

**STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL**

In the Matter of:)	Docket No. HSA-FY19/20-128
)	
Marchant/Whitney Site)	
5679 Horton Street)	IMMINENT AND SUBSTANTIAL
Emeryville, California 94608)	ENDANGERMENT
)	DETERMINATION AND ORDER
Respondents:)	AND REMEDIAL ACTION ORDER
)	
City of Emeryville, as Successor)	Health and Safety Code
Agency to the City of Emeryville)	Sections 25355.5(a)(1)(B),
Redevelopment Agency)	25358.3(a), 58009 and 58010
1333 Park Avenue)	
Emeryville, California 94608)	

I. INTRODUCTION

1.1 Parties. The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) issues this Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (Order) to the City of Emeryville, as Successor Agency to the City of Emeryville Redevelopment Agency (Respondent).

1.2 Property/Site. This Order applies to the property located at 5679 Horton Street, Emeryville in Alameda County, California 94608 (Site). The property consists of approximately 1.75 acres and is identified by Assessor's Parcel Numbers, 49-1319-1-20 and 49-1552-1 as shown on Exhibits A-1 and A-2. This Order applies to the property and the areal extent of contamination that resulted from activities on the property (hereinafter, the "Site").

1.3 Jurisdiction. This Order is issued by DTSC to Respondents pursuant to its authority under Health and Safety Code sections 25358.3(a), 25355.5(a)(1)(B), 58009, and 58010.

Health and Safety Code section 25358.3(a) authorizes DTSC to take various actions, including issuance of an Imminent or Substantial Endangerment Determination and Order, when DTSC determines that there may be an imminent or substantial endangerment to the public health or welfare or to the environment, because of a release or a threatened release of hazardous substances.

Health and Safety Code section 25355.5(a)(1)(B) authorizes DTSC to issue an order establishing a schedule for removing or remedying a release of a hazardous substance at a site, or for correcting the conditions that threaten the release of a hazardous substance. The order may include, but is not limited to requiring specific dates by which the nature and extent of a release

shall be determined and the site adequately characterized, a remedial action plan prepared and submitted to DTSC for approval, and a removal or remedial action completed.

Health and Safety Code section 58009 authorizes DTSC to commence and maintain all proper and necessary actions and proceedings to enforce its rules and regulations; to enjoin and abate nuisances related to matters within its jurisdiction which are dangerous to health; to compel the performance of any act specifically enjoined upon any person, officer, or board, by any law of this state relating to matters within its jurisdiction; and/or on matters within its jurisdiction, to protect and preserve the public health.

Health and Safety Code section 58010 authorizes DTSC to abate public nuisances related to matters within its jurisdiction.

II. FINDINGS OF FACT

DTSC hereby finds:

2.1 Liability of Respondent(s). Respondent is a responsible party or liable person as defined in Health and Safety Code section 25323.5. The City of Emeryville, as the Successor Agency to the City of Emeryville Redevelopment is the owner of the property.

2.2 Physical Description of Site. The Site consists of 1.75 acres of land and has a 47,000 square foot warehouse building and paved exterior parking lots. A Site Diagram is shown on Exhibit B.

2.3 Site History. The Site was reportedly occupied by the Marchant Calculating Machine Company "Marchant" as early as 1918 and continued at the site until the late 1950s or early 1960s when the company relocated to San Pablo Avenue in Berkeley. The Marchant Site included a metal machine shop and grinding operations. The Site was occupied by the Whitney (also Whitey) Research Tool Company "Whitney" from the mid-1960s to the 1990s. The City of Emeryville "City" obtained ownership of the property and the City's Department of Public Works occupied the building from 1999 to 2012; however, due to environmental conditions at the Site the building was vacated. The building is currently unoccupied.

2.4 Hazardous Substances Found at the Site. A series of investigations were conducted at the Site from 2011 to 2016 as documented in the reports entitled *Final Subsurface Environmental Investigations Report; Former Marchant/Whitney Site* (Erler & Kalinowski, Inc., August 2012) and *Final Remedial Investigation Report; Former Marchant/Whitney Site* (Erler & Kalinowski, Inc., June 2016). Trichloroethylene (TCE) is the primary contaminant of concern (COC) at the Site and has been detected above screening levels in indoor air (up to 6.52 micrograms per cubic meter " $\mu\text{g}/\text{m}^3$ "), in sub-slab vapors (up to 26,500 $\mu\text{g}/\text{m}^3$), in soil vapor (up to 319,000 $\mu\text{g}/\text{m}^3$), in groundwater (up to 838,000 $\mu\text{g}/\text{liter}$), and soil (up to 4,270 milligrams/kilogram). In addition to TCE, the following COCs were detected at concentrations greater than industrial/commercial screening levels:

- indoor air: vinyl chloride (VC);

- sub-slab vapor: perchloroethylene (PCE) and chloroform;
- soil vapor: cis-1,2-dichloroethylene (cDCE), trans-1,2-dichloroethylene (tDCE), VC, and chloroethane;
- soil: cDCE, tDCE, VC, bromomethane, and cadmium; and
- groundwater: PCE, cDCE, tDCE, VC, 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), 1,2-dichloroethane (1,2 DCA), and 1,1,2-trichloroethane (1,1,2-TCA).

A human health risk assessment report (Report) was prepared (*Final Human Health Risk Assessment, Former Marchant Whitney Site*; Erler & Kalinowski, Inc. September 30, 2016) to evaluate the risk to future occupants of the Site. Exhibit C: Table 9 from the Report summarizes the results of human health risk calculations for carcinogenic and non-carcinogenic risks which exceed DTSC's acceptable thresholds of 1×10^{-6} for carcinogenic risk and hazard index of 1.0 for non-carcinogenic risk, respectively.

2.5 Health Effects.

2.5.1 TCE is a volatile, colorless liquid. Acute exposure to sufficient concentrations of TCE may depress the central nervous system, causing headaches, dizziness, vertigo, tremors, irregular heartbeat, fatigue, nausea, vomiting and blurred vision. TCE vapors and liquid may cause irritation of the skin, eyes, nose and throat. Long-term effects may include liver and kidney injury. TCE is listed as a known carcinogen under Proposition 65.

2.5.2 PCE is a volatile, colorless liquid. Short-term exposure to PCE through ingestion of the liquid or inhalation of vapors may cause nausea, vomiting, headache, dizziness, drowsiness, and tremors. Skin contact with the liquid cause's irritation and blistering. Both liquid and vapor forms of PCE are irritating to the eyes. Liver and kidney toxicity are potential chronic effects of exposure to PCE. PCE is listed as a known carcinogen under Proposition 65.

2.5.3 VC is a colorless gas. Breathing high levels of VC for short periods of time can cause dizziness, sleepiness, unconsciousness, and at extremely high levels can cause death. Breathing VC for long periods of time can result in permanent liver damage, immune reactions, nerve damage, and liver cancer.

2.5.4 Chloroform is a colorless liquid with a pleasant, nonirritating odor and a slightly sweet taste. Chloroform causes depression of the central nervous system (CNS), ultimately producing deep coma and respiratory center depression.

2.5.5 1,1-DCE – This compound is a colorless liquid with a mild, sweet smell. The substance causes detrimental effects to the respiratory, hepatic, renal, and neurological systems. The primary acute (short-term) effects in humans from 1,1-DCE exposure on the CNS, include CNS depression and symptoms of inebriation, convulsions, spasms, and unconsciousness at high concentrations.

2.5.6 1,2-DCE (cDCE and/or tDCE) –The substance is irritating to the eyes and respiratory tract. The substance may cause effects on the central nervous system at high levels. This may result in lowering of consciousness.

2.5.7 Bromomethane – The substance causes detrimental effects to human neurological, respiratory and renal systems.

2.5.8 Cadmium – Exposure to cadmium causes risk of kidney disease and cardiovascular disease.

2.5.9 1,1-DCA- Acute (short-term) inhalation exposure to high levels of 1,1-DCA in

humans results in CNS depression and a cardio-stimulating effect resulting in cardiac arrhythmias.

2.5.10 1,2-DCA, also called ethylene dichloride, causes CNS depression, liver, kidney, and lung damage.

2.5.11 1,1,2-Trichloroethane(1,1,2-TCA) – Effects due to acute (short-term) inhalation exposure to 1,1,1-TCA include hypotension, mild hepatic effects, and CNS depression. Cardiac arrhythmia and respiratory arrest may result from the depression of the CNS. After chronic (long-term) inhalation exposure to 1,1,2-TCA, ventricular arrhythmias were observed in humans.

2.5.12 Chloroethane is a colorless gas at room temperature. Brief exposure to high levels of chloroethane can cause feelings of drunkenness, lack of muscle coordination, and unconsciousness. This toxic compound can cause CNS damage.

2.6 Routes of Exposure. The routes of exposure to the hazardous substances found in soil, soil vapor, and groundwater are inhalation, ingestion, and dermal pathways.

