

TYPE OF SERVICES	Phase I Environmental Site Assessment
LOCATION	Downtown Specific Plan Amendments and Specific Development Project Sunnyvale, California
CLIENT	David J. Powers & Associates
PROJECT NUMBER	118-97-1
DATE	September 24, 2018

 ENVIRONMENTAL

Type of Services
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Phase I Environmental Site Assessment
Downtown Specific Plan Amendments and
Specific Development Project
Sunnyvale, California

Client
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Project Number
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**Type of Services
Location****Phase I Environmental Site Assessment
Downtown Specific Plan Amendments and
Specific Development Project
Sunnyvale, California**

SECTION 1: INTRODUCTION

This report presents the results of the Phase I Environmental Site Assessment (ESA) performed at five development sites within the Downtown Specific Plan (DSP) area in Sunnyvale, California (Site) as shown on Figures 1 and 2. This work was performed for David J. Powers & Associates in accordance with our January 17, 2018 Agreement (Agreement).

1.1 PURPOSE

The scope of work presented in the Agreement was prepared in general accordance with ASTM E 1527-13 titled, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (ASTM Standard). The ASTM Standard is in general compliance with the Environmental Protection Agency (EPA) rule titled, "Standards and Practices for All Appropriate Inquiries; Final Rule" (AAI Rule). The purpose of this Phase I ESA is to strive to identify, to the extent feasible pursuant to the scope of work presented in the Agreement, Recognized Environmental Conditions at the property.

As defined by ASTM E 1527-13, the term Recognized Environmental Condition means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not Recognized Environmental Conditions.

Cornerstone Earth Group, Inc. (Cornerstone) understands that David J. Powers & Associates is assisting the City of Sunnyvale with the preparation of an Environmental Impact Report (EIR) for the Downtown Specific Plan Amendments and Specific Development Project (hereinafter referred to as the "Project"). We performed this Phase I ESA to support David J. Powers & Associates in evaluation of Recognized Environmental Conditions at the Site. This Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for Recognized Environmental Conditions at the Site.

1.2 PROJECT BACKGROUND AND DESCRIPTION

The City of Sunnyvale originally adopted the DSP in 1993 and updated it in 2003 and 2013. The DSP area consists of approximately 125 acres, generally bound by the railroad/Caltrain tracks to the north, Bayview Avenue to the east, El Camino Real to the south, and Charles Street to the west. The DSP area is divided into 22 Blocks and is currently developed with a total of 1,446 residential units, 1,042,995 square feet of commercial uses, 983,073 square feet of office uses,

and 85 hotel rooms. Block 18 is divided into six smaller sub-blocks. The DSP area is surrounded by a mix of uses including residential, commercial, and industrial uses.

The DSP is a long-term planning document to create “an enhanced, traditional downtown serving the community with a variety of destinations in a pedestrian-friendly environment.” The DSP contains goals, policies, design strategies and guidelines, land use and development intensities and standards to guide development in the DSP area. The buildout of the adopted DSP would result in a total of 2,200 residential units, 1,367,000 square feet of commercial uses, 1,080,000 square feet of office uses, and 200 hotel rooms.

The Project consists of two primary components: 1) amendments to the DSP specific to six¹ development sites to change the land use mix and the intensity of development including changes to the design guidelines and supplemental standards, and 2) specific development proposals for six development sites. The specific development proposals for the on-Site properties are described in Section 2.2.

1.3 SCOPE OF WORK

As presented in our Agreement, the scope of work performed for this Phase I ESA included the following:

- A reconnaissance of the Site to note readily observable indications of significant hazardous materials releases to structures, soil or ground water.
- Drive-by observation of adjoining properties to note readily apparent hazardous materials activities that have or could significantly impact the Site.
- Acquisition and review of a regulatory agency database report of public records for the general area of the Site to evaluate potential impacts to the Site from reported contamination incidents at nearby facilities.
- Review of readily available information on file at selected governmental agencies to help evaluate past and current Site use and hazardous materials management practices.
- Review of readily available maps and aerial photographs to help evaluate past and current Site uses.
- Interviews with persons reportedly knowledgeable of existing and prior Site uses.
- Preparation of a written report summarizing our findings and recommendations.

The limitations for the Phase I ESA are presented in Section 10.

¹ Five of the six properties were studied during this Phase I ESA. The sixth property is located within Sub-block 2 (300 W. Washington Ave.); an approximately 0.9-acre property at the southwest corner of West Washington Ave. and South Taaffe Street (APNs: 209-41-002 and -003). It is currently developed with a five-story, mixed use building with 5,400 square feet of ground floor commercial uses and 124 residential units. The Project proposes to convert existing storage space within the building to one new residential unit.

1.4 ASSUMPTIONS

In preparing this Phase I ESA, Cornerstone assumed that all information received from interviewed parties is true and accurate. In addition, we assumed that all records obtained by other parties, such as regulatory agency databases, maps, related documents and environmental reports prepared by others are accurate and complete. We also assumed that the boundaries of the Site, based on information provided by David J. Powers & Associates, are as shown on Figures 1 and 2. We have not independently verified the accuracy or completeness of any data received.

1.5 ENVIRONMENTAL PROFESSIONAL

This Phase I ESA was performed by Stason I. Foster, P.E. and Ron L. Helm, C.E.G., Environmental Professionals who meet the qualification requirements described in ASTM E 1527-13 and 40 CFR 312 § 312.10 based on professional licensing, education, training and experience to assess a property of the nature, history and setting of the Site.

SECTION 2: SITE DESCRIPTION

This section describes the Site as of the date of this Phase I ESA. The location of the Site is shown on Figures 1 and 2. Tables 1 through 3 summarize general characteristics of the Site and adjoining properties. The Site is described in more detail in Section 7, based on our on-Site observations.

2.1 SITE LOCATION AND OWNERSHIP

Table 1 describes the physical location, and ownership of the property, based on information provided by David J. Powers & Associates. In addition to the current addresses listed in Table 1, numerous historical addresses were identified during our review of prior environmental reports, historical Sanborn fire insurance maps and other Site-related documents. Based on the information reviewed and our professional judgment, several historical addresses were additionally researched during this Phase I ESA. These historical addresses also are listed in Table 1 and include addresses of prior commercial businesses that are commonly associated with the use or storage of hazardous materials (e.g., gasoline service stations, dry cleaners, auto repair shops, etc.), as well as several other addresses for which historical uses were not previously established.

Table 1. Site Location and Ownership

Site Name and Current Addresses	Assessor's Parcel No. (APN)	Owner	Approx. Size	Additional Historical Addresses
100 Altair Way 141, 150, 160, 310, 350, 360, 370 and 380 Altair Way; 141 and 143 S. Taaffe Street; and 150 and 160 Aries Way	209-07-007	Martin and Sharon Kasik	0.5 acres	149 South Taaffe Street
300 Mathilda Avenue 300 S. Mathilda Avenue	209-34-019	Sares Regis (Sunnyvale Acquisition LLC)	1.9 acres	320 S. Mathilda Avenue; and 360, 368, 374, 380, 384, 386 and 396 W. McKinley Avenue
Macy's 200 W. Washington Avenue	209-35-022	Sares Regis (STC Venture 200WA, LLC)	2.3 acres	212, 221, 224, 246, 248, 257, 276 S. Murphy Avenue; 176, 198 and 200 W. Washington Avenue; 134 and 152 E. Washington Avenue; 200, 204 and 230 S. Frances Street; and 2502 and 2711 Town Center Lane
Redwood Square 201 and 235 S. Murphy Avenue, and 200 and 240 S. Taaffe Street	209-35-023	Sares Regis (Sunnyvale Acquisition LLC)	5 acres	
Sub-block 6 230 and 240 S. Murphy Avenue, 301 S. Sunnyvale Avenue and 100 E. Washington Avenue	209-35-016, -017, -018 and -019	Sares Regis (Sunnyvale Acquisition LLC)	3.9 acres	
Murphy Square 111 and 113 W. Evelyn Avenue	Eastern portion of 209-06-083	PSAI Realty Partners (Giurland Inc.)	1.5 acres	185 and 191 Evelyn Avenue

Note: Current addresses were obtained from Santa Clara County Assessor's Office records and/or were noted to be used by current occupants.

2.2 CURRENT/PROPOSED USE OF THE SITE

The current and proposed uses of the five on-Site properties are summarized in Table 2. The existing on-Site development includes 20 residential units, 181,000 square-feet of commercial space, and 8,000 square-feet of office space. The current and proposed developments are further described below.

Table 2. Summary of Existing and Proposed Development

Development Site	Existing			Proposed		
	Housing (units)	Commercial (SF)	Office (SF)	Housing (units)	Commercial (SF)	Office (SF)
100 Altair Way	20	4,000	8,000	--	--	134,324
300 Mathilda Avenue	--	--	--	--	10,000	155,000
Macy's & Redwood Square	--	177,000	--	400	137,100	480,000
Sub-block 6	--	--	--	392	45,000	--
Murphy Square	--	--	--	--	--	69,100

2.2.1 100 Altair Way

The 100 Altair Way Site is approximately 0.5 acres and currently developed with a one-story, approximately 8,000 square-foot building occupied by a U.S. Post Office and a three-story mixed use building with approximately 4,000 square feet of commercial uses and parking on the ground floor, and 20 residential units on the upper two floors.

The proposed development would demolish the existing buildings on-Site and construct a seven-story (up to 110 feet in height), 134,324 square-foot office building with four levels of below ground parking. The proposed office building would include an approximately 9,500 square-foot rooftop terrace with passive recreational amenities such as walking paths, bocce ball area, and picnic tables. The development would excavate a total of approximately 38,500 cubic yards of soil to a maximum depth of 43 feet for the below ground parking garage.

2.2.2 300 Mathilda Avenue

The 300 Mathilda Avenue Site is approximately 1.9 acres and is currently undeveloped. The proposed development would construct a five-story (up to 90 feet in height), mixed-use building with up to 10,000 square feet of commercial uses and up to 155,000 square feet of office uses with two levels of below ground parking. An approximately 2,500 square foot open space area with passive recreational amenities including outdoor dining space and landscaped areas is proposed north of the building. A surface parking lot would be constructed south of the proposed building with access to the existing, adjacent three-story parking garage to the east of the Site. The development would excavate a total of approximately 50,000 cubic yards of soil to a maximum excavation depth of 30 feet for the below ground parking garage.

2.2.3 Macy's and Redwood Square

The Macy's and Redwood Square Site is approximately 7.3 acres and is currently developed with a two-story, approximately 177,000 square-foot retail building occupied by Macy's and a large undeveloped area that contains several large redwood trees. The proposed development would demolish the existing building and construct two, seven-story (up to 116 feet in height), mixed-use buildings totaling up to 90,000 square feet of commercial uses and up to 480,000 square feet of office uses on the northern portion of the site. Parking would be provided in a two-level, below ground parking structure beneath the buildings.

The development also proposes to extend South Frances Street south, through the northern portion of the Site. A new east-west internal driveway is proposed to bisect the Site and intersect the proposed South Frances Street extension and provide a connection between South Taaffe Street and Murphy Avenue.

The southern portion of the Site is proposed to be developed with two, 10-story (up to 115 feet in height) mixed-use buildings containing 45,000 square feet of ground floor commercial uses and up to 400 residential units. Parking would be provided in one two-level, below ground parking structure beneath the two buildings. An approximately 1-acre outdoor plaza is proposed at the southeast corner of the Site. Five existing, mature redwood trees would be preserved and integrated into the landscape design of the outdoor plaza area. The outdoor plaza could include a combination of movable or temporary commercial structures totaling 2,100 square feet and passive recreational amenities such as landscaped areas, seating, play areas, and outdoor eating areas.

