rest breaks, proper lifting technique, and careful ergonomic practices.

#### **4.1.13 Work Over or Near Water**

Some sampling will take place in the channel that is adjacent to the site. Work over or near water where there is a potential for employees to fall in and drown will be conducted in accordance with the requirements of applicable Occupational Safety and Health Administration (OSHA) standards. Work within 15 feet of unobstructed access to water will be deemed to be within the requirements of this section if the water is potentially deeper than 4 feet. Regulations apply except where employees are protected by continuous guardrails, safety belts, or nets.

Employees working in areas unprotected by passive fall protection systems (OSHA specified railings or nets), where the danger of drowning exists, must wear a United States Coast Guard-approved life jacket or buoyant work vest, commonly referred to as a personal flotation device (PFD). However, this regulation can be superseded with the use of 100% fall protection. If an employee cannot fall into the water as a result of use of active or passive fall protection, there is no danger of drowning, and a PFD is not required. In addition, safety lines that prevent employees from reaching the water eliminate the danger of drowning, and negate the need for a PFD.

Where PFDs are used, a skiff or boat for emergency rescue operations, equipped with paddle or oars; a ring buoy or other life preserver; and a reach extension device must be present and ready for use at all times. Where water current exists, the skiff or boat must be motorized

or occupied at all times. All occupants of boats must wear a PFD, with the exception noted above.

One or more ring buoys must be available with at least 90 feet of line attached, located at regular intervals, (not more than 150 feet) across the distance of the work area which is over or adjacent to water. A lifeline constructed of material that is able to float should be attached to the ring buoys.

#### 4.1.14 Underground Utilities

Because buried underground utilities may be present at this site, an underground utility check will be performed before drilling operations begin. In addition, where records are inadequate or questionable, a utility search using specialized cable-detection equipment will be performed. Hand clearance of borings to a minimum depth of 5 feet will be utilized at locations.

#### 4.1.15 Overhead Electrical Hazards

Overhead cables may be present on sites. The standard requires that equipment and personnel maintain a distance of at least 10 feet from overhead power lines of 50kV or less and an additional 0.4 inches for every kV over 50. The following summarizes these distances:

Line Voltage	Required Clearance
< 50 kV	10 feet
200 kV	15 feet
350 kV	20 feet
500 kV	25 feet
650 kV	30 feet
800 kV	35 feet

**The rule of thumb is if the overhead power line is 50 kV or less, then stay at least 10 feet away (4' in transit). For everything else, keep at least 35 feet away.**

## 4.2 Chemical Hazards

Chemical hazards identified during site characterization include volatile organic compounds and semi-volatile organic compounds.

### 4.2.1 Volatile Organic Compounds

VOCs are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Health



effects may include eye, nose, and throat irritation; headaches, loss of coordination, nausea; damage to liver, kidney, and central nervous system. Some organics can cause cancer in animals; some are suspected or known to cause cancer in humans. Key signs or symptoms associated with exposure to VOCs include conjunctival irritation, nose and throat discomfort, headache, allergic skin reaction, dyspnea, declines in serum cholinesterase levels, nausea, emesis, epistaxis, fatigue, dizziness.

The ability of organic chemicals to cause health effects varies greatly from those that are highly toxic, to those with no known health effect. As with other pollutants, the extent and nature of the health effect will depend on many factors including level of exposure and length of time exposed. Eye and respiratory tract irritation, headaches, dizziness, visual disorders, and memory impairment are among the immediate symptoms that some people have experienced soon after exposure to some organics. Many organic compounds are known to cause cancer in animals; some are suspected of causing, or are known to cause, cancer in humans. As with TPH above, benzene is usually the principal concern and the basis for establishing action levels for continuous monitoring equipment in the presence of VOCs. The current OSHA PEL for benzene is 1 parts per million (ppm).

Chlorinated solvents are a category of VOCs and have been reported in very high concentrations in both soil and groundwater at the Site. In addition, concentrations of chlorinated solvents are above environmental screening levels in soil gas. Chlorinated solvents present a wide range of toxic modalities, with certain compounds being highly toxic and others being essentially inert. Chlorinated solvents are often identified by a familiar characteristic odor. The PID or flame ionization detector (FID) used for field monitoring has reduced sensitivity (response factor) for some chlorinated solvents. Vinyl chloride has specifically shown high concentrations in soil gas and in ambient air at the site. The current OSHA PEL for vinyl chloride is 1 parts per million (ppm).

#### **4.2.2 Semi-Volatile Organic Compounds**

A semi-volatile organic compound is an organic compound which has a boiling point higher than water and which may vaporize when exposed to temperatures above room temperature. Semi-volatile organic compounds include phenols and polynuclear aromatic hydrocarbons (PAH). Short-term effects of phenol exposure include respiratory irritation, headaches, and burning eyes. Chronic effects of high exposures include weakness, muscle pain, anorexia, weight loss, and fatigue; effects of long-term low-level exposures include increases in

respiratory cancer, heart disease, and effects on the immune system. PAHs are produced from coal tar and other sources and are used in a variety of industrial products. PAH is a recognized human carcinogen. Studies in animals have also shown that PAHs can cause harmful effects on skin, body fluids, and the body's system for fighting disease after both short- and long-term exposure however these effects have not been reported in people. The current OSHA PEL is 0.2 milligrams per cubic meter (mg/m<sup>3</sup>) however, exposure by any route to PAH and other recognized human carcinogens will be maintained at the absolute practicable minimum level.

### **4.2.3 Petroleum Hydrocarbons**

Total petroleum hydrocarbons (TPH) is a term used to describe a large family of several hundred chemical compounds that originally come from crude oil. TPH is a mixture of chemicals, but they are all made mainly from hydrocarbons. Some chemicals that may be found in TPH are hexane, jet fuels, mineral oils, benzene, toluene, xylenes, naphthalene, and fluorene, as well as other petroleum products and gasoline components. Some of the TPH compounds can affect your central nervous system. One compound can cause headaches and dizziness at high levels in the air. Another compound can cause a nerve disorder called "peripheral neuropathy," consisting of numbness in the feet and legs. Other TPH compounds can cause effects on the blood, immune system, lungs, skin, and eyes.

Animal studies have shown effects on the lungs, central nervous system, liver, and kidney from exposure to TPH compounds. Some TPH compounds have also been shown to affect reproduction and the developing fetus in animals. The International Agency for Research on Cancer (IARC) has determined that one TPH compound (benzene) is carcinogenic to humans. IARC has determined that other TPH compounds (benzo[a]pyrene and gasoline) are probably and possibly carcinogenic to humans. Most of the other TPH compounds are considered not to be classifiable by IARC.

### **4.2.4 Hydrogen Sulfide**

Hydrogen sulfide (H<sub>2</sub>S) is a colorless gas with a strong odor of rotten eggs. Exposure to hydrogen sulfide may cause irritation to the eyes and respiratory system. It can also cause apnea, coma, convulsions; dizziness, headache, weakness, irritability, insomnia; stomach upset, and if liquid: frostbite. Workers may be harmed from exposure to hydrogen sulfide. The level of exposure depends upon the dose, duration, and work being done. The OSHA PEL is 10 ppm.

#### **4.2.5 Methane**

Methane gas may be encountered as a result of biological processes in soil during excavation or other subsurface activities. Methane is an explosive hazard and can displace oxygen in confined space entry work. Methane will be monitored as an explosive gas. PIDs do not detect methane; therefore, either a flame ionization detector (FID) or combustible gas detector (CGI) will be used where a potential for methane gas is identified. Safe work action level for methane is below the OSHA PEL of 0.5% methane (10% of the methane LEL). See section 2.2 for methane monitoring requirements.

#### **4.2.6 Title 22 Metals**

A variety of metals are encountered as contaminants at industrial or military sites. Some heavy metals are highly toxic; others are also recognized human carcinogens. Because these materials are not volatile unless highly heated, control by proper use of PPE and personnel hygiene practices will prevent significant exposure. There are many individual metals causing varying degrees of illness based on acute and chronic exposures. Some heavy metals – such as cobalt, copper, iron, manganese, molybdenum, vanadium, strontium, and zinc – are essential to health in trace amounts. Others are non-essential and can be harmful to health in excessive amounts. These include cadmium, antimony, chromium, mercury, lead, and arsenic – these last three being the most common in cases of heavy metal toxicity.

Some heavy metals such as lead can affect the nervous system, gastrointestinal system, cardiovascular system, blood production, kidneys, and reproductive system.

Symptoms of heavy metal toxicity include mental confusion, pain in muscles and joints, headaches, short-term memory loss, gastrointestinal upsets, food intolerances/allergies, vision problems, chronic fatigue, and others. There are OSHA PEL for a wide number of metals but the most common metal of concern is lead and is typically used as the field indicator for metals exposures. The OSHA PEL for lead is currently set at 0.05 mg/m<sup>3</sup> with an action level of 0.03 mg/m<sup>3</sup>. In addition, mercury has been detected in soil on site. The OSHA PEL for mercury is 0.01 mg/m<sup>3</sup>.

#### **4.2.7 Organochlorine Pesticides**

Organochlorine pesticides range from relatively low-toxicity products to highly poisonous compounds. Exposure to extremely small quantities of some of these pesticides may result in serious bodily harm, even death. Central nervous system excitation and depression, typically abrupt in onset, are the primary clinical effects of acute organochlorine toxicity.

Symptoms may include euphoria with auditory or visual hallucinations, perceptual disturbances, seizures, agitation, lethargy, or unconsciousness.

Identification of pesticide containers during field activity requires evaluation by the SHSO before work can proceed. Pesticide dumping at a site requires that protective clothing protocols be implemented during all intrusive activity. Presence of only residue following normal application may permit a reduced level of PPE. There are a wide variety of organochlorine pesticides but the commonly cited compounds are chlordane and DDT. Chlordane has a current OSHA PEL of 0.5 mg/m<sup>3</sup> while DDT has a current PEL of 1 mg/m<sup>3</sup>.

#### **4.2.8 Polychlorinated Biphenyls**

PCBs, also referred to as Aroclors, are synthetic industrial products that have been commonly used as cooling fluid and for electrical insulation. PCBs are common contaminants of oily type waste and are found around railroad tracks and in industrial areas and dumps. PCBs are recognized environmental pollutants and suspected human carcinogens.

#### **4.2.9 Carcinogens**

Carcinogens are any chemicals or products capable of causing or inducing cancer or leukemia in humans. For Program purposes, carcinogens are classified, based upon OSHA, American Conference of Governmental Industrial Hygienists, IARC or National Toxicology Program classifications, into recognized or confirmed human carcinogens (Class I), suspect human carcinogens (Class II), questionable carcinogens (Class III), or not recognized as carcinogenic. If recognized or suspect carcinogens (Class I or Class II) have been identified in work areas, they are identified as such in this plan. Exposure by any route to recognized human carcinogens without published exposure limits will be maintained at the absolute practicable minimum level.

#### **4.2.10 Nonaromatic Hydrocarbons**

The category of nonaromatic hydrocarbons refers to a variety of volatile and semi-volatile compounds, including simple hydrocarbons such as propane, pentane, and octane. These unspecified compounds are present in petroleum hydrocarbon mixtures and may exist as gas, vapor, liquid, or some combination. The compounds are generally of low toxicity; however, they produce a narcotic effect at moderate concentrations. Exposure to nonaromatic hydrocarbons at moderate concentrations may affect the operator's ability to operate machinery. The low toxicity of these materials is not a basis for allowing exposures in excess of established limits.

#### **4.2.11 Flammability**

The possibility of flammable vapors from high concentrations of volatile petroleum hydrocarbons in groundwater or from a layer of NAPL exists at the Site. Accordingly, monitoring will be conducted to identify locations where flammable vapors may ignite from sparks generated by equipment.

### **4.3 Biological Hazards**

The SHSO will screen the area for biological hazards during the initial site visit and will discuss any problems with installation personnel during the pre-work review. Multiple biological hazards are present at the site. The most common hazards anticipated are discussed below.

#### **4.3.1 Snakes**

Personnel should be extremely careful when walking through tall grass, rocks, or debris. If a rattlesnake is encountered, slowly and quietly back away from the snake. Inform all personnel at the site of its location. Do not attempt to move or kill a snake because certain species of rattlesnake are protected under state and federal laws. In the event of a snakebite, immediately summon emergency medical services and notify the SHSO. Do not try to move the affected limb; instead, immobilize the injured area, keeping it lower than the heart if possible, and wait for transportation. Do not apply ice, Do not cut the wound, do not apply a tourniquet. The venom should be wiped off the skin since venom will attack intact skin. If you know the victim cannot receive medical care within 30 minutes, consider suctioning the wound using a snakebite kit.

### **4.3.2 Insects and Arachnids**

Bees, wasps, yellow jackets, black widow spiders, scorpions, and brown recluse spiders present a potential hazard on this project, especially so for those individuals sensitized to those bites or stings. Prior to initial assignment on this project, personnel with known allergic responses to insect stings will be identified and field supervisors made aware of this condition. These personnel will also carry an antidote kit if so advised by their physician. The SHSO will confirm that the antidote kit is accessible and notify the emergency medical service providers in the event of any incident.

In all cases, a victim suspected of being bitten by either a black widow or brown recluse spider, or stung by a scorpion will receive medical attention. The venom from the brown recluse spider is capable of causing coma and kidney failure in its victim.

Protection methods against insects may be employed, such as the use of protective clothing or insect repellents, as well as extermination measures, and training in recognition and identification of harmful insects.

### **4.3.3 Vermin**

Rats, mice, squirrels, and rabbits are carriers of disease. Where vermin are identified in work areas, the SHSO will be immediately notified. Bites will be immediately reported and medical care obtained.

Infections associated with rodent-borne disease are present in the southwestern United States. Infections may occur in humans associated with activities that bring humans into contact with rodents, rodent saliva, or rodent excreta. Activities that may bring humans into contact with the etiologic agents causing infection include disturbing rodent-infested areas, and visiting areas where rodent populations have increased.

Transmission of disease may occur through broken skin, contact with conjunctivae, ingestion of contaminated food or water, or inhalation of aerosols. Prevention is through environmental hygiene practices that deter rodents from colonizing the work environment.

Cleanup of rodent-contaminated areas or areas meeting the above criteria will be performed wearing Level C protective equipment, including full-face respirator and head covering. Vacuuming or dry sweeping should not be used since this may generate aerosols. Surfaces should be disinfected by spraying with a detergent, water, and disinfectant mixture. Reusable protective clothing will be decontaminated and disinfected daily. Where rodent infestation is

positively identified, all waste will be disposed in double-bagged containers and will be marked as infectious.

## **5 COVID-19 PREVENTION**

To assist in mitigating the 2019 Novel Coronavirus (COVID-19) potential exposure and transmission risks, each contractor shall comply with California Code of Regulations Title 8, Section 3205 through 3205.4, and San Mateo County Public Health Protocol C19-5C, Small Construction Project Safety Protocol. Due to the evolving nature of this pandemic, these procedures may be amended as additional guidance is made available by the various health organizations and changing regulatory requirements. Each contractor shall have their own COVID-19 specific prevention measures in place.

## **6 SITE CONTROL**

For intrusive field activities such as drilling and excavation, precautions shall be taken to assure that only authorized personnel with the proper training and PPE enter work areas. In these areas, access is controlled with caution tape and/or barricades. Proper training would include decontamination, hazard recognition, and safe operating procedures.

Prior to entering the site, a pre-entry briefing will be held prior to initiating site activity and at such other times as necessary to ensure that employees are apprised of the site safety and health plan and that this plan is being followed. The pre-entry briefing will be held before the start of actual work. The briefing will include representatives of the Client (if present), subcontractors, and Ninyo & Moore employees and will include a discussion of Ninyo & Moore's Health and Safety Plan and the means, methods, devices, processes, practices, conditions, or operations which the Ninyo & Moore intends to use in providing a safe and healthy place of employment.

## **7 DECONTAMINATION**

This section discusses the decontamination of all vehicles and equipment mobilized to the Site that could have contacted soil or groundwater in area with potential contamination. Decontamination techniques include, but are not limited to, removing dust, debris, and soil from equipment and transportation vehicles leaving the Exclusion Zone or leaving areas where equipment and/or vehicles have come into contact with soil at the Site. Site decontamination will include the establishment of a decontamination area, instructions for decontamination of equipment and transport vehicles, and Prime Electric waste storage guidelines.

## 7.1 Personnel Decontamination

A three-station decontamination system will be established at each field location where drilling operations present an exposure risk to personnel. At the bare minimum, a decontamination procedure (consisting of washing exposed skin with soap and water) shall be required.

## 7.2 Decontamination of Equipment and Transportation Vehicles

The primary focus of any decontamination program is to minimize the spread of contaminated material beyond a given site. During field activities, a variety of heavy equipment, vehicles, and small equipment is anticipated. The level of potential contamination for vehicles and equipment at this site is “low” for support vehicles used in uncontaminated areas and/or for non-intrusive field activities, and “medium” for intrusive activities in potentially contaminated sites.

Access routes from a given work area to the decontamination pad will be via the shortest route practical. To minimize the potential for contaminated material being released in route, gross contamination will be removed from each vehicle before leaving the exclusion zone. If gross removal of contaminants is impractical for some items, these items will be wrapped in plastic prior to transport.

## 7.3 Hazardous Waste Minimization Practices

Personnel entering controlled areas shall minimize generation of waste that may be classified as hazardous. Disposal materials, wrapping, and packaging shall not be brought into controlled areas unless required to prevent cross-contamination. Separate waste containers shall be set up for trash, nonhazardous waste, and potentially hazardous waste.

## 7.4 Testing Requirements Following Decontamination

All items and equipment leaving controlled areas will be inspected by the SHSO for proper decontamination prior to leaving the site. Generally, visual inspection (after wet-wiping) of items used within controlled areas is sufficient to establish adequate decontamination, eliminating the requirement to test for chemical contamination. Subcontractors shall notify the SHSO before removing equipment from controlled areas.

## 7.5 Decontamination Area Arrangements

Specific areas shall be designated for waste storage, vehicle and equipment decontamination, emergency supplies, and other necessary equipment.



### **7.5.1 Waste Storage Area and Decontamination Area**

A waste storage and decontamination area will be specified during work times and kept separate from work areas. Drums of purge water and soil cuttings will be stored here until testing and removal is commenced. Containers of waste should be clearly labeled and logged in a site control document. Prior to any site activity, the site control document will be consulted and made familiar to all workers on the site.

### **7.5.2 Decontamination Pad**

If the drilling subcontractor does not provide a portable decontamination sump, a decontamination pad shall be constructed in the staging area for the decontamination of drill rigs, augers, and associated equipment. It is anticipated that the design of the pad will incorporate a sloped plane with a liquid-collection sump. The pad shall be operated such that all wash water can be contained and collected within the pad.

## **8 MEDICAL SURVEILLANCE REQUIREMENTS**

Site personnel will be required to participate in their employer's medical surveillance program before being permitted to work on location. The medical surveillance program for Ninyo & Moore employees is described in the Ninyo & Moore Injury and Illness Prevention Program. Subcontractor medical surveillance programs are described in respective company documents. Subcontractors will be required to demonstrate, by document submittal, their maintenance of OSHA-compliant programs, including Title 8 California Code of Regulations, Section 5192, and to maintain records as required by the applicable contract. Specific exceptions to the medical surveillance requirements may be granted by the SHSO for site access by specialty subcontractors performing non-intrusive activity. If level C becomes necessary on site, an appropriate exclusion zone will be established and personnel without medical clearance for respiratory protection or the appropriate PPE will be prohibited entry.

## 9 HAZARD MONITORING

During the field activities for the Site, the following monitoring requirements will be mandated in Tables 3 through 6:

<b>Table 3 – Chemical/Physical Monitoring Requirements</b>				
<b>Scope of Work Task</b>	<b>Chemical Hazard</b>	<b>Instrument</b>	<b>Responsible Group</b>	<b>Initial Frequency</b>
Groundwater and Surface Water Sampling	Organic vapor, exposure to potentially impacted water	PID	SHSO/	Start of task, continuous, if needed
Drilling	Dust, silica, organic vapor	Visual Observation, PID, 4-gas meter	SHSO	Start of task, continuous, if needed
O&M	Organic vapor, hydrogen sulfide	4-gas meter, PID	SHSO	Entry screening into treatment compound, start of task, continuous, if needed
Soil Vapor Sampling	Organic vapor	PID	SSHO	Start of task, continuous, if needed

**Notes:**  
 N/A – Not Applicable  
 PID – Photo-ionization Detector  
 SHSO – Site Health and Safety Officer  
 NEA – Negative Exposure Assessment

**Table 4 – Monitoring Methods and Action Levels for Petroleum Hydrocarbon<sup>1</sup> Sites Using Screening Survey Instruments**

Hazard	Method	Action Level <sup>2</sup>	Protection Action
Total Organic Vapor (benzene suspected)	PID <sup>3</sup>	Background to 5 ppm <sup>5</sup> above background	No action required
		> 5 ppm	Air purifying respirator, half or full face, level C protection with organic vapor cartridges
		> 50 ppm	Supplied air protection, Level B
		> 100 ppm	STOP WORK
Combustible Gas	CGI <sup>4</sup>	< 10% LEL <sup>6</sup>	No action
		10% to 20% LEL	Start continuous monitoring; Permit only classified electrical equipment and nonsparking tools
Oxygen Concentration	CGI <sup>4</sup>	> 20% LEL	STOP WORK, ascertain source of gas
		< 19.5% O <sub>2</sub>	Leave area, evaluate reason for deficiency, monitor again remotely or with IDLH <sup>8</sup> entry program
		19.5 to 20.5% O <sub>2</sub>	Slight deficiency, continue continuous monitoring
		20.5 - 21.0% O <sub>2</sub>	Normal range
Carbon Monoxide	Combustible gas indicator	> 22.0% O <sub>2</sub>	Elevated reading, check calibration, investigate cause, STOP any potential spark-producing activity
		> 10 ppm CO	Perform continuous monitoring, evaluate reason for elevated reading, consider engineering controls
Hydrogen Sulfide	Combustible gas indicator	> 25 ppm CO	Stop work until engineering controls can be implemented, remove personnel from excavation
		< 5 ppm H <sub>2</sub> S	Continuous monitoring
		> 5 , but <10 ppm H <sub>2</sub> S	Respirator with acid cartridge
Air Quality	AQI <sup>6</sup> monitor (web resource)	> 10 ppm H <sub>2</sub> S	Leave area, evaluate reason for elevated reading, monitor again remotely or with IDLH <sup>8</sup> entry program
		<100	No action required; Can wear N95 (or equivalent) mask if desired
		>100, but <150	Unhealthy if sensitive; Can wear N95 (or equivalent) mask if desired
		>150, but <300	N95 mask (or equivalent) recommended, but not required
		>300	STOP WORK

**Notes:**

- <sup>1</sup> Action levels based on gasoline, aviation gasoline, and diesel contaminants only. A conservative 20% benzene is assumed where benzene is not verified absent from atmosphere. Action levels should be reestablished based on periodic analysis of atmosphere.
- <sup>2</sup> All action levels are readings observed above background
- <sup>3</sup> Photoionization detector
- <sup>4</sup> Combustible Gas Indicator
- <sup>5</sup> Parts per million
- <sup>6</sup> Air Quality Index – includes ground-level ozone, particle pollution, carbon monoxide, sulfur dioxide, and nitrogen dioxide

## 9.1 Respirator Cartridges

A VOC and particulate cartridge worn with a full-face respirator for LNAPL recovery, LNAPL absorbent-sock maintenance, or similar LNAPL activities can be worn for up to one 8-hr. work day. Once the VOC and particulate cartridge has been opened, it can be worn for 8 hrs. after which it needs to be discarded.

If groundwater is utilized in the remediation chemical-mixing tank and hydrogen sulfide (H<sub>2</sub>S) vapor levels are within the 5- to 10-ppmv range, an acid-gas, VOC, and particulate cartridge worn

with a full-face respirator can be worn for up to 4 hrs. after which it needs to be discarded. Once the cartridge package has been opened and exposed to general VOCs it must be discarded at the end of the day.

Special Note: During below-grade work engineering controls such as forced ventilation will be used to maintain VOC concentrations within and around the excavation below 1 ppm above background with the onsite-PID.

Heat stress action levels and monitoring are noted in Tables 5 and 6, respectively.