2.7 Public Health and/or Environmental Risk. The property is currently vacant due to the environmental conditions at the Site including vapor intrusion into the building. Primary health concerns are inhalation, ingestion, and dermal contact by on site workers and degradation of shallow and deep groundwater quality. Contaminant migration in groundwater to off-site properties has been documented (*Final Remedial Investigation Report*, Erler & Kalinowski, Inc. 2016). The reasonably foreseeable future land use of the Site is commercial and/or residential (email communication from Michael Guina, Attorney for the Respondent dated May 1, 2020). Site cleanup and/or mitigation measures should be considered to address potential vapor intrusion of volatile substances into future buildings for protection of human health.

III. CONCLUSIONS OF LAW

3.1 Respondent is a responsible party as defined by Health and Safety Code section 25323.5.

3.2 Each of the substances listed in Section 2.4 is a "hazardous substance" as defined in Health and Safety Code section 25316.

3.3 There has been a "release" and/or there is a "threatened release" of hazardous substances listed in Section 2.4 at the Site, as defined in Health and Safety Code section 25320.

3.4 The actual and threatened release of hazardous substances at the Site may present an imminent and substantial endangerment to the public health or welfare or to the environment.

3.5 Response action is necessary to abate a public nuisance and/or to protect and preserve the public health.

IV. DETERMINATION

4.1 Based on the foregoing findings of fact and conclusions of law, DTSC hereby determines that response action is necessary at the Site because there has been a release and/or

there is a threatened release of a hazardous substances.

4.2 Based on the foregoing findings of fact and conclusions of law, DTSC hereby determines that there may be an imminent and/or substantial endangerment to the public health or welfare or to the environment because of the release and/or the threatened release of the hazardous substances at the Site.

V. ORDER

Based on the foregoing FINDINGS, CONCLUSIONS, AND DETERMINATION, IT IS HEREBY ORDERED THAT Respondent(s) conduct the following response actions in the manner specified herein, and in accordance with a schedule specified by DTSC as follows:

5.1 All response actions taken pursuant to this Order shall be consistent with the requirements of Chapter 6.8 (commencing with section 25300), Division 20 of the Health and Safety Code and any other applicable state or federal statutes and regulations.

5.1.1 Site Remediation Strategy. The purpose of this Order is to require for the Site: implementation of any appropriate removal actions, completion of a Remedial Investigation/Feasibility Study (RI/FS), preparation of a Remedial Action Plan (RAP) or Removal Action Workplan (RAW), preparation of California Environmental Quality Act (CEQA) documents, and Design and Implementation of the remedial actions approved in the RAP.

An overall Site investigation and remediation strategy shall be developed by Respondent(s) in conjunction with DTSC which reflects program goals, objectives, and requirements. Current knowledge of the Site contamination sources, exposure pathways, and receptors shall be used in developing this strategy.

An objective of the Site investigations shall be to identify immediate or potential risks to public health and the environment and prioritize and implement response actions using removal actions and operable units, if appropriate, based on the relative risks at the Site. Respondent(s) and DTSC shall develop and possibly modify Site priorities throughout the environment, DTSC will require additional response actions not specified in this Order to be performed as removal actions or separate operable units. Removal actions shall be implemented in accordance with a workplan and implementation schedule submitted by Respondent(s) and approved by DTSC.

For operable unit remedial actions, DTSC will specify the separate and focused remedial phase activities to be conducted as RI/FS, RAP or RAW, Design, and Implementation. The focused activities shall be conducted in accordance with the corresponding remedial phase requirements specified in this Order but shall only address the area or problem of the operable unit.

5.1.2 Remedial Action Objectives. Based on available information, DTSC has preliminarily determined that the remedial action objectives for the Site shall include:

(a) Existing and potential beneficial uses of groundwater shall be protected. The Regional Water Quality Control Board Basin Plan identifies public water supply as a beneficial use of this aquifer. Therefore, drinking water standards or more conservative values determined by a Risk Assessment shall be remedial action objectives for this Site.

(b) The reasonably foreseeable future land use of the Site is commercial and/or residential (email communication with Michael Guina, Attorney for the Respondent dated May 1, 2020). Therefore, remedial action objectives for contaminated media shall be developed which are protective of adults and children in a residential exposure scenario.

5.1.3 Removal Actions. Respondent(s) shall undertake removal actions if, during the course of the RI or FS, DTSC determines that they are necessary to mitigate the release of hazardous substances at or emanating from the Site. DTSC may require Respondent(s) to submit a removal action workplan that includes a schedule for implementing the workplan for DTSC's approval. Either DTSC or Respondent(s) may identify the need for removal actions. Respondent(s) shall implement the following removal actions. Workplans for implementing the following removal actions shall be submitted by the specified dates:

(a) Fence and Post.

- 1) Within 30 days of the effective date of this Order, Respondent(s) shall install signs which are visible from the area surrounding the contaminated Site and posted at each route of entry into the Site, including those routes likely to be used by unauthorized persons. Such routes of entry include: access roads leading to the Site, and facing rivers, creeks, lakes or other waterways which may provide a route of access to the Site. The signs shall be in accordance with the specifications provided by DTSC.
- 2) The fence and signs shall be constructed of materials able to withstand the elements and shall be continuously maintained for as long as DTSC determines it to be necessary in order to protect public health and safety and the environment.

5.1.4 Groundwater Monitoring. DTSC does not require groundwater monitoring at this time. If required, Respondent shall immediately begin interim monitoring in according with DTSC's instructions. Subsequent groundwater monitoring may be required until DTSC determines it is appropriate to modify or terminate monitoring.

5.1.5 Surface Water Monitoring. DTSC does not require surface water monitoring at this time. If required, Respondents shall immediately begin interim monitoring in according with DTSC's instructions. Subsequent surface water monitoring may be required until DTSC determines it is appropriate to modify or terminate monitoring.

5.1.6 Site Remediation Strategy Meeting. Respondent(s), including the Project Coordinator (Section 6.1) and Project Engineer/Geologist (Section 6.2), shall meet with DTSC within [20] days from the effective date (and concurrent with the development of the RI/FS

workplan of this Order to discuss the Site remediation strategy). These discussions will include Site risks and priorities; project planning, phasing and scheduling, remedial action objectives, remedial technologies, data quality objectives, and the RI/FS workplan. Results of the discussions will be included in the Scoping Document, Section 5.2.2(b) of this Order.

5.2 Remedial Investigation/Feasibility Study (RI/FS). A RI/FS shall be conducted for the Site. The RI/FS may be performed as a series of focused RI/FSs, if appropriate, based on Site priorities. The RI/FS shall be prepared consistent with the U.S. Environmental Protection Agency's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," October 1988. The purpose of the RI/FS is to assess Site conditions and to evaluate alternatives to the extent necessary to select a remedy appropriate for the Site. RI and FS activities shall be conducted concurrently and iteratively so that the investigations can be completed expeditiously. Because of the unknown nature of the Site and iterative nature of the RI/FS, additional data requirements and analyses may be identified throughout the process. Respondent shall fulfill additional data and analysis needs identified by DTSC; these additional data and analysis requests will be consistent with the general scope and objectives of this Order.

The following elements of the RI/FS process of this Order shall be preliminarily defined in the initial Site scoping and refined and modified as additional information is gathered throughout the RI/FS process.

- (a) Conceptual Site Model identifying contamination sources, exposure pathways, and receptors;
- (b) Federal, State and local remedial action objectives including applicable legal requirements or relevant and appropriate standards;
- (c) Project phasing including the identification of removal actions and operable units;
- (d) General response actions and associated remedial technology types; and
- (e) The need for treatability studies.

5.2.1 RI/FS Objectives. The objectives of the RI/FS are to:

- (a) Determine the nature and full extent of hazardous substance contamination of air, soil, soil gas, surface water and groundwater at the Site.
- (b) Identify all actual and potential exposure pathways and routes through environmental media;
- (c) Determine the magnitude and probability of actual or potential harm to public health, safety or welfare or to the environment posed by the threatened or actual release of hazardous substances at or from the Site;
- (d) Identify and evaluate appropriate response actions to prevent or minimize future releases and mitigate any releases which have already occurred; and

(e) Collect and evaluate the information necessary to prepare a RAP.

5.2.2 RI/FS Workplan. Within 60 days from the effective date of this Order, Respondent shall prepare and submit to DTSC for review and approval a detailed RI/FS Workplan and implementation schedule which covers all the activities necessary to conduct a complete RI/FS of the Site.

The RI/FS Workplan shall include a detailed description of the tasks to be performed, information or data needed for each task, and the deliverables which will be submitted to DTSC. Either Respondent or DTSC may identify the need for additional work.

These RI/FS Workplan deliverables are discussed in the remainder of this Section, with a schedule for implementation, and monthly reports. The RI/FS Workplan shall include all the sections and address each component listed below.

(a) Project Management Plan. The Project Management Plan shall define relationships and responsibilities for major tasks and project management items by Respondent(s), its contractors, subcontractors, and consultants. The plan shall include an organization chart with the names and titles of key personnel and a description of their individual responsibilities.