The development would excavate a total of approximately 305,000 cubic yards of soil to a maximum excavation depth of 30 feet for the below ground parking garages.

2.2.4 Sub-block 6

The Sub-block 6 Site is approximately 3.9 acres and is currently developed with a large surface parking lot. The development proposes to redevelop the Site with one, seven-story (up to 85 feet in height) mixed use building with 45,000 square feet of commercial uses and 392 residential units.

The proposed building would include one level of below ground parking, two levels of above ground parking with ground floor commercial uses and residential units lining the exterior of the parking and capped by a podium structure, and four or five levels of residential units above the podium. The number of residential levels is expected to vary across the site. The residential units on top of the podium structure would be situated around common open space areas that would include passive recreational amenities such as a pool, outdoor BBQ grills, gardens, landscaped areas, and seating areas. The development would excavate a total of approximately 80,500 cubic yards of soil to a maximum excavation depth of 15 feet for the below ground parking garage.

2.2.5 Murphy Square

The Murphy Square Site is approximately 1.5 acres and is currently developed with a surface parking lot which provides parking for the existing, adjacent building to the west. The proposed development would replace the existing surface parking lot with a four-story (up to 70 feet in height), approximately 69,100 square-foot office building with three levels of below ground parking. The development would excavate a total of approximately 28,500 cubic yards of soil to a maximum excavation depth of 34 feet for the below ground parking garage.

2.3 SITE SETTING AND ADJOINING PROPERTY USE

Land use in the general Site vicinity is a mix of residential and commercial properties.

SECTION 3: USER PROVIDED INFORMATION

The ASTM standard defines the User as the party seeking to use a Phase I ESA to evaluate the presence of Recognized Environmental Conditions associated with a property. For the purpose of this Phase I ESA, the User is David J. Powers & Associates. The “All Appropriate Inquiries” Final Rule (40 CFR Part 312) requires specific tasks be performed by or on behalf of the party seeking to qualify for Landowner Liability Protection under CERCLA (*i.e.*, the User).

Per the ASTM standard, if the User has information that is material to Recognized Environmental Conditions, such information should be provided to the Environmental Professional. This information includes: 1) specialized knowledge or experience of the User, 2) commonly known or reasonably ascertainable information within the local community, and 3) knowledge that the purchase price of the Site is lower than the fair market value due to contamination. A search of title records for environmental liens and activity and use limitations also is required.

3.1 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

An environmental lien is a financial instrument that may be used to recover past environmental cleanup costs. Activity and use limitations (AULs) include other environmental encumbrances, such as institutional and engineering controls. Institutional controls (ICs) are legal or regulatory restrictions on a property's use, while engineering controls (ECs) are physical mechanisms that restrict property access or use.

The regulatory agency database report described in Section 4.1 did not identify the Site as being in 1) US EPA databases that list properties subject to land use restrictions (*i.e.*, engineering and institutional controls) or Federal Superfund Liens or 2) lists maintained by the California Department of Toxic Substances Control (DTSC) of properties that are subject to AULs or environmental liens where the DTSC is a lien holder.

ASTM E 1527-13 categorizes the requirement to conduct a search for Environmental Liens and AULs as a User responsibility. A search of land title records for environmental liens and AULs was not within the scope of the current Phase I ESA.

3.2 SPECIALIZED KNOWLEDGE AND/OR COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

Based on information provided by or discussions with David J. Powers & Associates, we understand that David J. Powers & Associates does not have specialized knowledge or experience, commonly known or reasonably ascertainable information regarding the Site, or other information that is material to Recognized Environmental Conditions except for the information contained in the provided reports described in Section 3.3.

3.3 DOCUMENTS PROVIDED BY DAVID J. POWERS & ASSOCIATES

To help evaluate the presence of Recognized Environmental Conditions at the Site, Cornerstone reviewed and relied upon the documents provided by David J. Powers & Associates listed in Table 3. Please note that Cornerstone cannot be liable for the accuracy of the information presented in these documents. ASTM E1527-13 does not require the Environmental Professional to verify independently the information provided; the Environmental Professional may rely on the information unless they have actual knowledge that certain information is incorrect. A summary of the provided documents is provided below; please refer to the original reports for complete details.

Table 3. Documents Provided by David J. Powers & Associates

Date	Author	Title
June 2, 2008	Versar, Inc.	Phase I Environmental Site Assessment, Murphy Square, 111 West Evelyn Avenue, Sunnyvale, California
February 27, 2015	Kennedy/Jenks Consultants	Phase I Environmental Site Assessment, 200 West Washington Avenue Property, Sunnyvale, California
September 15, 2016	RPS Iris Environmental	Phase I Environmental Site Assessment, Proposed Retail Properties, Former Sunnyvale Town Center Mall, 2502 Town Center Lane, Sunnyvale, California

3.3.1 Versar 2008 (Murphy Square Site)

The 2008 Phase I ESA by Versar included the on-Site portion of the Murphy Square parcel (*i.e.*, the exiting parking lot), as well as the westerly adjacent commercial building. The on-Site area was noted to have been developed with dwellings and a small unidentified structure by 1908. By 1930, a commercial building occupied by California Packing Corporation was constructed on-Site.

Versar indicated that the Site may have been historically associated with Southern Pacific Railway and may have been used to store rail ties. Rail ties may have been treated with creosote, containing polycyclic aromatic hydrocarbons (PAHs), metals and petroleum hydrocarbons. Versar recommended that, prior to any earth moving activities or redevelopment where soil will be disturbed, assessment for the presence of creosote and related hazardous substances be conducted by a licensed professional.

Several former nearby businesses were identified including, among others, a former Chevron gasoline service station at 104 South Murphy Avenue and former dry cleaning businesses (Economy Cleaners at 140 South Murphy Avenue, City of Paris Cleaners at 159 South Murphy Avenue, and Fred's Tailors and Cleaners at 139 South Murphy Avenue). Versar concluded that based on their up-gradient location and proximity to the Site, these former nearby facilities have the potential to impact the Site if a release to ground water occurred from these addresses.

3.3.2 Kennedy/Jenks 2015 (Macy's Site)

Portions of the Macy's Site reportedly were developed with small commercial business as early as the 1930s. South Frances Street formerly bisected the Site. Sanborn Fire Insurance Maps from 1930, 1943 and 1959 reportedly identified an on-Site "oil and gas" facility (likely a gasoline service station – Figure 3) at the southeast corner of West Washington Avenue and South Frances Street (currently occupied by the Macy's building). The 1930 and 1943 Sanborn maps additionally identified an on-Site "general auto service" facility southwest of the "oil and gas" facility. The Site reportedly has been occupied by the existing two-story Macy's department store building since its construction in the late 1970s.

Kennedy/Jenks identified the presence of a release of tetrachloroethylene (PCE) from dry cleaning businesses formerly located southeast of the Macy's building on Sub-block 6 (Figure 3). The PCE impacted ground water was noted to have migrated northwards in the direction of the local hydraulic gradient and extend beyond Evelyn Avenue. Kennedy/Jenks stated that the western boundary of the PCE impacted ground water was not well defined; thus, the degree to which soil vapor and ground water containing PCE extend beneath the eastern edge of the Macys building is uncertain. Kennedy/Jenks identified the presence of PCE in soil vapor and ground water as a Recognized Environmental Condition associated with the Macy's Site. The PCE impacts originating from the Sub-block 6 Site are further discussed in Section 4.1.3.

Kennedy/Jenks also noted that the potential exists for petroleum hydrocarbons to be present in the subsurface at the Macy's Site at the locations of the prior "gas and oil" and "general auto service" facilities.

3.3.3 RPS Iris Environmental 2016 (Redwood Square, Sub-block 6 and 300 Mathilda Avenue Sites)

The 2016 Phase I ESA by RPS Iris Environmental (RPS) included the Redwood Square, Sub-block 6 and 300 Mathilda Avenue Sites, along with other adjacent off-Site properties.

Portions of the on-Site parcels were noted to have been developed since at least 1908. Prior Site uses reportedly included residences, a public school, churches, City Hall, and various commercial businesses including a blacksmith, vehicle service facilities, a gasoline service station and dry cleaning facilities, among others.

Sunnyvale Town Center Mall (STCM) was constructed during the late 1970s on the Redwood Square and Sub-block 6 Sites, and extended onto adjacent properties. An associated parking garage also extended onto the southeast portion of the 300 Mathilda Avenue parcel. The STCM structures and associated parking garages were demolished during the mid-2000s.

At the time of the 2016 study by RPS, Redwood Square reportedly consisted of four partially completed buildings with two levels of steel framing that were constructed following the demolition of STCM, and six mature redwood trees after which the square is named. The 300 Mathilda Avenue Site consisted of an undeveloped lot used to store portable construction offices, storage containers and construction materials. Sub-block 6 consisted of a surface parking lot.

RPS (2016) reported that STCM is listed as an open case on the Water Board's Spills, Leaks, Investigation and Cleanup (SLIC) database (Case No. SL0608535560). Investigations of the STCM were noted to have begun in 2005 and consisted of several Phase I and Phase II ESAs. Additional investigations were conducted to further characterize the extent of identified PCE impacts resulting from releases from dry cleaning businesses formerly located on Sub-block 6 (on-Site) and on Block 5 (off-Site). The potential for vapor intrusion² and management of impacted ground water during dewatering or excavation that may occur during construction were noted by RPS (2016) as being the main concerns. RPS stated that mitigation measures to prevent vapor intrusion, such as installation of vapor barriers, may be warranted for future buildings on Blocks 3, 5, and 6. The STCM SLIC case and associated PCE impacts are further discussed in Section 4.1.3.

SECTION 4: RECORDS REVIEW

4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

Cornerstone conducted a review of federal, state and local regulatory agency databases provided by Environmental Data Resources (EDR) to evaluate the likelihood of contamination incidents at and near the Site. The database sources and the search distances are in general accordance with the requirements of ASTM E 1527-13. A list of the database sources

² Vapor intrusion is the movement of chemical vapors from contaminated ground water or soil into a nearby building. Vapors primarily enter through openings in the buildings foundation, such as cracks in the concrete slab and gaps around utility lines. It is also possible for vapors to pass through concrete, which is naturally porous. Once inside the building, vapors may be inhaled posing potential health risks to building occupants.

reviewed, a description of the sources, and a radius map showing the location of reported facilities relative to the project Site are attached in Appendix A.

The purpose of the records review was to obtain reasonably available information to help identify Recognized Environmental Conditions. Accuracy and completeness of record information varies among information sources, including government sources. Record information is often inaccurate or incomplete. The Environmental Professional is not obligated to identify mistakes or insufficiencies or review every possible record that might exist with the Site. The customary practice is to review information from standard sources that is reasonably available within reasonable time and cost constraints.

4.1.1 On-Site Database Listings

Several listings associated with the Site were identified in the researched regulatory agency databases. Key listings are summarized in Table 4.