**Table 5 – Action Levels for Heat Stress**

Type Measurement	Action Level	Action
Ear insertable core temperature	100.4° F or greater	Remove from work
Ear insertable core temperature	<99° F	Return to work

**Table 6 – Frequency of Physiological Monitoring for Fit and Acclimated Workers**

Adjusted Temperature <sup>1</sup>	Normal Work Ensemble <sup>2</sup> After Each:	Impermeable Ensemble After Each:
90° F (32.2° C) or above	45 minutes of work	15 minutes of work
86.5° F - 90° F (30.8° C - 32.2° C)	60 minutes of work	30 minutes of work
82.5° F - 86.5° F (28.1° C - 30.8° C)	90 minutes of work	60 minutes of work
76.5° F - 82.5° F (25.3° C - 28.1° C)	120 minutes of work	90 minutes of work
72.5° F - 76.5° F (22.5° C - 25.3° C)	150 minutes of work	120 minutes of work

**Notes:**

<sup>1</sup> Calculate the adjusted air temperature (Ta adj) with the following equation:  $Ta\ adj(^{\circ}F) = Ta(^{\circ}F) + (13 \times \text{percent sunshine} / 100)$ . Measure air temperature (Ta) with a standard mercury-in-glass thermometer with the bulb shielded from radiant heat. Estimate the percent sunshine by judging what percent time the sun is not covered by clouds that are thick enough to attenuate shadow (100 percent sunshine = no cloud cover and a sharp, distinct shadow; 0 percent sunshine = no shadow).

<sup>2</sup> A normal work ensemble consists of coveralls or other cotton clothing with long sleeves and pants.

## 10 PERSONAL PROTECTIVE EQUIPMENT

Based on an evaluation of potential hazards, the following level of PPE will be mandated for the listed tasks:

<b>Table 7 – Personal Protective Equipment (potential or actual chemical exposure)</b>						
<b>Task</b>	<b>Hazard</b>	<b>Level</b>	<b>Body</b>	<b>Respirator</b>	<b>Skin</b>	<b>Other</b>
Excavation activities	Minimal chemical exposure, noise, solar radiation	D*	At SHSO discretion, tyvek suits, taped at the cuffs and ankles	Half or Full-face respirator with high-efficiency particulate air (HEPA) and organic vapor (OV) cartridges if action levels exceeded	Appropriate gloves	Hard hat, safety glasses, hearing protection, steel-toed boots
Drilling activities	Minimal chemical exposure, noise, solar radiation	D*	At SHSO discretion, tyvek suits, taped at the cuffs and ankles	Half or Full-face respirator with high-efficiency particulate air (HEPA) and organic vapor (OV) cartridges if action levels exceeded	Appropriate gloves	Hard hat, safety glasses, hearing protection, steel-toed boots
Water sampling activities	Minimal chemical exposure, noise, solar radiation	D*	At SHSO discretion, tyvek suits, taped at the cuffs and ankles	Half or Full-face respirator with organic vapor (OV) cartridges if action levels exceeded	Appropriate gloves	Hard hat, safety glasses, hearing protection, steel-toed boots
O&M Visit	Minimal chemical exposure, noise, solar radiation,	D	At SHSO discretion, poly-coated tyvek suits, taped at the cuffs and ankles	Half or Full-face respirator with organic vapor (OV) cartridges if action levels exceeded	Appropriate gloves	Hard hat, safety glasses, hearing protection, steel-toed boots

**Notes:**

N/A – not applicable

\*Work will be initiated at Level D. PPE will be upgraded to Level C based on results of field observations.

## 11 EMPLOYEE TRAINING ASSIGNMENTS

A matrix summarizing training requirements for Ninyo & Moore personnel, subcontract supervisors and personnel, visitors, and vendors is presented in Table 8.

Table 8 – Training Assignment Matrix						
Category	40-Hour Basic	8-Hour Refresher	24 Hours Supervised Experience	8-Hour Supervisor	Site-Specific	First Aid/CPR
Ninyo & Moore Employee	X	X	X		X	X <sup>1</sup>
Ninyo & Moore or Subcontractor Supervisor	X <sup>2</sup>	X <sup>2</sup>	X	X <sup>3</sup>	X	X <sup>1</sup>
Contractor	X <sup>2</sup>	X <sup>2</sup>	X		X	
Visitor	X <sup>5</sup>	X <sup>5</sup>	X <sup>6</sup>		X <sup>4</sup>	
Vendor	X <sup>5</sup>	X <sup>5</sup>	X <sup>6</sup>		X <sup>4</sup>	

**Notes:**

- <sup>1</sup> At remote locations, (emergency responders more than 10 minutes away) a minimum of two people will be on-site, during fieldwork, who have a valid certificate in basic first aid/CPR from the American Red Cross (or equivalent) documented training.
- <sup>2</sup> The requirement for 40-hour basic and 8-hour refresher training for certain non-intrusive work shall be made on a case-by-case basis by the Corporate Safety Manager.
- <sup>3</sup> Employees may take supervisor training in lieu of standard refresher training.
- <sup>4</sup> A site-specific safety orientation must be given to all visiting/working personnel.
- <sup>5</sup> For vendors/visitors requiring controlled area access to work on contaminated equipment.
- <sup>6</sup> Not required if escorted.

## 12 CONFINED SPACE ENTRY

Confined spaces, including but not limited to trenches, ditches, holes, culverts, structures, and tanks, present multiple hazards including oxygen deficiency, toxic agent exposure, heat stress, engulfment, and other hazards.

Confined space entry is not anticipated nor is it authorized for project personnel or subcontractors during this work activity, other than shallow trenches by authorized personnel under the direct supervision of the Competent Person. If it becomes necessary to enter a confined space during this project, appropriate training, equipment and supervision will be put in place and the entry will be made in accordance with a specific confined space entry permit approved by the Corporate Safety Manager. A designated OSHA-competent person for confined space work will be on-site during all confined space entry activities. Detailed confined space entry procedures will be maintained for any permit-required confined space work.

## 13 SPILL PREVENTION AND CONTROL MEASURES

### 13.1 Preventive Measures

- As applicable, inspect all containers upon delivery to the site for visible defects and ensure that each drum or container includes a re-sealable lid.
- Set any 55-gallon drums on wooden pallets to facilitate transport via forklift.
- Perform weekly inspections of any storage areas.
- Select flat areas for temporary storage away from high-traffic zones and storm or sewer drains.

### 13.2 Spill Containment Measures

The following actions will be taken by Ninyo & Moore field personnel assigned to the field activities in the event of a spill:

- The Site Coordinator (field team leader) and SHSO are to be notified immediately;
- Workers not involved in spill containment and/or cleanup shall evacuate the immediate area and designated emergency response personnel attired in appropriate PPE (see Section 9), shall proceed to the spill area with a spill cleanup and control kit, including absorbent materials;
- Attempts shall be made to stop the source(s) of spillage immediately;
- The SHSO shall monitor for exposure to chemicals or hazardous substances during spill cleanup work and shall stay at the spill area until the area has been cleared, inspected, and readied for reentry. A spill incident report shall be prepared by the SHSO;

### 13.3 Record Keeping and Notifications

The SHSO shall thoroughly document the spill in an Incident Report which will be forwarded to the Corporate Safety Manager and Project Manager. Records of all hazardous materials releases shall be maintained with the project files and the facility operating record. The Project Manager will make any necessary notifications to off-site authorities and he and the Safety Manager will approve the reentry to the site for routine use and will issue a final release report pertaining to cleanup of the area.

## 14 EMERGENCY RESPONSE

In the event of a medical emergency or fire during fieldwork at the construction areas at the site, the standard “911” emergency telephone number shall be called from the on-site mobile phone or any base phone. A mobile telephone will be available during all field activities. On a daily basis,

and at each work location, the SHSO and/or field team leader will verify that mobile phones are operational. Standard hand signals will be reviewed at the site tail-gate safety meeting prior to beginning work.

Pertinent personnel phone numbers are listed in Section 3, Table 1 – Responsible Personnel for the Site. Emergency facility locations and phone numbers are listed below. A hospital location map is indicated in Appendix A. All project vehicles shall maintain a copy of this section (Section 11) together with the appropriate emergency map at all times, in a readily accessible location.

Directions to the nearest medical facility from the site are as follows:

- *Take University Avenue to Everett Avenue in Palo Alto*
- *Continue on Everett Avenue to University Avenue*
- *Take Palm Drive and Campus Drive to Quarry Extension in Stanford*
- *Take Quarry Road Ext to Stanford Hospital Emergency Room located at 900 Quarry Road.*

The emergency facility located in closest proximity to the site is the Stanford Hospital Emergency Room located at 900 Quarry Road Ext in Palo Alto. The route from Romic to the hospital is shown in Figure 1.

<b>Table 9 – Emergency Phone Numbers</b>			
<b>Emergency</b>	<b>Number</b>	<b>Contact</b>	<b>Notes</b>
Medical, Fire or Police	911	Emergency Operator	
Medical Center (to be used only if local hospital/clinic will be first contact)	(650) 723-5111	Stanford Hospital Emergency Room 900 Quarry Road Ext Palo Alto, California 94304	



## 15 SIGNATURES

All site personnel are required to read the above plan and by signing below, acknowledge that they are familiar with its provisions.

	<u>Print Name</u>	<u>Signature/Date</u>
Ninyo & Moore Personnel	_____	_____
Field Team Leader/SHSO	_____	_____
Field Team Members	_____	_____
Field Team Members	_____	_____
Field Team Members	_____	_____
Field Team Members	_____	_____
Field Team Members	_____	_____
<b>Contractors</b>	_____	_____
	_____	_____
	_____	_____
	_____	_____
<b>Client/Agency Personnel</b>	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____

## 16 PROGRAM SAFETY MANAGER REVIEW

The above site-specific health and safety plan has been reviewed and approved by the Corporate Safety Manager indicated below.



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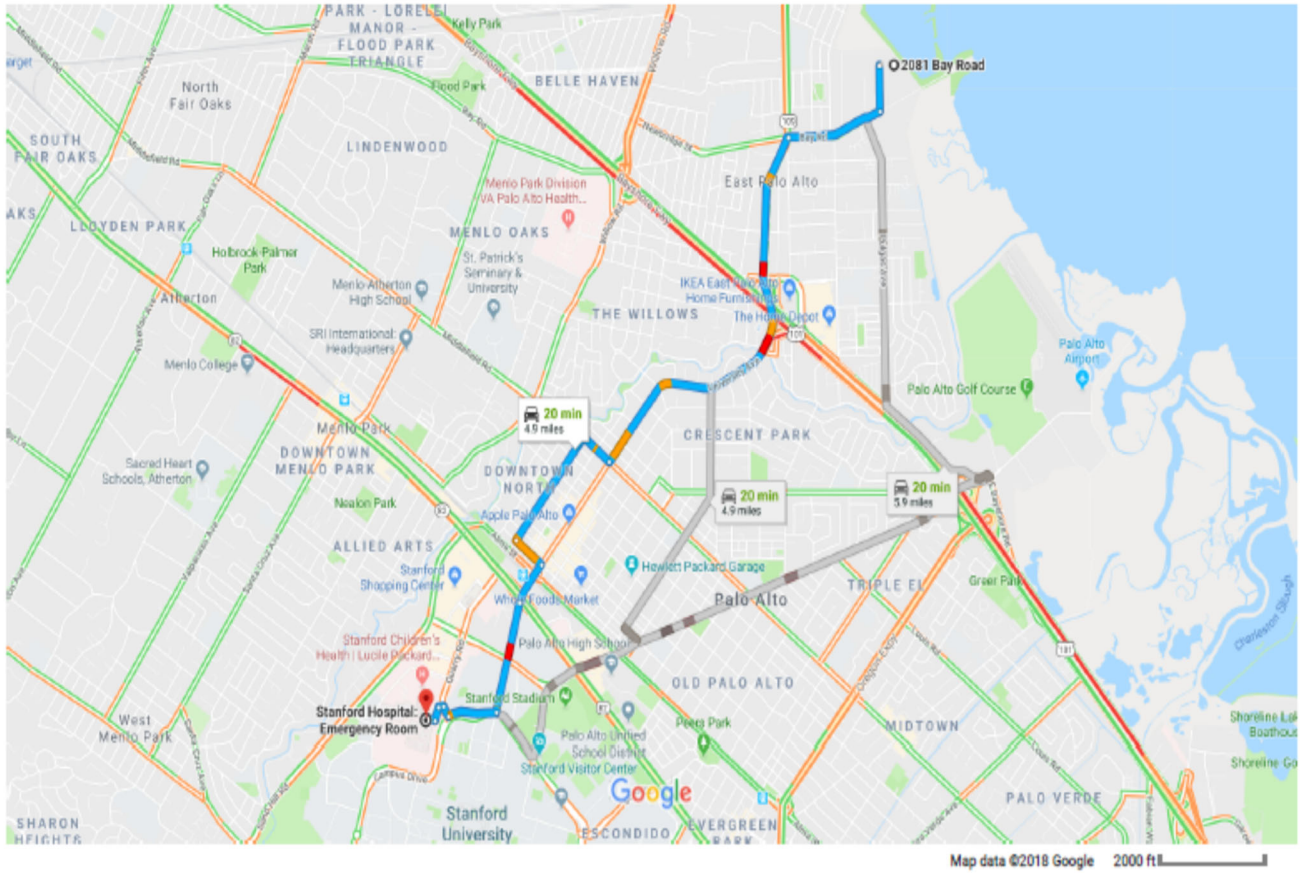
Stephen Waide, CIH, CSP  
Corporate Safety Manager





# Attachment A

## Hospital Location





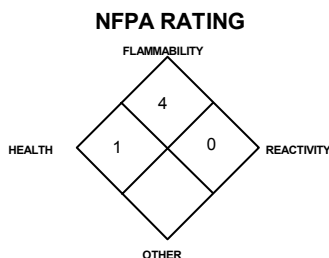
# Attachment B

## Chemical Safety Data Sheets

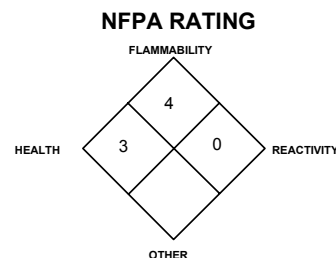
## MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and  
Canadian WHMIS Standards

### METHANE GAS



### LIQUID METHANE



## **PART I** *What is the material and what do I need to know in an emergency?*

### 1. PRODUCT IDENTIFICATION

CHEMICAL NAME; CLASS:

**METHANE - CH<sub>4</sub>, Gaseous**  
**METHANE - CH<sub>4</sub>, Liquefied (Cryogenic)**

Document Number: 001033

PRODUCT USE:

Fuel and for general analytic/synthetic chemical uses.

SUPPLIER/MANUFACTURER'S NAME:

AIRGAS INC.

ADDRESS:

259 N. Radnor-Chester Road  
Suite 100  
Radnor, PA 19087-5283

BUSINESS PHONE:

1-610-687-5253

EMERGENCY PHONE:

1-800-949-7937

International: 423-479-0293

DATE OF PREPARATION:

May 12, 1996

REVISION DATE:

January 3, 2001

### 2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR				IDLH ppm	OTHER
			ACGIH		OSHA			
			TLV ppm	STEL ppm	PEL ppm	STEL ppm		
Methane	74-82-8	> 99%	There are no specific exposure limits for Methane. Methane is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.					
Maximum Impurities		< 1%	None of the trace impurities in this product contribute significantly to the hazards associated with the product. All hazard information pertinent to this product has been provided in this Material Safety Data Sheet, per the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and State equivalent standards.					

NE = Not Established

C = Ceiling Limit

See Section 16 for Definitions of Terms Used

NOTE: All WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

### 3. HAZARD IDENTIFICATION



**EMERGENCY OVERVIEW:** Methane is an odorless, colorless gas, or a colorless, odorless liquid in its cryogenic form. Both the liquid and the gas pose a serious fire hazard when accidentally released. The liquid will rapidly boil to the gas at standard temperatures and pressures. As a gas, it will act as a simple asphyxiant and present a significant health hazard by displacing the oxygen in the atmosphere. The gas is lighter than air and may spread long distances. Distant ignition and flashback are possible. The liquefied gas can cause frostbite to any contaminated tissue. Flame or high temperature impinging on a localized area of the cylinder of Methane can cause the cylinder to rupture without activating the cylinder's relief devices. Provide adequate fire protection during emergency response situations. Allow the released gas to dissipate in the atmosphere.

**SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE:** The most significant route of overexposure for this gas is by inhalation. The following paragraphs describe symptoms of exposure by route of exposure.

**INHALATION:** High concentrations of this gas can cause an oxygen-deficient environment. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of overexposure, death may occur. The effects associated with various levels of oxygen are as follows:

<b>CONCENTRATION</b>	<b>SYMPTOMS OF EXPOSURE</b>
12-16% Oxygen:	Breathing and pulse rate increased, muscular coordination slightly disturbed.
10-14% Oxygen:	Emotional upset, abnormal fatigue, disturbed respiration.
6-10% Oxygen:	Nausea and vomiting, collapse or loss of consciousness.
Below 6%:	Convulsive movements, possible respiratory collapse, and death.

**OTHER POTENTIAL HEALTH EFFECTS:** Contact with cryogenic liquid or rapidly expanding gases (which are released under high pressure) may cause frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with the liquid can quickly subside.

HAZARDOUS MATERIAL INFORMATION SYSTEM			
<b>HEALTH</b>		(BLUE)	1
<b>FLAMMABILITY</b>		(RED)	4
<b>REACTIVITY</b>		(YELLOW)	0
<b>PROTECTIVE EQUIPMENT</b>			B
EYES	RESPIRATORY	HANDS	BODY
	See Section 8		See Section 8
For routine industrial applications			

**See Section 16 for Definition of Ratings**

**HEALTH EFFECTS OR RISKS FROM EXPOSURE:** An Explanation in **Law Terms**. Overexposure to Methane may cause the following health effects:

**ACUTE:** The most significant hazard associated with this gas is inhalation of oxygen-deficient atmospheres. Symptoms of oxygen deficiency include respiratory difficulty, headache, dizziness, and nausea. At high concentrations, unconsciousness or death may occur. Contact with cryogenic liquid or rapidly expanding gases may cause frostbite.

**CHRONIC:** There are currently no known adverse health effects associated with chronic exposure to Methane.

**TARGET ORGANS:** Respiratory system.

## PART II *What should I do if a hazardous situation occurs?*

### 4. FIRST-AID MEASURES

**RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO METHANE WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT.** At a minimum, Self-Contained Breathing Apparatus and Fire-Retardant Personal Protective equipment should be worn. Adequate fire protection must be provided during rescue situations.

## 4. FIRST-AID MEASURES (Continued)

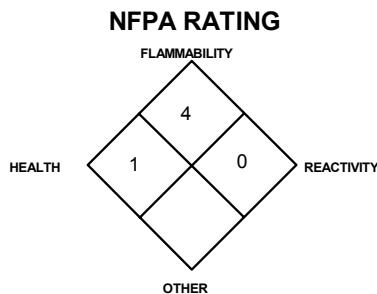
Remove victim(s) to fresh air as quickly as possible. Trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Only trained personnel should administer supplemental oxygen.

In case of frostbite, place the frostbitten part in warm water. DO NOT USE HOT WATER. If warm water is not available, or is impractical to use, wrap the affected parts gently in blankets. Alternatively, if the fingers or hands are frostbitten, place the affected area in the armpit. Encourage victim to gently exercise the affected part while being warmed. Seek immediate medical attention. Victim(s) must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to physician or other health professional with victim(s).

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## 5. FIRE-FIGHTING MEASURES

### METHANE GAS



FLASH POINT (Closed Cup):  
-187°C (-306°F)

AUTOIGNITION TEMPERATURE:  
537°C (999°F)

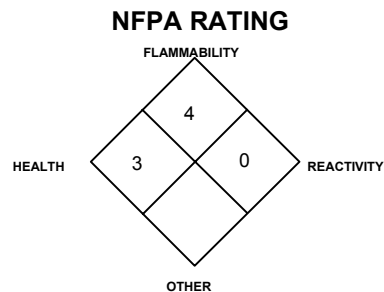
FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): 5.0%

Upper (UEL): 15.0%

**See Section 16 for Definition of Ratings**

### LIQUID METHANE



FIRE EXTINGUISHING MATERIALS: Extinguish fires of this gas by shutting off the source of the gas. Use water spray to cool fire-exposed containers, structures, and equipment.

UNUSUAL FIRE AND EXPLOSION HAZARDS: When involved in a fire, this gas will ignite and produce toxic gases including carbon monoxide and carbon dioxide. An extreme explosion hazard exists in areas in which the gas has been released, but the material has not yet ignited.

**DANGER!** Fires impinging (direct flame) on the outside surface of unprotected pressure storage vessels of Methane can be very dangerous and lead to container failure. The resulting fire and explosion can result in severe equipment damage and personnel injury or death over a large area around the vessel. For massive fires in large areas, use unmanned hose holder or monitor nozzles; if this is not possible, withdraw from area and allow fire to burn.

**RESPONSE TO FIRE INVOLVING CRYOGEN:** Cryogenic liquids can be particularly dangerous during fires because of their potential to rapidly freeze water. Careless use of water may cause heavy icing. Furthermore, relatively warm water greatly increases the evaporation rate of Methane. If large concentrations of Methane gas are present, the water vapor in the surrounding air will condense, creating a dense fog that may make it difficult to find fire exits or equipment. Liquid Methane, when exposed to the atmosphere, will produce a cloud of ice/fog in the air upon its release. A flammable mixture will exist within the vapor cloud and it is advisable that personnel keep well outside the area of visible moisture.

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Static discharge may cause Methane to ignite explosively.

SPECIAL FIRE-FIGHTING PROCEDURES: Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. The best fire-fighting technique may be simply to let the burning gas escape from the pressurized cylinder, tank car, or pipeline. Stop the leak before extinguishing fire. If the fire is extinguished before the leak is sealed, the still-leaking gas could explosively re-ignite without warning and cause extensive damage, injury, or fatality. In this case, increase ventilation (in enclosed areas) to prevent flammable or explosive mixture formation. For large releases, consider evacuation. Refer to the North American Emergency Response Guidebook for additional information.



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## 6. ACCIDENTAL RELEASE MEASURES

**SPILL AND LEAK RESPONSE:** Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a release, clear the affected area, protect people, and respond with trained personnel. Adequate fire protection must be provided. Minimum Personal Protective Equipment should be **Level B: fire-retardant protective clothing, gloves resistant to tears, and Self-Contained Breathing Apparatus.**

Use only non-sparking tools and equipment. Locate and seal the source of the leaking gas. Protect personnel attempting the shut-off with water-spray. Allow the gas, which is lighter than air, to dissipate. Liquid Methane, when exposed to the atmosphere, will produce a cloud of ice/fog in the air upon its release. A flammable mixture will exist within the vapor cloud, and it is advisable that personnel keep well outside the area of visible moisture. If cryogenic liquid is released, keep area clear and allow the liquid to evaporate. The gas that is then formed should be allowed to dissipate.

Monitor the surrounding area for combustible gas levels and oxygen. The atmosphere must have at least 19.5 percent oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus. Combustible gas concentration must be below 10% of the LEL (LEL = 5.0%) prior to entry. Attempt to close the main source valve prior to entering the area. If this does not stop the release (or if it is not possible to reach the valve), allow the gas to release in-place or remove it to a safe area and allow the gas to be released there.

**RESPONSE TO CRYOGENIC RELEASE:** Clear the affected area and allow the liquid to evaporate and the gas to dissipate. After the gas is formed, follow the instructions provided in the previous paragraphs. If the area must be entered by emergency personnel, SCBA, Kevlar gloves, and appropriate foot and leg protection must be worn.

**THIS IS AN EXTREMELY FLAMMABLE GAS.** Protection of all personnel and the area must be maintained.

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## **PART III** *How can I prevent hazardous situations from occurring?*

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### 7. HANDLING and STORAGE

**WORK PRACTICES AND HYGIENE PRACTICES:** As with all chemicals, avoid getting Methane IN YOU. Do not eat or drink while handling chemicals. Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of Methane could occur without any significant warning symptoms.

**STORAGE AND HANDLING PRACTICES:** Cylinders should be stored in dry, well-ventilated areas away from sources of heat. Compressed gases can present significant safety hazards. Store containers away from heavily trafficked areas and emergency exits. Post "No Smoking or Open Flames" signs in storage or use areas.

**SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS:** Protect cylinders against physical damage. Store in cool, dry, well-ventilated area, away from sources of heat, ignition and direct sunlight. Do not allow area where cylinders are stored to exceed 52°C (125°F). Isolate from oxidizers such as oxygen, chlorine, or fluorine. Use a check valve or trap in the discharge line to prevent hazardous backflow. Post "No Smoking or Open Flame" signs in storage and use areas. Cylinders should be stored upright and be firmly secured to prevent falling or being knocked over. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting. Never tamper with pressure relief devices in valves and cylinders. Electrical equipment should be non-sparking or explosion proof. The following rules are applicable to work situations in which cylinders are being used:

**Before Use:** Move cylinders with a suitable hand truck. Do not drag, slide, or roll cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap, if provided, in place until cylinder is ready for use.