(b) Scoping Document. Although not required at this time, if required, the Scoping Document shall incorporate program goals, program management principles, and expectations contained in the National Contingency Plan (NCP) (40 Code of Federal Regulations (CFR) Part 300), as amended. It shall include:

(1) An analysis and summary of the Site background and the physical setting. At a minimum, the following information is required:

(A) A map of the Site, and if they exist, aerial photographs and blueprints showing buildings and structures;

(B) A description of past disposal practices;

(C) A list of all hazardous substances which were disposed, discharged, spilled, treated, stored, transferred, transported, handled or used at the Site, and a description of their estimated volumes, concentrations, and characteristics;

(D) A description of the characteristics of the hazardous substances at the Site; and

(E) If applicable, a description of all current and past manufacturing processes which are or were related to each hazardous substance.

(2) An analysis and summary of previous response actions including a summary of all existing data including air, soil, soil gas, surface water, and groundwater data and the

Quality Assurance/Quality Control (QA/QC) procedures which were followed;

(3) Presentation of the Conceptual Site Model;

(4) The scope and objectives of RI/FS activities;

(5) Preliminary identification of possible response actions and the data needed for the evaluation of alternatives. Removal actions shall be proposed, if needed, based on the initial evaluation of threats to public health and the environment. If remedial actions involving treatment can be identified, treatability studies shall be conducted during the characterization phase, unless Respondent and DTSC agree that such studies are unnecessary as set forth in Section 5.4; and

(6) If applicable, initial presentation of the Site Remediation Strategy.

(c) Field Sampling Plan. The Field Sampling Plan shall include:

(1) Sampling objectives, including a brief description of data gaps and how the field sampling plan will address these gaps;

(2) Sample locations, including a map showing these locations, and proposed frequency;

(3) Sample designation or numbering system;

(4) Detailed specification of sampling equipment and procedures;

(5) Sample handling and analysis including preservation methods, shipping requirements and holding times; and

(6) Management plan for wastes generated.

(d) Quality Assurance Project Plan. The plan shall include:

(1) Project organization and responsibilities with respect to sampling and analysis;

(2) Quality assurance objectives for measurement including accuracy, precision, and method detection limits. In selecting analytical methods, Respondent(s) shall consider obtaining detection limits at or below potentially applicable legal requirements or relevant and appropriate standards, such as Maximum Contaminant Levels (MCLs) or Maximum Contaminant Level Goals (MCLGs);

(3) Sampling procedures;

(4) Sample custody procedures and documentation;

(5) Field and laboratory calibration procedures;

- (6) Analytical procedures;
- (7) Laboratory to be used certified pursuant to Health and Safety Code section 25198;
- (8) Specific routine procedures used to assess data (precision, accuracy and completeness) and response actions;
- (9) Reporting procedure for measurement of system performance and data quality;
- (10) Data management, data reduction, validation and reporting. Information shall be accessible to downloading into DTSC's system; and
- (11) Internal quality control.

(e) Health and Safety Plan. A site-specific Health and Safety Plan shall be prepared in accordance with federal (29 CFR 1910.120) and state (Title 8 CCR Section 5192) regulations. This plan should include, at a minimum, the following elements:

- (1) Site Background/History/Workplan;
- (2) Key Personnel and Responsibilities
- (3) Job Hazard Analysis/Summary;
- (4) Employee Training;
- (5) Personal Protection;
- (6) Medical Surveillance;
- (7) Air Surveillance;
- (8) Site Control;
- (9) Decontamination;
- (10) Contingency Planning;
- (11) Confined Space Operations;
- (12) Spill Containment;
- (13) Sanitation;
- (14) Illumination; and
- (15) Other applicable requirements based on the work to be performed.

DTSC's *Interim Draft Site Specific Health and Safety Plan Guidance Document for Site Assessment/Investigation, Site Mitigation Projects, Hazardous Waste Site Work Closure, Post Closure, and Operation and Maintenance Activities* (DTSC, December 2000) can be used as a reference tool.

All contractors and all subcontractors shall be given a copy of the Health and Safety Plan prior to entering the Site. Any supplemental health and safety plans prepared by any subcontractor shall also be prepared in accordance with the regulations and guidance identified above. The prime contractor will be responsible for ensuring that all subcontractor supplemental health and safety plans will follow these regulations and guidelines.

(f) Other Activities. A description of any other significant activities which are appropriate to complete the RI/FS shall be included.

(g) Schedule. A schedule which provides specific time frames and dates for completion of each activity and report conducted or submitted under the RI/FS Workplan including the schedules for removal actions and operable unit activities.

5.2.3 RI/FS Workplan Implementation. Respondent shall implement the approved RI/FS Workplan.

5.2.4 RI/FS Workplan Revisions. If Respondent proposes to modify any methods or initiates new activities for which no Field Sampling Plan, Health and Safety Plan, Quality Assurance Project Plan or other necessary procedures/plans have been established, Respondent shall prepare an addendum to the approved plan(s) for DTSC review and approval prior to modifying the method or initiating new activities.

5.3 Interim Screening and Evaluation of Remedial Technologies. At the request of DTSC, Respondent shall submit an interim document which identifies and evaluates potentially suitable remedial technologies and recommendations for treatability studies.

5.4 Treatability Studies. Treatability testing will be performed by Respondent to develop data for the detailed remedial alternatives. Treatability testing is required to demonstrate the implement ability and effectiveness of technologies unless Respondent(s) can show DTSC that similar data or documentation or information exists. The required deliverables are: a workplan, a sampling and analysis plan, and a treatability evaluation report. To the extent practicable, treatability studies will be proposed and implemented during the latter part of Site characterization.

5.5 Remedial Investigation (RI) Report. The RI Report shall be prepared and submitted by Respondent to DTSC for review and approval in accordance with the approved RI/FS workplan schedule. The purpose of the RI is to collect data necessary to adequately characterize the Site for the purposes of defining risks to public health and the environment and developing and evaluating effective remedial alternatives. Site characterization may be conducted in one or more phases to focus sampling efforts and increase the efficiency of the investigation. Respondent shall identify the sources of contamination and define the nature, extent, and volume of the contamination. Using this information, the contaminant fate and transport shall be evaluated. The RI Report shall contain:

(a) Site Physical Characteristics. Data on the physical characteristics of the Site and surrounding area shall be collected to the extent necessary to define potential transport pathways and receptor populations and to provide sufficient engineering data for development and screening of remedial action alternatives.

(b) Sources of Contamination. Contamination sources (including heavily contaminated media) shall be defined. The data shall include the source locations, type of contaminant,

waste characteristics, and Site features related to contaminant migration and human exposure.

(c) Nature and Extent of Contamination. Contaminants shall be identified, and the horizontal and vertical extent of contamination shall be defined in soil, soil gas, groundwater, surface water, sediment, air, and biota. Spatial and temporal trends and the fate and transport of contamination shall be evaluated.

5.6 Baseline Health and Ecological Risk Assessment. Respondent shall perform health and ecological risk assessments for the Site that meet the requirements of Health and Safety Code §25356.1.5(b). Respondent shall submit a Baseline Health and Ecological Risk Assessment Report if required by DTSC with the approval of the RI Report. The report shall be prepared consistent with U.S. EPA and California Environmental Protection Agency guidance and regulations, including as a minimum: Risk Assessment Guidance for Superfund, Volume 1; Human Health Evaluation Manual, December 1989; Superfund Exposure Assessment Manual, April 1988; Risk Assessment Guidance for Superfund, Volume 2, Environmental Evaluation Manual, March 1989; Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (DTSC, September 1993); and all other related or relevant policies, practices and guidelines of the California Environmental Protection Agency and policies, practices and guidelines developed by U.S.EPA pursuant to 40 CFR 300.400 et seq. The Baseline Health and Ecological Risk Assessment Report shall include the following components:

(a) Contaminant Identification. Characterization data shall identify contaminants of concern for the risk assessment process.

(b) Environmental Evaluation. An ecological assessment consisting of:

(1) Identification of sensitive environments and rare, threatened, or endangered species and their habitats; and

(2) As appropriate, ecological investigations to assess the actual or potential effects on the environment and/or develop remediation criteria.

(c) Exposure Assessment. The objectives of an exposure assessment are to identify actual or potential exposure pathways, to characterize the potentially exposed populations, and to determine the extent of the exposure. Exposed populations may include industrial workers, residents, and subgroups that comprise a meaningful portion of the general population, including, but not limited to, infants, children, pregnant women, the elderly, individuals with a history of serious illness, or other subpopulations, that are identifiable as being at greater risk of adverse health effects due to exposure to hazardous substances than the general population.

(d) Toxicity Assessment. Respondent shall evaluate the types of adverse health or environmental effects associated with individual and multiple chemical exposures; the relationship between magnitude of exposures and adverse effects; and related

uncertainties such as the weight of evidence for a chemical's potential carcinogenicity in humans.