Table 4. Summary of on-Site Database Listings

Site Name and Associated Agency Database Listings	Database Listings/Comments
100 Altair Way	
Andy Kasik 141 Taaffe Street	Listed on the HAZNET database, which contains data extracted from the copies of hazardous waste manifests received each year by the DTSC. Listed wastes disposed in 2001 were categorized as asbestos containing waste.
300 Mathilda Avenue	
Dick May Chevron 320 S. Mathilda Avenue	Listed in EDR's database of historical automotive businesses as having been a gasoline service station in 1970.
Health Way Foods 368 McKinley Avenue	Listed in EDR's database of historical automotive businesses as having been a gasoline service station in the early 1970s. This listing appears to be an error; see discussion below.
Macy's and Redwood Square and Sub-Block 6	
Macy's 200 W. Washington Ave.	Listed on the HAZNET database; wastes disposed between 1998 and 2016 were categorized as off-specification, aged or surplus organics; latex waste; material containing polychlorinated biphenyls (PCBs); oxygenated solvents; organic liquid mixtures; and asbestos containing waste. Macy's also was listed in State databases of facilities with permits to store hazardous materials and generate hazardous waste.
Sunnyvale Town Center Mall 2502 Town Center Lane	As described above in Section 3.3.3, the Sunnyvale Town Center Mall (STCM), which includes the on-Site Macy's, Redwood Square and Sub-block 6 parcels (<i>i.e.</i> , STCM Blocks 3 and 6), is listed on the Water Board's SLIC database, among others. STCM also was listed in the HAZNET database; wastes disposed in 2003 were categorized as asbestos containing waste and other organic solids.
Sunnyvale Town Center Dental 1268 Town Center Lane	Listed on a State database of facilities with permits to generate hazardous waste (presumably a former tenant within STCM).
The Picture People 1032 Town Center Lane	Listed on a State database of facilities with permits to generate hazardous waste (presumably a former tenant within STCM).
Magic Photo 1244 Town Center Lane	Listed on a State database of facilities with permits to generate hazardous waste (presumably a former tenant within STCM).
Expressly Portraits 1032 Town Center Lane	Listed as a RCRA Small Quantity Generator of hazardous waste (presumably a former tenant within STCM).
Teague Cleaners 246 South Murphy Avenue	Listed on EDR's database of former drycleaning businesses between 1969 and 1980.
Murphy Square	
Even Louis JDC 111 W. Evelyn #115	Listed on the HAZNET database; wastes disposed in 1993 were categorized as photoprocessing waste. This business presumably was located off-Site within the westerly adjacent, multi-tenant, commercial building.

Additional information obtained from EDR regarding the Health Way Foods listing at 368 McKinley Avenue indicates that this apparent grocery store was listed in EDR's automotive facility database as a result of information obtained from Dun & Bradstreet that noted a SIC Code³ for Health Way Foods of 5541 (the code associated gasoline service stations). The SIC Code associated with grocery stores is 5411, which is similar. Thus, the Dun & Bradstreet information appears likely to have resulted from a typographical error. No other information identifying Health Way Foods as a gasoline service station was identified during this study.

4.1.2 Nearby Spill Incidents

Several spill incidents in the general Site vicinity were identified within the agency database report. Based on a cursory review of readily available documents obtained from the state Geotracker (<http://geotracker.waterboards.ca.gov>) and Envirostor (<http://www.envirostor.-dtsc.ca.gov>) databases, the reported off-Site spill incidents appear unlikely to have significantly impacted the Site. The potential for impact was based on available ground water sampling reports and our interpretation of the types of incidents, the locations of the reported incidents in relation to the Site and the assumed ground water flow direction.

4.1.3 Further Review of Database Listings

To obtain additional information regarding the on-Site SLIC case associated with STCM, a cursory review of readily available documents obtained from the state Geotracker (<http://geotracker.waterboards.ca.gov>) database was performed. Geotracker is a database and geographic information system (GIS) that provides online access to environmental data. It tracks regulatory data about leaking underground storage tank (LUST), Department of Defense, Site Cleanup Program and Landfill sites.

A brief summary of the STCM SLIC Case is presented below.

4.1.3.1 STCM Background and Regulatory Oversight

The Water Board is the lead agency overseeing the investigation and cleanup at the STCM property under the Water Board's Site Cleanup Program. The STCM property was divided into six Blocks to facilitate investigation and closure of the various parts of the property. The Blocks are identified on Figure 2. Note that these six blocks are Sub-blocks of DSP Block 18, but the "Sub-" prefix is often omitted in reports pertaining to the STCM SLIC case. Three dry cleaning facilities formerly located on Blocks 5 and 6 were identified as PCE source areas. The PCE releases have impacted soil, soil vapor and ground water on Blocks 3, 5, and 6 and potentially at the Murphy Square parcel, as well as at some off-Site areas.

4.1.3.2 Prior Investigations and Remedial Actions at STCM

Numerous environmental investigations of the STCM property have been performed since the mid-2000s, including soil, soil vapor and ground water investigations. The initial investigations were performed in support of due diligence activities related to transactions involving the property. Following discovery of the PCE releases from the historic dry cleaners, additional

³ The Standard Industrial Classification, or "SIC" system, is used for classifying industries by a four-digit numeric code. This method was established in the United States in 1937. The SIC classification system is used by government and private agencies to classify industry areas.

investigations were conducted to further characterize environmental impacts for remediation planning and implementation.

PCE has been detected at concentrations exceeding the Water Board's environmental screening levels (ESLs⁴) in ground water and soil vapor at on-Site Blocks 3 and 6, and at off-Site Block 5. Ground water containing elevated concentrations of PCE has migrated off-Site to the north. Soil vapor containing elevated concentrations of PCE also was noted to have migrated off-Site. In soil, detected PCE concentrations have typically not exceeded the residential ESL, except for in a few samples collected near ground water.

Two soil vapor extraction (SVE) systems were installed as an interim soil vapor cleanup measure in late 2007 and operated through January 2009. The purpose was to remove PCE contaminated soil vapor. Concentrations of PCE in soil vapor reportedly decreased significantly during SVE operation.

An interim ground water cleanup measure treated PCE-contaminated ground water by a process called dechlorination. Zero valent iron (ZVI), consisting of iron filings, was injected into the ground. ZVI aids in the remediation of PCE contaminated ground water by destroying the chemical through dechlorination. This process progressively removes the chlorine atoms, leaving harmless end products. Vegetable oil with naturally occurring bacteria that break down PCE was also injected into the ground water. Vegetable oil provides a food source for the bacteria. These harmless bacteria help "clean up" remaining chemicals not remediated by the ZVI, completing the dechlorination process.

The prior studies are summarized in greater detail in a May 4, 2012 Remedial Action Plan (RAP) prepared by Ground Zero Analysis, Inc. (GZA). The RAP, along with several more recent investigation and monitoring reports, are available on the Geotracker database (<http://geotracker.waterboards.ca.gov>). The RAP was approved by the Water Board in a letter dated May 4, 2012. Prior sampling locations, as of the date of the RAP, are depicted on Figure 3.

The RAP proposed the cleanup of PCE contaminated ground water by continued dechlorination and the cleanup of PCE contaminated soil vapor by continued soil vapor extraction using SVE systems on Blocks 5 and 6. These SVE systems reportedly have generally been in continuous operation since December 2012 (RPS, 2018). Figures 4 through 7 depict PCE concentrations in both ground water and soil vapor detected at the time remedial measures were initiated (2007/2008) and recent data collected during the fourth quarter of 2017. As shown, a significant reduction in PCE concentrations is apparent.

The RAP also proposed vapor mitigation systems (VMS), to the extent necessary, to further prevent the intrusion of any residual soil vapors into future buildings constructed on the Site. VMS will be installed in newly-constructed buildings if warranted by sampling results at the time of construction. VMS would consist of impermeable vapor barriers installed beneath building foundations, passive or active sub-foundation venting systems, and regular monitoring programs (Water Board, 2012).

⁴ Environmental Screening Levels (San Francisco Bay, Regional Water Quality Control Board, February 2016) are used to screen sites for potential human health concerns where releases of hazardous chemicals have occurred. ESLs are risk-based concentrations derived from standardized equations combining exposure information assumptions with toxicity data. Under most circumstances, the presence of a chemical at concentrations below the corresponding screening level can be assumed not to pose a significant health risk.

As summarized by the Water Board (2012), the RAP additionally requires submittal of the following:

- Annual ground water monitoring reports
- Annual soil vapor monitoring reports
- Remedial action status report after three years of soil vapor extraction
- If deemed necessary, a deed restriction prohibiting use of shallow ground water and/or certain sensitive property uses
-

The RAP also requires submittal of the following, should VMS be deemed necessary:

- Building-specific VMS installation workplans
- VMS installation report(s) prepared for each building for which a VMS has been installed
- Indoor air sampling results for each building requiring a VMS, prior to occupancy
- VMS operation and maintenance manuals
- VMS quarterly monitoring reports for one year, with yearly monitoring occurring thereafter

A Soil Management Plan (SMP) (Treadwell & Rollo, 2008) contained in Appendix D of the RAP was approved by the Water Board for use during previously planned redevelopment activities (which were not completed) to permit the effective identification and management of any residual soil and other contamination, in the event such contamination was encountered. The areas covered by the SMP included Blocks 5 and 6, and the eastern portion of the Redwood Square Site. The Macy's Site and other on-Site areas were not within the SMP coverage area.

4.1.3.3 Water Board No Further Action Letters

In 2011, the Water Board issued no further action letters for Blocks 1, 2, 3, 4 and the northern portion of Block 5 (APN 209-35-015). These no further action letters include the on-Site 300 Mathilda Avenue parcel that is part of Block 1; and the Redwood Square and Macy's parcels that comprise Block 3.

Prior investigations at Block 1 are noted to have included the advancement of two hydropunch soil borings, the installation of one ground water monitoring well, and the advancement of nine soil borings. Both hydropunch soil borings, the well (MW-10⁵) and three of the nine soil borings were located on-Site on the 300 Mathilda Avenue parcel. Analyses for volatile organic compounds (VOCs) including PCE, petroleum hydrocarbons and/or metals, among others, were performed on selected soil, soil vapor and ground water samples. The findings are summarized in the no further action letter (attached in Appendix E). The Water Board concluded that PCE releases on the eastern portion of the STCM property are not affecting Block 1. Furthermore, the Water Board stated that investigations conducted at Block 1 indicated that no source of contamination was found and that remediation is unnecessary.

Prior investigations at Block 3 (*i.e.*, the on-Site Redwood Square and Macy's parcels) are noted to have included the advancement of one CPT/hydropunch, the advancement of one Geoprobe soil boring, the installation of two ground water monitoring wells (MW-4 and MW-5), and the advancement of twenty one soil gas borings. The Water Board concluded that PCE detected in

⁵ In the Water Board's 2011 Case Closure Summary for Block 1, well MW-10 was noted to have been destroyed in August 2007 in preparation for site redevelopment.

soil gas and ground water on the northeastern portion of Block 3 is due to lateral migration from the source areas on Blocks 5 and 6. In the Block 3 no further action letter or in the associated case closure summary (attached in Appendix E), the Water Board made the following statements:

- *It is believed that the continued operation of the SVE system on Blocks 5 and 6 will mitigate the migration of PCE in soil vapor beneath Block 3 and ultimately reduce levels to below ESLs.*
- *It is expected that the continuing dechlorination related to the ZVI injections will continue to remediate groundwater impacts beneath the eastern portion of Block 3.*
- *Based upon the available information, including the current and contemplated land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action is required at Block 3 with respect to pollutant releases at the Sunnyvale Town Center site.*

4.2 ADDITIONAL ENVIRONMENTAL RECORD SOURCES

The following additional sources of readily ascertainable public information for the Site also were reviewed during this Phase I ESA.

4.2.1 City and County Agency File Review

Cornerstone requested available files pertaining to Site at the Sunnyvale Building Department⁶ and Sunnyvale Fire Department. A summary of the information reviewed for each of the on-Site properties is presented in the following Sections.