**During Use:** Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinder by any means to increase the discharge rate of the product from the cylinder. Use check valve or trap in discharge line to prevent hazardous backflow into the cylinder. Do not use oils or grease on gas-handling fittings or equipment.

**After Use:** Close main cylinder valve. Replace valve protection cap, if provided. Mark empty cylinders "EMPTY".

**NOTE:** Use only DOT or ASME code containers. Earth-ground and bond all lines and equipment associated with Methane. Close valve after each use and when empty. Cylinders must not be recharged except by or with the consent of owner. For additional information refer to the Compressed Gas Association Pamphlet P-1, *Safe Handling of Compressed Gases in Containers*. Additionally, refer to CGA Bulletin SB-2 "Oxygen Deficient Atmospheres".

**PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:** Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely. Purge gas handling equipment with inert gas (e.g., nitrogen) before attempting repairs.

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## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Local exhaust ventilation is preferred, because it prevents Methane dispersion into the work place by eliminating it at its source. If appropriate, install automatic monitoring equipment to detect the presence of potentially explosive air-gas mixtures and the level of oxygen. Monitoring devices should be installed near the ceiling.

RESPIRATORY PROTECTION: Maintain oxygen levels above 19.5% in the workplace. Use supplied air respiratory protection if oxygen levels are below 19.5% or during emergency response to a release of Methane. If respiratory protection is required, follow the requirements of the Federal OSHA Respiratory Protection Standard (29 CFR 1910.134) or equivalent State standards.

EYE PROTECTION: Splash goggles or safety glasses, for protection from rapidly expanding gases and splashes of liquid Methane.

HAND PROTECTION: Wear gloves resistant to tears when handling cylinders of Methane. Use low-temperature protective gloves when working with containers of liquid Methane.

BODY PROTECTION: Use body protection appropriate for task. Transfer of large quantities under pressure may require protective equipment appropriate to protect employees from splashes of liquefied product, as well as fire retardant items.

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## 9. PHYSICAL and CHEMICAL PROPERTIES

VAPOR DENSITY: 0.6784 kg/m<sup>3</sup> (0.042 35 lb/ft<sup>3</sup>)

SPECIFIC GRAVITY (air = 1): 0.555

SOLUBILITY IN WATER: Very slight.

EXPANSION RATIO: 626 (cryogenic liquid)

ODOR THRESHOLD: Not applicable. Odorless.

COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable. pH: Not applicable.

SPECIFIC VOLUME: 23.7

FREEZING POINT: -182.2°C (-296°F)

BOILING POINT @ 1 atm: -161°C (-258.7°F)

EVAPORATION RATE (n-BuAc): Not applicable.

VAPOR PRESSURE (psia): Not applicable.

APPEARANCE AND COLOR: Colorless, odorless gas, or colorless, odorless, cryogenic liquid.

HOW TO DETECT THIS SUBSTANCE (warning properties): There are no distinct warning properties. In terms of leak detection, fittings and joints can be painted with a soap solution to detect leaks, which will be indicated by a bubble formation.

NOTE: This gas is lighter than air and must not be allowed to accumulate in elevated locations.

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## 10. STABILITY and REACTIVITY

STABILITY: Stable.

DECOMPOSITION PRODUCTS: When ignited in the presence of oxygen, this gas will burn to produce carbon monoxide, carbon dioxide.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong oxidizers (e.g., chlorine, bromine pentafluoride, oxygen, oxygen difluoride, and nitrogen trifluoride).

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Contact with incompatible materials and exposure to heat, sparks, and other sources of ignition. Cylinders exposed to high temperatures or direct flame can rupture or burst.

---

## **PART IV** *Is there any other useful information about this material?*

---

## 11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: There are no specific toxicology data for Methane. Methane is a simple asphyxiant, which acts to displace oxygen in the environment.

SUSPECTED CANCER AGENT: Methane is not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, CAL/OSHA, and therefore, is neither considered to be nor suspected to be a cancer-causing agent by these agencies.

IRRITANCY OF PRODUCT: Methane is not irritating; however, contact with rapidly expanding gases can cause frostbite to exposed tissue.

SENSITIZATION TO THE PRODUCT: Methane does not cause sensitization with prolonged or repeated contact.

---

## 11. TOXICOLOGICAL INFORMATION (Continued)

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of Methane on the human reproductive system.

Mutagenicity: No mutagenicity effects have been described for Methane.

Embryotoxicity: No embryotoxic effects have been described for Methane.

Teratogenicity: No teratogenicity effects have been described for Methane.

Reproductive Toxicity: No reproductive toxicity effects have been described for Methane.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e., within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions may be aggravated by overexposure to the components of Methane.

RECOMMENDATIONS TO PHYSICIANS: Administer oxygen if necessary. Treat symptoms and eliminate exposure.

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, Biological Exposure Indices (BEIs) are not applicable for Methane.

---

## 12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: Methane occurs naturally in the atmosphere. This gas will be dissipated rapidly in well-ventilated areas.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: Any adverse effect on animals would be related to oxygen-deficient environments. No adverse effect is anticipated to occur to plant-life, except for frost produced in the presence of rapidly expanding gases.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on the effects of Methane on aquatic life.

---

## 13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, and local regulations. Return cylinders with residual product to Airgas. Do not dispose locally.

---

## 14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

### **For Methane Gas:**

<u>PROPER SHIPPING NAME:</u>	Methane, compressed
<u>HAZARD CLASS NUMBER and DESCRIPTION:</u>	2.1 (Flammable Gas)
<u>UN IDENTIFICATION NUMBER:</u>	UN 1971
<u>PACKING GROUP:</u>	Not Applicable
<u>DOT LABEL(S) REQUIRED:</u>	Flammable Gas
<u>NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000):</u>	115

### **For Liquefied Methane:**

<u>PROPER SHIPPING NAME:</u>	Methane, refrigerated liquid
<u>HAZARD CLASS NUMBER and DESCRIPTION:</u>	2.1 (Flammable Gas)
<u>UN IDENTIFICATION NUMBER:</u>	UN 1972
<u>PACKING GROUP:</u>	Not Applicable
<u>DOT LABEL(S) REQUIRED:</u>	Flammable Gas
<u>NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000):</u>	115

MARINE POLLUTANT: Methane is not classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B).

## 15. REGULATORY INFORMATION

U.S. SARA REPORTING REQUIREMENTS: Methane is not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA THRESHOLD PLANNING QUANTITY: Not applicable.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

CANADIAN DSL/NDL INVENTORY STATUS: Methane is on the DSL Inventory.

U.S. TSCA INVENTORY STATUS: Methane is listed on the TSCA Inventory.

OTHER U.S. FEDERAL REGULATIONS: Methane is subject to the reporting requirements of Section 112(r) of the Clean Air Act. The Threshold Quantity for this gas is 10,000 lb. Depending on specific operations involving the use of Isobutylene, the regulations of the Process Safety Management of Highly Hazardous Chemicals may be applicable (29 CFR 1910.119). Under this regulation Methane is not listed in Appendix A; however, any process that involves a flammable gas on-site, in one location, in quantities of 10,000 lb (4,553 kg) or greater is covered under this regulation unless it is used as a fuel.

U.S. STATE REGULATORY INFORMATION: Methane is covered under specific State regulations, as denoted below:

**Alaska - Designated Toxic and Hazardous Substances:** Methane.

**California - Permissible Exposure Limits for Chemical Contaminants:** Methane.

**Florida - Substance List:** No.

**Illinois - Toxic Substance List:** Methane.

**Kansas - Section 302/313 List:** No.

**Massachusetts - Substance List:** Methane.

**Michigan - Critical Materials Register:** No.

**Minnesota - List of Hazardous Substances:** Methane.

**Missouri - Employer Information/Toxic Substance List:** Methane.

**New Jersey - Right to Know Hazardous Substance List:** Methane.

**North Dakota - List of Hazardous Chemicals, Reportable Quantities:** No.

**Pennsylvania - Hazardous Substance List:** Methane.

**Rhode Island - Hazardous Substance List:** Methane.

**Texas - Hazardous Substance List:** No.

**West Virginia - Hazardous Substance List:** No.

**Wisconsin - Toxic and Hazardous Substances:** No.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): Methane is not on the California Proposition 65 lists.

### LABELING:

#### **DANGER:**

FLAMMABLE HIGH PRESSURE GAS.  
CAN FORM EXPLOSIVE MIXTURES WITH AIR.

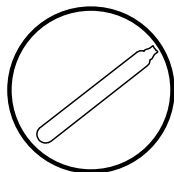
Keep away from heat, flames, and sparks.  
Store and use with adequate ventilation.  
Use equipment rated for cylinder pressure.  
Close valve after each use and when empty.  
Use in accordance with the Material Safety Data Sheet.

DO NOT REMOVE THIS PRODUCT LABEL

### CANADIAN WHMIS SYMBOLS:

**Class A:** Compressed Gas

**Class B1:** Flammable Gas



## 16. OTHER INFORMATION

PREPARED BY:

Airgas - SAFECOR

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. AIRGAS, Inc. assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, AIRGAS, Inc. assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

### DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these which are commonly used include the following:

**CAS #:** This is the Chemical Abstract Service Number which uniquely identifies each constituent. It is used for computer-related searching.

#### EXPOSURE LIMITS IN AIR:

**ACGIH** - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits. **TLV** - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour Time Weighted Average (**TWA**), the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level (**C**). Skin absorption effects must also be considered.

**OSHA** - U.S. Occupational Safety and Health Administration. **PEL** - Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL which was vacated by Court Order.

**IDLH** - Immediately Dangerous to Life and Health - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. **The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (**OSHA**). NIOSH issues exposure guidelines called **Recommended Exposure Levels (RELs)**. When no exposure guidelines are established, an entry of **NE** is made for reference.

#### HAZARD RATINGS:

**HAZARDOUS MATERIALS IDENTIFICATION SYSTEM:** Health Hazard: **0** (minimal acute or chronic exposure hazard); **1** (slight acute or chronic exposure hazard); **2** (moderate acute or significant chronic exposure hazard); **3** (severe acute exposure hazard; onetime overexposure can result in permanent injury and may be fatal); **4** (extreme acute exposure hazard; onetime overexposure can be fatal). Flammability Hazard: **0** (minimal hazard); **1** (materials that require substantial pre-heating before burning); **2** (combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]); **3** (Class IB and IC flammable liquids with flash points below 38°C [100°F]); **4** (Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]). Reactivity Hazard: **0** (normally stable); **1** (material that can become unstable at elevated temperatures or which can react slightly with water); **2** (materials that are unstable but do not detonate or which can react violently with water); **3** (materials that can detonate when initiated or which can react explosively with water); **4** (materials that can detonate at normal temperatures or pressures).

**NATIONAL FIRE PROTECTION ASSOCIATION:** Health Hazard: **0** (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); **1** (materials that on exposure under fire conditions could cause irritation or minor residual injury); **2** (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); **3** (materials that can on short exposure could cause serious temporary or residual injury); **4** (materials that under very short exposure causes death or major residual injury).

**NATIONAL FIRE PROTECTION ASSOCIATION (Continued):** Flammability Hazard and Reactivity Hazard: Refer to definitions for "Hazardous Materials Identification System".

#### FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (**NFPA**). Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

#### TOXICOLOGICAL INFORMATION:

Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD<sub>50</sub>** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC<sub>50</sub>** - Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m<sup>3</sup>** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Data from several sources are used to evaluate the cancer-causing potential of the material. The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TD<sub>01</sub>**, **LDLo**, and **LD<sub>01</sub>**, or **TC**, **TC<sub>01</sub>**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects. **BEI** - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV. Ecological Information: **EC** is the effect concentration in water.

#### REGULATORY INFORMATION:

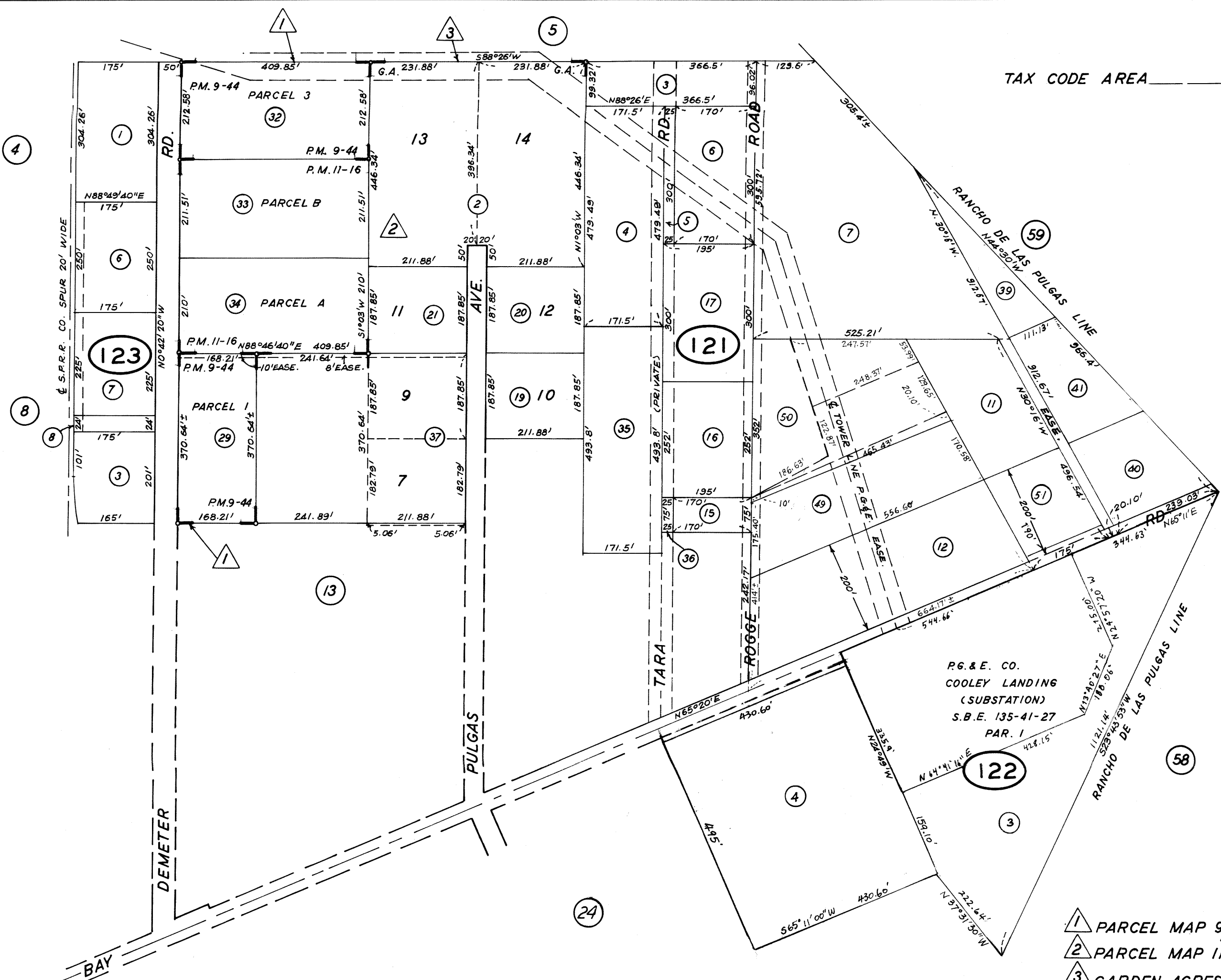
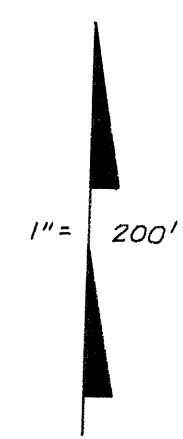
This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **DOT** and **TC** are the U.S. Department of Transportation and the Transport Canada, respectively. Superfund Amendments and Reauthorization Act (**SARA**); the Canadian Domestic/Non-Domestic Substances List (**DSL/NDSL**); the U.S. Toxic Substance Control Act (**TSCA**); Marine Pollutant status according to the **DOT**; the Comprehensive Environmental Response, Compensation, and Liability Act (**CERCLA** or **Superfund**); and various state regulations.



# APPENDIX C

## Assessor's Parcel Map

TAX CODE AREA



- ① PARCEL MAP 9/44
- ② PARCEL MAP 11/16
- ③ GARDEN ACRES RSM 19/54



# APPENDIX D

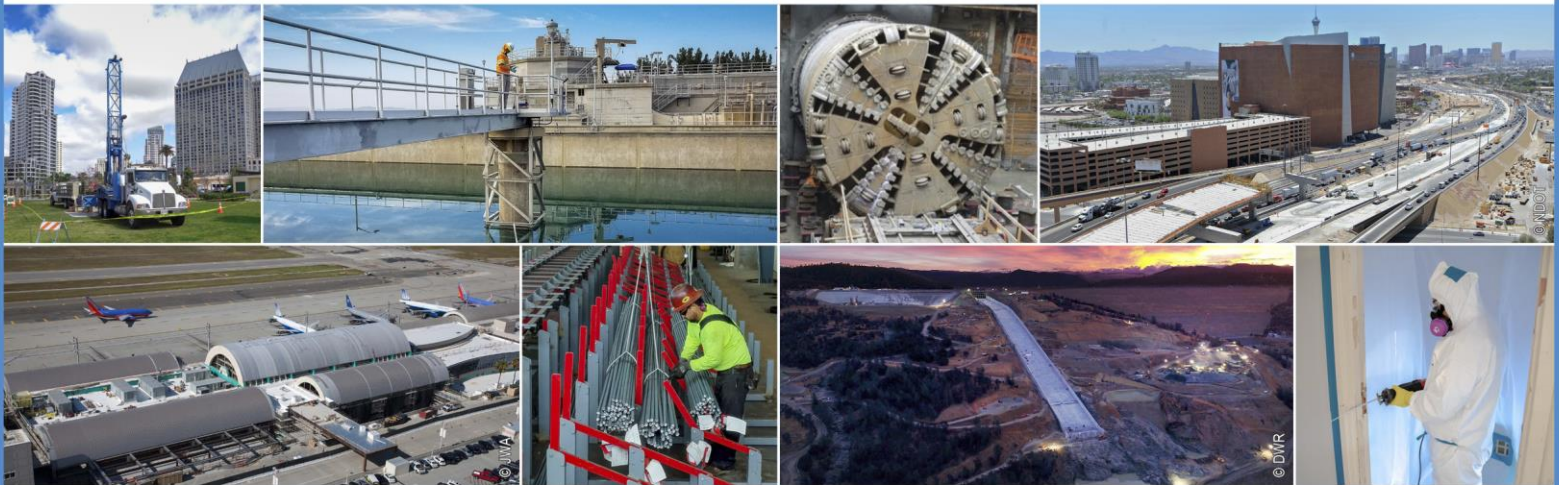
## Soil Management Plan



# Soil Management Plan 2081 Bay Road East Palo Alto, California

United HOPE Builders  
1852 Bay Road | East Palo Alto, California 94303

November 19, 2021 | Project No. 403999001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

**Ninyo & Moore**

Geotechnical & Environmental Sciences Consultants

Soil Management Plan  
2081 Bay Road  
East Palo Alto, California

United Hope Builders

1852 Bay Road | East Palo Alto, California, 94303

November 19, 2021 | Project No. 403999001



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## **FIGURES**

- 1 – Site Location
- 2 – Site Plan

## **ATTACHMENTS**

- A – Odor Suppressant SDS
- B – BAAQMD Regulation 8 Rule 40 Notification Form

# 1 INTRODUCTION

This Soil Management Plan (SMP) was prepared for United HOPE Builders (UHB) for the proposed construction and occupancy of three temporary buildings on 2081 Bay Road, East Palo Alto, California (Site, Figure 1), a Site that formerly was operated by Romic Environmental Technologies Corporation (Romic) and predecessor companies. The proposed locations of the temporary buildings are shown on Figure 2 and include:

- Office Building
- Manufacturing Building
- Metal Works Building

It is estimated that approximately 1200 cubic yards (CY) of soil will be excavated in association with the UHB temporary buildings construction, primarily from beneath the footprint of the proposed Manufacturing Building (Figure 2). Approximately 25 CY of soil will be excavated when capping the soil-water interface of eight horizontal wells (Figure 2).

The SMP has been prepared to summarize the protocol to be employed during the UHB construction activities at the Site. The SMP should be implemented during construction including, but not limited to, grading, excavation, utility trenching and installation, Site construction, and other soil disturbance activities that might occur during Site development. The response actions set forth in the SMP consist primarily of institutional controls, fencing and signage (as necessary), and engineering controls to eliminate the pathway of direct exposure to native Site soil impacted above the San Francisco Regional Water Quality Control Board (RWQCB) 2019 Industrial/Commercial Environmental Screening Levels (ESLs), thereby eliminating the risk posed by these soils. Excavation and disposal of impacted media may also be required under this SMP.

The SMP addresses worker health and safety controls, personnel assignments and responsibilities, soil excavation, management of contaminated and potentially contaminated materials and, if required, fill import and off-Site disposal procedures, and provides recommendations to reduce exposure to workers and the public from contaminants. Work performed under this SMP shall be in compliance with the Site-specific Health and Safety Plans (SSHSP), and applicable local, state, and federal statutes and regulations. The SSHSP to be adopted, used, and implemented by the contractor performing activities on the properties shall be prepared by the Contractor's Certified Industrial Hygienist (CIH).

## 2 PROPERTY DESCRIPTION AND ENVIRONMENTAL BACKGROUNDS

The environmental background information provided below is based on historical environmental investigations conducted for the former Romic facility and the Site known as Bay Road Holdings (BRH).

### 2.1 Site Description

The property historically operated as a hazardous waste management facility, wherein services provided included solvent recycling, fuel blending, wastewater treatment, and hazardous-waste storage and treatment. Previous facility operations conducted on the Site by the Romic and predecessor companies dating back to the mid-1950s resulted in the release of chemical contaminants to both soil and groundwater. The primary contaminants of concern (COCs) at the Site are volatile organic compounds (VOCs), mostly comprised of halogenated VOCs (HVOCs). The principal HVOC at the Site is trichloroethene (TCE). Other contaminants are non-halogenated VOCs, metals, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, and semi-VOCs (SVOCs). Romic ceased operations in 2008, and the facility was closed and dismantled in 2009.

A land use covenant between the property owners and the Department of Toxic Substances Control (DTSC) was executed on February 5, 2015, and recorded in the Official Records, County of San Mateo that restricts land use.

### 2.2 Previous Property Investigations

Starting in 1985, environmental investigation activities were initiated to assess the nature and extent of subsurface contamination suspected to be the result of chemical releases resulting from the Site's historical operations. These investigations have continued through 2021 and included the collection of soil, soil gas, and groundwater samples to assess the Site's subsurface environmental conditions. In addition, the sediment and surface water conditions of the adjacent tidal channels were evaluated.

The Site's previous investigation activities identified the following chemicals as being released to the environment and present at concentrations of potential concern to human health and the environment: VOCs, SVOCs, metals, PCBs, dioxins, and furans. The Site's primary COCs are VOCs, with TCE and its breakdown products cis-1,2-dichloroethylene (cis-1,2-DCE) and vinyl chloride (VC) representing the majority of the HVOC impact. The investigations also identified light non-aqueous phase liquid (LNAPL) at select locations across the Site.

Given the findings of these historical investigation activities, the Site has been divided into the following five general areas of concern which are presented on Figure 2:

- Northern Area—this area of the Site is also identified as the Former Pond Area as it previously contained two ponds, which were constructed to collect storm water and also received wastewater and waste material discharges. These ponds were decommissioned in the late 1970s, backfilled and capped with concrete. Warehouses that were used to process waste drums were constructed on top of the former ponds. Significant environmental impacts are present in this area.
- Central Processing Area—this is the area of the Site where the majority of the waste processing operations were conducted. It includes several of the Site's previous permitted units and solid-waste management units (SWMUs), was used for bulk product storage and contained a formerly unpaved area used for drum storage. Significant environmental impacts are present in this area.
- Western Area—this area of the Site formerly contained another unpaved drum storage area<sup>4</sup>, as well as a permitted tank farm that contained above ground storage tanks with unlined, sandy bottoms. Less significant environmental impacts are present in this area.
- Panhandle and Eastern Area—no operations of concern are known to have occurred in this area of the Site. Minimal environmental impacts are present in this area, with the exception of down-gradient migration of contaminated groundwater and soil gas.
- Truck Wash Area—truck washing activities occurred in this area of the Site. No known environmental impacts resulting from this historical activity are present in this area (Iris, 2013).

The Site's groundwater contamination was additionally evaluated in June and July 2015 through conducting an investigation using membrane interface probe (MIP) technology and discrete-depth groundwater sampling. The results of this investigation are documented in the Supplemental Groundwater Investigation Data Summary Report, dated September 2015 (Iris, 2015), prepared by Iris Environmental. This supplemental investigation was performed in areas of the Site where groundwater monitoring data was limited and included sampling depths that are not represented by the monitoring wells' screen intervals.