(e) Risk Characterization. Risk characterization shall include the potential risks of adverse health or environmental effects for each of the exposure scenarios derived in the exposure assessment.

5.7 Feasibility Study (FS) Report. The FS Report shall be prepared and submitted by Respondent to DTSC for review and approval, no later than 60 days from submittal of the RI Report. The FS Report shall summarize the results of the FS including the following:

- (a) Documentation of all treatability studies conducted.
- (b) Development of medium specific or operable unit specific remedial action objectives, including legal requirements and other promulgated standards that are relevant.
- (c) Identification and screening of general response actions, remedial technologies, and process options on a medium and/or operable unit specific basis.
- (d) Evaluation of alternatives based on the criteria contained in the NCP including:

Threshold Criteria:

- (1) Overall protection of human health and the environment.
- (2) Compliance with legal requirements and other promulgated standards that are relevant.

Primary Balancing Criteria:

- (1) Long-term effectiveness and permanence.
- (2) Reduction of toxicity, mobility, or volume through treatment.
- (3) Short-term effectiveness.
- (4) Implement ability based on technical and administrative feasibility.
- (5) Cost.

Modifying Criteria:

- (1) State and local agency acceptance.
- (2) Community acceptance.

- (e) Proposed remedial actions.

5.8 Public Participation Plan (Community Relations). Respondent shall work cooperatively with DTSC in providing an opportunity for meaningful public participation in response actions. Any such public participation activities shall be conducted in accordance with H&SC §§ 25356.1 and 25358.7 and DTSC's most current Public Participation Policy and Guidance Manual, and shall be subject to DTSC's review and approval.

Respondent, in coordination with DTSC, shall conduct a baseline community survey and develop a Public Participation Plan (PPP) which describes how, under this Order, the public and adjoining community will be kept informed of activities conducted at the Site and how Respondent will be responding to inquiries from concerned citizens. Major steps in developing a PPP are as follows:

- (a) Develop proposed list of interviewees;
- (b) Schedule and conduct community interviews; and
- (c) Analyze interview notes, and develop objectives.

Respondent shall conduct the baseline community survey and submit the PPP for DTSC's review within 40 days of the effective date of this Order.

Respondent shall implement any of the public participation support activities identified in the PPP, at the request of DTSC. DTSC retains the right to implement any of these activities independently. These activities include, but are not limited to, development and distribution of fact sheets; public meeting preparations; and development and placement of public notices.

5.9 California Environmental Quality Act (CEQA). DTSC will comply with CEQA for all activities required by this Order that are projects subject to CEQA. Upon DTSC request, Respondent shall provide DTSC with any information that DTSC deems necessary to facilitate compliance with CEQA. The costs incurred by DTSC in complying with CEQA are response costs and Respondent shall reimburse DTSC for such costs pursuant to Section 6.18.

5.10 Removal Action Workplan If DTSC determines a removal action is appropriate, Respondent(s) will prepare and submit no later than 30 days after DTSC's approval of the FS, a draft Removal Action Workplan (RAW) in accordance with Health and Safety Code sections 25323.1 and 25356.1. The Removal Action Workplan will include:

- (a) a description of the onsite contamination;
- (b) the goals to be achieved by the removal action;
- (c) an analysis of the alternative options considered and rejected and the basis for that rejection. This should include a discussion for each alternative which covers its effectiveness, implement ability and cost;
- (d) administrative record list;
- (e) a description of the techniques and methods to be used in the removal action, including any excavating, storing, handling, transporting, treating, and disposing of material on or off the site;

- (f) Sampling and Analysis Plan with corresponding Quality Assurance Plan to confirm the effectiveness of the RAW, if applicable;
- (g) a brief overall description of methods that will be employed during the removal action to ensure the health and safety of workers and the public during the removal action. A detailed community air monitoring plan shall be included if requested by DTSC.

In conjunction with DTSC, Respondent shall implement the public review process specified in DTSC's Public Participation Policy and Guidance Manual. DTSC will prepare a response to the public comments received. If required, the Respondent shall submit within two (2) weeks of the request the information necessary for DTSC to prepare this document.

Following DTSC's finalization of the Responsiveness Summary, DTSC will specify any changes to be made in the RAW. Respondent shall modify the document in accordance with DTSC's specifications and submit a final RAW within 15 days of receipt of DTSC's comments.

If the proposed removal action does not meet the requirements of Health and Safety Code section 25356.1(h), the Respondent will prepare a Remedial Action Plan (RAP) in accordance with Health and Safety Code section 25356.1(c) for DTSC review and approval.

5.11 Remedial Action Plan (RAP). No later than 30 days after DTSC approval of the FS Report, Respondent shall prepare and submit to DTSC a draft RAP. The draft RAP shall be consistent with the NCP and Health and Safety Code section 25356.1. The draft RAP public review process may be combined with that of any other documents required by CEQA. The draft RAP shall be based on and summarize the approved RI/FS Reports, and shall clearly set forth:

- (a) Health and safety risks posed by the conditions at the Site.
- (b) The effect of contamination or pollution levels upon present, future, and probable beneficial uses of contaminated, polluted, or threatened resources.
- (c) The effect of alternative remedial action measures on the reasonable availability of groundwater resources for present, future, and probable beneficial uses.
- (d) Site specific characteristics, including the potential for offsite migration of hazardous substances, the surface or subsurface soil, and the hydrogeologic conditions, as well as preexisting background contamination levels.
- (e) Cost-effectiveness of alternative remedial action measures. Land disposal shall not be deemed the most cost-effective measure merely on the basis of lower short-term cost.
- (f) The potential environmental impacts of alternative remedial action measures, including, but not limited to, land disposal of the untreated hazardous substances as opposed to treatment of the hazardous substances to remove or reduce their volume, toxicity, or mobility prior to disposal.

(g) A statement of reasons setting forth the basis for the removal and remedial actions selected. The statement shall include an evaluation of each proposed alternative submitted and evaluate the consistency of the removal and remedial actions proposed by the plan with the NCP.

(h) A schedule for implementation of all proposed removal and remedial actions.

In conjunction with DTSC, Respondent shall implement the public review process specified in DTSC's Public Participation Policy and Guidance Manual. DTSC will prepare a response to the public comments received. If required, the Respondent shall submit within two (2) weeks of the request the information necessary for DTSC to prepare this document

Following DTSC's finalization of the Responsiveness Summary, DTSC will specify any changes to be made in the RAP. Respondent shall modify the document in accordance with DTSC's specifications and submit a final RAP within 15 days of receipt of DTSC's comments.

5.12 Remedial Design (RD). Within 60 days after DTSC approval of the final RAP, Respondent(s) shall submit to DTSC for review and approval a RD describing in detail the technical and operational plans for implementation of the final RAP which includes the following elements, as applicable:

- (a) Design criteria, process unit and pipe sizing calculations, process diagrams, and final plans and specifications for facilities to be constructed.
- (b) Description of equipment used to excavate, handle, and transport contaminated material.
- (c) A field sampling and laboratory analysis plan addressing sampling during implementation and to confirm achievement of the performance objectives of the RAP.
- (d) A transportation plan identifying routes of travel and final destination of wastes generated and disposed.
- (e) For groundwater extraction systems: aquifer test results, capture zone calculations, specifications for extraction and performance monitoring wells, and a plan to demonstrate that capture is achieved.
- (f) An updated health and safety plan addressing the implementation activities.
- (g) Identification of any necessary permits and agreements.
- (h) An operation and maintenance plan including any required monitoring.
- (i) A detailed schedule for implementation of the remedial action consistent with the

schedule contained in the approved RAP including procurement, mobilization, construction phasing, sampling, facility startup, and testing.

(j) A community Air Monitoring Plan.

5.13 Land Use Covenant. If the approved remedy in the final RAP or final RAW includes deed restrictions or land use restrictions, pursuant to California Code of Regulations, title 22, section 67391.1, the current owner(s) of the Site shall sign and record deed restrictions approved by DTSC within 30 days of DTSC's request.

5.14 Implementation of Final RAP or Final RAW. Upon DTSC approval of the RD or final RAW, Respondent shall implement the final RAP or final RAW in accordance with the approved schedule in the RD or final RW. Within 30 days of completion of field activities, Respondent shall submit an Implementation Report documenting the implementation of the Final RAP and RD or final RAW.

5.15 Operation and Maintenance (O&M). Respondent shall comply with all O&M requirements in accordance with the final RAP and approved RD or final RAW. Within 30 days of the date of DTSC's request, Respondent shall prepare and submit to DTSC for approval an O&M plan that includes an implementation schedule. Respondent shall implement the plan in accordance with the approved schedule.