4.2.1.1 100 Altair Way

Building Department files pertaining to the Altair Way parcel were dated between 1955 and 2012 and included permits, plans and other related documents. The information reviewed indicates that the existing United States Postal Service (USPS) building was constructed on-Site during the mid-1950s.

During the 1980s, the existing mixed-use building, consisting of commercial space on the ground floor with overlying residential units, was constructed on the northwest portion of the parcel that was previously utilized as a paved parking area by the USPS. A portion of the USPS building also was converted for other uses that have included retail flower sales, a Jazzercise business, a sports bar and office uses.

The Fire Department indicated that they have no files pertaining to hazardous materials at the Altair Way parcel.

⁶ Note that some of the documents contained in Building Department files (viewed as scanned digital images at the Building Department) were not legible or only partially legible due to the quality of the image scans and limitations of the electronic viewing system.

4.2.1.2 300 Mathilda Avenue

Building Department files pertaining to the Mathilda Avenue parcel included a 1970 permit to demolish a service station owned by Standard Oil and a 1970 sign permit for a bank, both pertaining to a former address of 320 S. Mathilda Avenue. The files also contained several permits associated with former on-Site businesses that fronted W. McKinley Avenue between the 1950s and 1970s. These businesses included Lee Brothers Market, Winchell's Donut House, Healthway Foods, Webb's Choice Meat, B&A Quality Meats, Starlito Super Market, Lucky Stores, Inc., and Sunnyvale Community Services.

The Fire Department indicated that they have no files pertaining to hazardous materials at the Mathilda Avenue parcel.

4.2.1.3 Macy's, Redwood Square and Sub-Block 6

Building Department files pertaining to the Macy's, Redwood Square and Sub-block 6 parcels were dated between 1960 and 2017 and included permits, plans and other related documents. The information reviewed indicates that these parcels were historically part of the STCM, a multi-level, indoor shopping center that was constructed during the late 1970s. It was occupied by numerous tenants and anchored by the on-Site Macy's store, along with Montgomery Ward (located off-Site). A JC Penney store (part of which was located on-Site) was added in the early 1990s⁷. Except for the remaining Macy's building, the mall was demolished in 2007.

Construction of several new buildings on the Redwood Square parcel subsequently was started, but work was halted as a result of the 2008/2009 financial crisis. These partially constructed buildings were removed from the Redwood Square parcel by early 2017 and the existing landscaping and at-grade parking improvements were completed.

Building Department files indicate that these parcels were occupied by a variety of commercial businesses prior to construction of the STCM. Teague Cleaners was identified as an occupant in 1970 of 246 S. Murphy Street (one of the two dry cleaning businesses formerly located on Sub-block 6). The files also contained a 1968 permit to demolish a service station owned by General Petroleum Corporation that was located on-Site at 204 S. Frances Street, a location currently covered by the existing Macy's building.

Files provided by the Fire Department included permits and associated documents pertaining to the generation of hazardous waste by Expressly Portraits (*aka.*, The Picture People, Inc.), a prior tenant within STCM. Expressly Portraits was noted to generate 18 gallons of photoprocessing waste per year. No violations indicative of spills were reported on a 1993 inspection report. Ritz Camera also was identified as a prior tenant of STCM and as a generator of photoprocessing waste; treatment of the waste for recovery of silver was reportedly conducted.

4.2.1.4 Murphy Square

Building Department files pertaining to the Murphy Square parcel included permits, plans and other documents related primarily to the multi-tenant building located adjacent to the west, on the off-Site portion of the parcel. Documents filed under the former on-Site address of 185 E.

⁷ Due to the volume of documents pertaining to tenant improvements and alterations at the mall, only a cursory review of these documents was feasible within the scope of this Phase I ESA

Evelyn Avenue included a 1986 permit to demolish a freight shed; the owner was listed as Del Monte. Several documents also pertained to the relocation of a former on-Site Del Monte building; the building was moved in 1993 to the southeast corner of W. Evelyn Avenue and S. Murphy Avenue and renovated. The Murphy Square parcel was noted to have been owned by Southern Pacific Transportation Company and leased to Del Monte since 1921. The building reportedly was constructed in early 1900s and initially used to grade and store fruit. It was subsequently used as a seed processing and germinating facility until 1986 when Del Monte's lease expired, and the building subsequently remained vacant until it was moved.

Files provided by the Fire Department included hazardous materials storage permits from the 1980s for Del Monte Corporation. A chemical inventory from 1984 lists several fungicides and insecticides including Captan 80, Arasan 70-S and 50 RND, Orthocide 75, Lorsban 50SL, Demosan 65, Dexon and Roundup; the quantities stored were not identified.

SECTION 5: PHYSICAL SETTING

We reviewed readily available geologic and hydrogeologic information to evaluate the likelihood that chemicals of concern released on a nearby property could pose a significant threat to the Site and/or its intended use.

5.1 RECENT USGS TOPOGRAPHIC MAP

A 1995 USGS 7.5 minute topographic map was reviewed to evaluate the physical setting of the Site. The Site's elevation ranges from approximately 90 to 110 feet above mean sea level; topography in the vicinity of the Site slopes downward gently to the northeast towards the San Francisco Bay.

5.2 HYDROGEOLOGY

The RAP that was prepared for the STCM (GZA, 2012) indicates that ground water bearing zones encountered beneath the Site have been characterized as follows:

- The shallow zone (approximately 30 to 45 feet below ground surface [bgs]),
- The intermediate zone (approximately 45 to 95 feet bgs),
- The deeper zone (greater than 95 feet bgs).

Historically ground water levels reportedly have been deeper and have risen approximately 10 feet since the early 1990s. The reported ground water flow direction is toward the north.

SECTION 6: HISTORICAL USE INFORMATION

The objective of the review of historical use information is to develop a history of the previous uses of the Site and surrounding area in order to help identify the likelihood of past uses having led to Recognized Environmental Conditions at the property. The ASTM standard requires the identification of all obvious uses of the property from the present back to the property's first developed use, or back to 1940, whichever is earlier, using reasonably ascertainable standard historical sources.

6.1 HISTORICAL SUMMARY OF SITE

The historical sources reviewed are summarized below. The results of our review of these sources are summarized in Table 5.

- **Historical Aerial Photographs:** We reviewed aerial photographs dated between 1939 and 2012 obtained from EDR of Shelton, Connecticut; copies of aerial photographs reviewed are presented in Appendix B.
- **Historical Topographic Maps:** We reviewed USGS 15-minute and 7.5-minute historical topographic maps dated 1897, 1899, 1902, 1943, 1948, 1953, 1961, 1968, 1973, 1995 and 2012; copies of historical topographic maps reviewed are presented in Appendix B.
- **Historical Fire Insurance Maps:** We reviewed Sanborn fire insurance maps dated 1908, 1911, 1930, 1943 and 1959 obtained from EDR; copies of Sanborn maps are presented in Appendix B.
- **Local Street Directories:** We reviewed city directories obtained from EDR that were researched at approximately 5 year intervals between 1922 and 2014 to obtain information pertaining to past Site occupants. A brief summary of selected occupants is included in Table 5. Additional listings are included in the city directory report presented in Appendix C.

Table 5. Summary of Historical Source Information for Site

Source	Comments
100 Altair Way	
Topographic maps	By 1943, the Altair Way parcel is shown to be located within a developed area of Sunnyvale. Specific Site features are not depicted until 1961 when the existing USPS building is depicted on-Site.
Sanborn maps	By 1908, a dwelling and associated outbuildings are depicted on-Site. An auto repair building was constructed on the northeast corner of the parcel by 1930. It is labeled as a truck repair facility on the 1943 map and a building occupied by E. Dunne Drayage is shown to have been constructed on the remainder of the Site. The truck repair and drayage buildings are shown to have been removed by 1959 and the existing USPS building is depicted on-Site.
Aerial photographs	The truck repair and drayage structures depicted on Sanborn maps are apparent on the 1939 aerial photograph and are shown to have been replaced by the existing USPS building by 1956. By the early 1990s, the existing mixed-use building on the northwest portion of the Site is shown to have been constructed.
City directories	Prior occupants appear consistent with the uses described above and include Security Truck Line (1950), USPS (1968) and, more recently, several individuals and other commercial businesses.

300 Mathilda Avenue	
Topographic maps	By 1943, the Mathilda Avenue parcel is shown to be located within a developed area of Sunnyvale. Specific Site features are not depicted until 1995 when a commercial structure is shown on the northwest corner of the Site and a parking garage associated with STCM is shown on the southeast portion of the Site.
Sanborn maps	Between 1911 and 1943, the Mathilda Avenue parcel is shown to be occupied by several dwellings and associated outbuildings. By 1959, a gasoline service station and a building labeled "greasing" are depicted on-Site fronting Mathilda Avenue, and two additional commercial buildings, occupied by several stores, are depicted on-Site fronting McKinley Avenue.
Aerial photographs	Prior uses of the Mathilda Avenue parcel shown on the aerial photographs appear consistent with those described above. The former commercial structure on the northwest corner of the Site and the parking garage associated with STCM are shown to have been removed by the early- or mid-2000s and the Site subsequently is shown to be undeveloped and used as a construction staging area.
City directories	Prior occupants appear consistent with the uses described above and include Winchell Donut House, several markets and grocery stores along W. McKinley Avenue from the late 1950s to 1970s. In 1964 and 1968, Standard Stations Inc. is listed as an on-Site occupant of 320 S. Mathilda Avenue.
Macy's, Redwood Square and Sub-Block 6	
Topographic maps	By 1943, the Macy's, Redwood Square and Sub-block 6 parcels are shown to be located within a developed area of Sunnyvale; church and school structures are depicted on-Site. By 1953, what appears to be the former city hall building also is depicted. The former STCM is shown on the 1995 map.
Sanborn maps	By 1908, a public school, a church, a blacksmith and a few other commercial buildings, as well as several dwellings and outbuildings, are shown on-Site. Similar uses are depicted on the 1911 map. By 1930, increased commercial and residential development of the Site is shown, including an expansion of Sunnyvale Primary School; the construction of City Hall with offices, a library and an auditorium; and the addition of several commercial businesses including auto sales and service facilities, a gasoline service station, printing and sheet metal works businesses, and a tailor & cleaning business, among others. Similar uses are depicted on the 1943 and 1959 Sanborn maps; a second dry cleaning business is shown to have been added by 1959.
Aerial photographs	Prior uses shown on the aerial photographs appear consistent with those described above. The STCM, including the existing Macy's building, are shown to have been constructed on-Site by 1982; the associated former JC Penny building (part of which was on-Site) was added during the 1990s. Except for the Macy's building, the STCM structures were removed between 2006 and 2009. Several new commercial buildings (partially completed) are shown on the Redwood Square parcel by 2009.
City directories	Listed prior occupants include numerous commercial occupants and individuals that, in general, appear consistent with the uses described above including STCM.
Murphy Square	
Topographic maps	By 1943, the Murphy Square parcel is shown to be located within a developed area of Sunnyvale. Specific Site features are not depicted until 1953 when a railroad track spur is shown to traverse the Site.
Sanborn maps	The 1908 and 1911 Sanborn maps show the Murphy Square parcel to be occupied by a dwelling and two other small structures. By 1930, a commercial building occupied by California Packing Corporation (which later became Del Monte Corporation) was constructed on-Site and used as a receiving station and warehouse. Two railroad track spurs are shown to traverse the Site. The same Site features also are depicted on the 1943 and 1959 Sanborn maps.
Aerial photographs	Prior uses shown on the aerial photographs appear consistent with those described above.
City directories	No listings associated with the Site were identified. Identified occupants appear to be associated with the westerly adjacent, off-Site, multi-tenant building.