Soil-vapor investigations conducted in 2011 and 2021 along buried utilities or utility backfill trenches found that VOCs were generally not migrating away from the impacted areas along these utility zones (Iris, 2013 and Ninyo & Moore, 2021a). The January 2021 soil-vapor investigation identified methane in the Northern Area and near the horizontal-well boring locations at 17.2 to 67.7% methane and at 0.1 to 0.4% methane at the property lines (Ninyo & Moore, 2021a). Methane is a biodegradation byproduct and is expected to be generated during groundwater bioremediation. The January 2021 soil-vapor investigation analytical results indicated VC is present above the ESLs from RWQCB 2019 for Subslab/Soil Gas Commercial/Industrial. May 2021 soil-gas methane readings were collected from SVP-3 and VP 6 in the vicinity of the proposed Administration Building with a GEM 2000 meter. SVP-3 soil gas readings were



0.0% methane prior to and during substrate injection into the groundwater on May 6, 2021. VP 6 soil-gas readings were 0.0% methane prior to substrate injection and 0.7% methane during substrate injection on May 27, 2021.

Soil vapor is limited in volume by the shallow groundwater elevations at the Site. The Northern and the Eastern Areas are the highest portions of the Site, whereas the Central Processing Area is the lowest portion of the Site. Groundwater elevations in the Northern and the Eastern Areas ranged from 4.22 (RW-11A) to 6.15 (RW-11A) ft. below mean sea level since 2015. Groundwater elevations in the Central Processing Area ranged from 5.90 (RW-32A) to 1.18 (RW-10A) ft. above mean sea level since 2015. Based on the limited vertical extent of the vadose zone, soil-gas impacts are generally in the Northern Area (a vadose zone of approximately 5 ft. thick) and the Central Processing Area (a vadose zone of approximately 2 ft. or less).

## **2.3 Regulatory Involvement**

The United States Environmental Protection Agency (U.S. EPA) is the lead environmental agency for 2081 Bay Road, East Palo Alto and works in conjunction with the DTSC. This SMP is a requirement of the 2015 Land Use Covenant and Agreement for the Former Romic Environmental Technologies Corporation Facility (DTSC, 2015a).

# **3 SITE SOIL MANAGEMENT PLAN OBJECTIVES AND DEFINITIONS**

## **3.1 Objectives**

Site-specific objectives for this SMP are as follows:

- Provide protocols for reuse and removal of soil at the Site and procedures for managing unanticipated hazardous debris or soil if encountered during construction.
- Minimize or eliminate potential exposure of receptors to impacted soil through direct contact, ingestion, and inhalation during planned construction. Dust management is covered in a separate document.
- Minimize or eliminate the potential for uncontrolled migrations of impacted soil during construction.
- Comply with local, state, and federal regulations.

## **3.2 Project Team Roles and Responsibilities**

This section describes the general project team relevant to the excavation, handling, transportation, reuse, and, as applicable, off-Site disposal of contaminated materials if encountered at the Site.

### **3.2.1 Owners**

The Property Owner for this project is the Site Bay Road Holdings. Bay Road Holdings, in addition to the Property Lessee, is responsible for maintenance, engineering controls, and compliance with this SMP at the Site during the lease term, and will be the point of contact for the U.S. EPA and DTSC during that time.

### **3.2.2 Lessee**

The Property Lessee for this Project is UHB. UHB is responsible for maintenance, engineering controls, and compliance with this SMP at the Site during the lease term, and will be the point of contact for the U.S. EPA and DTSC during that time.

### **3.2.3 Project Manager**

UHB, or his or her designated party, shall be the Project Manager during its ownership period and will oversee construction activities associated with the UHB buildings. The Project Manager will serve as the point of contact between the Owner, the Contractors, Subcontractors and Environmental Consultant, and will coordinate with the involved parties.

### **3.2.4 Contractor**

The Contractor includes any contractor or subcontractor that is disturbing soil during excavation, grading, or maintenance activities at the Site. Each Contractor responsible for construction or maintenance activities must be provided a copy of this SMP and will be required to comply with this SMP addressing excavation and management, direct-loading, temporary stockpiling, possible off-Site disposal, and measures to protect worker/public health and the environment from impacts caused by the Contractor's activities. The Contractor shall be responsible for assigning competent and qualified personnel to execute the work, and for selecting and supervising the work of other subcontractors assigned to the project. The Contractor and any subcontractors must be provided a copy of this SMP prior to any construction activities.

The Contractor shall provide a Site Superintendent, who will be responsible for Site activities. The Site Superintendent's responsibilities will include oversight of equipment, labor, materials, and resources needed to complete the project as it involves the COC-impacted materials.

### **3.2.5 Subcontractors**

The Contractor may utilize subcontractors to execute subtasks of this project, subject to approval by the Project Manager. The supervision, inspection, and approval of such subcontractor work will be the responsibility of the Contractor.

### **3.2.6 Health and Safety Manager**

Each Contractor shall retain a Health and Safety Manager (HSM) or equivalent, who is a CIH, or who is under the direct supervision of a CIH, with the appropriate training, certificates, and experience. The HSM will be responsible for preparing and overseeing implementation of the SSHSP. The SSHSP shall list the various safety-related Contractor personnel and their duties and responsibilities. The SSHSP is discussed in further detail in Section 5.3.2.

### **3.2.7 Environmental Consultant**

The Environmental Consultant shall monitor earthwork construction activities during excavation and grading activities in areas of known contamination and in areas of unknown contamination if such areas are exposed during construction activities. The Consultant shall provide guidance on segregation of excavated soils, as necessary, and assist in characterization and profiling contaminated soils, as necessary. The consultant shall meet the definition of a “competent person,” as defined, herein. The Consultant shall be a California Certified Professional Engineer or Professional Geologist.

### **3.2.8 Competent Person**

A competent person shall have demonstrated knowledge of, and professional experience in the observation and documentation of environmental excavating activities; environmental and geologic conditions in the project area; and recognition of, and testing for, hazardous materials and conditions. A competent person shall have appropriate, current Occupational Safety and Health Administration (OSHA) training and certificates, and the authority to respond to changed conditions. Typically, a competent person will be a state-licensed geologist, engineer, or health professional with sufficient knowledge of local conditions and environmental regulations, or a person working under the direct supervision of such a geologist or engineer.

## **3.3 Soil Management Definitions**

### **3.3.1 Excess Soil**

Excess soil is excavated soil that will not be reused in the general area it was excavated from. Excess soil will be sampled for disposal profiling, transported off-Site, and disposed of at an appropriate disposal facility.

### **3.3.2 Imported Fill Material**

Imported fill material that originates from an off-Site source must be sampled and characterized in accordance to with the DTSC Information Advisory Clean Imported Fill Material (DTSC, 2001). Prior to importing fill to Site, analytical results will be approved by the U.S. EPA and DTSC. Should import fill material be approved by the U.S. EPA and DTSC, such soils may be used as cap or Fill material as appropriate.

### **3.3.3 Contaminated Substance**

In the context of this SMP, a contaminated substance is one that contains a substance, or substances, at concentrations that would require special training, handling or the use of personal protective equipment; restrict the end use to protect human health or the environment; be subject to local, state or federal regulatory requirements or necessitate an environmentally-related monetary surcharge for handling, transportation or disposition.

Based on the results of the previous investigations, contamination may be encountered in the construction areas, and the materials encountered and possibly generated may be considered contaminated substances that may contain chemicals at levels that make them hazardous substances, or in some cases, hazardous wastes under state and federal regulations, unless additional analytical testing confirms otherwise.

Protective measures and equipment to reduce or prevent exposures from the contaminated materials generated during this project will be specified in the SSHSP.

### **3.3.4 Hazardous Substance**

A hazardous substance is any substance that is toxic, corrosive, an irritant, a strong sensitizer, flammable, combustible, radioactive or that may cause personal injury or illness as a proximate result of any customary or reasonably foreseeable handling or use.

### **3.3.5 Hazardous Waste**

A California-hazardous waste is a contaminated substance defined in the California Code of Regulations Title 22 Sections 66261.20 through 66261.24. A Resource Conservation and Recovery Act (RCRA)-hazardous waste is a contaminated substance defined in 40 Code of Federal Regulations Part 261. Various permitted disposal facilities typically have supplementary analytical requirements in addition to federal and state requirements based on their permits from local and state regulatory agencies.

### **3.3.6 Construction Area**

For the purpose of this SMP, the term “construction area” refers to materials that will be disturbed or encountered by planned project soil disturbance.

## **4 SITE BACKGROUND**

This section describes the physical settings and previous Site characterizations.

### **4.1 Physical Settings**

The following section describes the groundwater, surface water, and subsurface condition at or near the Site.

#### **4.1.1 Site Surface Water and Groundwater**

The Site is located approximately 0.5 mile west of San Francisco Bay at 2081 Bay Road, East Palo Alto, San Mateo County, California (Figure 1). Bordering the Site’s northern and eastern boundaries are two narrow tidal channels, respectively identified as the North Slough and the East Slough, which drain to the San Francisco Bay. A former 130-acre saltwater evaporation pond is located further to the east, which has been reclaimed and reconstructed as a marsh and wetland designated as the Ravenswood Open Space Preserve. The Site is located within the 100-year flood plain and is protected by levees to mitigate flooding hazards (U.S. EPA, 2007).

Groundwater is present beneath the Site in two regional aquifers: The Newark Aquifer and the Centerville Aquifer. Groundwater has been first encountered at depths typically ranging between 2 and 9 ft. bgs. The Site’s groundwater gradient has been estimated to generally flow west away from the San Francisco Bay, with relatively shallow hydraulic gradients.

#### **4.1.2 Soil Types**

The subsurface is composed of sands and gravels interbedded with silts and clays. The subsurface units encountered below the Site included permeable zones separated by less permeable units, which have been designated as follows (Arcadis, 2007):

A Zone — a semiconfined unit present between approximately ground surface and 20 ft. below ground surface (ft. bgs), consisting of discontinuous layers of clayey to silty sands and gravels interbedded with silts and clays, with organic matter occasionally observed.

A/B Aquitard — a laterally discontinuous confining unit, ranging between 8 and 25 ft. in thickness.

B Zone — a semiconfined unit present between approximately 20 and 60 ft. bgs, with a similar composition as the A Zone consisting of discontinuous layers of clayey to silty sands and gravels interbedded with sandy silts and clays.

B/C Aquitard — a locally-identified confining unit, ranging between 9 and 24 ft. in thickness.

C Zone — a confined unit present between approximately 60 and 80 ft. bgs, consisting of a relatively continuous layer of sand and silty sand interbedded with silt and clay lenses.

C/D Aquitard — a regionally found confining unit, approximately 70 ft. or greater in thickness.

D Zone — a confined unit present below approximately 160 ft. bgs, consisting of clayey sands and gravels interbedded with clays and clay with gravel.

## 4.2 Contaminants of Potential Concern

Identified COCs in soil at the Site are based on prior Site operations and placement of undocumented fill. These COCs have been identified as including total petroleum hydrocarbons (TPH) as gasoline (TPHg), TPH as diesel (TPHd), TPH as motor oil (TPHmo), VOCs, SVOCs, organochlorine pesticides (OCPs), PCBs, and/or metals (Iris, 2013).

Based on the previous Site investigations, COC-impacted soil has been reported in the fill material and native soils, generally ranging from the surface to approximately 10 ft. bgs (Iris, 2013).

## 5 SITE SOIL MANAGEMENT APPROACH

Native soil may be reused in the general area it was excavated from (e.g. soil excavated from the Manufacturing Building area can be reused in that area only). The following section discusses the approach for management of soil at the Site.

### 5.1 Soil Management Plan Applicability

As stated above, TPHg, TPHd, TPHmo, VOCs, SVOCs, OCPs, PCBs, and/or metal impacted soils are potentially present in the construction area. If soil is not to be reused during the UHB construction activities, it will be disposed of off-Site and it will need to follow the waste acceptance criteria of the receiving entity. This SMP provides the protocol for the following construction activities that may encounter impacted soils: trenching, excavation, grading, and subsurface utility installation.

## 5.2 Soil Management Objectives

The soil management objectives for the Site include:

- Reusing soil beneath building slabs, concrete, or pavement; and
- Removal and disposal of excavated soil.

## 5.3 General Risk Management Construction Protocols

During construction, the contractor will minimize dust generation and tracking of soil off-Site. The general risk management construction protocols are described below. Dust monitoring is covered in a separate document.

### 5.3.1 Pre-Construction Planning and Notification

Before beginning construction activities that involve subsurface intrusion (for example, grading or excavating), information about the Site risk management procedures, including a copy of this SMP, will be provided to the contractors for their review, and each contractor will provide such information to its subcontractors.

### 5.3.2 Site-Specific Health and Safety Worker Requirement

During capping of the horizontal wells, where impacted groundwater and soil will be encountered, Hazardous Waste Operations and Emergency Response (HAZWOPER) certification per 29 CFR 1910.120 is required for construction workers who may directly contact soil and/or groundwater containing COCs.

During soil excavation, loading, and grading of the Manufacturing Building area, where metal-impacted soil may be encountered, HAZWOPER is required for construction workers who may directly contact soil containing COCs.

Each earthwork construction or maintenance contractor with workers who may directly contact native Site soils or groundwater containing COCs (e.g., during Site preparation, grading, and foundation construction) shall prepare their own SSHSP through a CIH.

The SSHSP shall include procedures for earthwork construction personnel to manage encountered/disturbed soil that is obviously impacted, as identified by visual observation of staining, odors, or elevated organic vapor readings, and to handle encountered abandoned subsurface structures such as tanks, sumps, and pipes. The SSHSP will also include groundwater management protocol, should groundwater be encountered during the proposed redevelopment activities.

Field personnel shall be required to review the SSHSP and provide written acknowledgement of their review and understanding of the SSHSP and willingness to abide by its requirements. In addition, the Contractor's Site Superintendent will perform a daily tailgate safety meeting held at the beginning of each workday to discuss relevant task-specific safety issues. Additionally, daily Site visitors will be required to review the SSHSP and sign the acknowledgement sheet.

### **5.3.3 Site Control**

Access to the Site construction area will be limited by the contractor to authorized personnel. Site construction area control procedures will be employed by the contractor to control the flow of personnel, vehicles, and materials in and out of the Site. Signs will be posted at all Site construction area entrances by the contractor instructing visitors to sign in at the project support areas. Fencing will be erected to prevent workers from entering areas of the property not covered under this SMP. Signage shall also be posted along the fence line to warn workers of the potential hazards related to historical Site use and remediation activities.

### **5.3.4 Traffic Control**

The contractor will employ traffic management measures at the Site to provide for the safety of on-Site personnel, to help facilitate concurrent construction activities with any remediation activities, so that they do not adversely affect or compromise safe traffic flow at the Site, and to limit the disruption of existing traffic flow on local motorways. Traffic management protocols will include the following:

- Visual monitoring of traffic movements on the Site will be performed by the contractor to ensure safe movement of traffic and protection of persons and property.
- Site access areas will be evaluated by the contractor to confirm road conditions support safe working and driving.
- Each subcontractor is responsible for compliance with this SMP for vehicle and transport safety of personnel and vehicles under their control.
- Operators of vehicles are responsible for driving safely and exercising care.
- Any tracking of soil onto a paved public road at any location where vehicles exit the Site will be cleaned by using wet sweeping or a vacuum device equipped with a brush and/or high efficiency particulate air filter by the end of the work day. Dry sweeping of paved motorways is prohibited.
- A maximum speed limit of 15 miles per hour will be established on Site.
- Vehicles will be maintained by covering holes or other openings in cargo compartments such that no spillage can occur.



- Loads will be wetted or loaded such that the material does not contact the front, back or sides of the cargo compartment at any point less than half a foot from the top and such that no point of the load extends above the top of the cargo compartment.
- Each load will be tarped in order to prevent dispersing dust and flying debris from loaded-trucks.
- Earth moving or other dust generating activities will be suspended during periods of high winds (20 miles per hour or higher) or whenever dust control measures are unable to prevent visible dust plumes.

### **5.3.5 Equipment Decontamination**

Decontamination procedures will be established and implemented by the contractor to reduce the potential for construction equipment and vehicles to release contaminated soil onto public roadways or other off-Site transfer. Decontamination methods will include scraping, brushing, and/or vacuuming to remove dirt on vehicle exteriors and wheels. In the event that these dry decontamination methods are not adequate, methods such as steam cleaning, high-pressure washing, and cleaning solutions will be used, as necessary, to thoroughly remove accumulated dirt and other materials. Wash water resulting from decontamination activities will be collected and managed in accordance with all applicable laws and regulations.

### **5.3.6 Site Decontamination**

Best practices will be determined by the contractor in coordination with the U.S. EPA, DTSC and the Environmental Consultant.

### **5.3.7 Storm Water Pollution Prevention Plan**

The Clean Water Act and associated federal regulations {Title 40 of the Code of Federal Regulations 123.25(a)(9), 122.26(a), 122.26(b)(14)(x) and 122.26(b)(15)} require nearly all Sites engaged in clearing, grading and excavating activities that disturb one acre or more, to obtain coverage under a National Pollutant Discharge Elimination System permit for storm-water discharges. A Site-specific Storm Water Pollution Prevention Plan (SWPPP) covering the Site redevelopment will not be prepared by a Qualified SWPPP Developer for this project, because the area of the Site requiring soil disturbance is less than one acre in size. However, the Contractor will take all necessary precautions to control storm water pollution, and enact procedures including best management practices (BMPs) such as:

- Sediment and erosion control
  - Construct temporary berms or erect silt fences around exposed soil
  - Place straw bale barriers or sediment traps around catch basins or other entrances to storm drains

- Cover soil stockpiles with plastic sheeting or tarps during rainfall events
- Thoroughly sweep paved areas exposed to soil excavation or grading
- During storm events, prevent stockpiled soil from entering the storm drain system
- Waste containment
  - Secondary containment (as applicable)
  - Spill prevention

### **5.3.8 General Protective Measures**

The following protocols will be followed during Site work:

- All excavating, trenching, and grading will be conducted according to OSHA regulations.
- Trenches and excavations 5 feet or deeper will be sloped, shored, or benched.
- Open trenches and excavations will be inspected daily for readily observable indications of possible cave-ins, hazardous atmosphere, or other hazardous conditions.
- If readily observable conditions are noted that could result in cave-in, hazardous atmosphere or other hazardous condition, potentially exposed workers shall be removed from the area until the necessary precautions have been taken to address the concern.
- Trenches and excavations will be protected with adequate barriers or physical protection.
- Soil stockpiles will not be stored within 2 feet of a trench or excavation.
- Where oxygen deficiency (atmospheres containing less than 19.5 percent [%] oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist (e.g. methane greater than 10% of lower explosive limit (LEL)), the atmosphere will be tested before workers enter the work area.
- Workers shall not work in excavations or trenches where there is standing or accumulating water, unless adequate precautions are implemented to mitigate the hazards posed by the accumulation.
- Workers will wash hands thoroughly after handling Site soil or groundwater even if they were wearing protective gloves.

## **5.4 Imported Clean Fill**

Fill imported to the Site will be screened for environmental parameters as noted below.

To limit the potential introduction of contaminated fill onto the Site, possible sources of import fill to backfill the excavations will be evaluated. Analytical documentation and approval from the U.S. EPA and DTSC will be required so it can be verified that the fill source is appropriate for the Site. The documentation will include detailed information on previous land use of the fill source,

any environmental Site assessments performed and the findings and the results of any analytical testing performed. If no documentation is available or the documentation is inadequate, or if no analytical testing has been performed, samples of the potential fill material will be collected by the Environmental Consultant and analyzed per the protocols established by the DTSC prior to being brought on Site. The analyses performed will be based on the fill source and knowledge of the previous land use. The sample frequency for potential fill material will be in accordance with that outlined in the technical document titled, *Information Advisory on Clean Imported Fill Material* (DTSC, 2001).

## **6 SOIL MANAGEMENT PROTOCOLS**

The following section discusses the management protocols for potentially COC-impacted soils at the Site. This section provides a discussion of the protocol for excavation and monitoring of COC-impacted soils that may be encountered during grading and/or excavation in association with site earthwork construction activities, stockpiling and sampling of potentially COC-impacted soils, stockpile management, site best management practices, re-use and disposal criteria for soils.

### **6.1 Soil Excavation and Monitoring**

The Contractor shall be responsible for construction activities associated with subsurface excavation, trenching, handling, on-Site reuse, loading for off-Site disposal, and temporary stockpiling of soil in accordance with project specifications. The Contractor shall also be responsible for general construction impact mitigation measures, including control of dust generation at the Site, decontamination of equipment, prevention of sediment from leaving the Site in storm water runoff, and management of groundwater, if any. Additionally, the Contractor shall also be responsible for developing a project specific SSHSP, consistent with the minimum requirements established under Section 5.3.2 and all applicable local, state, and federal statutes, regulations, and guidelines. Excavation and handling of COC-impacted soils will be conducted in a manner that prevents the release of contamination, if present, to other on-Site and off-Site areas.

The Environmental Consultant shall periodically observe, monitor, and document intrusive work activities. If evidence of historical equipment, such as tanks, is encountered by the Contractor, the Project Manager shall be notified and the Environmental Consultant will monitor and document intrusive work activities. Stockpiles will be segregated and managed in accordance with Section 6.2. The U.S. EPA and DTSC shall be notified of any soil excavation, movement, or storage associated with the temporary UHB buildings construction at the Site.

### **6.1.1 Odor and Vapor Control**

If odors are observed at the property lines, the Contractor shall employ odor suppression techniques including odor suppressant spray and covering of 1) stockpiles, 2) open excavations or 3) trenches, to mitigate impacts to site workers, visitors and nearby sensitive receptors (e.g., businesses, residential communities, general public). Odor suppressant spray must be readily available for use on Site prior to breaking ground (Attachment A). The Contractor shall implement appropriate means and methods to mitigate odors of stockpiles, open excavations or trenches, prior to leaving the site at the end of each workday. If odor-suppressing measures are ineffective, work will cease and excavations, stockpiles, or other odorous material will be covered until adequate odor-suppressing measures can be implemented. Stockpiles will be managed in accordance with Section 6.2.

### **6.1.2 Excess Soil**

Soil generated from digging or trenching activities is permitted for reuse in the general area the soil was excavated from within the parcels covered by the LUC. Excess Soil, soil that will not be reused, will be transported off-Site and disposed of at an appropriately-permitted disposal facility. Stockpiled soils must be stored on-Site in accordance with Sections 6.2. Excess Soil will be removed within 90 days.

### **6.1.3 Cap and Containment (Engineering Controls)**

A surface cap, such as a building slab, concrete, pavement, or road base will be established in the UHB fenced area. A cap involves the placement of a containment material over impacted soils, thus preventing direct contact with the impacted soils, off-Site migration of soil via wind-blown dust, and erosion from surface water runoff. A cap can also be installed with the intent to prevent exposure to human and ecological receptors from Site COCs.

## **6.2 Stockpile Management and Characterization**

It is anticipated approximately 1200 cubic yards of soil may be excavated as part of the UHB temporary buildings construction at the Site. This section discusses the stockpile management and sampling procedures required for off-Site disposal of impacted soil that may be encountered during excavation, trenching, utility installation, or any other subsurface activities associated with Site improvements. Stockpile management and sampling protocols are discussed in the following sections. Additional stockpile sampling, analytical testing and reporting that may be required for waste profiling shall be the responsibility of the Contractor.

### **6.2.1 Soil Segregation and Stockpiling**

The Contractor shall segregate soil into separate stockpiles based on the area it was excavated from (e.g. soil excavated to cap the horizontal-well soil-water interface will be stockpiled separately from soil excavated for the Manufacturing Building installation).

### **6.2.2 Stockpile Sampling**

Analytical testing shall be conducted on Excess Soil generated from soil disturbance activities, including excavation, trenching, and utility installation, will need to be characterized for Off-Site disposal. Stockpile sampling frequency is one sample per every 25 CY. Analytical testing shall follow the guidance outline in Section 6.2.3. If off-Site disposal is required, additional stockpile sampling may be necessary to meet the acceptance criteria of the receiving facility, and any sampling and analysis shall be conducted in general conformance with the waste disposal Site acceptance requirements. The preferred receiving facility should be contacted regarding this option.

### **6.2.3 Analytical Testing Program**

Analytical testing for stockpiled soils will include, at the very least, the following:

- TPHd and TPHmo using EPA Method 8015M;
- TPHg and volatile organic compounds (VOCs) using EPA Method 8260B;
- California Title 22 Metals using EPA 6000/7000 Series;
- PCBs using EPA Method 8082;
- SVOCs EPA Method 8270C; and
- Toxicity Characteristic Leaching Procedure (TCLP) may be conducted to evaluate the hazardous ((RCRA or non-RCRA) waste classification for the soil.