5.16 Five-Year Review. Respondent shall review and reevaluate the remedial action after a period of 5 years from the completion of construction and startup, and every 5 years thereafter. The review and reevaluation shall be conducted to determine if human health and the environment are being protected by the remedial action. Within thirty (30) calendar days before the end of the time period approved by DTSC to review and reevaluate the remedial action, Respondent(s) shall submit a remedial action review workplan to DTSC for review and approval. Within sixty (60) days of DTSC's approval of the workplan, Respondent shall implement the workplan and shall submit a comprehensive report of the results of the remedial action review. The report shall describe the results of all sample analyses, tests and other data generated or received by Respondent and evaluate the adequacy of the implemented remedy in protecting public health, safety and the environment. As a result of any review performed under this Section, Respondent may be required to perform additional Work or to modify Work previously performed.

5.17 Changes During Implementation of the Final RAP or Final RAW. During the implementation of the final RAP and RD or final RAW, DTSC may specify such additions, modifications, and revisions to the RD or final RAW as DTSC deems necessary to protect public health and safety or the environment or to implement the final RAP or final RAW.

5.18 Stop Work Order. In the event that DTSC determines that any activity (whether or not pursued in compliance with this Order) may pose an imminent or substantial endangerment to the health or safety of people on the Site or in the surrounding area or to the environment, DTSC may order Respondent to stop further implementation of this Order for such period of time needed to abate the endangerment. In the event that DTSC determines that any site

activities (whether or not pursued in compliance with this Order) are proceeding without DTSC authorization, DTSC may order Respondent to stop further implementation of this Order or activity for such period of time needed to obtain DTSC authorization, if such authorization is appropriate. Any deadline in this Order directly affected by a Stop Work Order, under this Section, shall be extended for the term of the Stop Work Order.

5.19 Emergency Response Action/Notification. In the event of any action or occurrence (such as a fire, earthquake, explosion, or human exposure to hazardous substances caused by the release or threatened release of a hazardous substance) during the course of this Order, Respondent shall immediately take all appropriate action to prevent, abate, or minimize such emergency, release, or immediate threat of release and shall immediately notify the Project Manager. Respondent shall take such action in consultation with the Project Manager and in accordance with all applicable provisions of this Order. Within seven days of the onset of such an event, Respondent shall furnish a report to DTSC, signed by Respondents' Project Coordinator, setting forth the events which occurred, and the measures taken in the response thereto. In the event that Respondent fails to take appropriate response and DTSC takes the action instead, Respondent shall be liable to DTSC for all costs of the response action. Nothing in this Section shall be deemed to limit any other notification requirement to which Respondent may be subject.

5.20 Discontinuation of Remedial Technology. Any remedial technology employed in implementation of the final RAP or final RAW shall be left in place and operated by Respondent until and except to the extent that DTSC authorizes Respondent in writing to discontinue, move or modify some or all of the remedial technology because Respondent has met the criteria specified in the final RAP or final RAW for its discontinuance, or because the modifications would better achieve the goals of the final RAP or final RAW.

5.21 Cost Estimates and Financial Assurance.

1. Estimated Cost of the Work: Respondent shall submit to DTSC detailed written estimates, in current dollars, of the cost of hiring a third party to conduct the Work to be performed under this Order (hereafter "Estimated Cost of the Work"). The Estimated Cost of the Work shall account for the total costs of the work activities that they cover, as described in Section 6.24 Calendar of Tasks and Schedules, including any necessary long-term costs, such as operation and maintenance costs and monitoring costs. A third party is a party who (i) is neither a parent nor a subsidiary of the Respondent and (ii) does not share a common parent or subsidiary with Respondents. The cost estimates shall not incorporate any salvage value that may be realized from the sale of wastes, facility structures or equipment land or other assets associated with the facility.

Concurrent with the submission of additional Work Plan(s) required under Section 6.24, Respondents shall submit a revised Estimated Cost of the Work.

Respondents shall annually adjust the Estimated Cost of the Work if DTSC determines that any additional Work is required, pursuant to Section 6.14, (Additional Actions), or if any other condition increases the Cost of the Work to be performed under this Order.

Respondents shall submit each Estimated Cost of the Work to DTSC for review. DTSC will review each cost estimate and notify Respondents in writing of DTSC's approval, disapproval, or modification of the cost estimate.

2. **Assurances of Financial Responsibility for Completing the Work**

Respondent(s) shall demonstrate to DTSC and maintain financial assurance for operation and maintenance and monitoring. Respondent(s) shall demonstrate financial assurance prior to the time that operation and maintenance activities are initiated and shall maintain it throughout the period of time necessary to complete all required operation and maintenance activities. The financial assurance mechanisms shall meet the requirements of Health and Safety Code Section 25355.2. All financial assurance mechanisms are subject to the review and approval of DTSC.

VI. GENERAL PROVISIONS

6.1 **Project Coordinator**. Within 10 days from the date the Order is signed by DTSC, Respondent shall submit to DTSC in writing the name, address, and telephone number of a Project Coordinator whose responsibilities will be to receive all notices, comments, approvals, and other communications from DTSC. Respondent shall promptly notify DTSC of any change in the identity of the Project Coordinator. Respondent shall obtain approval from DTSC before the new Project Coordinator performs any work under this Order.

6.2 **Project Engineer/Geologist**. The work performed pursuant to this Order shall be under the direction and supervision of a qualified professional engineer or a professional geologist in the State of California, with expertise in hazardous substance site cleanups. Within 15 calendar days from the date this Order is signed by DTSC, Respondent must submit: a) The name and address of the project engineer or geologist chosen by Respondent; and b) in order to demonstrate expertise in hazardous substance cleanup, the resumé of the engineer or geologist, and the statement of qualifications of the consulting firm responsible for the work. Respondent shall promptly notify DTSC of any change in the identity of the Project Engineer/Geologist. Respondent shall obtain approval from DTSC before the new Project Engineer/Geologist performs any work under this Order.

6.3 **Monthly Summary Reports**. Within 30 days from the date this Order is signed by DTSC, and on a monthly basis thereafter, Respondent shall submit a Monthly Summary Report of its activities under the provisions of this Order. The report shall be received by DTSC by the 15th day of each month and shall describe:

- (a) Specific actions taken by or on behalf of Respondent during the previous calendar month;
- (b) Actions expected to be undertaken during the current calendar month;
- (c) All planned activities for the next month;
- (d) Any requirements under this Order that were not completed;

(e) Any problems or anticipated problems in complying with this Order; and

(f) All results of sample analyses, tests, and other data generated under this Order during the previous calendar month, and any significant findings from these data.

6.4 Quality Assurance/Quality Control (QA/QC). All sampling and analysis conducted by Respondent(s) under this Order shall be performed in accordance with QA/QC procedures submitted by Respondent and approved by DTSC pursuant to this Order.

6.5 Submittals. All submittals and notifications from Respondent(s) required by this Order shall be sent simultaneously to:

Juliet C. Pettijohn MPH, CIH, Branch Chief
Attention: Tom Price, Project Manager [one hardcopy and one electronic copy]
Site Mitigation and Restoration Program
Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, California 94710

6.6 Communications. All approvals and decisions of DTSC made regarding submittals and notifications will be communicated to Respondent in writing by the Site Mitigation and Restoration Program Branch Chief, or his/her designee. No informal advice, guidance, suggestions or comments by DTSC regarding reports, plans, specifications, schedules or any other writings by Respondent shall be construed to relieve Respondent of the obligation to obtain such formal approvals as may be required.

6.7 DTSC Review and Approval.

(a) All response actions taken pursuant to this Order shall be subject to the approval of DTSC. Respondent shall submit all deliverables required by this Order to DTSC. Once the deliverables are approved by DTSC, they shall be deemed incorporated into, and where applicable, enforceable under this Order.

(b) If DTSC determines that any report, plan, schedule or other document submitted for approval pursuant to this Order fails to comply with this Order or fails to protect public health or safety or the environment, DTSC may:

(1) Modify the document as deemed necessary and approve the document as modified;
or

(2) Return comments to Respondent with recommended changes and a date by which Respondent must submit to DTSC a revised document incorporating the recommended changes.

(c) Any modifications, comments or other directives issued pursuant to (a) above, are incorporated into this Order. Any noncompliance with these modifications or directives

shall be deemed a failure or refusal to comply with this Order.

6.8 Compliance with Applicable Laws. Nothing in this Order shall relieve Respondent from complying with all other applicable laws and regulations, including but not limited to compliance with all applicable waste discharge requirements issued by the State Water Resources Control Board or a California Regional Water Quality Control Board. Respondent shall conform all actions required by this Order with all applicable federal, state and local laws and regulations.

6.9 Respondent Liabilities. Nothing in this Order shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of past, current or future operations of Respondent. Nothing in this Order is intended or shall be construed to limit the rights of any of the parties with respect to claims arising out of or relating to the deposit or disposal at any other location of substances removed from the Site. Nothing in this Order is intended or shall be construed to limit or preclude DTSC from taking any action authorized by law to protect public health or safety or the environment and recovering the cost thereof. Notwithstanding compliance with the terms of this Order, Respondent may be required to take further actions as are necessary to protect public health and the environment.