SECTION 7: SITE RECONNAISSANCE

We performed a Site reconnaissance to evaluate current Site conditions and to attempt to identify Site Recognized Environmental Conditions. The results of the reconnaissance are discussed below. Additional Site observations are summarized in Table 6. Photographs of the Site are presented in Section 7.2.1.

7.1 METHODOLOGY AND LIMITING CONDITIONS

To observe current Site conditions (readily observable environmental conditions indicative of a significant release of hazardous materials), Cornerstone staff Stason I. Foster, P.E. visited the Site on August 29 and 31, 2018. Mr. Andy Kasik, the property owner, was present during our visit to the 100 Altair Way parcel. Ms. Robin Rudnick of RiverRock Real Estate Group, the property manager, was present during our visit to the Macy's parcel. The Site reconnaissance was conducted by walking representative areas of the Site, including the interiors of the on-Site structures, the periphery of the structures and the Site periphery. Cornerstone staff only observed those areas that were reasonably accessible, safe, and did not require movement of equipment, materials or other objects. Physical obstructions that limited our ability to view the ground surface at the Site included the existing buildings and associated paved vehicle drives and parking areas (typical of developed properties).

7.2 OBSERVATIONS

7.2.1 100 Altair Way

At the time of our visit, the 100 Altair Way parcel was developed with a three story mixed-use building on the western portion of the Site occupied on the ground floor for office uses (by Arrow Realty, Lore IO and Platform 9) and with 20 residential units on upper floors. The eastern portion of the parcel was developed with a building partially occupied as a post office by the USPS building; part of the building also was used by Platform 9 as office space. A hydraulic powered elevator was observed within three story mixed-use building. Mr. Kasik indicated that he was not aware of any maintenance issues with the elevator that would be indicative of hydraulic fluid releases. No other hazardous materials use or storage was observed at the parcel.

A ground water monitoring well was observed within a landscaped area at the northeast corner of the parcel. Mr. Kasik indicated that he had the well installed to monitor ground water depths during construction of below ground parking structures on nearby properties and evaluate potential ground settlement concerns. No sampling to evaluate ground water quality was conducted.

7.2.2 300 Mathilda Avenue

The 300 S. Mathilda Avenue parcel was observed to consist of an undeveloped lot used for construction staging purposes. Several temporary construction office trailers were present along with metal shipping containers of stored building materials and equipment. No hazardous materials use or storage was observed at the parcel.

7.2.3 Macy's

The parcel at 200 W. Washington Avenue was observed to be developed with a two-story Macy's department store consisting of typical retail display and customer service areas, stock rooms and administrative offices. A diesel-powered emergency generator was observed within the northeast portion of the building. Diesel fuel was stored within an adjacent 27 gallon above ground storage tank (AST). Three safety cans of diesel also were stored in a secondary containment tray near the generator. Other hazardous materials within the store were observed to be within metal flammable materials storage cabinets within the shoe department, a maintenance shop, and visual display department. These cabinets mainly contained various shoe cleaning products, building maintenance products, and paint related products that were stored in 1- and 5-gallon and smaller containers and aerosol cans. No evidence of significant spills was readily apparent. Shelving with plastic containers within a stockroom also was observed to be used for the collection of universal wastes (batteries, light tubes, etc.) and returned or damaged retail products, which were periodically disposed.

Two hydraulic powered elevators, one passenger and one freight, were observed within the building. The hydraulic equipment for the passenger elevator was located within a below grade, concrete lined pit below the retail floor that was accessed via a small stair case. Drip pans and adsorbent pads were observed to be used to contain small drips from the equipment. A hydraulic powered cardboard bailer and a hydraulic powered trash compactor also were observed near a loading dock. Hydraulic fluid for this equipment was stored within integral ASTs with capacities of approximately 10 gallons. No evidence of significant hydraulic fluid leaks was observed at the Site.

7.2.4 Redwood Square

The Redwood Square parcel was observed to be undeveloped and consist of a landscaped area, several mature redwood trees and a small asphalt paved parking area. No hazardous materials were observed on the parcel.

7.2.5 Sub-Block 6

The Sub-block 6 parcel was observed consist mainly of an asphalt paved parking area used by customers of the westerly adjacent Macy's store. A fenced area on the southwest portion of the parcel was observed to be used for construction staging purposes, including temporary office trailers, and fenced area also contained soil vapor extraction equipment⁸. Several wells were observed on the parcel that presumably are used for soil vapor extraction or ground water monitoring. No hazardous materials were observed on the parcel.

7.2.6 Murphy Square

The Murphy Square parcel was observed to consist of an asphalt paved parking area used by occupants of the westerly adjacent multi-tenant commercial building. No hazardous materials were observed on the parcel.

⁸ . Access to the fenced treatment system area was not available during our visit.

7.2.7 Other Site Features

Electricity and/or natural gas fuel sources appeared to be used for heating/cooling purposes at buildings located on the Macy's and Altair Way parcels. Potable water appeared to be supplied by the local water service provider. The buildings presumably are connected to the publically owned sanitary sewer system; no on-Site septic systems were obvious. On-Site storm water catch basins appeared to discharge via below ground piping to the City's storm water drainage system. Electrical transformers owned by PG&E were observed on concrete pads at the Altair Way, Mathilda Avenue, Redwood Square and Macy's parcels. No evidence of transformer oil leaks was readily apparent.

Table 6. Summary of Readily Observable Site Features

General Observation	Comments
Aboveground Storage Tanks	Observed as described above
Agricultural Wells	Not Observed
Air Emission Control Systems	Not Observed
Boilers	Not Observed
Burning Areas	Not Observed
Chemical Mixing Areas	Not Observed
Chemical Storage Areas	Observed as described above
Clean Rooms	Not Observed
Drainage Ditches	Not Observed
Elevators	Observed as described above
Emergency Generators	Observed as described above
Equipment Maintenance Areas	Not Observed
Fill Placement	Not Observed
Ground Water Monitoring Wells	Observed as described above
High Power Transmission Lines	Not Observed
Hoods and Ducting	Not Observed
Hydraulic Lifts	Not Observed
Incinerator	Not Observed
Petroleum Pipelines	Not Observed
Petroleum Wells	Not Observed
Ponds or Streams	Not Observed
Railroad Lines	Not Observed
Row Crops or Orchards	Not Observed
Stockpiles of Soil or Debris	Not Observed
Sumps or Clarifiers	Not Observed
Transformers	Observed as described above
Underground Storage Tanks	Not Observed
Vehicle Maintenance Areas	Not Observed
Vehicle Wash Areas	Not Observed
Wastewater Neutralization Systems	Not Observed

The comment "Not Observed" does not warrant that these features are not present on-Site; it only indicates that these features were not readily observed during the Site visit.

7.2.8 Site Photographs



Photograph 1. Mixed-use building on Altair Way parcel.



Photograph 2. USPS building on Altair Way parcel



Photograph 3. Construction staging area on 300 S. Mathilda Avenue parcel.



Photograph 4. Temporary construction office trailers on 300 S. Mathilda Avenue parcel.



Photograph 5. Department store building on Macy's parcel



Photograph 6. Emergency generator at Macy's



Photograph 7. Flammable material storage cabinet in maintenance shop at Macy's.



Photograph 8. Redwood Square parcel.



Photograph 9. Redwood Square parcel and south side of Macy's building.



Photograph 10. Parking lot on Sub-block 6, looking south.



Photograph 11. Fenced construction trailers and SVE treatment system on Sub-block 6.



Photograph 12. Parking lot on Murphy Square parcel.

SECTION 8: ENVIRONMENTAL QUESTIONNAIRE AND INTERVIEWS

8.1 ENVIRONMENTAL QUESTIONNAIRE / OWNER INTERVIEW

To help obtain information on current and historical Site use and use/storage of hazardous materials on-Site, we provided an environmental questionnaire to owner contacts for each of the Site parcels. The completed questionnaires are attached in Appendix D. Based on our review of the completed questionnaires, the provided information is consistent with information discussed in prior Section of this Phase I ESA.

8.2 INTERVIEWS WITH PREVIOUS OWNERS AND OCCUPANTS

Contact information for previous Site owners and occupants was not provided to us. Therefore, interviews with previous Site owners and occupants could not be performed.

SECTION 9: FINDINGS, OPINIONS AND CONCLUSIONS (WITH RECOMMENDATIONS)

Cornerstone performed this Phase I ESA in general accordance with ASTM E1527-13 to support David J. Powers & Associates in evaluation of Recognized Environmental Conditions. Our findings, opinions and conclusions are summarized below.

9.1 HISTORICAL SITE USAGE

Based on the information obtained during this study, brief summaries of prior uses of each Site parcel are presented below.

9.1.1 100 Altair Way

By 1908, a dwelling and associated outbuildings were present on the Altair Way parcel. A vehicle repair building was constructed on the northeast corner of the parcel by 1930. By 1939, a building occupied by E. Dunne Drayage was constructed on the remainder of the parcel. The vehicle repair and drayage buildings were removed and the existing USPS building was constructed during the mid-1950s. During the 1980s, the existing mixed-use building, consisting of commercial space on the ground floor with overlying residential units, was constructed on the northwest portion of the parcel that had previously been utilized as a paved parking area by the USPS. A portion of the USPS building also was converted for other uses that have included retail flower sales, a Jazzercise business, a sports bar and office uses.

9.1.2 300 Mathilda Avenue

The Mathilda Avenue parcel historically was occupied by several dwellings and associated outbuildings. By 1959, a gasoline service station and a building labeled “greasing” were constructed fronting Mathilda Avenue, and two additional commercial buildings were constructed fronting McKinley Avenue that formerly were occupied by Winchell Donut House, several markets and grocery stores. The gasoline service station was demolished in 1970 and replaced by a commercial building, possibly a bank. A parking garage associated with STCM subsequently was constructed that covered the southeast portion of the Site. The former commercial structure on the northwest corner of the Site and the parking garage associated with

STCM were removed by the early- or mid-2000s and the parcel subsequently has remained undeveloped and used as a construction staging area.

9.1.3 Macy's, Redwood Square and Sub-block 6

By 1908, a public school, a church, a blacksmith and a few other commercial buildings, as well as several dwellings and outbuildings were constructed on the Macy's, Redwood Square and Sub-block 6 parcels. By 1930, commercial and residential development of the parcels increased, including an expansion of Sunnyvale Primary School; the construction of City Hall with offices, a library and an auditorium; and the addition of several commercial businesses including auto sales and service facilities, a gasoline service station, printing and sheet metal works businesses, and a tailor & cleaning business, among others. A second dry cleaning business was added by 1959. Both dry cleaning businesses were on the Sub-block 6 parcel; the gasoline service station was on the Macy's parcel (the locations of these and other selected past businesses are depicted on Figure 2).

The STCM, a multi-level, indoor shopping center was constructed on these parcels and adjacent property during the late 1970s. It was occupied by numerous tenants and anchored by the on-Site Macy's store, along with Montgomery Ward (located off-Site). A JC Penney store (part of which was located on-Site) was added in the early 1990s. Except for the remaining Macy's building, the mall was demolished in 2007. Construction of several new buildings on the Redwood Square parcel subsequently was started, but work was halted as a result of the 2008/2009 financial crisis. These partially constructed buildings were removed from the Redwood Square parcel by early 2017 and the existing landscaping and at-grade parking improvements were completed.