### **6.2.4 Off-Site Disposal**

If soil will be disposed of off-Site additional analytical testing may be required by the accepting facility(s), and may include, but not be limited to the following additional analysis:

- Organochlorine pesticides using EPA Method 8081; and
- Asbestos using California Air Resource Board Method 435.

## 6.2.5 Stockpile Management

The staging area and the stockpiles shall be managed by the Contractor in accordance with San Francisco Bay Area Air Quality Management District (BAAQMD) 8-40 requirements (BAAQMD, 2005), this document and the SSHSP which will follow Construction General Permit guidelines. Written notice shall be provided to the Air Pollution Control Officer (APCO) of intention to excavate at least 5 days prior to soil disturbance activities (notification form in Attachment B). The soil stockpiles shall be constructed and managed to minimize the threat of release of contaminants or soil from the stockpile, as applicable. Imported stockpiles, reuse stockpiles, and potentially impacted stockpiles will be stockpiled separately from each other. Any hazardous waste stockpile or other stockpile of soils that will not be reused on Site shall be removed from the Site within 45 days if the organic content is greater than 500 mg/kg or within 90 days if the organic content is less than 500 mg/kg, or as determined by the procedures in Sections 8-40-306 of the BAAQMD 8-40 Requirements (BAAQMD, 2005).

It is required that excavated and stockpiled soils associated with construction activities at the Site be managed as follows:

- Placed onto 30-mil or thicker high-density polyethylene (HDPE) liner.
- Placed in a secure area of the Site where stockpile soil will not be disturbed or dispersed by workers or equipment.
- Sprayed or misted with water to minimize dust emissions during stockpiling, if necessary.
- Securely covered with an 8-mil or thicker HDPE liner to minimize vapor emissions and prevent runoff from rain, joined at the seams, and anchored to minimize the accumulation of headspace vapors.
- Configured in such a manner that surface water runoff, if present, from the stockpile does not carry stockpiled material and/or leachate beyond the stockpile perimeter berm.

## 6.2.6 Site Transport and Disposal

If contaminated or hazardous soils or other environmental media or subsurface structures (e.g., tanks, sumps, piping) are transported off Site for disposal, the transporters and disposal facilities used must be appropriately licensed and/or permitted and properly insured, and be pre-approved by the Project Manager. The Contractor, with assistance from the Environmental Consultant, will manage the transportation and disposal of wastes to the appropriate treatment and disposal or recycling facilities. The Contractor shall prepare waste profiles and manifests or bills of lading for review by the Environmental Consultant and for signature by the Project Manager or Owner. Manifests or bills of lading and waste profiles will

be forwarded to the appropriate disposal/recycling facility for acceptance. The Contractor shall be responsible for the scheduling of shipments of wastes after notice of acceptance.

Coordinating vehicles entering property for loading and off-Site disposal of Site materials shall be tracked through documentation, by the Contractor, with assistance from the Environmental Consultant. Vehicles shall be decontaminated, as necessary, prior to their departure from the property per Section 5.3.5. Care shall be taken to avoid spillage of contaminated materials and/or tracking such materials off Site. Care shall also be taken to prevent aeration of contaminated soil being transported off Site. The Contractor shall maintain a daily log of contaminated substances, hazardous substances, or hazardous wastes removed from the property for disposal. Upon project completion, the logs shall be accompanied by copies of waste manifests and load tickets that document receipt of the waste at the permitted facility and the weight of the load.

Hazardous wastes transported off Site for disposal or recycling shall be performed in accordance with Department of Transportation (DOT) Hazardous Material Transportation regulations 49 CFR Parts 171 and 180, 40 CFR Part 262, Subpart B, and Title 22 CCR Section 66262, which involve packaging, placarding, labeling, and manifesting requirements. Hazardous wastes transported shall also have appropriate certification notices per 40 CFR Par 268 and Title 22 CCR Section 66268. Personnel having the required DOT-training shall perform DOT-related functions, if required.

Contaminated materials characterized as non-hazardous that do not exhibit the DOT hazard class characteristics (i.e., explosives, gases, flammable/combustible liquids, flammable solids/ spontaneously combustible materials/dangerous when wet materials, oxidizers and organic peroxides, toxic materials and infectious substances, radioactive materials, and corrosive materials) are not regulated under DOT rules for hazardous materials transportation. If a material is hazardous, it shall be shipped under the appropriate hazard class with a Hazardous Waste Manifest.

Trucks carrying contaminated substances or hazardous wastes shall be enclosed such that there is no odor or dust during transportation along the haul route identified in the project specifications. Open trucks shall not be permitted to transport waste from the property that may produce odor or dust during transportation. In accordance with San Francisco Bay Area Air Quality Management District (BAAQMD) 8-40 requirements (BAAQMD, 2005), trucks transporting contaminated soil off Site shall be covered with continuous heavy-duty plastic sheeting or other covering to minimize aeration during transport.

### **6.2.7 Management of Unanticipated Contamination or Hazardous Debris Encountered During Construction**

During construction, if unanticipated contamination (for example, if soil discoloration or odors are noted), buried structures (for example, sumps or tanks) or hazardous debris are encountered that may pose a risk to human health or the environment, earthwork in the suspect area will be immediately stopped and worker access to the suspect area will be restricted. The area will be cordoned off using delineators and caution tape, or similar materials by the contractor.

The Environmental Consultant shall be notified immediately upon encountering unanticipated contamination or hazardous debris. The quality of soil suspected to be contaminated will be evaluated through field screening or analytical testing, so that appropriate handling and disposal alternatives can be determined. Soil samples will be collected from stockpiles and analyzed for COCs following the sampling and analyses guidelines presented in Section 6.2.2 and 6.2.3 above. Any remediation of the Site will be required to meet applicable U.S. EPA, DTSC, local or State regulatory requirements.

Soil suspected of being contaminated that is excavated during construction will be stockpiled separately from other characterized soil stockpiles.

## **7 AGENCY NOTIFICATION AND SOIL DISTURBANCE ACTIVITIES**

The Owner, as defined in Section 3.2.1, must notify the City of East Palo Alto prior to performing ground disturbance activities.

This document applies to the construction of UHB temporary buildings. Prior to and during earthwork construction activities related to redevelopment of the Site, applicable permits and notifications shall be the responsibility of the Contractor. The Contractor shall be responsible for notifying California OSHA in accordance with the Contractor's Annual Trenching and Excavation Permit and notifying Underground Service Alert. If unknown contamination is found on a property, the Project Manager and Environmental Consultant will be immediately informed.

## **8 REPORTING**

Field notes will be prepared by the Environmental Consultant during construction oversight activities. Either the Contractor or the Environmental Consultant will prepare a Construction Oversight Report that will contain the following information:

- Documentation pertaining to the source(s), volumes, types of soils, dates and other relevant records pertaining to the soils transported to the Site.



- A map showing the extent of and depths of excavations.
- A description of dust control.
- If stockpiling is performed, identification of each stockpile type, a plot plan detailing the stockpile locations and corresponding estimates of the volumes of materials in each stockpile. As applicable (for example, off-Site disposal), description of the sampling methodologies, sample locations, sample analytical results, chain-of-custody documents, and quality assurance/quality control supporting data and summary tables of the laboratory analytical results of the stockpile sampling.
- For materials transported off-Site, weight tickets and waste manifests.

The report will be signed by the Environmental Consultant.

## 9 LIMITATIONS

This SMP has been prepared in general accordance with current regulatory guidelines and the standard-of-care exercised in preparing similar plans in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this SMP. Variations in Site conditions may exist and conditions not observed or described in this SMP may be encountered during subsequent activities. Please also note that this SMP did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this SMP, are based on limited subsurface assessments. Further assessment of potential adverse environmental impacts from past on-Site and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored.

The environmental interpretations and opinions contained in this SMP are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject Site, and on work performed by others. The testing and analyses have been conducted by independent laboratories, which are certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis or work performed by others. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results and work performed by others.

Our conclusions and opinions are based on an analysis of the observed Site conditions and work performed by others. It should be understood that the conditions of a Site could change with time as a result of natural processes or the activities of man at the subject Site or nearby Sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this SMP may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

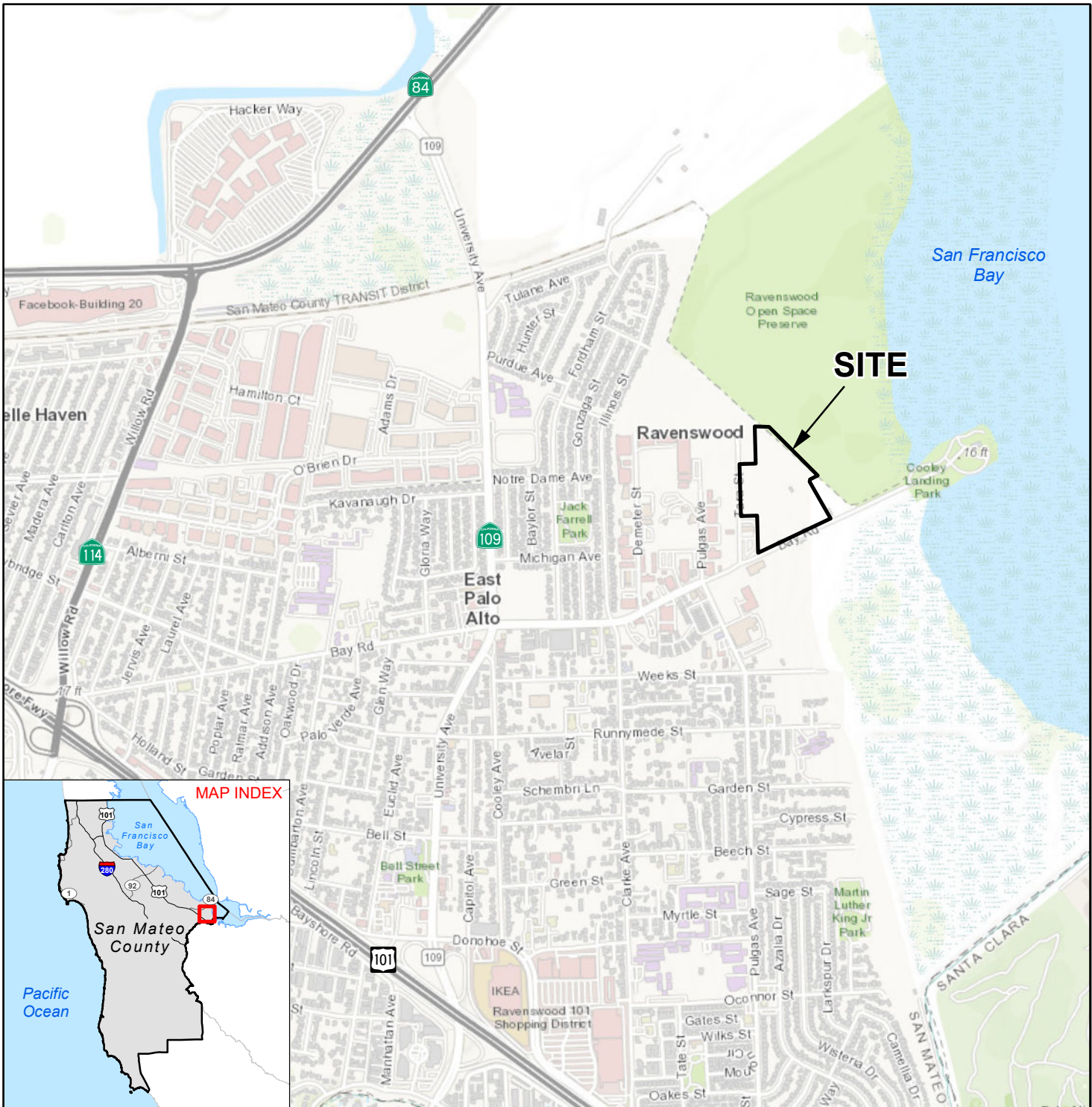
The SMP is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this SMP by parties other than the client is undertaken at said parties' sole risk.

## 10 REFERENCES

- Arcadis U.S., Inc., 2007. Corrective Measures Study Report, Romic Environmental Technologies Corporation, 2081 Bay Road, East Palo Alto, California. August 16.
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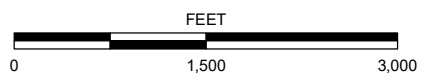


# FIGURES



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NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE. | SOURCE: ESRI WORLD TOPO, 2021




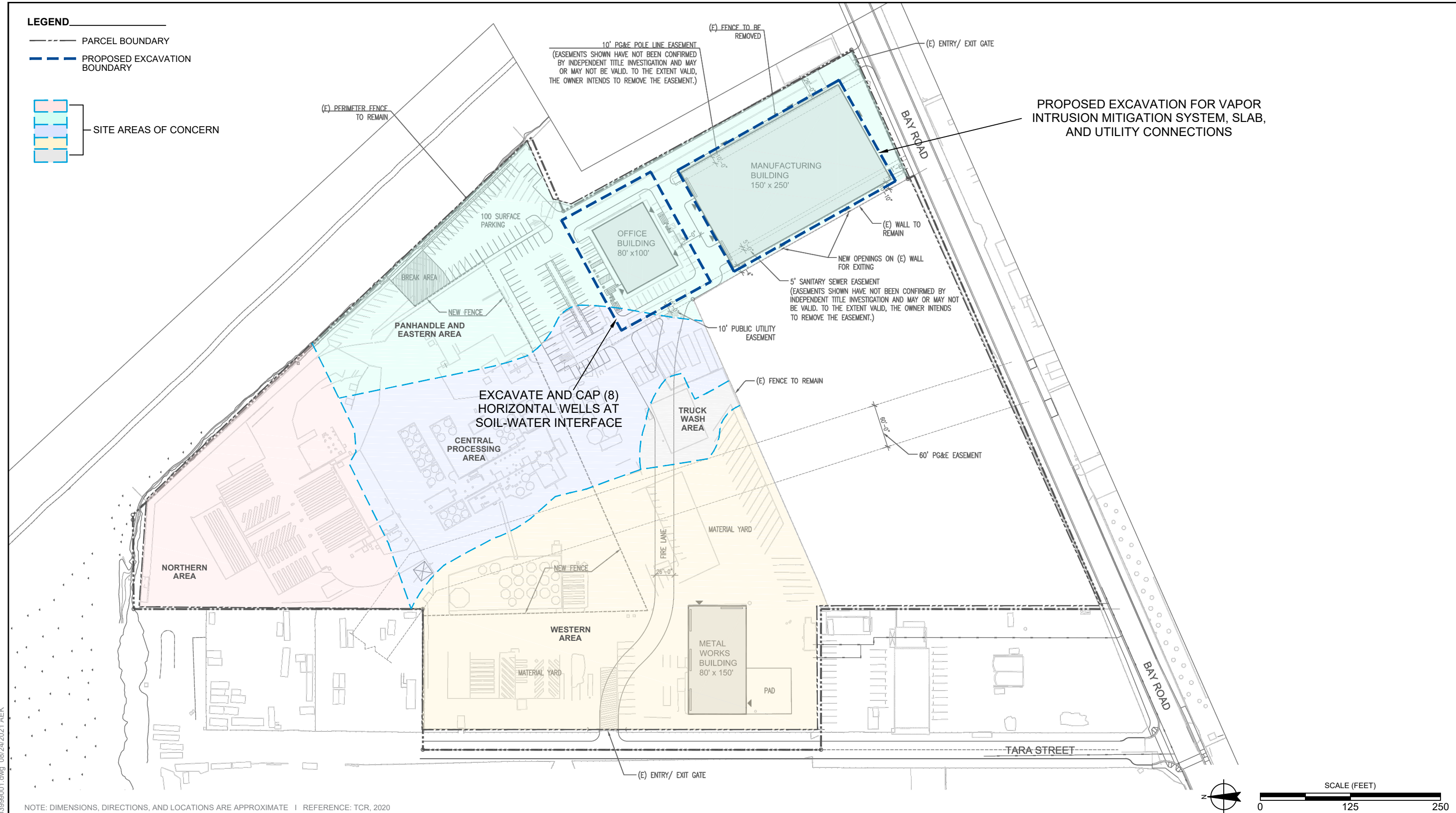
**FIGURE 1**

**SITE LOCATION**

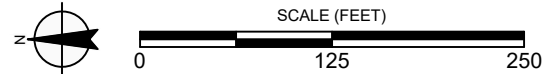
UNITED HOPE BUILDERS SITE  
 2081 BAY ROAD  
 EAST PALO ALTO, CALIFORNIA  
 403999001 | 11/21

**LEGEND**

- PARCEL BOUNDARY
- PROPOSED EXCAVATION BOUNDARY
- 
 SITE AREAS OF CONCERN



NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE | REFERENCE: TCR, 2020



403999001.dwg 08/24/2021 AEK



# Attachment A

## A – Odor Suppressant SDS

## Safety Data Sheet

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### Section 1 – Chemical Products and Company Identification

---

**Product Names:** BioSolve® Pinkwater®

**Product Uses:** Remediation of hydrocarbon (oil, fuel, petrochemical) contamination, including: impacted soils, suppression of VOCs, surface cleaning of equipment and protective clothing.

**Manufacturer:** The BioSolve Company  
329 Massachusetts Avenue  
Lexington, MA 02420 USA

**Contact Information:** +1 (800) 225-3909 US, Canada, Mexico and Puerto Rico  
+1 (781) 482-7900 All other locations

---

### Section 2 – Hazards Identification

---

**Health Hazards:** Eye Contact: Causes transient eye irritation  
Skin Contact: May cause mild, transient irritation  
Ingestion: May be harmful if swallowed; can cause gastrointestinal irritation, nausea, vomiting and/or diarrhea

**Hazard Mitigation:** Wear protective gloves and eye/face protection  
Avoid prolonged breathing of spray

**Environmental Hazards:** Moderately toxic to aquatic life. Avoid discharge to storm drains and waterways

**GHS Classification:** Toxic to aquatic life, Acute Category 2

---

### Section 3 – Composition/Information on Ingredients

---

Proprietary formulation with nonionic surfactants (32% active ingredients in water)

BioSolve products contain no caustic, d-limonene or hydrocarbon solvents.

BioSolve products do not contain any hazardous ingredients as defined by CERCLA, Massachusetts Right to Know Law and California Prop 65. All ingredients are TSCA compliant.



## Safety Data Sheet

Page 2 of 6

---

### Section 4 – First Aid Measures

---

- Eyes:** Immediately flush eyes with water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Seek medical attention for lasting irritation.
- Skin:** Rinse exposed area and wash with mild soap and water for several minutes. Seek medical attention if irritation develops.
- Ingestion:** Seek medical attention in the event of serious or persistent abdominal discomfort, nausea or diarrhea.
- Inhalation:** Inhalation of concentrated vapors resulting from spraying or heating in confined or poorly ventilated areas may cause irritation of nose and throat. Remove person to fresh air and seek medical attention if irritation persists.

---

### Section 5 – Fire Fighting Measures

---

**Suitable Extinguishing Media:** None required; BioSolve products are non-flammable

**Special Protective Equipment for Firefighters:** None necessary

**Unusual Fire or Explosive Hazards:** None

---

### Section 6 – Accidental Release Measures

---

In case of accidental release, breakage or leakage: Eliminate or contain source with inert material, such as sand, earth, absorbent pads, etc. Transfer liquid to suitable containers for recovery, re-use or disposal. Wipe up or mop up using water. Hard surfaces (e.g., floors, driveways) may be slippery; use care to avoid falling.

Rinse area with water. Avoid flow of run-off to surface waters. Always check with local regulations before discharging effluent to storm drains or sewers.

---

### Section 7 – Handling and Storage

---

- Handling:** Minimize periods of exposure to extreme temperatures. Keep from freezing. If frozen, separation may occur; thaw and stir thoroughly prior to use. Freezing will not affect product performance.
- Precautions:** Chemical resistant gloves and eye protection are recommended while mixing and using.
- Incompatibilities:** Avoid contact with strong acids or strong oxidants.
- Storage:** Recommended storage temperature: 35° – 120° F (1° – 48° C).
- Shelf Life:** If unopened, more than 10 years.
-

## Safety Data Sheet

### Section 8 – Exposure Controls / Personal Protection

- Eyes Protection:** Safety glasses; chemical goggles or face shield recommended when spraying to protect against backsplash and drift.
- Skin Protection:** Rubber or latex gloves recommended.
- Respiratory Protection:** None required, except if application results in significant misting of product. If so, use of an approved air purifying respirator is recommended.
- Engineering Controls:** For indoor use or for use in a confined space, normal ventilation is generally satisfactory.

### Section 9 – Physical and Chemical Properties

- Appearance:** Deep red
- Odor:** Mild, pleasant sassafras fragrance
- Concentration:** ~32% active ingredients as sold

<b>Boiling Point</b>	265°F/129°C	<b>Vapor Pressure mm/Hg</b>	Not available
<b>Melting/Freezing Point</b>	28°F/-2°C	<b>Vapor Density (Air=1)</b>	Not available
<b>Flash Point</b>	Non-flammable	<b>Surface Tension*</b>	29 Dyne/cm @25°C
<b>Flammability Limits</b>	Not applicable	<b>Viscosity (concentrate)</b>	490 centipoise
<b>Reactivity with Water</b>	None	<b>Viscosity (6% solution)</b>	1.5 centipoise
<b>Evaporation Rate</b>	Not determined	<b>Solubility in Water</b>	100%
<b>Specific Gravity</b>	1.01 gms/cc	<b>VOC Content</b>	Not determined
	8.43 lbs/U.S. gal	<b>pH</b>	9.1 +/- 0.3

\*6% solution

### Section 10 – Stability and Reactivity

**Chemical Stability:** Stable; will not decompose if used according to manufacturer's directions.

**Conditions to Avoid:** Prolonged exposure to heat may cause product degradation. Freezing should also be avoided as discussed in Section 7.

**Incompatible Materials:** Normally unreactive. Avoid strong alkalis, strong acids, strong oxidizing agents and materials with reactive hydroxyl compounds. These materials could damage the product and reduce its effectiveness during application.

**Hazardous Decomposition Products:** None are known.

**Hazardous Polymerization:** Will not occur.

## Safety Data Sheet

### Section 11 – Toxicological Information

- Overview:** No adverse acute or chronic health effects expected if product used in accordance with manufacturer’s directions.
- Carcinogenicity:** No ingredient has been shown to cause cancer in laboratory animals.
- Specific Organ Toxicity:** None are known.

### Section 12 – Ecological Considerations

- Persistence and Degradability:** The total of the organic components contained in this product is not classified as readily biodegradable (OECD-301 A-F). However, this product is inherently biodegradable with 60% degradation in 28 days (OECD-301B) and estimated >95% degradation in 120 days.
- Bioaccumulation Potential:** The bioaccumulation factor in fish has been estimated to be low, ranging from 87 to 344.
- Mobility:** No data available
- Aquatic Toxicity:**
- |  |          |          |
|--|----------|----------|
| <b>LC<sub>50</sub> of Concentrate (As shipped)</b>     |          |          |
| <i>Mysidopsis bahia</i>                                | 48-hours | 3.6 mg/L |
| <i>Menidia beryllina</i>                               | 96-hours | 6.4 mg/L |
| <b>LC<sub>50</sub> of 3% Dilute Solution (As Used)</b> |          |          |
| <i>Mysidopsis bahia</i>                                | 48-hours | 185 mg/L |
| <i>Menidia beryllina</i>                               | 96-hours | 247 mg/L |
| <b>LC<sub>50</sub> of 6% Dilute Solution (As Used)</b> |          |          |
| <i>Daphnia magna</i>                                   | 48-hours | 287 mg/L |
| <i>Pimephales promelas</i>                             | 96-hours | 124 mg/L |
| <i>Onchorhynchus mykiss</i>                            | 96-hours | 177 mg/L |

### Section 13 - Disposal

DO NOT DUMP INTO STORM DRAINS OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. As manufactured, BioSolve products do not meet the definition of a hazardous waste. Small quantities of unused and uncontaminated product may be discharged to a qualified wastewater treatment facility. Always obtain approval from local and Federal regulatory agencies prior to discarding this product into public sewers.

As your supplier, we have no control over your handling and use of this product. However, the intended use of this product as a remediation and/or surface washing agent may produce wastewater containing emulsified or dispersed hydrocarbons that may be classified as a hazardous waste and should be treated and disposed of accordingly.

## Safety Data Sheet

Page 5 of 6

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### Section 14 – Transportation Information

---

USDOT Freight Class 55 (Liquid Cleaning Compound, Non-Hazardous)  
This product is not regulated by USDOT or Canadian TDG when shipped domestically by land.