6.10 Site Access. Access to the Site and laboratories used for analyses of samples under this Order shall be provided at all reasonable times to employees, contractors, and consultants of DTSC. Nothing in this Section is intended or shall be construed to limit in any way the right of entry or inspection that DTSC or any other agency may otherwise have by operation of any law. DTSC and its authorized representatives shall have the authority to enter and move freely about all property at the Site at all reasonable times for purposes including, but not limited to: inspecting records, operating logs, sampling and analytic data, and contracts relating to this Site; reviewing the progress of Respondent in carrying out the terms of this Order; conducting such tests as DTSC may deem necessary; and verifying the data submitted to DTSC by Respondent.

To the extent the Site or any other property to which access is required for the implementation of this Order is owned or controlled by persons other than Respondent, Respondent shall use best efforts to secure from such persons access for Respondent, as well as DTSC, its representatives, and contractors, as necessary to effectuate this Order. To the extent that any portion of the Site is controlled by tenants of Respondent, Respondent shall use best efforts to secure from such tenants, access for Respondent, as well as for DTSC, its representatives, and contractors, as necessary to effectuate this Order. For purposes of this Section, "best efforts" includes the payment of reasonable sums of money in consideration of access. If any access required to complete the Work is not obtained within forty-five (45) days of the effective date of this Order, or within forty-five (45) days of the date DTSC notifies Respondent in writing that additional access beyond that previously secured is necessary, Respondent shall promptly notify DTSC, and shall include in that notification a summary of the steps Respondent has taken to attempt to obtain access. DTSC may, as it deems appropriate, assist Respondent in obtaining access. Respondent shall reimburse DTSC in obtaining access, including, but not limited to, attorneys fees and the amount of just compensation.

6.11 Sampling, Data and Document Availability. Respondent shall permit DTSC and its

authorized representatives to inspect and copy all sampling, testing, monitoring or other data generated by Respondent or on Respondent behalf in any way pertaining to work undertaken pursuant to this Order. Respondent shall submit all such data upon the request of DTSC. Copies shall be provided within 7 days of receipt of DTSC's written request. Respondent shall inform DTSC at least 7 days in advance of all field sampling under this Order, and shall allow DTSC and its authorized representatives to take duplicates of any samples collected by Respondent pursuant to this Order. Respondent shall maintain a central depository of the data, reports, and other documents prepared pursuant to this Order.

6.12 Record Retention. All such data, reports and other documents shall be preserved by Respondent for a minimum of ten years after the conclusion of all activities under this Order. If DTSC requests that some or all of these documents be preserved for a longer period of time, Respondent(s) shall either comply with that request or deliver the documents to DTSC or permit DTSC to copy the documents prior to destruction. Respondent shall notify DTSC in writing at least six months prior to destroying any documents prepared pursuant to this Order.

6.13 Government Liabilities. The State of California shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by Respondent, or related parties specified in Section 6.26, Parties Bound, in carrying out activities pursuant to this Order, nor shall the State of California be held as party to any contract entered into by Respondent or its agents in carrying out activities pursuant to this Order.

6.14 Additional Actions. By issuance of this Order, DTSC does not waive the right to take any further actions authorized by law.

6.15 Extension Requests. If Respondent(s) is unable to perform any activity or submit any document within the time required under this Order, Respondent(s) may, prior to expiration of the time, request an extension of the time in writing. The extension request shall include a justification for the delay. All such requests shall be in advance of the date on which the activity or document is due.

6.16 Extension Approvals. If DTSC determines that good cause exists for an extension, it will grant the request and specify a new schedule in writing. Respondent shall comply with the new schedule incorporated in this Order.

6.17 Liability for Costs. Respondent is liable for all of DTSC's costs that have been incurred in taking response actions at the Site (including costs of overseeing response actions performed by Respondent) and costs to be incurred in the future.

6.18 Payment of Costs. DTSC may bill Respondent for costs incurred in taking response actions at the Site prior to the effective date of this Order. DTSC will bill Respondent quarterly for its response costs incurred after the effective date of this Order. Respondent shall pay DTSC within sixty (60) days of receipt of any DTSC billing. Any billing not paid within sixty (60) days is subject to interest calculated from the date of the billing pursuant to Health and Safety Code section 25360.1. All payments made by Respondent pursuant to this Order shall be by cashier's or certified check made payable to this "DTSC," and shall bear on the face the project

name of the Site (former Marchant/Whitney, Emeryville) and the Docket number of this Order. Payments shall be sent to:

Department of Toxic Substances Control
Accounting/Cashier
1001 I Street, 21st Floor
P.O. Box 806
Sacramento, California 95812-0806

A photocopy of all payment checks shall also be sent to the person designated by DTSC to receive submittals under this Order.

6.19 Severability. The requirements of this Order are severable, and Respondent shall comply with each and every provision hereof, notwithstanding the effectiveness of any other provision.

6.20 Incorporation of Plans, Schedules and Reports. All plans, schedules, reports, specifications and other documents that are submitted by Respondent pursuant to this Order are incorporated in this Order upon DTSC's approval or as modified pursuant to Section 6.7, DTSC Review and Approval, and shall be implemented by Respondent. Any noncompliance with the documents incorporated in this Order shall be deemed a failure or refusal to comply with this Order.

6.21 Modifications. DTSC reserves the right to unilaterally modify this Order. Any modification to this Order shall be effective upon the date the modification is signed by DTSC and shall be deemed incorporated in this Order.

6.22 Time Periods. Unless otherwise specified, time periods begin from the effective date of this Order and "days" means calendar days.

6.23 Termination and Satisfaction. Except for Respondent(s) obligations under Sections 5.15 Operation and Maintenance (O&M), 5.16 Five-Year Review, 5.21 Cost Estimate and Financial Assurance, 6.12 Record Retention, 6.17 Liability for Costs, and 6.18 Payment of Costs, Respondent(s) obligations under this Order shall terminate and be deemed satisfied upon Respondent(s) receipt of written notice from DTSC that Respondent has complied with all the terms of this Order.

6.24 Calendar of Tasks and Schedules. This Section is merely for the convenience of listing in one location the submittals required by this Order. If there is a conflict between the date for a scheduled submittal within this Section and the date within the Section describing the specific requirement, the latter shall govern.

Calendar of Tasks and Schedules

TASK	SCHEDULE
1. Identify Project Coordinator; Section 6.1;	Within 10 days from the date this Order is signed by DTSC.
2. Identify Project Engineer/Geologist; Section 6.2;	Within 15 days from date this Order is signed by DTSC.
3. Submit Monthly Summary Reports; Section 6.3;	Within 30 days from the date this Order is signed by DTSC;
4. Attend Site Remediation Strategy Meeting; Section 5.1.6;	Within 20 days from the date this Order is signed by DTSC.
5. Submit groundwater level measurements;	As requested by DTSC.
6. Groundwater sampling results; Section 5.1.4;	As requested by DTSC.
7. Submit RI/FS Workplan; Section 5.2.2;	Within 60 days of the effective date of this Order.
8. Submit interim screening and evaluation document Section 5.3;	As requested by DTSC.
9. Submit Treatability Studies; Section 5.4;	As required during Site characterization or as requested by DTSC.
10. Submit RI Report; Section 5.5;	Per approved RI/FS Workplan Schedule.
11. Submit Baseline Risk Assessment; Section 5.6;	Within 30 days or as required from submittal of RI Report.
12. Submit FS Report; Section 5.7;	Within 30-60 days from submittal of RI Report.
13. Submit Public Participation Plan; Section 5.8;	Within 40 days from the date the Order is signed by DTSC.

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| 14. Submit and distribute Fact Sheets; Section 5.8; | For projected or completed key milestones, as specified in Public Participation Plan or when requested by DTSC. |
| 15. Submit Initial Study and Checklist; Section 5.9; | Within 30 days after approval of FS Report. |
| 16. Submit Draft RAP or Draft RAW; Section 5.10 or 5.11; | Within 30 days after approval of FS Report. |
| 17. Submit Information needed to prepare the responsiveness summary; | Within 10 days of DTSC request. |
| 18. Submit Final RAP or RAW; comments. | Within 15 days of receipt of DTSC's. |
| 19. Submit Remedial Design; Section 5.12; | Within 60 days after DTSC's approval of the Final RAP. |
| 20. Land Use Covenant; Section 5.13; | 90 days of approval of Final RAP or Final RAW. |
| 21. Submit Implementation Report; Section 5.14; | Within 30 days of completion of field activities. |
| 22. Submit O&M Workplan Section 5.15; | Within 30 days of DTSC's request. |
| 23. Submit Remedial Action Review Workplan; Section 5.16; | Within 30 days before end of five-year period. |
| 24. Submit Emergency Response Action Report; Section 5.19; | Within 7 days of an emergency response action. |
| 25. Provide copies of smpling, data, and Documentation; Section 6.11; | Within 7 days of receipt of DTSC's request. |
| 26. Provide prior notice before conducting field sampling; | Inform DTSC 7 days in advance of sampling. |

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|---|---|
| 27. Maintain central depository of data, reports, documentation; and; | Maintain central depository for a minimum of ten years after conclusion of all activities conducted pursuant to this Order. |
| 28. Provide prior written notice to DTSC before destroying any documentation prepared pursuant to this Order; Section 6.12. | At least 6 months prior to destroying any documents. |

6.25 Parties Bound. This Order applies to and is binding upon Respondent, and its officers, directors, agents, employees, contractors, consultants, receivers, trustees, successors and assignees, including but not limited to, individuals, partners, and subsidiary and parent corporations. Respondent shall provide a copy of this Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Order, within 15 days after the effective date of this Order or the date of retaining their services, whichever is later. Respondent shall condition any such contracts upon satisfactory compliance with this Order. Notwithstanding the terms of any contract, Respondent is responsible for compliance with this Order and for ensuring that its subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Order.