9.1.4 Murphy Square

By 1908, the Murphy Square parcel was occupied by a dwelling and two other small structures. A commercial building occupied by California Packing Corporation (which later became Del Monte Corporation) subsequently was constructed on-Site and used as a receiving station and warehouse. The parcel reportedly was previously owned by Southern Pacific Transportation Company and leased to Del Monte beginning in 1921. The building was later used as a seed processing and germinating facility until 1986 when Del Monte's lease expired, and the building subsequently remained vacant. The Del Monte building was moved in 1993 to the southeast corner of W. Evelyn Avenue and S. Murphy Avenue and renovated, and the existing parking lot subsequently was constructed on-Site. Two railroad track spurs historically traversed the parcel.

9.2 CHEMICAL STORAGE AND USE

Two prior dry cleaning businesses were historically located on Sub-block 6. Releases of PCE from these facilities have impacted the Site as discussed further in Section 9.3.

Two gasoline service stations were previously located on-Site, one at a location currently covered by the Macy's building, and the other on the 300 S. Mathilda Avenue parcel. Vehicle fuels and other automotive related hazardous materials are commonly used and stored at gasoline service stations.

Automotive related hazardous materials, such as lubricants, presumably also were used and stored at prior vehicle repair businesses that formerly were located on the Altair Way, Macy's, Redwood Square and Sub-block 6 parcels. Operations at a former printing business (Macy's parcel), and blacksmith and sheet metal works (Sub-block 6) may also have involved the use and storage of hazardous materials.

Files provided by the Fire Department included a chemical inventory from 1984 for Del Monte Corporation (on the Murphy Square parcel) that lists the storage of several fungicides and insecticides; the quantities stored were not identified.

Expressly Portraits, Magic Photo and Ritz Camera, along with a dentist were identified as tenants of the former STCM, and appear to have engaged in photo (or xray) developing activities that utilized photoprocessing chemicals and generated associated hazardous waste. No spills from these facilities were reported.

Macy's currently operates a diesel-powered emergency generator with a 27 gallon AST. Shoe cleaning products, building maintenance products, and paint related products also are stored in flammable materials storage cabinets at Macy's, and hydraulic fluid is present within elevator equipment, a cardboard bailer and trash compactor. No evidence of significant spills at Macy's was observed during our visit. All remaining hazardous materials should be removed and properly disposed prior to demolition of the building.

Hydraulic fluid is used on-Site within elevator equipment and trash compactors. During their removal, we recommend observing for staining and spilled oil. If observed, an Environmental Professional should collect soil samples for laboratory analyses.

9.3 SOIL, SOIL VAPOR AND GROUND WATER QUALITY

As a result of releases from former on-Site dry cleaning businesses, PCE has been detected at concentrations exceeding the Water Board's environmental ESLs in ground water and soil vapor on Block 3 (which includes the Macy's and Redwood Square parcels) and on Sub-block 6. The extent to which the Macy's parcel has been impacted has not been well defined due to the lack of sampling locations within the footprint of the existing department store building. The eastern portion of the Macy's parcel appears likely to have been impacted to a degree similar to that identified on the northeastern portion of the Redwood Square parcel. PCE impacted ground water has migrated to the north and, as shown on Figures 4 and 5, appears to extend below the Murphy Square parcel.

9.3.1 Sub-Block 6

Sub-block 6, on which the former dry cleaning businesses were located, remains part of an open SLIC case that is being remediated under Water Board oversight. Although a significant reduction in PCE concentrations has been achieved, elevated PCE concentrations remain. To reduce the potential for intrusion of soil vapors into future buildings constructed on Sub-block 6, the Water Board approved RAP indicates that vapor mitigation systems will be installed in newly-constructed buildings if warranted by sampling results at the time of construction. The vapor mitigation systems would consist of impermeable vapor barriers installed beneath building foundations, passive or active sub-foundation venting systems, and regular monitoring programs. Other provisions of the RAP were summarized in Section 4.1.3.2. We recommend

that compliance with provisions of the RAP be maintained and that Water Board approval of any future development on Sub-block 6 be obtained prior to the start of construction.

9.3.2 Block 3 (Macy's and Redwood Square parcels)

The Water Board concluded that PCE detected in soil vapor and ground water on the northeastern portion of Block 3 is due to lateral migration from the source areas on the southeasterly adjacent Sub-block 6. In 2011, the Water Board issued a no further action letter for Block 3 and made the following statements:

- *It is believed that the continued operation of the SVE system on Blocks 5 and 6 will mitigate the migration of PCE in soil vapor beneath Block 3 and ultimately reduce levels to below ESLs.*
- *It is expected that the continuing dechlorination related to the ZVI injections will continue to remediate groundwater impacts beneath the eastern portion of Block 3.*
- *Based upon the available information, including the current and contemplated land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action is required at Block 3 with respect to pollutant releases at the Sunnyvale Town Center site.*

In general, Cornerstone concurs with the above statements; however, we note that PCE concentrations at Block 3 have not yet been reduced to levels below ESLs. Thus, depending on the timing of the planned future development, mitigation measures similar to those identified within the RAP likely will be warranted to reduce potential vapor intrusion concerns.

Additionally, note that the Water Board's residential soil vapor ESL for PCE at the time the RAP was prepared was 410 $\mu\text{g}/\text{m}^3$. The current (February 2016) ESL for PCE is 240 $\mu\text{g}/\text{m}^3$, which is calculated by dividing the indoor air screening level (0.48 $\mu\text{g}/\text{m}^3$) by an attenuation factor of 0.002. The DTSC, State Water Board, and the San Francisco Bay Regional Water Quality Control Board are currently developing a supplemental vapor intrusion guidance document for conducting uniform vapor intrusion evaluations in California. This guidance document when finalized will serve as a 2018 Supplement to existing guidance (namely, DTSC 2011 Vapor Intrusion Guidance and SF Bay Regional Water Board 2014 Interim Framework). Cornerstone understands that the new guidance may recommend using a more conservative attenuation factor of 0.03 for calculation of soil vapor screening levels⁹; thus, resulting in a calculated residential ESL of 16 $\mu\text{g}/\text{m}^3$ for PCE in soil vapor, which is significantly lower and more health protective than the previously published values.

Due to changes in regulatory guidance after the dated of the no further action letter for Block 3 (2011), and the continued presence of elevated PCE concentrations, we recommend that the Water Board (or similar oversight regulatory agency) review and approve the risk management protocols for Block 3 development prior to the start of construction. Vapor mitigation system design should be incorporated into the planned development on Block 3 unless it can be demonstrated to the satisfaction of the Water Board (or similar oversight regulatory agency) that these measures are not required. Anticipated revisions to vapor intrusion guidance in

⁹ The 0.03 attenuation factor would be consistent with guidance provided by the US EPA (*OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, June 2015).

California, which are in-progress, will likely be considered by the oversight agency as part of this evaluation.

9.3.3 Murphy Square

As noted, PCE impacted ground water has migrated to the north from Sub-block 6 and appears to extend below the Murphy Square parcel. Prior to development of the Murphy Square parcel, we recommend that soil, soil vapor and ground water sampling be conducted to evaluate the extent of impact, if any, from up-gradient VOC releases. Ground water also should be analyzed for petroleum hydrocarbons due to the reported former presence of up-gradient gasoline service stations. If contaminants are identified at concentrations exceeding the applicable Water Board screening levels, appropriate mitigation measures should be incorporated into the planned development and Water Board approval should be obtained prior to the start of construction¹⁰.

Railroad track spurs historically traversed the Murphy Square parcel. Assorted chemicals historically may have been used for dust suppression and weed control along rail lines. The evaluation of soil quality at the Murphy Square parcel should include an evaluation of shallow soil (upper 1-foot) for contaminants commonly found along rail lines, such as metals, petroleum hydrocarbons, PAHs, PCBs and pesticides. Sampling of shallow soil on the parcel also should include testing for constituents within the fungicides and insecticides reported to have been stored by Del Monte Corporation if they are typically considered to be persistent within the environment.

9.4 SITE MANAGEMENT PLANS

We recommend preparing a Site Management Plan (SMP) and Health and Safety Plan (HSP) for the proposed demolition and/or redevelopment activities at each Site parcel. The purpose of these documents will be to establish appropriate management practices for handling impacted soil, soil vapor and ground water or other materials that may potentially be encountered during construction activities.

The SMPs also should provide the protocols for accepting imported fill materials¹¹ and protocols for sampling of in-place soil to facilitate profiling of the soil for appropriate off-Site disposal or reuse. The Site historically was developed with numerous residential and commercial buildings. Soil adjacent to structures that are painted with lead-containing paint can become impacted with lead as a result of the weathering and/or peeling of painted surfaces. Soil near wood framed structures also can be impacted by pesticides historically used to control termites. No information was identified during this study documenting the use of lead-based paint or termite control pesticides on-Site; however, if used, residual pesticide and lead concentrations may remain in on-Site soil. Thus, we recommend that sampling at the Site include analyses of shallow soil (upper 1-foot) for lead and pesticides, in addition to sampling to be conducted following commonly accepted environmental protocols to profile the soil for off-Site disposal or reuse.

¹⁰ Note that naturally occurring background concentrations of metals, such as arsenic, amongst others, in soil may exceed their respective screening levels. The Water Board generally does not require cleanup of soil to below background concentrations. Thus, concentrations of metals also should be compared to regional published background concentrations to establish if Water Board approval is warranted. This note also applies to the discussion presented in Section 9.4.

¹¹ The DTSC's October 2001 Clean Fill Advisory provides useful guidance on evaluating imported fill.

Because contaminants are known to be present at the Sub-block 6 parcel and at Block 3 (Macy's and Redwood Square), the SMPs for these parcels should be approved by the Water Board (or similar oversight regulatory agency) prior to the start of construction. If contaminants are identified at concentrations exceeding Water Board ESLs at other Site parcels, the SMPs and remedial measures for these parcels also should be approved by the oversight regulatory agency prior to the start of construction.

9.5 FORMER GASOLINE SERVICE STATIONS AND POTENTIAL USTS

Two gasoline service stations were historically located on-Site. Gasoline and diesel fuel are commonly stored in underground storage tanks (USTs) at gasoline service stations. Sampling previously conducted at the 300 S. Mathilda Avenue parcel did not identify impacts to soil or ground water quality associated with the former gasoline service station on that parcel. Prior to redevelopment, we recommend that soil and ground water sampling also be conducted at the former gasoline service station location on the Macy's parcel to evaluate potential impacts.

No records documenting the removal of USTs from the two former on-Site gasoline service stations were identified in the data sources researched during this Phase I ESA. Thus, prior to commencement of earthwork activities, we recommend that geophysical surveys of both former gasoline service station locations be conducted to evaluate if USTs may remain at these locations. If identified, the USTs should be removed under Fire Department oversight, and underlying soil and ground water quality should be evaluated.

9.6 GROUND WATER AND SOIL VAPOR WELLS

Several ground water monitoring and soil vapor monitoring and/or extraction wells are present on the Sub-block 6 and Redwood Square parcels. These wells should be protected during Site redevelopment activities or properly destroyed prior to redevelopment. This work should be coordinated with the Water Board and the Santa Clara Valley Water District (SCVWD). Destroyed wells may be required to be replaced by the oversight regulatory agency after the completion of property redevelopment.

A ground water monitoring well also is present on the 100 Altair Way parcel. This well should be properly destroyed in accordance with SCVWD requirements prior to redevelopment of the parcel.