North American Industry Classification System (NAICS) # 325613

U.S. ITC, Harmonized Tariff Schedule B Classification: 3402.90.30.00

---

### Section 15 – Regulatory Information

---

This product is considered non-hazardous as defined by CERCLA, according to OSHA, Massachusetts Right to Know Law and California Prop 65.

**Toxic Substances Control Act:** All components of this product are on the TSCA inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

**CEPA – Domestic Substances List:** All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or not required to be listed.

**Canadian CPR Compliance:** This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR

**WHMIS Classification:** D2B                      Eye or skin irritant

Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with Federal, state or provincial and local laws.

## Safety Data Sheet

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### Section 16 – Other Information

---

**HMIS Rating**

Health Hazard:	1 (Eye/Skin Irritant)
Fire Hazard:	0
Reactivity:	0
Personal Protective Equipment:	Rubber gloves, safety glasses or face shield

**NFPA Rating**

Health:	1 (Eye/Skin Irritant)
Flammability:	0
Reactivity:	0
Other Hazard:	None

BioSolve Pinkwater is on the US Environmental Protection Agency's NCP Product Schedule. This listing does NOT mean that EPA approves, recommends, licenses, certifies or authorizes the use of BioSolve Pinkwater on an oil discharge. This listing means only that data have been submitted to EPA as required by Subpart J of the National Contingency Plan, 40 CFR Section 300.915.

**SDS Effective Date:** May 12, 2016

The information contained herein is accurate to the best of our knowledge. The BioSolve Company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or application or in combination with other substances.

For more information, visit: [www.biosolve.com](http://www.biosolve.com)



# Attachment B

## BAAQMD Regulation 8 Rule 40 Notification Form



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

# COMPLIANCE & ENFORCEMENT DIVISION

Notification Form

Regulation 8  
Rule 40

## REMOVAL OF UNDERGROUND STORAGE TANKS OR TREATMENT OF CONTAMINATED SOIL

### SITE OF ACTIVITY

<b>Site Address:</b> _____	<b>City &amp; Zip:</b> _____	<b>Site#:</b> _____
<b>Specific Location of Project within Address:</b> _____		
<b>Owner/Operator:</b> _____		
<b>Check any that apply (400 numbers refer to regulation section requiring reporting):</b>		
<input type="checkbox"/> Tank Removal or Replacement (401)	<input type="checkbox"/> Contaminated Soil Excavation and Removal (402)	
<input type="checkbox"/> Aeration of Soil < 50 ppmw organic content, but does not meet Section 118 Exemption (403)		
<input type="checkbox"/> Section 114 Exempt; Date Pipeline Leak <b>Started:</b> _____ Vol. Of Soil: _____ (403)		
<input type="checkbox"/> Section 115 Exempt; Date Contamination Unrelated to UST Activities <b>Discovered:</b> _____ (405)		
<b>If only Tank Removal is selected, attach results showing soil is not contaminated</b>		

### CONTRACTOR INFORMATION

<b>Name:</b> _____	<b>Site Contact:</b> _____	<b>Phone:</b> _____
<b>Address:</b> _____		

### TANK REMOVAL (Section 401)

<b>Scheduled Start Date:</b> _____	<b>Number and Size of Tank(s):</b> _____
<b>Explain Methods of:</b>	
Piping drainage or flushing (310.1) _____	
Liquid and sludge removal (310.2) _____	
<b>Vapor removal (310.3)</b>	<b>[Check One]</b> <input type="checkbox"/> Water Displacement <input type="checkbox"/> Vapor Freeing* <input type="checkbox"/> Ventilation*
* Emission controls required for vapor freeing or ventilation if tank size greater than 250 gallons.	
<b>COMPLETE INFORMATION BELOW OR ATTACH SAMPLE RESULTS SHOWING SOIL IS UNCONTAMINATED (310.4)</b>	

### CONTAMINATED SOIL EXCAVATION AND REMOVAL (Section 402)

<b>Scheduled Start Date:</b> _____	<b>Scheduled Completion Date:</b> _____
<b>Purpose of Excavation:</b> _____	
<b>Quantity of Soil:</b> _____	<b>Organic Content &amp; Type:</b> _____
<b>Methods used to quantify and analyze soil:</b> _____	
<b>Method of Stockpile Control (304-306)</b>	
<input type="checkbox"/> Water Spray <input type="checkbox"/> Covered <input type="checkbox"/> Vapor Suppressant (List Material Used): _____	
<b>Method of Site Closure (306)</b>	
<input type="checkbox"/> Backfilled <input type="checkbox"/> Contaminated Soil Removed	
<input type="checkbox"/> Onsite Treatment (Describe): _____ A/C or P/O #: _____	
<b>Loaded Trucks Covered? (306.2)</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	

### AERATION OF SOIL < 50 PPMW ORGANIC CONTENT (Section 403)

You must submit a Permit Application and Risk Screening Analysis (Forms will be sent to you)

### FOR BAAQMD USE ONLY

<b>Fax/PM Date:</b> _____	<b>By:</b> _____	<b>Disp to I#:</b> _____	<b>Area:</b> _____	<b>Date:</b> _____	<b>By:</b> _____
<b>Inv Req Date:</b> _____	<b>By:</b> _____	<b>Fwd to Supv.</b> _____	<b>Date:</b> _____	<b>By:</b> _____	

See Page Two to Complete This Form

Approved 7/8/03

**OTHER PUBLIC AGENCY CONTACTED (Fire District, Hazardous Materials, City or County)?**

Agency Name:

Contact Name:

Address:

Phone:

**EMERGENCY REMOVAL ORDER APPLICABLE?**

Agency Name:

Contact Name:

Address:

Phone:

*H:\Pub\_data\Janet\Reg 8-40\forms\notifdraft3.doc*

**GENERAL INFORMATION**

- This notification form shall be used to notify the BAAQMD of any projects subject to the reporting requirements in Regulation 8, Rule 40, Sections 401 through 405. Notifications may be emailed to [compliance@baaqmd.gov](mailto:compliance@baaqmd.gov); or mailed to the address listed at the bottom of this form.
- An invoice for payment will be sent to the person listed under "Contractor Information" as the person responsible, unless the project is exempt from fee payment (see next item).
- See "Frequently Asked Questions" (FAQ) for definition of projects, change procedures, permit requirements, emergency conditions, project exemptions, and fee exemptions. For any questions not answered in the FAQ, contact the Compliance Assistance Counselor at (415) 749-4999.

**INSTRUCTIONS**

- **SITE OF ACTIVITY:** Give the site street address and indicate if it has any existing BAAQMD site number, for either a plant or GDF. Identify the specific project location if the site contains more than one building. Indicate all applicable activity types by checking appropriate boxes. For reporting requirements under Sections 401 through 403, additional information is required, as below.
- **CONTRACTOR INFORMATION:** Identify the contractor that is responsible for performing the work at the site location listed. This contractor is also responsible for payment of the applicable notification fee, if the project is not exempt.
- **SECTION 401 - TANK REMOVAL/REPLACEMENT:** All soils disturbed and/or excavated as part of the tank removal shall be subject to the requirements of Sections 304 through 306, unless the soil has been determined not to be contaminated by measurement of organic content using the procedures in Sections 601 and 602. Complete requirements for Section 402 or submit sample results showing that the soil is not contaminated.
- **SECTION 402 - CONTAMINATED SOIL EXCAVATION AND REMOVAL:**
  - Be as accurate as possible for the Scheduled Start and Completion Dates. Specific requirements apply for excavation projects triggered within either 45 or 90 days (Reg. 8-40-306.4) and Authority to Construct requirements for projects lasting longer than three months (Reg. 2-1-128.16).
  - If a vapor suppressant is used, attach a product data sheet or MSDS.
  - If Method of Site Closure used is Onsite Treatment, describe specific method, (e.g., bioremediation, vapor extraction, air sparging, thermal desorption, etc.).
  - If Onsite Treatment is used, indicate whether an Authority to Construct was obtained by providing the Application No. or attach copy of BAAQMD Certification of Exemption.
- **SECTION 403 – AERATION OF SOIL < 50 PPMW ORGANIC CONTENT:** Section 301 exempts from control the aeration of soil containing less than 50 ppmw of organic compounds, but Section 403 still requires reporting of **ANY** soil aeration. If such a project does not meet the exemption criteria of Section 118, then a Permit Application and Risk Screening Analysis must be submitted.
- **EMERGENCY REMOVAL INFORMATION (IF APPLICABLE):** The rule defines an emergency tank removal or excavation of contaminated soil as "carried out pursuant to an order of a state or local government agency issued because the contaminated soil poses an imminent threat to public health and safety." If the project(s) meet this definition, then identify the agency that issued the order. Under Section 402 requirements, on line two, identify the purpose as indicated in the order.



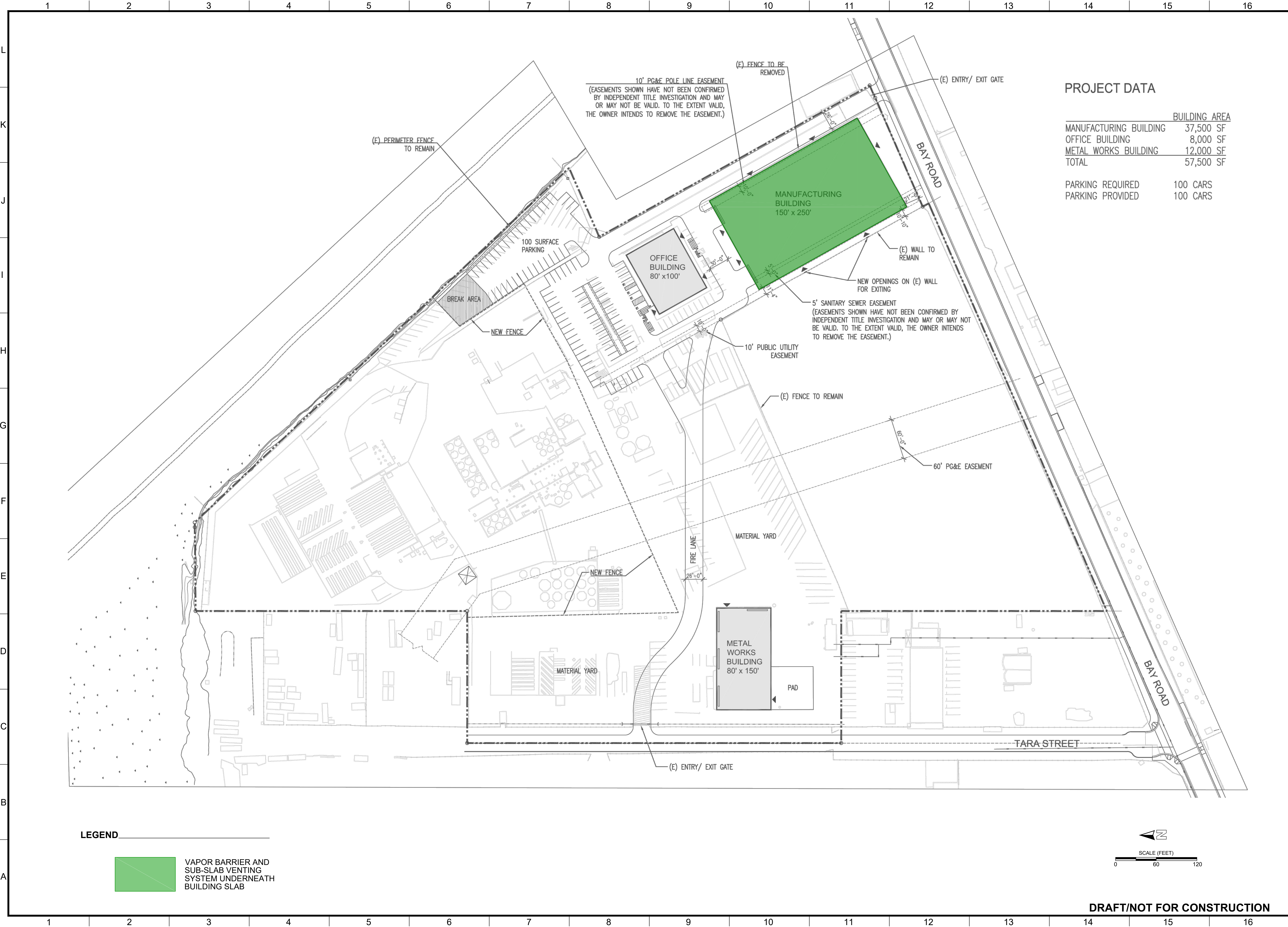


# APPENDIX E

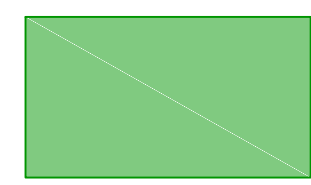
## VIMS Design







**LEGEND**

 VAPOR BARRIER AND SUB-SLAB VENTING SYSTEM UNDERNEATH BUILDING SLAB

**PROJECT DATA**

	BUILDING AREA
MANUFACTURING BUILDING	37,500 SF
OFFICE BUILDING	8,000 SF
METAL WORKS BUILDING	12,000 SF
TOTAL	57,500 SF

PARKING REQUIRED	100 CARS
PARKING PROVIDED	100 CARS

**Ninyo & Moore**  
 Geotechnical & Environmental Sciences Consultants  
 2020 Challenger Drive, Suite 103  
 Alameda, California 94501  
 PH: 510-343-3000

NO.	REVISIONS	DATE	BY

	STRUCTURE NO.

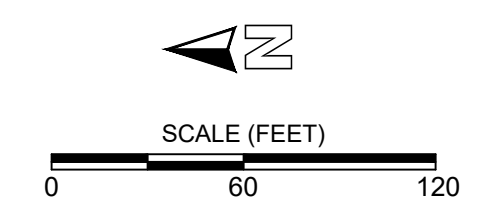
  

	INDEX NO.

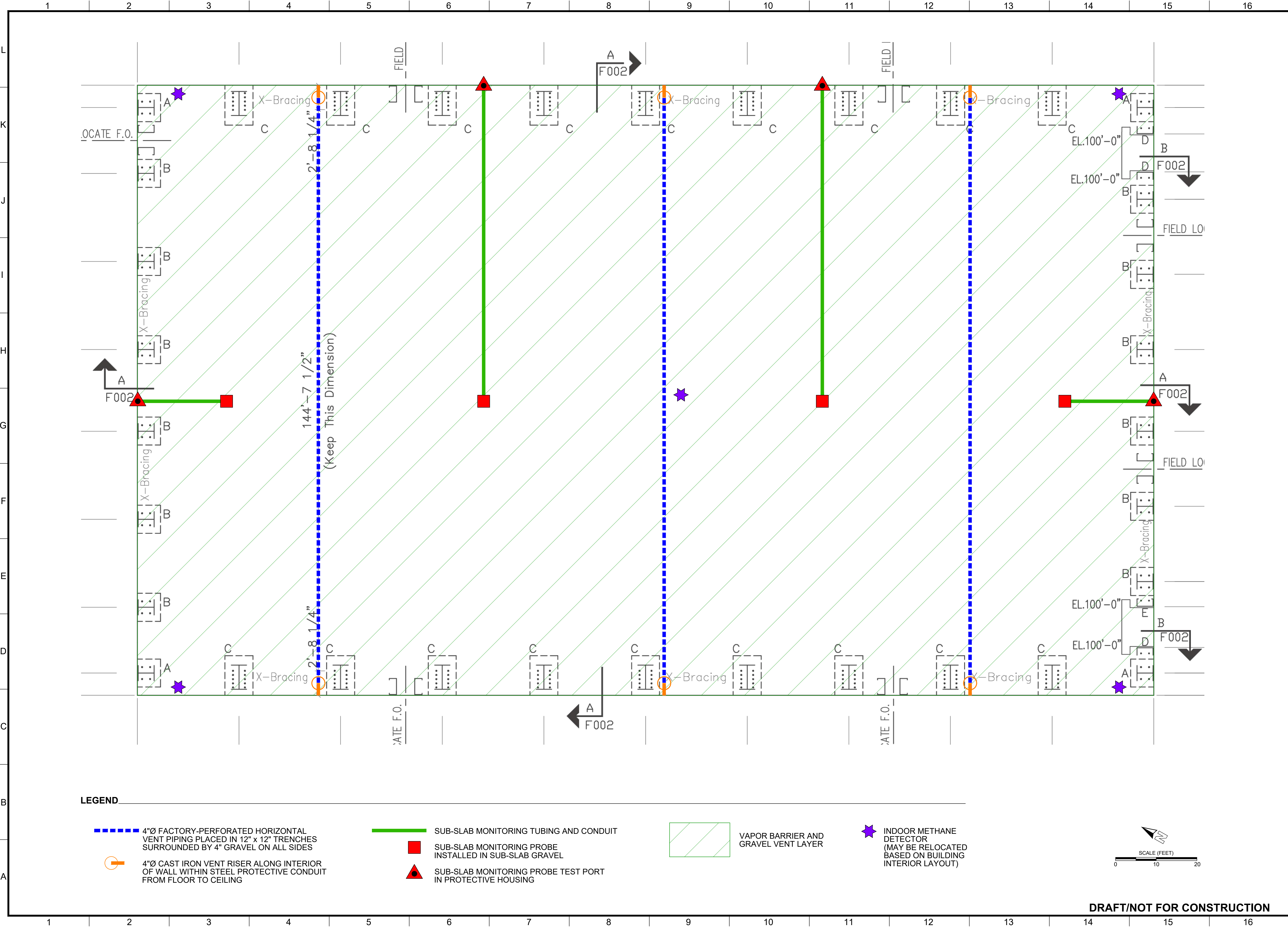
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DRAWN BY:	A. KREMIL		CHECKED BY:	06/01/2021
APPROVED BY:			DESIGN GROUP:	

VERTICAL CONTROL:	
HORIZONTAL CONTROL:	
SHEET TITLE:	SITE PLAN
PROJECT:	UNITED HOPE BUILDERS
ADDRESS:	2081 BAY ROAD EAST PALO ALTO, CALIFORNIA

PROJECT NO.	403999001
DRAWING NO.	
<b>VIMS.3</b>	
SHEET	OF SHEETS



**DRAFT/NOT FOR CONSTRUCTION**



**LEGEND**

- 4"Ø FACTORY-PERFORATED HORIZONTAL VENT PIPING PLACED IN 12" x 12" TRENCHES SURROUNDED BY 4" GRAVEL ON ALL SIDES
- 4"Ø CAST IRON VENT RISER ALONG INTERIOR OF WALL WITHIN STEEL PROTECTIVE CONDUIT FROM FLOOR TO CEILING

- SUB-SLAB MONITORING TUBING AND CONDUIT
- SUB-SLAB MONITORING PROBE INSTALLED IN SUB-SLAB GRAVEL
- SUB-SLAB MONITORING PROBE TEST PORT IN PROTECTIVE HOUSING

- VAPOR BARRIER AND GRAVEL VENT LAYER

- INDOOR METHANE DETECTOR (MAY BE RELOCATED BASED ON BUILDING INTERIOR LAYOUT)

**DRAFT/NOT FOR CONSTRUCTION**

DATE:	BY:
REVISIONS:	STRUCTURE NO.
INDEX NO.	

DESIGNED BY:	DESIGN GROUP:
DRAWN BY:	LIC. NO. C073190
CHECKED BY:	A. KREMIL
APPROVED BY:	

VERTICAL CONTROL:	PROJECT:
HORIZONTAL CONTROL:	BUILDING LAYOUT - GROUND FLOOR
SHEET TITLE:	UNITED HOPE BUILDERS
ADDRESS:	2081 BAY ROAD
	EAST PALO ALTO, CALIFORNIA

PROJECT NO.	403999001
DRAWING NO.	
<b>VIMS.4A</b>	
SHEET	OF SHEETS

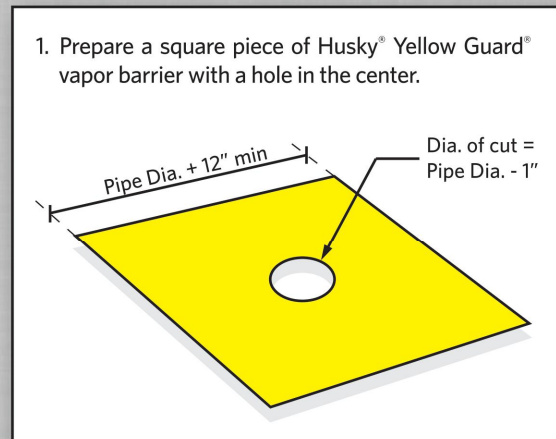
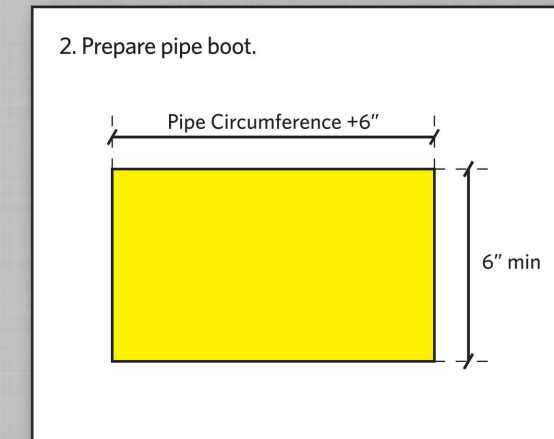
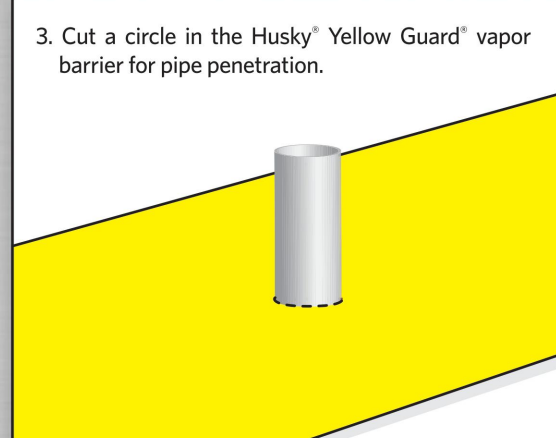
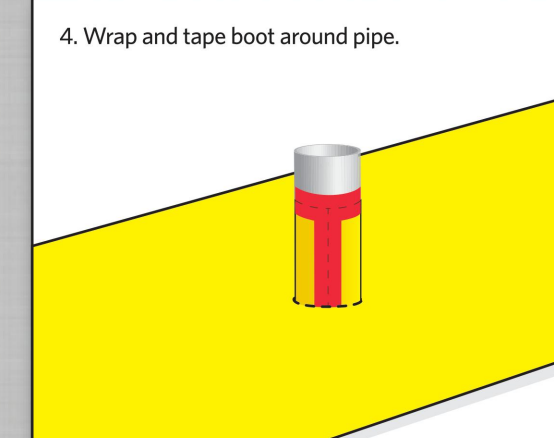
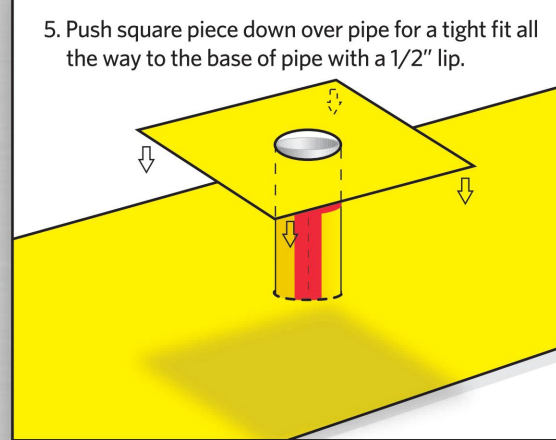
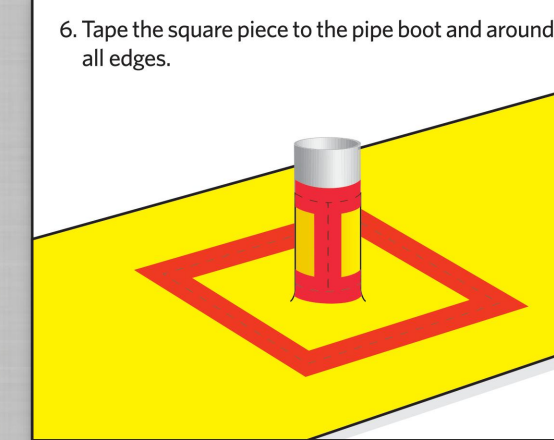
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### HUSKY Yellow Guard<sup>®</sup> VAPOR BARRIER

#### Pipe Penetration Detail 1

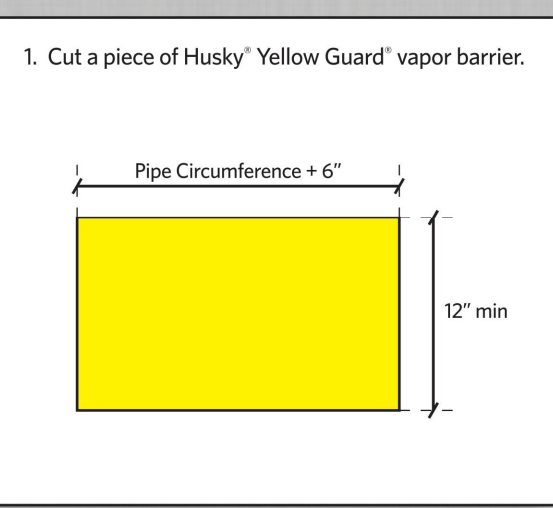
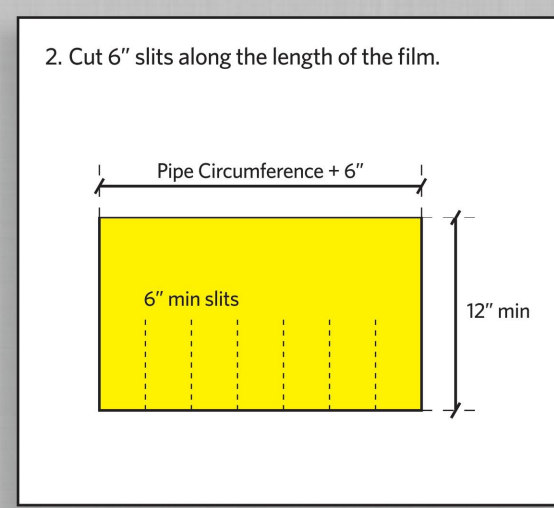
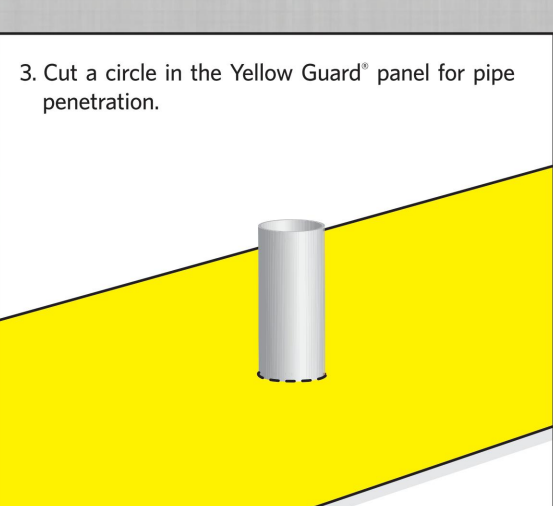
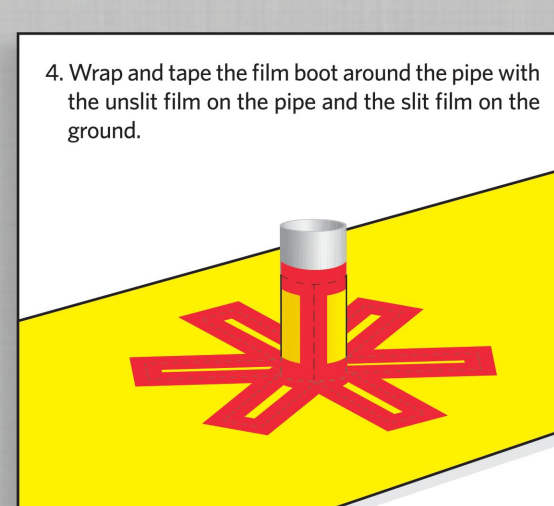
1. Prepare a square piece of Husky<sup>®</sup> Yellow Guard<sup>®</sup> vapor barrier with a hole in the center.  