6.26 Change in Ownership. No change in ownership or corporate or partnership status relating to the Site shall in any way alter Respondent's responsibility under this Order. No conveyance of title, easement, or other interest in the Site, or a portion of the Site, shall affect Respondent's obligations under this Order. Unless DTSC agrees that such obligations may be transferred to a third party, Respondent shall be responsible for and liable for any failure to carry out all activities required of Respondent by the terms and conditions of this Order, regardless of Respondent's use of employees, agents, contractors, or consultants to perform any such tasks. Respondent shall provide a copy of this Order to any subsequent owners or successors before ownership rights or stock or assets in a corporate acquisition are transferred.

VII. NOTICE OF INTENT TO COMPLY

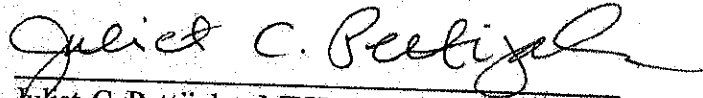
7. Not later than fifteen (15) days after the effective date of this Order, Respondent shall provide written notice, in accordance with paragraph 6.5 Submittals of this Order, stating whether or not Respondent will comply with the terms of this Order. If Respondent, or any one of them, do not unequivocally commit to perform all of the requirements of this Order, they, or each so refusing, shall be deemed to have violated this Order and to have failed or refused to comply with this Order. Respondent's written notice shall describe, using facts that exist on or prior to the effective date of this Order, any "sufficient cause" defenses asserted by Respondent(s) under Health and Safety Code sections 25358.3(a) and 25355.5(a)(1)(B) or CERCLA section 107(c)(3), 42 U.S.C. section 9607(c)(3).

8. This Order is final and effective five days from the date of mailing, which is the date of the cover letter transmitting the Order to you.

IX. PENALTIES FOR NONCOMPLIANCE

9. Respondent may be liable for penalties of up to \$25,000 for each day out of compliance with any term or condition set forth in this Order and for punitive damages up to three times the amount of any costs incurred by DTSC as a result of Respondent's(s') failure to comply, pursuant to Health and Safety Code sections 25359, 25359.2, 25359.4, and 25367(c). Health and Safety Code section 25359.4.5 provides that a responsible party who complies with this Order, or with another order or agreement concerning the same response actions required by this Order, may seek treble damages from Respondent(s) who fail or refuse to comply with this Order without sufficient cause.

DATE OF ISSUANCE: 8/13/2020



Juliet C. Pettijohn, MPH, CIH

Branch Chief

Department of Toxic Substances Control

cc: Site Mitigation and Restoration Program
Headquarters, Planning & Policy
Office of Legal Counsel