9.7 ASBESTOS CONTAINING BUILDING MATERIALS (ACBMS)

Due to the age of the remaining on-Site structures, building materials may contain asbestos. Because demolition of the structures is planned, an asbestos survey is required by local authorities and/or National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines. NESHAP guidelines require the removal of potentially friable ACBMs prior to building demolition or renovation that may disturb the ACBM.

9.8 LEAD-BASED PAINT

The Consumer Product Safety Commission banned the use of lead as an additive in paint in 1978. Based on the age of some of the remaining on-Site structures, lead-based paint may be present. Prior to demolition, the removal of lead-based paint is not required if it is bonded to the building materials. However, if the lead-based paint is flaking, peeling, or blistering, it should be

removed prior to demolition. In either case, applicable OSHA regulations must be followed; these include requirements for worker training, air monitoring and dust control, among others. Any debris or soil containing lead must be disposed appropriately.

9.9 DATA GAPS

ASTM Standard Designation E 1527-13 requires the Environmental Professional to comment on significant data gaps that affect our ability to identify Recognized Environmental Conditions. A data gap is a lack of or inability to obtain information required by ASTM Standard Designation E 1527-13 despite good faith efforts by the Environmental Professional to gather such information. A data gap by itself is not inherently significant; it only becomes significant if it raises reasonable concerns. No significant data gaps were identified during this Phase I ESA.

9.10 DATA FAILURES

As described by ASTM Standard Designation E 1527-13, a data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the historical research objectives have not been met. Data failures are not uncommon when attempting to identify the use of a Site at five year intervals back to the first use or to 1940 (whichever is earlier). ASTM Standard Designation E 1527-13 requires the Environmental Professional to comment on the significance of data failures and whether the data failure affects our ability to identify Recognized Environmental Conditions. A data failure by itself is not inherently significant; it only becomes significant if it raises reasonable concerns. No significant data failures were identified during this Phase I ESA.

9.11 RECOGNIZED ENVIRONMENTAL CONDITIONS

Cornerstone has performed a Phase I ESA in general conformance with the scope and limitations of ASTM E 1527-13. This assessment identified the following Recognized Environmental Conditions¹².

- PCE releases from former on-Site dry cleaning facilities have impacted soil, soil vapor and ground water at the Site, predominantly on Sub-block 6. The Redwood Square and Macy's parcels, and potentially the Murphy Square parcel, also appear to have impacted by the PCE releases that originated on Sup-block 6.
- Gasoline service stations historically were present on the 300 Mathilda Avenue parcel and on the Macy's parcel. There is a potential for USTs to remain on these parcels. Additionally, soil and ground water sampling at the Macy's parcel has not been completed to evaluate potential impacts associated with prior gasoline service station operations.
- Railroad track spurs formerly traversed the Murphy Square parcel. Assorted chemicals historically may have been used for dust suppression and weed control along rail lines, and residual concentrations may remain in Site soil.

¹² The presence or likely presence of hazardous substances or petroleum products on the Site: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment.

- Soil adjacent to structures that are painted with lead-containing paint can become impacted with lead as a result of the weathering and/or peeling of painted surfaces. Soil near wood framed structures also can be impacted by pesticides historically used to control termites. There is a potential that residual lead and pesticide concentrations could remain in on-Site soil resulting from prior on-Site structures.

SECTION 10: LIMITATIONS

Cornerstone performed this Phase I ESA to support David J. Powers & Associates in evaluation of Recognized Environmental Conditions associated with the Site. David J. Powers & Associates understands that no Phase I ESA can wholly eliminate uncertainty regarding the potential for Recognized Environmental Conditions to be present at the Site. This Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for Recognized Environmental Conditions. David J. Powers & Associates understands that the extent of information obtained is based on the reasonable limits of time and budgetary constraints.

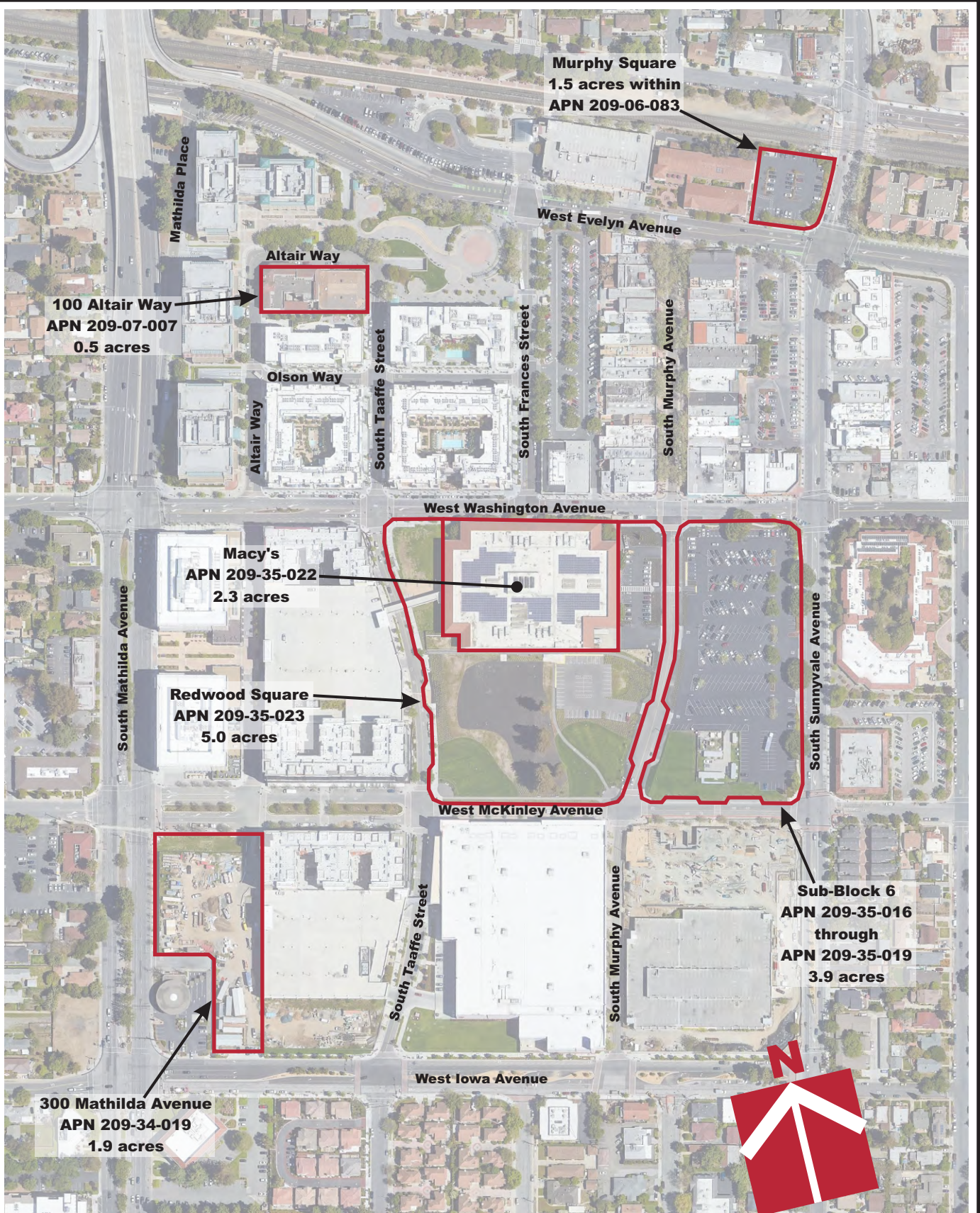
Findings, opinions, conclusions and recommendations presented in this report are based on readily available information, conditions readily observed at the time of the Site visit, and/or information readily identified by the interviews and/or the records review process. Phase I ESAs are inherently limited because findings are developed based on information obtained from a non-intrusive Site evaluation. Cornerstone does not accept liability for deficiencies, errors, or misstatements that have resulted from inaccuracies in the publicly available information or from interviews of persons knowledgeable of Site use. In addition, publicly available information and field observations often cannot affirm the presence of Recognized Environmental Conditions; there is a possibility that such conditions exist. If a greater degree of confidence is desired, soil, ground water, soil vapor and/or air samples should be collected by Cornerstone and analyzed by a state-certified laboratory to establish a more reliable assessment of environmental conditions.

Cornerstone acquired an environmental database of selected publicly available information for the general area of the Site. Cornerstone cannot verify the accuracy or completeness of the database report, nor is Cornerstone obligated to identify mistakes or insufficiencies in the information provided (ASTM E 1527-13, Section 8.1.3). Due to inadequate address information, the environmental database may have mapped several facilities inaccurately or could not map the facilities. Releases from these facilities, if nearby, could impact the Site.

David J. Powers & Associates may have provided Cornerstone environmental documents prepared by others. David J. Powers & Associates understands that Cornerstone reviewed and relied on the information presented in these reports and cannot be responsible for their accuracy.

This report, an instrument of professional service, was prepared for the sole use of David J. Powers & Associates and may not be reproduced or distributed without written authorization from Cornerstone. It is valid for 180 days. An electronic transmission of this report may also have been issued. While Cornerstone has taken precautions to produce a complete and secure electronic transmission, please check the electronic transmission against the hard copy version for conformity.

Cornerstone makes no warranty, expressed or implied, except that our services have been performed in accordance with the environmental principles generally accepted at this time and location.



Legend

— Approximate Site Boundary

0 300 600

APPROXIMATE SCALE (FEET)

Base by Google Earth, dated 3/28/2018



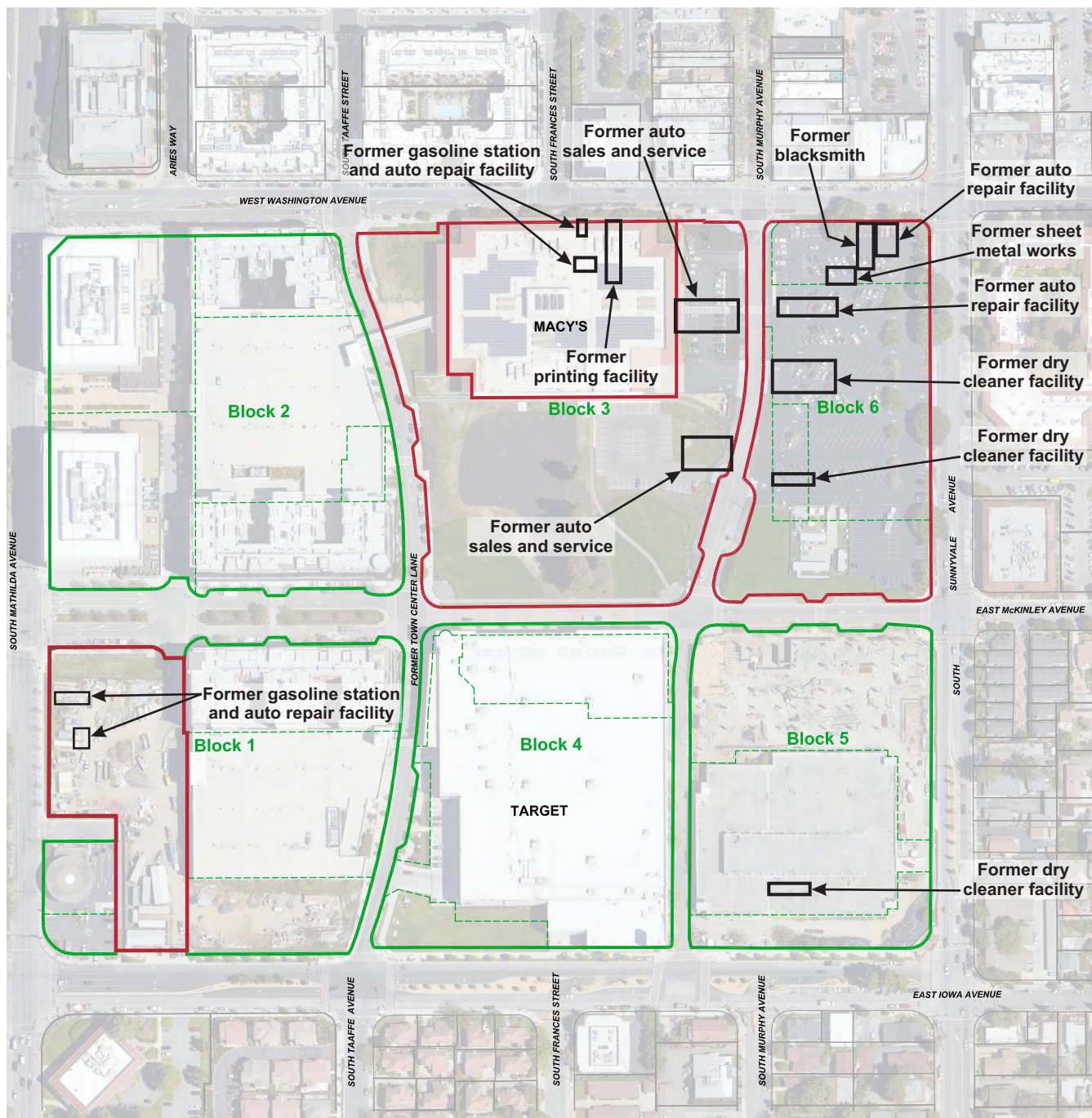
Site Plan
DSP Amendments and
Specific Development Project
Sunnyvale, CA