2. Prepare pipe boot.  

3. Cut a circle in the Husky<sup>®</sup> Yellow Guard<sup>®</sup> vapor barrier for pipe penetration.  

4. Wrap and tape boot around pipe.  

5. Push square piece down over pipe for a tight fit all the way to the base of pipe with a 1/2" lip.  

6. Tape the square piece to the pipe boot and around all edges.  


The drawings and information provided herein have been compiled by Poly-America, L.P. and to the best of our knowledge accurately represent Poly-America's Yellow Guard<sup>®</sup> vapor barriers at the time of publication. These drawings and information are offered "as is," for preliminary planning purposes only, without any warranties of any kind. Final determination of suitability of these drawings and information or products for the use contemplated and its manner of use are the sole responsibility of the end user. Poly-America, L.P. assumes no liability in connection with the use of this information and these products. This information is subject to change without notice.

**Poly-America**  
2000 W. Marshall Dr. • Grand Prairie, TX 75051  
800-527-3322 • 972-337-7610 • Fax 972-337-7016 • [www.yellowguard.com](http://www.yellowguard.com) • [yellowguard@poly-america.com](mailto:yellowguard@poly-america.com)  
57-023-01078 Rev 06/19

### HUSKY Yellow Guard<sup>®</sup> VAPOR BARRIER

#### Pipe Penetration Detail 2

1. Cut a piece of Husky<sup>®</sup> Yellow Guard<sup>®</sup> vapor barrier.  

2. Cut 6" slits along the length of the film.  

3. Cut a circle in the Yellow Guard<sup>®</sup> panel for pipe penetration.  

4. Wrap and tape the film boot around the pipe with the unslit film on the pipe and the slit film on the ground.  


The drawings and information provided herein have been compiled by Poly-America, L.P. and to the best of our knowledge accurately represent Poly-America's Yellow Guard<sup>®</sup> vapor barriers at the time of publication. These drawings and information are offered "as is," for preliminary planning purposes only, without any warranties of any kind. Final determination of suitability of these drawings and information or products for the use contemplated and its manner of use are the sole responsibility of the end user. Poly-America, L.P. assumes no liability in connection with the use of this information and these products. This information is subject to change without notice.

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57-023-01078 Rev 06/19

# Yellow Guard<sup>™</sup>

## POLYETHYLENE TAPE

Husky<sup>™</sup> Yellow Guard<sup>™</sup> Tape is made with a cast polyethylene film coated with high-tack natural rubber adhesive. Recommended for splicing heavy duty polyethylene, polyethylene patching, and protective masking, the tape is flexible, strong, and moisture and UV resistant.

Specifications quoted are averages only and may vary within industry tolerances. The final user must assure product suitability for the application and assumes all risks and liabilities. Contact Poly-America's Sales Department for pricing and availability.

### TECHNICAL DATA

Backing .....	Cast Polyethylene Film
Thickness .....	9.0 mils
Adhesion .....	70 oz/in
Tensile Strength .....	26 lbs/in
Elongation at Break .....	96.25%
Application Temperature .....	41°F – 122°F
Temperature Resistance .....	176°F for 30 min.
Roll Width .....	3.75 in
Roll Length .....	180 ft

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The information provided herein has been compiled by Poly-America, L.P. and to the best of our knowledge accurately represents Poly-America's products at the time of publication. This publication is offered "as is," for preliminary planning purposes only, without any warranties of any kind. Final determination of suitability of this information or these products for the use contemplated and its manner of use are the sole responsibility of the end user. Poly-America, L.P. assumes no liability in connection with the use of this information and this product. This information is subject to change without notice.

57-023-01058 Rev 06/19

Pipe Penetration Detail

**Detail 7**  
Scale: Not to Scale

**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants  
2020 Challenger Drive, Suite 103  
Alameda, California 94501  
PH: 510-543-3000

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VERTICAL CONTROL:  
 HORIZONTAL CONTROL:  
 SHEET TITLE: **DETAILS (CONT.)**  
 PROJECT: **UNITED HOPE BUILDERS**  
 ADDRESS: 2081 BAY ROAD  
 EAST PALO ALTO, CALIFORNIA

PROJECT NO.  
**403999001**

DRAWING NO.

VIMS.5B

SHEET OF SHEETS

DRAFT/NOT FOR CONSTRUCTION





# APPENDIX F

## Metal Works Building Coating Specifications and Chemical Resistance Guideline and Chart

# 320 CrownShield<sup>®</sup> General Purpose Thru-Product<sup>™</sup>

## TECHNICAL DATA SHEET Product Number: 320

General Purpose Epoxy Thru-Product<sup>™</sup> - Primer, Body Coat, Binder and Top Coat Systems

### DESCRIPTION

**320 CrownShield** is a two-component general purpose epoxy primer, coating, and flooring mortar binder for broadcast and hand-troweled or power-troweled systems. It is a low viscosity, low odor, 100% solids thermosetting epoxy. It's a general-purpose epoxy, an upgraded Crown Polymer product that can be added for chemical and abrasion-resistant topcoats and finish coats, such as, 8320 CrownShield Hybrid Epoxy or 8110 CrownSeal CRU for industrial kitchens, commercial laboratories, and wine and spirit processing facilities subjected to heavy foot traffic, forklift traffic and chemical exposure. It can be applied directly over Crown Polymers 8303 CrownShield MVB (moisture mitigation primer). It is VOC Compliant in all states and provinces in North America.

### TYPICAL USES

- Automotive Show Room and Repair Floors
- Commercial Bakery and Kitchen Floors
- Hospital and Health Care Facility Floors
- Laboratory and Research Floors
- Manufacturing and Warehouse Floors
- Pharmaceutical Floors

\*Note: Use appropriate Top Coat and Finish Coat

### BENEFITS

- Complies with USDA, FDA, Food Safety Modernization Act. **See Crown Polymers Technical Bulletin: 3 Food and Beverage Compliance.**
- Slip Resistance (ADA) **See Crown Polymers Technical Bulletin: 4 Coefficient of Friction.**
- LEED<sup>®</sup> and Green Seal<sup>®</sup> requirements. **See Crown Polymers Technical Bulletin: 5 LEED and Green Seal Information.**
- 100% Solids, Zero VOC and EPA Compliant, and low odor during installation. Cures to an inert finish. **See Crown Polymers Technical Bulletin: 2 VOC Compliance.**
- Strong and Tough Floor.
- Excellent Chemical and Abrasion Resistance
- Designed for new floors and for resurfacing old floors

### LIMITATIONS

- This product is best suited for applications in temperatures between 60°F to 90°F (16°C to 32°C).
- Scratches in certain colors may appear white, such as blue pigmented products.
- Higher temperatures will result in shortened working times and faster drying time.
- Color may vary due to batch to batch variation, always "box" different batches to avoid it.

- Do not use as a primer when concrete slab exceeds 3 lbs. or 80% RH.

### COLORS

- Clear, 15 Standard Colors\* and Custom Colors. Available in factory pigmentation or CrownPigment<sup>™</sup> Epoxy 6300 PigmentPack<sup>™</sup> \***See Crown Polymers Standard Color Guide Acrylics, Epoxies, Polyaspartics, Polyurethanes (PigmentPack).**

### COVERAGE RATE PER GALLON

- Primer: 160 to 200 sq. ft. (14.9 to 18.9 sq. m.) WFT 8 to 10 mils (0.20 to 0.25 mm)
- Coating: 100 to 160 sq. ft. (9.3 to 14.9 sq. m) WFT 10 to 16 mils (0.25 to 0.41 mm)
- Broadcast and Trowel: Varies Depending on the thickness of the system selected. 1/16 to 1/4 inch (1.59 to 6.35 mm) and more.

### CONCRETE

Concrete must be structurally sound and free of curing agents, coatings, sealers, densifiers, and other bond breakers.

#### New Concrete:

- Place concrete per ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Floor Materials.
- Water Cement Ratio 0.4 to 0.5, and an approximate 4,000 psi (28 MPa) strength level.
- Requiring a positive side moisture barrier in direct contact with the concrete meeting ASTM E1745 Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
- The moisture barrier needs to be placed per ASTM E1643 Standard Practice for Selection, Design, Installation of Water Vapor Retarders Used in Contact with Earth

or Granular Fill Under Concrete Slabs, Class A 15 mils (0.38mm)

**Existing Concrete:**

- If field tests or laboratory analysis reveals inferior concrete flooring slabs containing contaminants from previously applied unreacted silicate materials that will interfere with the bond, use 8201 CrownPrime WBC Primer. **See Crown Polymers Technical Bulletin: 20 Selecting a Primer.**
- Contaminants include, but are not limited to organic

hydrocarbon materials, calcium chlorides, and aluminum stearates.

- Concrete flooring slab can lose their structural strength over time, caused by conditions beyond the control of the flooring manufacturer or the installation contractor.
- If the concrete substrate deteriorates sufficiently, it will no longer support the bond of the remediation floor system.

Such conditions are detailed in ACI 201.2R “Guide to Durable Concrete” published by the American Concrete

Physical Properties at 77°F (25°C) (Unless otherwise stated)			
VOC (Volatile Organic Compounds), (VOC Calculated Per ASTM D3960)	0 gr./lt.		
Viscosity, Mixed Epoxy and Hardener	550 to 750 cps		
Primer CrownShield 320 (Clear Only) Optional - Dilute with 10% Acetone will lower viscosity	50°F (10°C)	77°F (25°C)	90°F (32°C)
	300 cps	120 cps	60 cps
Mix Density, Mixed Epoxy and Hardener	9.2 lb./gal		
Pot Life, 1 gallon (3.79 liters) Mass, Pot Life is Reduced by Increases in Mass & Temperature	20 Minutes		
Mix Ratio, by Volume	2:1		
Minimum Application Surface Temperature	50°F		
Dry to Touch 50°F to 90°F (10°C to 32°F)	5 to 12 Hours		
Recoat Time 50°F to 90°F (10°C to 32°F)	12 to 24 Hours		
Light Traffic 50°F to 90°F (10°C to 32°F)	44 Hour Minimum		
Full Cure 50°F to 90°F (10°C to 32°F)	7 to 14 Days		
Shelf Life (shipped and stored) at 40°F to 100°F (4.4°C to 38°C)	1.5 Years		
Packaging 1.5, 3, 15 and 150 gals. (5.7, 11.4, 56.8 and 567.8 liters)			

Mechanical Properties at 77°F (25°C) 7 Day Cure (Unless otherwise stated)	
Surface Preparation ICRI Guideline No. 310.2R Concrete Surface Profile (CSP 2 and above) Depending on System to be Installed and Condition of Concrete.	
Tensile Strength, ASTM D638	2,500 psi
Tensile Elongation, ASTM D638	20%
Adhesion, ASTM D7234, Concrete Failure	>400 psi
Hardness (Shore D) ASTM D2240	65 – 75
Water Absorption, ASTM D570 Resin & Hardener	0.15%
Abrasion Resistance, ASTM D4060 Resin & Hardener 500 cycles, Wheel No. CS17, 1000 gr. Load	0.026 gr.
Microbial (fungi) Resistance, ASTM G21 (Without the Anti-Microbial Agent)	Pass #1
Dynamic Coefficient of Friction, ASNI 326.3 Depends on texture of system selected, ranging from smooth to aggressive. BOT 3000E	>0.45(inclines) >0.42(level)
Moisture Vapor Emission Rate, ASTM F1869*	3 lbs.
Moisture Relative Humidity, ASTM F2170*	80% RH
*If moisture or relative humidity exceeds the limits consult the Crown Polymers representative and refer to <b>Crown Polymers Technical Bulletin: 6 Moisture Mitigation Negative Side Moisture Barrier</b>	

**Note:** Although testing is critical, it is not a guarantee against future problems. This is especially true if there is not a positive side vapor barrier or it is not functioning properly and/or concrete has contamination from oils, chemical spills, densifiers, excessive salts or other bond breakers.

Institute. See **Crown Polymers Technical Bulletin: 1 Concrete Surface Preparation.**

### CHEMICAL RESISTANCE DATA

See **Crown Polymers Technical Bulletin: 9 Chemical Resistance Guidelines and Chart.**

### CHECK CONCRETE MOISTURE

The concrete must be dry before application of this floor coating material. Concrete moisture tests are required, either ASTM F1869 (calcium chloride) or ASTM F2170 (in situ RH probe). Refer to appropriate **Technical Data Sheet limits and Crown Polymers Technical Bulletin: 6 Moisture Mitigation Negative Side Moisture Barrier.**

### CHECK TEMPERATURE & HUMIDITY

Floor and material temperature must be at or above the published Technical Data Sheet. Dew Point must be 5°F (3°F) or more below the surface temperature. Do not apply if humidity is at or above 95%. See **Crown Polymers Technical Bulletin: 7 Temperature and Relative Humidity Limits.**

### SURFACE PREPARATION

Surface preparation following: ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair. The pH of the concrete substrate should be at 9 or above. All bond-breaking material must be removed. See **Crown Polymers Technical Bulletin: 1 Concrete Surface Preparation.**

### APPLICATION EQUIPMENT

Depending on system applied: Disposable 3" brush for cutting in, variable low-speed drill (450 rpm) with Jiffy® type impeller mixing paddle, 3/8 inch nap non-shedding phenolic core roller, and V-notched rubber squeegee for spreading neat epoxy and gauge rake or trowels for thicker applications.

### OPTIONAL ANTIMICROBIAL

The antimicrobial additive is a non-heavy metal biocide that can be added during the manufacturing process. The antimicrobial agent can be added to the topcoat only for an economical application or it can be added to each step of the application, primer, body coat, and topcoat, which is recommended for abusive environments. See **Crown Polymers Technical Bulletin: 11 Understanding the Optional Antimicrobial Additive.**

### MIXING

For ease of mixing and placement, the temperature of the "A" and "B" components should be between 70°F to 80°F (20°C to 26°C). Pre-mix the "A" and "B" components to ensure all raw material and pigments are dispersed uniformly. See **Crown Polymers Technical Bulletin: 10 Mixing Guidelines.**

### APPLICATION

After mixing all contents as instructed, immediately pour all liquid material onto the properly prepared concrete substrate, or next epoxy lift in ribbons and squeegee the material out evenly. Back-roll and cross rolling of material are critical for receiving coat, lock coat, grout coat, topcoat, and finish coat. Check for desired wet film thickness with a WFT Gauge. If broadcasting aggregate, broadcast into the wet material. Place trowel mortar mix within installation sequence. Place all steps per Crown Polymer Installation Guidelines.

### SKID-RESISTANCE

Skid-Resistance – Field (in situ) Wet Dynamic Coefficient of Friction (DCOF), ANSI A326.3. See **Crown Polymers Technical Bulletin: 4 Coefficient of Friction.**

### SHIPPING and STORAGE

Ship and store material between 40°F to 90°F (4°C to 32°C). Store in a dry environment and out of direct sunlight.

### SHELF LIFE

Shelf life is 1 year from the date of manufacturer, provide the containers are unopened.

### CLEAN-UP

Clean-up mixing station, tools, and equipment as required. Use acetone, a VOC exempt solvent, for cleaning up. Observe all legal, and health, and safety precautions when handling or storing solvents and materials, particularly in confined spaces. Make sure the working areas are well ventilated at all times during placement and curing time.

### DISPOSAL

Dispose of empty packaging and other waste in accordance with federal, state, provinces and local regulations.

### MAINTENANCE

Inspect the installed floor by spot cleaning and spot repairing the damaged or cracked areas. To prolong life of the flooring system, a daily maintenance program is highly recommended to ensure the floor is safe for its intended purposes. See **Crown Polymers Technical Bulletin: 8 Care and Maintenance.**

### TECHNICAL SUPPORT

For questions, contact a Crown Polymers Representative. Additional Support Documents are available from Crown Polymers, including brochures, application guidelines, videos and more. Visit [Crownpolymers.com](http://Crownpolymers.com) or contact Crown for additional resources.

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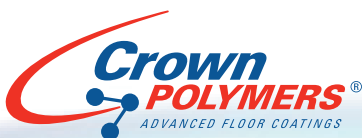
#### **DISCLAIMER**

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests. The accuracy and completeness of such tests are not guaranteed and are not to be construed as a warranty, expressed or implied. It is the responsibility of the user to document information and tests to determine the intent of the product for ones' own use. The application, job conditions and user assumes all risks and liability resulting from use of the product. We do not suggest or guarantee any hazards listed herein are the only ones, which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use the product. Recommendations or statements, whether in written or verbal, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and Crown Polymers makes no claim that these tests or any other tests accurately represent all environments. Not responsible for any typographical errors.

#### **LIMITED WARRANTY**

Crown Polymers warrants its products to be free of manufacturing defects and meets all Crown Polymers current published physical properties. Crown Polymers' sole responsibility shall be to replace the portion of any product proved to be defective. There are no other warranties by Crown Polymers of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Crown Polymers shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. Crown Polymers shall not be responsible for the use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee pertaining to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator will be issued. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. Crown Polymers reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

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# CrownTech™ - Technical Bulletin No. 9

## Chemical Resistance Guideline and Chart

### CONTENT

- Introduction
- Understanding Chemical Resistance
- Unpigmented and Pigmented Products
- Temperature
- Long Term Performance
- Maintenance
- Discoloration
- Cleaning, Sanitizing and Disinfecting Procedures
- Slope to Drains and Trenches
- Performance Review
- Change in Use
- Testing
- Notification

### INTRODUCTION

This Chemical Resistance Guide is intended to serve as a guideline only, since actual in-service conditions usually vary from the laboratory conditions where the test data was developed. The variations are due to differing conditions, therefore, Crown Polymers cannot assume liability for use or guarantee performance. Resistance to chemicals or concentrations appears on the Chemical Resistance Chart, which represents only a fraction of the known chemicals or combinations of chemicals.

Site conditions vary because of changes in concentration (water evaporation), chemical combinations, temperature, duration of exposure, contaminants, housekeeping and cleaning technique, etc., therefore, it is recommended that “actual testing” be performed with each of the specific reagents, as well as the specific method of cleaning. Prior to final selection of a chemical resistant system, it is

recommended by Crown Polymers that testing be performed under actual conditions, since the complexity of many end-use environmental circumstances and potential cross contaminants can influence actual performance.

When seeking assistance in the selection of the proper product(s) or system(s) from Crown Polymers, we may require samples of the actual reagents, environmental use and exposure conditions, cleaning, biocides or bio-stats, disinfectants, cleaning equipment, SDS, etc., as well as any other relevant information that might influence the performance of the chemical resistant system, including:

1. Commercial names of the reagents
2. Concentration of each reagent
3. In use ambient temperature and substrate surface temperature
4. Temperature of reagent as it contacts the surface
5. Combination of chemicals that will react with each other on the surface. Frequency of spills and elapsed time between spillage until clean up and neutralization occur

**Note:** *Crown Polymers reserves the right to refuse to test chemicals it deems harmful.*

### UNDERSTANDING CHEMICAL RESISTANCE

Generally, chemical resistance is considered a functional concern, rather than an aesthetic concern. The ASTM tests and Crown Polymers’ in-house proprietary tests are designed to evaluate the functional effect of exposure, which do not include an aesthetic evaluation of resistance to staining or discoloration.

### PIGMENTED AND UNPIGMENTED PRODUCTS

Unpigmented resins and hardeners generally have superior chemical resistance to pigmented systems, since pigments normally have less chemical resistance than the neat (unpigmented and unfilled) liquids. When considering a pigment system to enhance chemical resistance of the selected system, Crown Polymers usually recommends that the system is top-coated with one or more chemical resistant clear coatings.

### TEMPERATURE

Chemical resistant testing, unless otherwise indicated, is performed under Laboratory conditions at 75°F+/- 2°F (24°C+/- 1°C). Temperature has a significant effect on chemical reactivity and the aggressiveness of the chemical. Changes in temperature, evaporation rate and humidity can affect the performance of a chemical resistant system. As a rule of thumb, chemical reactivity doubles or halves with a temperature increase or decrease of 18°F (10°C), which is known as the Arrhenius Curve.

Typically, there is a correlation between the temperature of a chemical reagent and its reactivity. The higher the temperature, the greater the chemical reactivity and the more aggressive the chemical. Correspondingly, most chemical resistant coating and flooring surfaces will begin

to soften as the temperature is increased and they will lose their chemical resistances, as well as a significant reduction in their mechanical and physical properties.

### **LONG TERM PERFORMANCE**

Crown Polymers' chemical resistant products and systems are formulated to protect substrates from a variety of specific corrosive reagents and environmental combinations. The long-term performance is based on chemical-resistance of the product(s) and reactivity of the reagent(s).

### **MAINTENANCE**

Frequency of housekeeping-maintenance may vary depending on chemical, concentration, combination, etc. Good housekeeping is always required, including the removal of deleterious chemicals, which normally requires neutralization. Caution should be exercised not to allow the system to be exposed to chemical attack for excessive durations or combinations of chemicals or physical abuse that exceeds the ratings contained in the Crown Polymers' Chemical Resistance Guideline and Chemical Resistance Chart.

Failure to maintain proper housekeeping can result in chemical changes in the reagent; acid concentrations will increase when the water carrier or other diluents evaporate. Generally, the higher the acidic concentration the more aggressive the acid, thus proper housekeeping is required to remove the potentially problematic chemical.