49-1319-1-20

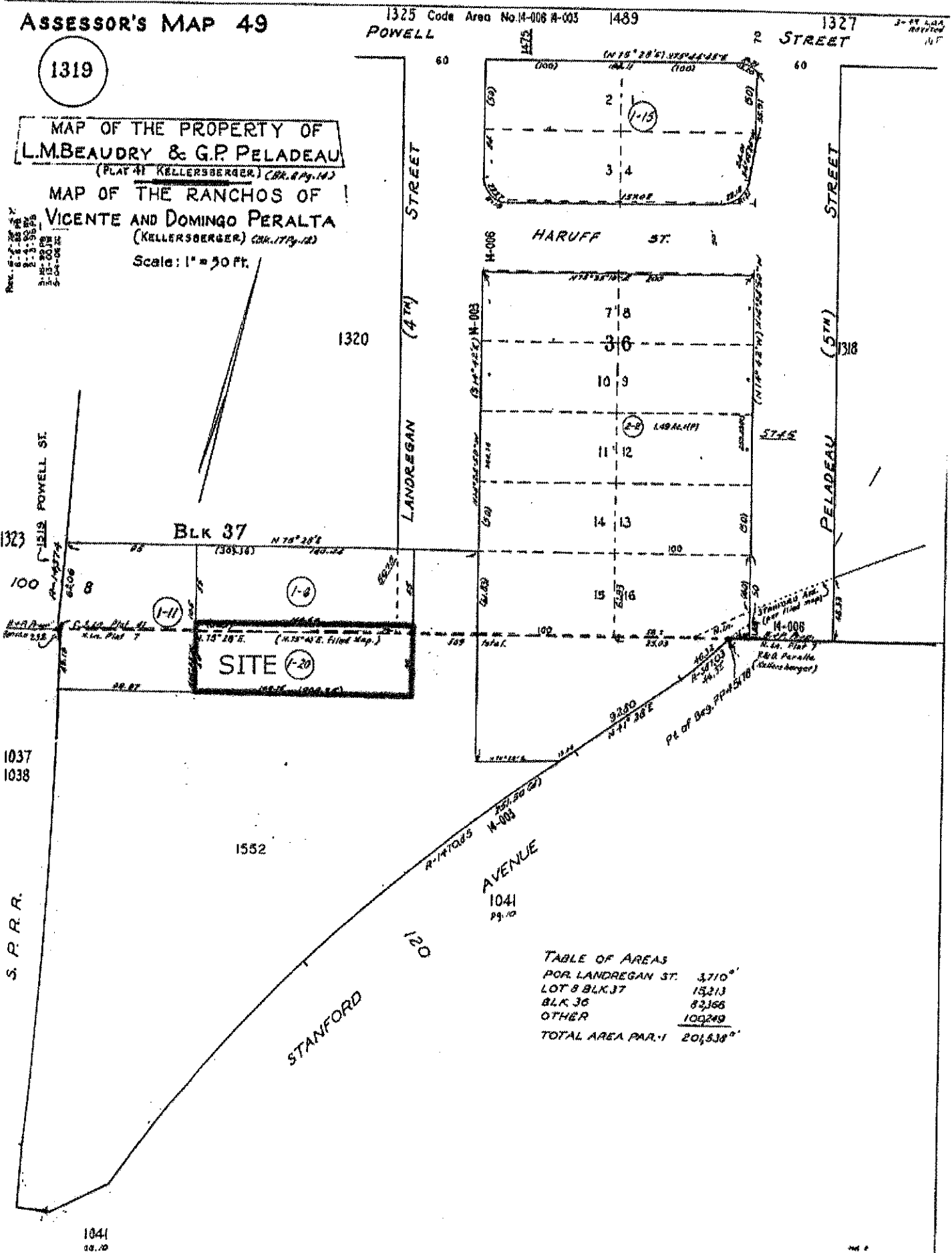


Exhibit A-2: Assessor's Parcel Map

For Assessment Use Only

ASSESSOR'S MAP 49

Code Area Nos. 14-000 14-003

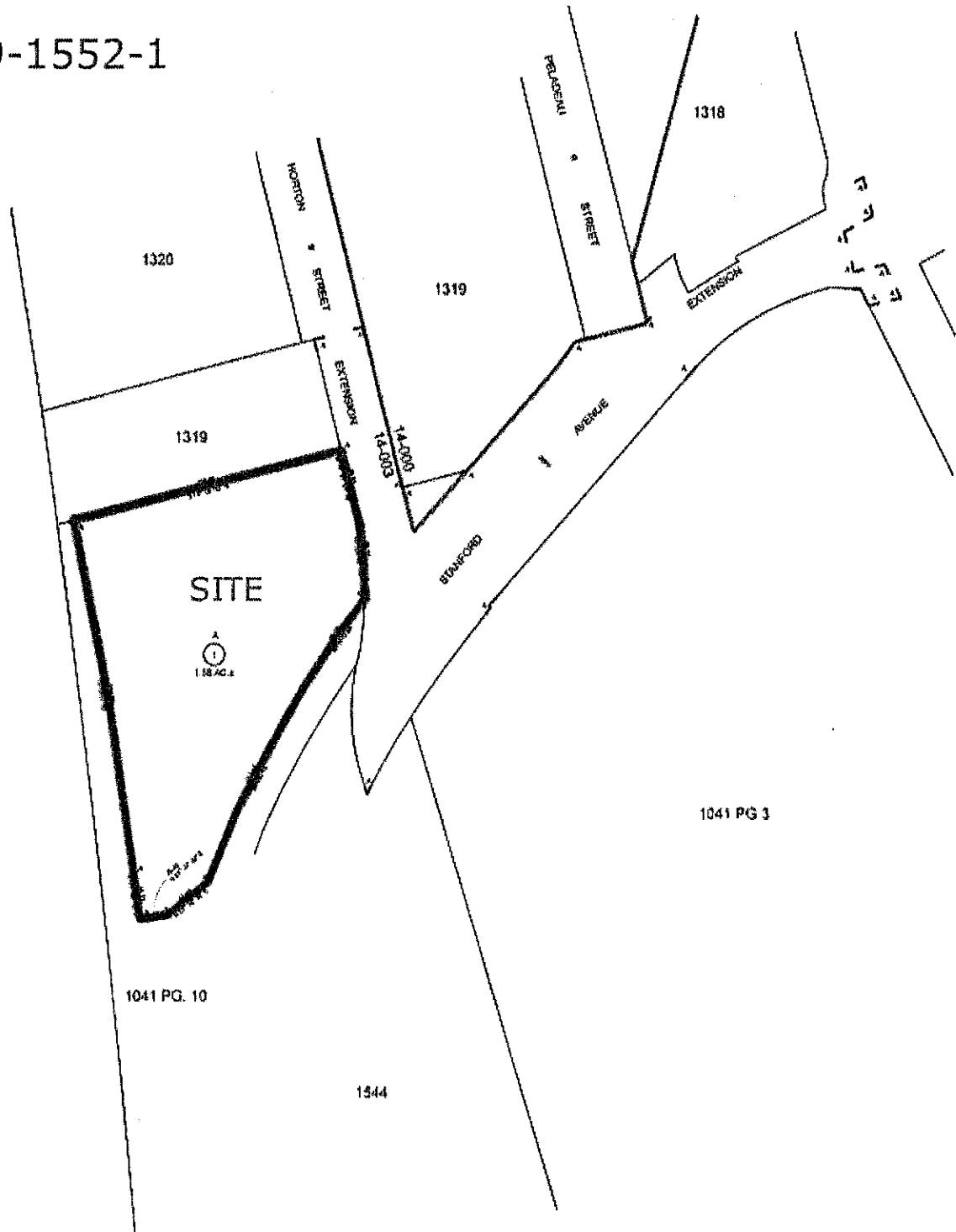
1552

SCALE 1" = 30'

141 P.M. 7868 16041-12

N 49-1552-1

REVIEWED 05-03-02 JC
DRAWN 05-03-02 JC



FORWARDED: 1041 & 1318

ACR:

2005 20

RGP

1404 1

1404 PG 1

Exhibit B: Site Diagram

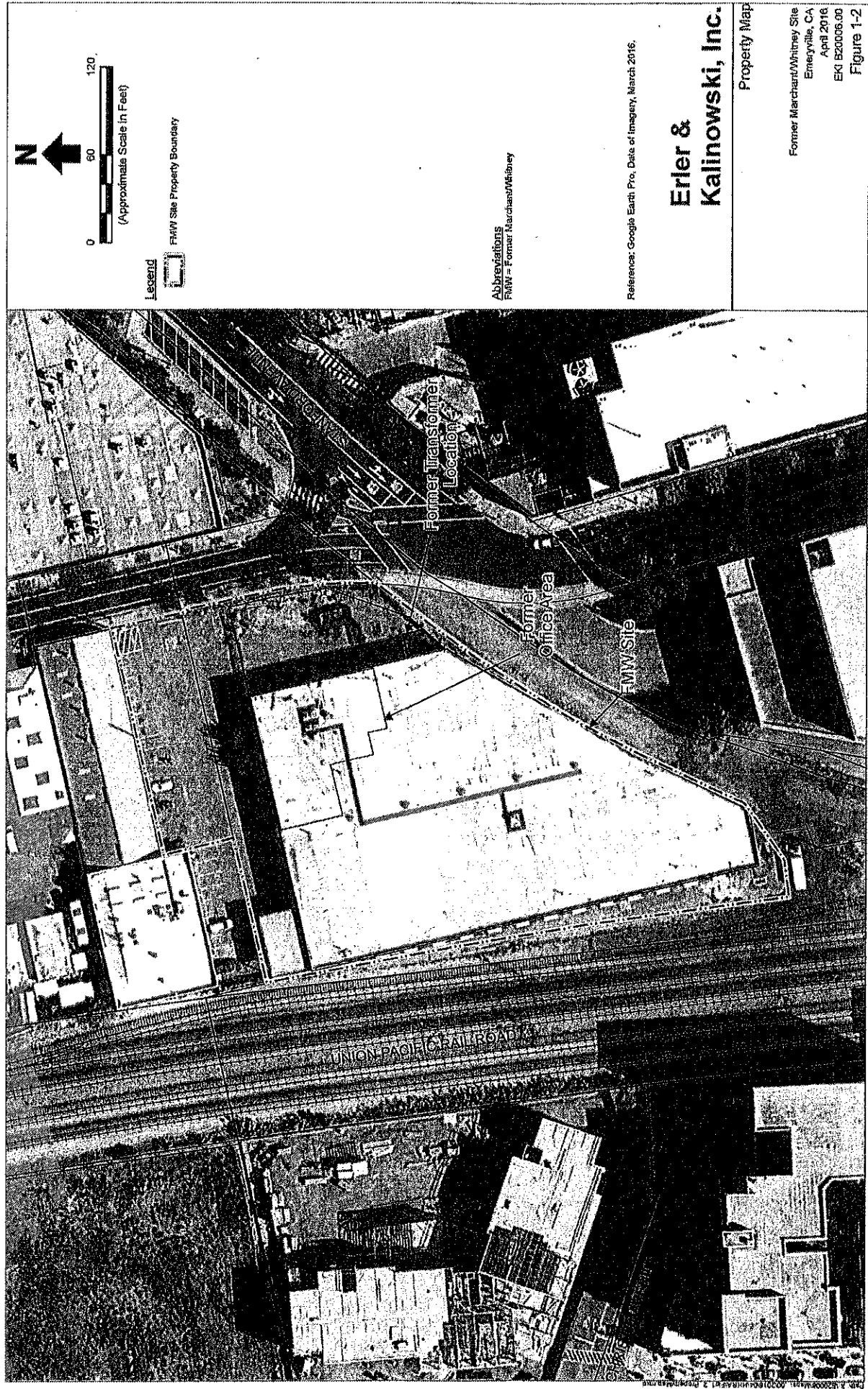


Exhibit C: Table of Risk Values

TABLE 9
SUMMARY OF CUMULATIVE HUMAN HEALTH RISK CALCULATIONS
Former Marchant/Whitney Site
Emeryville, California

	Non-Carcinogenic Hazard Index (a)										Lifetime Incremental Cancer Risk (a)										Hypothetical Residents	
	Industrial/Commercial Workers										Industrial/Commercial Workers										Site-Wide Dataset	
	Warehouse Area Datasets					Entire Building Datasets					Warehouse Area Datasets					Entire Building Datasets					Site-Wide Dataset	
	Earthwork Construction Workers	Indoor Air	Sub-Slab Vapor $\alpha = 0.05$	Soil Vapor	Soil Vapor	Earthwork Construction Workers	Indoor Air	Sub-Slab Vapor $\alpha = 0.05$	Soil Vapor	Soil Vapor	Earthwork Construction Workers	Indoor Air	Sub-Slab Vapor $\alpha = 0.05$	Soil Vapor	Soil Vapor	Earthwork Construction Workers	Indoor Air	Sub-Slab Vapor $\alpha = 0.05$	Soil Vapor	Soil Vapor	Site-Wide Dataset	
Potentially Complete Exposure Pathways	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Inhalation of Indoor Air	—	0.7	67	2	0.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Inhalation of Outdoor Air	2.8	60%	—	—	—	1E-06	12%	—	—	—	1E-06	12%	—	—	—	1E-06	12%	—	—	—	—	
Soil Ingestion/Dermal Contact	1.9	40%	—	—	—	1E-05	88%	—	—	—	1E-05	88%	—	—	—	1E-05	88%	—	—	—	—	
Total Cumulative Risk	5	100%	0.7	2	0.7	3,000	100%	4E-06	2E-04	5E-06	3,000	100%	4E-06	2E-04	5E-06	3,000	100%	4E-06	2E-04	5E-06	4E-03	
Target Hazard Index or Cancer Risk	1	—	1	1	1	1	—	1	1	1	1	—	1	1	1	1	—	1	1	1	1E-04 to 1E-06	

Abbreviations:

"—" = not applicable

α = sub-slab attenuation factor

Notes:

(a) Consistent with U.S. EPA guidance, the risk estimates presented in this table are rounded to one significant figure (U.S. EPA, 2000).

References:

(1) U.S. EPA, 2000. *Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins*, May 2000.