### **DISCOLORATION**

Discoloration, such as dye, blemish, loss of gloss, spotting, staining, tarnishing, etc. may occur. Discoloration and its variation may not affect functional performance. However, it may affect appearance. Use of unpigmented products/systems may minimize discoloration. Use of certain colored pigment products or systems may mask discolorations.

### **CLEANING, SANITIZING & DISINFECTING PROCEDURES**

Cleaning and sanitizing techniques, solutions, disinfecting compounds and other chemicals used, such as biocides, can affect the color, gloss, texture and performance of a chemical resistant product. As a precautionary step, Crown Polymers recommends that the end-user test their cleaning, disinfecting, etc. Compounds on a sample or small finished area to determine if they will affect the performance

or appearance of chemical resistant product/system. This test should be performed utilizing the intended cleaning technique and equipment prior to cleaning the entire surface area. As an example, some cleaning agents intended for use on adjacent surfaces, such as stainless steel, might be harmful to organic surfaces. Care must be taken to avoid contact.

The mechanical cleaning equipment and techniques need to be evaluated for compatibility with the chemical resistant product/system prior to use and must be used in accordance with the end user's written instructions.

If no deleterious effects are observed during the test, the procedure can be continued. If the cleaning and disinfecting compounds or cleaning techniques damage the product/system, modification of the cleaning materials and/or techniques will be required. Contact Crown Polymers technical service representative for additional information.

**Steam Cleaning:** In most cases, steam cleaning at 212°F (100°C) may be used, provided that the wand and hoses are insulated and the direct contact temperature does not exceed 180°F (82°C) for a prolonged period of time, keeping the wand and the hoses moving in constant motion across the surface during the course of cleaning.

**Cleaning Equipment:** Floor scrubbers and buffing equipment with non- destructive and non-abrasive brushes and pads may be used to remove accumulation of dirt on the chemical resistant system. Micro-scratching from cleaning equipment and techniques may reduce gloss. Check with the Manufacturer for a sealer or polish recommendation to restore the lost luster.

### **SLOPE TO DRAINS and TRENCHES**

Sloping to properly functioning drains or trenches is critical and must be maintained at all times. Puddling or standing chemicals should be avoided to elude premature degradation of the system.

### **PERFORMANCE REVIEW**

Methodical and judicious review of the entire area will detect potential integrity loss from unusual spillage or abusive damage, which could result in serious problems if not detected in their incipient stage.

If repairs are required, the end-user shall notify the installing Contractor and Crown Polymers immediately to prevent further damage to the product/system and/or the substrate. Regardless of the origin of the problem, remedial repairs should be executed without delay by the contractor. The installing contractor must be given free and unencumbered access to the area in need of repair.

### **CHANGE IN USE**

Change in the usage, chemical exposure or method of maintenance might have a negative effect. Crown Polymers and the installation Contractor should be advised and asked to assess the ability of the product/system to resist the new exposure conditions.

### **TESTING**

Additional testing may be required; consult with Crown Polymers prior to specification, installation or exposure. Staining and Chemical Resistance Testing required.

Consult Crown Polymers prior to specification, installation or exposure. Test for use by the Specifier or end-user requires uncured (liquid and powder) or cured samples for testing at their facility or designated laboratory to determine chemical resistance, stain resistance, etc. of specific chemicals. Contact Crown Polymers and make arrangements for "specific test specimen".

Normally, only the polymer product is tested rather than the system it is used in. This is done because many products are used in several systems, which would make the chart longer and more complicated than necessary.

#### **NOTIFICATION**

Immediately upon notice (within five working (5) days) of a defective product/system or workmanship or end user abuse, the owner or their representative shall notify Crown Polymers about the problem in writing, before it expands and becomes more costly to repair.





# APPENDIX G

## TO-15 Indoor-Air Method Reporting Limits

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**REPORTING LIMITS / METHOD DETECTION LIMITS**
**Test Code:** TO15\_SCAN-SIM\_Indoo **Test Name:** TO15 (VOCs, Scan SIM) ( $\mu\text{g}/\text{m}^3$ )

**Test No:** TO15

**Units:**  $\mu\text{g}/\text{m}^3$ 
**Matrix:** Indoor Air

Type	Analyte	RL	MDL	MDL Last Updated
A	Acetone	1.2	0.54	4/5/2021 8:14:04 AM
A	Acrolein	0.12	0.041	7/18/2020 3:23:50 PM
A	Acrylonitrile	0.11	0.079	7/18/2020 3:23:50 PM
A	tert-Amyl methyl ether (TAME)	0.21	0.14	7/18/2020 3:23:50 PM
A	Benzene	0.16	0.049	7/18/2020 3:23:50 PM
A	Benzyl chloride	0.27	0.22	7/18/2020 3:23:50 PM
A	Bromoform	0.53	0.12	7/18/2020 3:23:50 PM
A	Bromomethane	0.19	0.039	7/18/2020 3:23:50 PM
A	1,3-Butadiene	0.11	0.089	7/18/2020 3:23:50 PM
A	2-Butanone (MEK)	1.5	0.13	7/18/2020 3:23:50 PM
A	t-Butyl alcohol (TBA)	1.5	0.099	7/18/2020 3:23:50 PM
A	Carbon Disulfide	1.6	0.15	9/25/2020 11:23:44 AM
A	Carbon Tetrachloride	0.006	0.0024	7/18/2020 3:23:50 PM
A	Chlorobenzene	0.24	0.031	7/18/2020 3:23:50 PM
A	Chloroethane	0.14	0.034	7/18/2020 3:23:50 PM
A	Chloroform	0.012	0.0045	7/18/2020 3:23:50 PM
A	Chloromethane	0.11	0.029	7/18/2020 3:23:50 PM
A	Cyclohexane	1.8	0.082	7/18/2020 3:23:50 PM
A	Dibromochloromethane	0.44	0.14	7/18/2020 3:23:50 PM
A	1,2-Dibromo-3-chloropropane	0.01	0.0075	7/18/2020 3:23:50 PM
A	1,2-Dibromoethane (EDB)	0.004	0.002	7/18/2020 3:23:50 PM
A	1,2-Dichlorobenzene	0.31	0.12	7/18/2020 3:23:50 PM
A	1,3-Dichlorobenzene	0.31	0.13	7/18/2020 3:23:50 PM
A	1,4-Dichlorobenzene	0.015	0.014	4/5/2021 8:14:04 AM
A	Dichlorodifluoromethane	0.25	0.043	7/18/2020 3:23:50 PM
A	1,1-Dichloroethane	0.21	0.033	7/18/2020 3:23:50 PM
A	1,2-Dichloroethane (1,2-DCA)	0.004	0.0029	7/18/2020 3:23:50 PM
A	1,1-Dichloroethene	0.2	0.041	7/18/2020 3:23:50 PM
A	cis-1,2-Dichloroethene	0.2	0.039	9/2/2020 11:14:46 AM
A	trans-1,2-Dichloroethene	0.2	0.033	7/18/2020 3:23:50 PM
A	1,2-Dichloropropane	0.005	0.00083	7/18/2020 3:23:50 PM
A	cis-1,3-Dichloropropene	0.046	0.0091	7/18/2020 3:23:50 PM
A	trans-1,3-Dichloropropene	0.046	0.0099	7/18/2020 3:23:50 PM
A	1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.36	0.11	7/18/2020 3:23:50 PM
A	Diisopropyl ether (DIPE)	0.21	0.041	7/18/2020 3:23:50 PM
A	1,4-Dioxane	0.009	0.0088	7/18/2020 3:23:50 PM
A	Ethyl acetate	0.19	0.071	7/18/2020 3:23:50 PM
A	Ethyl tert-butyl ether (ETBE)	0.21	0.07	7/18/2020 3:23:50 PM
A	Ethylbenzene	0.22	0.033	7/18/2020 3:23:50 PM
A	4-Ethyltoluene	0.25	0.073	7/18/2020 3:23:50 PM
A	Freon 113	0.39	0.074	7/18/2020 3:23:50 PM
A	Heptane	2.1	0.23	7/18/2020 3:23:50 PM
A	Hexachlorobutadiene	0.11	0.037	7/18/2020 3:23:50 PM
A	Hexachloroethane	0.49	0.16	7/18/2020 3:23:50 PM
A	Hexane	1.8	0.16	7/18/2020 3:23:50 PM
A	2-Hexanone	0.63	0.29	7/18/2020 3:23:50 PM

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**REPORTING LIMITS / METHOD DETECTION LIMITS**
**Test Code:** TO15\_SCAN-SIM\_Indoo    **Test Name:** TO15 (VOCs, Scan SIM) ( $\mu\text{g}/\text{m}^3$ )

**Test No:** TO15

**Units:**  $\mu\text{g}/\text{m}^3$ 
**Matrix:** Indoor Air

Type	Analyte	RL	MDL	MDL Last Updated
A	Isopropylbenzene	0.25	0.055	7/18/2020 3:23:50 PM
A	4-Methyl-2-pentanone (MIBK)	0.21	0.1	7/18/2020 3:23:50 PM
A	Methyl-t-butyl ether (MTBE)	0.19	0.035	7/18/2020 3:23:50 PM
A	Methylene chloride	0.88	0.17	4/5/2021 8:14:04 AM
A	Methyl methacrylate	0.21	0.09	7/18/2020 3:23:50 PM
A	Naphthalene	0.05	0.038	7/18/2020 3:23:50 PM
A	Styrene	0.22	0.085	4/5/2021 8:14:04 AM
A	1,1,1,2-Tetrachloroethane	0.007	0.0031	7/18/2020 3:23:50 PM
A	1,1,2,2-Tetrachloroethane	0.007	0.0022	7/18/2020 3:23:50 PM
A	Tetrachloroethene	0.069	0.016	7/18/2020 3:23:50 PM
A	Tetrahydrofuran	0.15	0.085	9/2/2020 11:14:46 AM
A	Toluene	0.19	0.1	7/18/2020 3:23:50 PM
A	1,2,4-Trichlorobenzene	0.38	0.33	7/18/2020 3:23:50 PM
A	1,1,1-Trichloroethane	0.28	0.033	7/18/2020 3:23:50 PM
A	1,1,2-Trichloroethane	0.006	0.0018	7/18/2020 3:23:50 PM
A	Trichloroethene	0.055	0.012	8/28/2020 9:07:28 AM
A	1,2,3-Trichloropropane	0.31	0.031	7/18/2020 3:23:50 PM
A	Trichlorofluoromethane	0.29	0.059	7/18/2020 3:23:50 PM
A	1,2,4-Trimethylbenzene	0.25	0.058	7/18/2020 3:23:50 PM
A	1,3,5-Trimethylbenzene	0.25	0.07	7/18/2020 3:23:50 PM
A	Vinyl Acetate	1.8	0.24	7/18/2020 3:23:50 PM
A	Vinyl Chloride	0.007	0.0041	7/18/2020 3:23:50 PM
A	m,p-Xylene	0.44	0.086	7/18/2020 3:23:50 PM
A	o-Xylene	0.22	0.035	7/18/2020 3:23:50 PM
M	Xylenes, Total	0.44	0	9/26/2018 9:22:39 AM

---



# APPENDIX H

## Dust Monitoring Plan

# Dust Monitoring Plan 2081 Bay Road East Palo Alto, California

United HOPE Builders  
1852 Bay Road | East Palo Alto, California 94303

August 25, 2021 | Project No. 403999001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

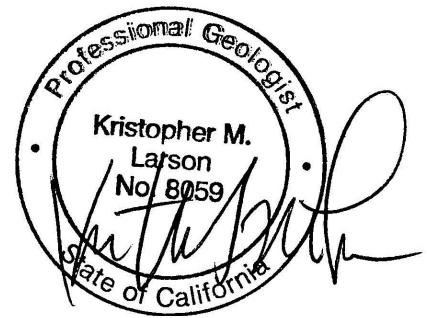
**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants

Dust Monitoring Plan  
2081 Bay Road  
East Palo Alto, California

United Hope Builders

1852 Bay Road | East Palo Alto, California, 94303

August 25, 2021 | Project No. 403999001



**Trey Jackson, PE (TX)**  
Senior Environmental Engineer

TJJ/KML/cas

**Kris M. Larson, PG 8059**  
Principal Environmental Geologist

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# 1 INTRODUCTION

Ninyo & Moore is pleased to provide this Dust Monitoring Plan for air-monitoring services for United HOPE Builders (UHB) at 2081 Bay Road, East Palo Alto, California (the Site). This Dust Monitoring Plan has been prepared to address dust that may be generated during the earth-disturbing activities related to the construction of three temporary UHB buildings.

All earth moving activities will be conducted in compliance with the Site's Risk Management Plan (RMP), Soil Management Plan (SMP), as well as utilizing all best management practices (BMPs) for erosion and dust control as presented in the Site-Specific Health and Safety Plan.

During excavation and construction activities, there is potential to generate airborne dust. Standard dust control measures will be followed during activities that disturb Site soil to comply with Occupation Safety and Health Administration (OSHA), Bay Area Air Quality Management District (BAAQMD) 8-40, and Department of Toxic Substance Control (DTSC) and California Environmental Protection Agency (CalEPA) Community Air Monitoring Plan requirements and to accomplish the following goals:

- Reduce the potential for health impacts to workers;
- Reduce the potential for health impacts to the project Site neighbors;
- Prevent violations of ambient air quality standards;
- Minimize nuisance dust complaints from the project Site neighbors; and
- Minimize the migration of contaminants adhered to fugitive dust particles outside the Site.

Constituents of potential concern (COPC) in soil at the areas of planned earthwork include:

- Arsenic
- Lead
- Mercury
- Nickel

# 2 DUST CONTROL

The Contractor will use effective controls to minimize the generation of dust associated with excavation/grading, stockpiling, loading, vehicular traffic, and the effects of ambient wind dispersing exposed soil. Work such as clearing, demolition, excavation, grading, construction vehicle traffic on unpaved ground, and wind blowing over disturbed soil surfaces may generate dust whenever exposed soil surfaces are dry. The Contractor will minimize dust emissions to the maximum extent possible. Dust control measures to be used as necessary will include at minimum the following:



- Providing equipment and staffing during normal working hours for watering of all exposed or disturbed soil surfaces sufficient to suppress dust plumes;
- Covering with a minimum of 8-mil thickness tarps or wetting of stockpiles of debris, soil, sand or other materials that can be blown by the wind;
- Misting or spraying water while excavating/grading soil and loading transportation vehicles;
- Minimizing drop heights while loading or unloading soil;
- Vehicular traffic will be kept to a minimum and a 15 mile per hour speed limit on unpaved surfaces; and
- Earth moving or other dust generating activities will be suspended during periods of high winds, or whenever dust control measures are unable to prevent visible dust plumes. High winds are defined as wind speeds above 20 miles per hour (CalEPA DTSC, 2020).

### **3 DUST MONITORING**

Air monitoring of dust levels will be performed by UHB or their Environmental Consultant during soil disturbing activities (e.g., excavation, loading) to evaluate the effectiveness of the dust control measures described in the Dust Control section above and to evaluate the potential exposure to Site personnel and to off-Site downwind receptors (fence line monitoring).

Air monitoring will be performed for at least two days prior to the start of soil disturbance activities to determine baseline concentrations of COPCs. The baseline monitoring will be conducted for 8 to 10 hours during the baseline period to represent a construction work shift.

The presence of airborne dust will be evaluated through the use of direct-read dust monitoring instrument (Thermo Scientific PDR 1500 (PDR), or equivalent) to record hourly dust levels during the day and at upwind/downwind locations. The PDRs will be calibrated daily prior to the start of work activities as called for in the manufacturer's instructions. All reported direct-read and particulate concentrations will be compared to applicable trigger/Action Levels to ascertain dust/particulate concentrations as described below. The PDR 1500s will be placed in three locations on Site including one upwind and two downwind, with at least one of the downwind stations placed downwind of the area where soil disturbance activities are anticipated. Dust monitors will be placed at average breathing zone height, approximately 5 feet above grade, to collect representative readings and samples. The particulate meters will be operated in data logging mode and used to measure and record real-time airborne dust concentrations. An audible alarm will be set on all PDRs to indicate exceedance of the applicable trigger/Action Levels.

The placement of the monitors will be evaluated each day before the start of soil disturbance activities using a meteorological weather station that measures wind direction, wind speed, temperature, relative humidity, barometric pressure and precipitation. Wind speed and direction

measurements will be checked at least once per hour and the PDRs will be relocated if a significant and sustained shift in wind direction is observed. If sustained wind speeds exceed 20 miles per hour (mph), then all potential dust-producing activities shall cease until the sustained wind speed declines to 20 mph or lower.

The monitoring also will consist of visual observations of grading activities. If visual dust is generated or dust is observed leaving the Site with downwind fence-line concentrations at 0.05 mg/m<sup>3</sup> higher than those recorded for the upwind concentrations (CalEPA DTSC 2020), increased dust control measures will be implemented. If these measures are not effective because of conditions such as high winds, work will be stopped until winds subside.

The Contractor performing the work will be responsible for ensuring adequate protection for their workers in accordance with their HASP and implementing engineering controls to mitigate off-Site migration of COPC.

The meteorological station will remain on Site during the duration of the field activities. The dust monitors will be checked and dust concentrations will be logged a minimum of every 30 minutes by Ninyo & Moore field staff. The locations of dust monitors may be adjusted based on conditions encountered in the field (e.g. changing wind direction). The dust monitors will automatically record the dust monitoring data, and an alarm will sound should the fence action level be exceeded over a 30-minute time-weighted average. Ninyo & Moore will issue a stop work to the field crew until necessary dust mitigation measures can be implemented and the fence action level is not exceeded.

### 3.1 Dust Calculations, Evaluation, and Action Levels

Maximum metal concentrations in soil, specifically arsenic, lead, mercury, and nickel, were analyzed using the following equations to determine Site-specific allowable dust limits.

$$SSAL_C = \frac{TR * AT_C * 365 \frac{days}{year} * 24 \frac{hrs.}{day}}{ET * EF * ED * IUR}$$

$$SSAL_{NC} = \frac{THQ * REL * AT_{NC} * 365 \frac{days}{year} * 24 \frac{hrs}{day}}{ET * EF * ED}$$

$$DCL = \frac{SSAL_{COC}}{C_{COC} * 1 * 10^{-6} \frac{kg}{mg} soil}$$

Equations are from CalEPA DTSC 2020	REL = reference exposure limit (aka RfC)
AT <sub>C</sub> - Averaging time for carcinogens, 70 years	SSAL <sub>C</sub> = cancer-based action limit for COC in air (µg/m3)
AT <sub>NC</sub> - Averaging time for noncarcinogens, 25 years	SSAL <sub>NC</sub> = non-cancer-based action limit for COC in air (µg/m3)
CCOC = maximum concentration of a constituent of concern in soil (mg/kg)	SSAL <sub>COC</sub> = site-specific action limit for a constituent of concern in air (µg/m3)
DCL <sub>C</sub> = cancer-based dust concentration limit (µg/m3)	TR = target inhalation cancer risk (unitless) = 1 x 10 <sup>-6</sup>
DCL <sub>NC</sub> = noncancer-based dust concentration limit (µg/m3)	THQ = target inhalation noncancer hazard quotient (unitless) = 1.0
ED - exposure duration = 0.5 years	(µg/m3) – micrograms per cubic meter
EF - exposure frequency = 250 days per year	
ET - exposure time = 8 hours per day	
IUR - Inhalation Unit Risk	

The dust limit in the work area is 8.9 mg/m<sup>3</sup> based on the maximum 4.6 mg/kg arsenic level in soil. The arsenic dust-limit is the most conservative in relative to the other calculated RCRA-8 metal site-specific calculated dust-limits. The calculated dust limit for the RCRA-8 metals are included in Table 1 and are a function of the maximum arsenic, lead, mercury, and nickel levels in the area of Site where earth will be disturbed for cancer and non-cancer scenarios as applicable.

Monitoring Methods and Action Levels for Respiratory Dust Using Screening Survey Instruments			
Hazard	Method	Action Level	Protection Action
Respiratory Dust	PDR-1500AN Monitor or similar instrument	0 to 0.050 mg/m <sup>3</sup> and no visual dust	No action required. Continue monitoring
		Concentration increase ≥ 0.050 mg/m <sup>3</sup> at fence line relative to upwind concentration	Implement dust control measures until concentrations decrease below Action Level
		≥ 8.9 mg/m <sup>3</sup> sustained for 15 minutes in the work area	Implement dust control measures until concentrations decrease below Action Level

The upwind and downwind perimeter of the Site will be monitored prior to initiation of daily soil disturbance activities and throughout the work day. If the difference between the upwind and downwind dust monitoring levels exceeds 0.05 mg/m<sup>3</sup> or visible dust is observed approaching off-Site receptors, additional dust control methods (i.e., applying additional water to exposed or disturbed Site soil areas) will be implemented until dust levels decrease below the ceiling level.

### **3.2 Metal Monitoring**

Metal monitoring will be conducted prior to the start and during soil disturbance activities by collecting three air samples during each day of work activities. The samples will be collected on 0.8 micrometer (µm) three tiered cassettes (cassette) connected to pumps and will be positioned adjacent to the air monitoring stations described above (one upwind and two downwind). The samplers will be positioned at a height of 4 to 5 feet above the ground to assess lead, arsenic, mercury, and nickel concentrations at the normal breathing zone height. Each sample will be collected using two (2) cassettes per sample; one cassette for lead, arsenic, and nickel and a second cassette for mercury only. Samples will be collected, labeled, and delivered to an accredited laboratory using appropriate chain-of-custody procedures.

### **3.3 Monitoring Records**

Results of dust monitoring information will be recorded, and will include time, date, location operations, and any other conditions that may contribute to potential exposures. The monitoring equipment will be maintained and calibrated in accordance with the manufacturer's specifications, and the records of such maintained with the project.

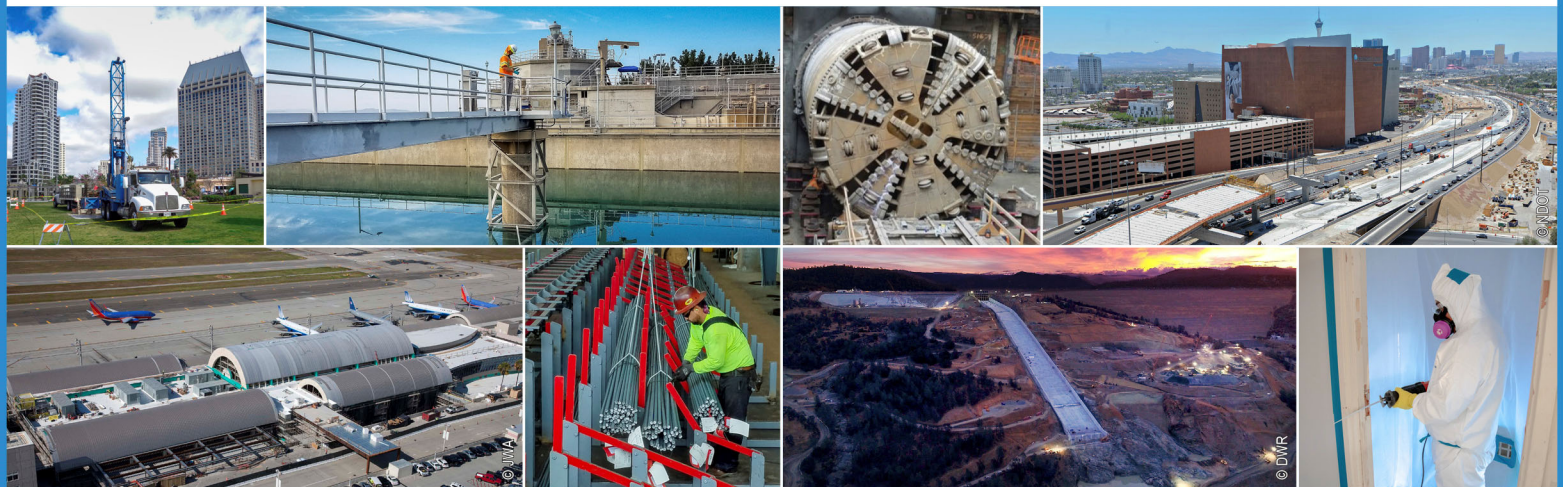
For the initial real-time monitoring, documentation will include: predominant wind direction, placement of instruments at perimeter locations and work zone locations, time, Site activity, readings, visual observations of dust, and other relevant Site conditions (e.g., weather, odors).

### **3.4 Record Keeping**

Field activities will be documented by UHB's designated environmental representative in daily field reports and/or logs during construction activities. Documentation will include at a minimum air monitoring logs for dust levels and implementation of any engineering controls.

## **4 REFERENCE**

California Environmental Protection Agency (CalEPA) and Department of Toxic Substance Control, 2020. Community Air Monitoring Plan Guidance. January.



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***Ninyo & Moore***

Geotechnical & Environmental Sciences Consultants