Project Number
118-97-1

Figure Number
Figure 1

Date
September 2018

Drawn By
RRN



EXPLANATION

- Block 1** Sunnyvale Town Center Mall Block Number
- Approximate location historical structure
- Approximate Site Boundary



APPROXIMATE SCALE (FEET)

Base by Google Earth, dated 3/28/2018

Overlay by Ground Zero Analysis, Inc., Site Features - Figure 2, dated 5/29/2011



Site Details - Sunnyvale Town Center Mall Blocks

DSP Amendments and
Specific Development Project
Sunnyvale, CA

Project Number

118-97-1

Figure Number

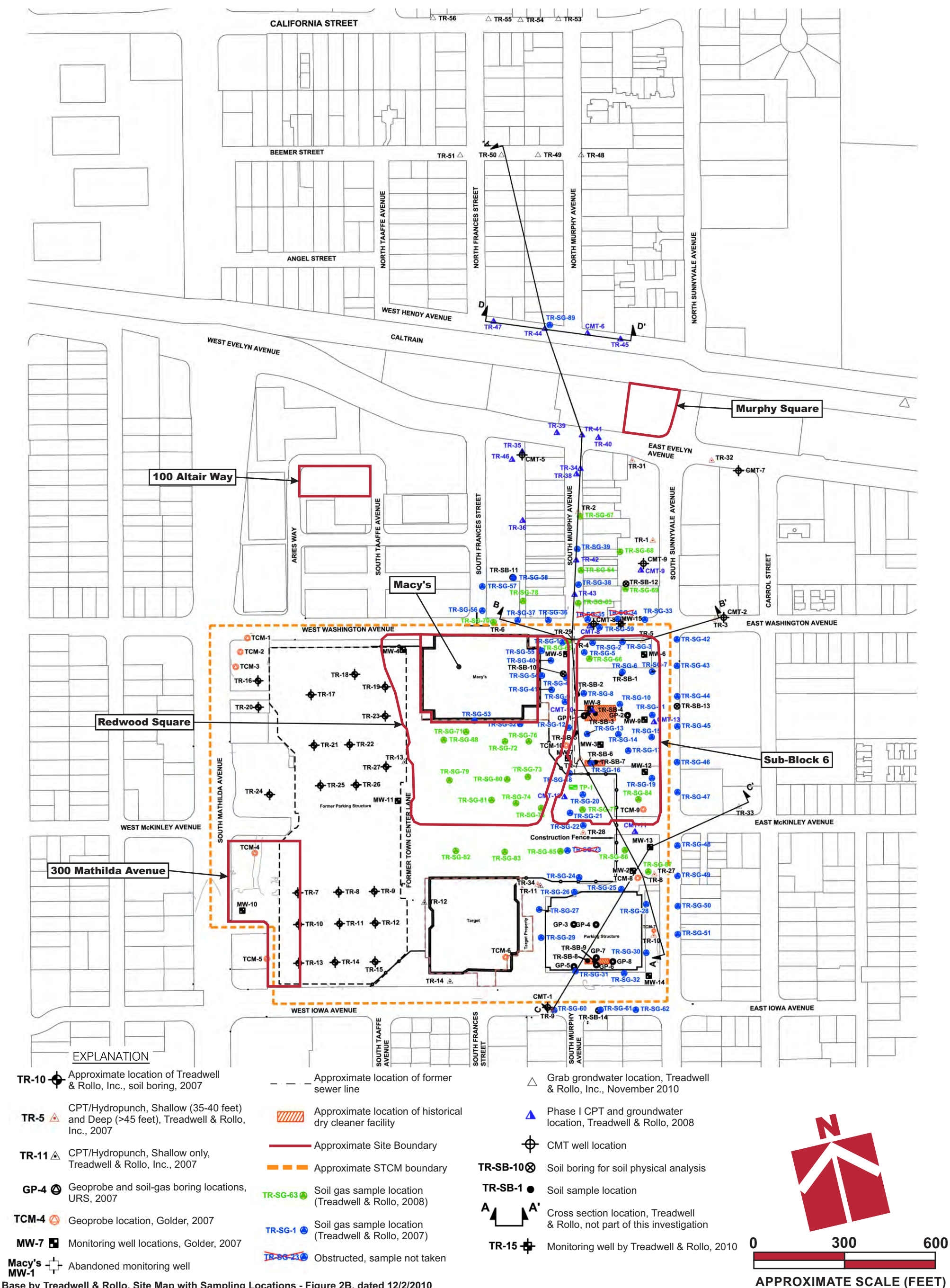
Figure 2

Date

September 2018

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- EXPLANATION**
- TR-10 Approximate location of Treadwell & Rollo, Inc., soil boring, 2007
 - TR-5 CPT/Hydropunch, Shallow (35-40 feet) and Deep (>45 feet), Treadwell & Rollo, Inc., 2007
 - TR-11 CPT/Hydropunch, Shallow only, Treadwell & Rollo, Inc., 2007
 - GP-4 Geoprobe and soil-gas boring locations, URS, 2007
 - TCM-4 Geoprobe location, Golder, 2007
 - MW-7 Monitoring well locations, Golder, 2007
 - Macy's MW-1 Abandoned monitoring well
 - TR-SG-63 Soil gas sample location (Treadwell & Rollo, 2008)
 - TR-SG-1 Soil gas sample location (Treadwell & Rollo, 2007)
 - TR-SG-23 Obstructed, sample not taken
 - Approximate location of former sewer line
 - Approximate location of historical dry cleaner facility
 - Approximate Site Boundary
 - Approximate STCM boundary

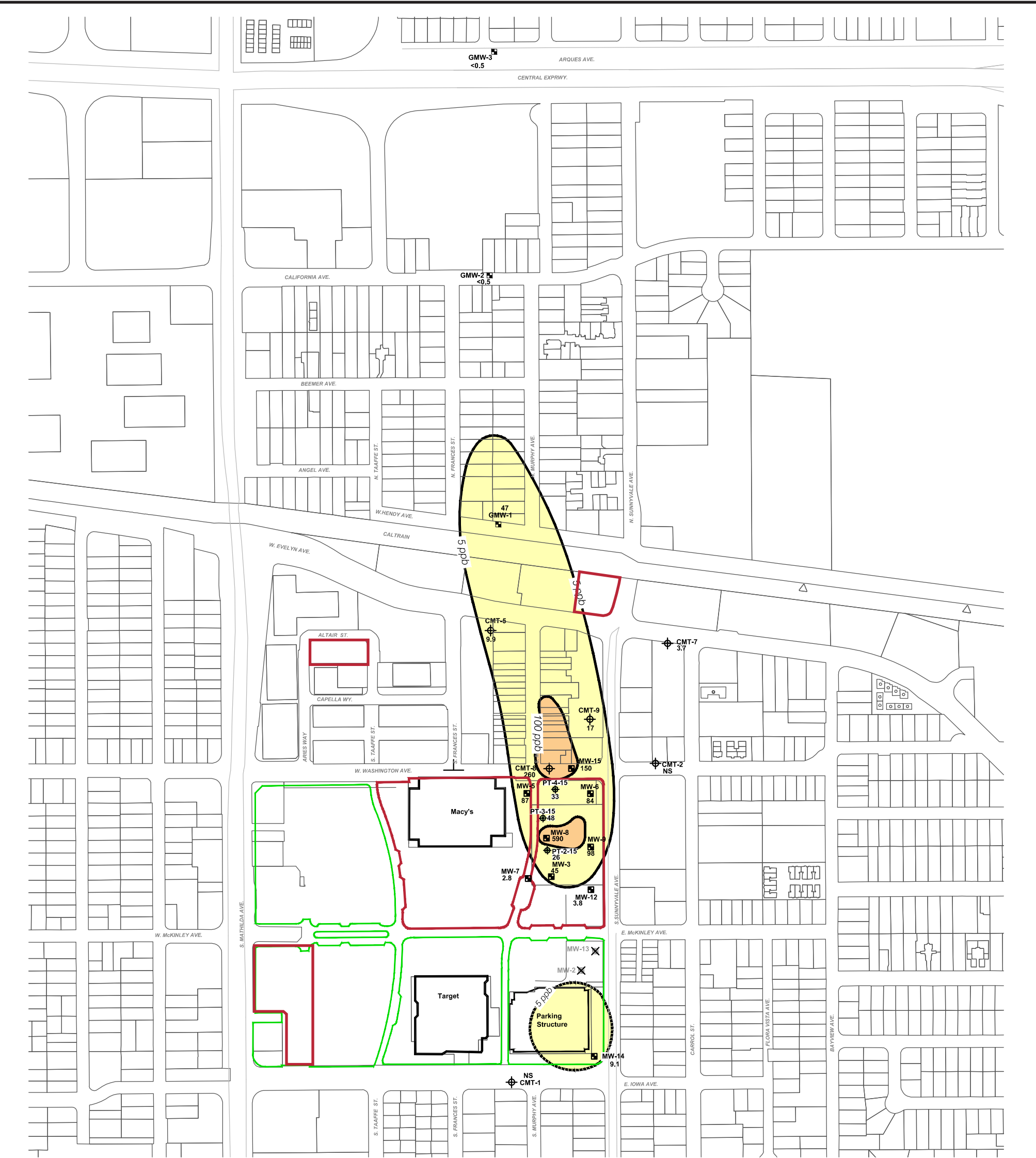
- Grab groundwater location, Treadwell & Rollo, Inc., November 2010
- Phase I CPT and groundwater location, Treadwell & Rollo, 2008
- CMT well location
- TR-SB-10 Soil boring for soil physical analysis
- TR-SB-1 Soil sample location
- Cross section location, Treadwell & Rollo, not part of this investigation
- TR-15 Monitoring well by Treadwell & Rollo, 2010

Base by Treadwell & Rollo, Site Map with Sampling Locations - Figure 2B, dated 12/2/2010


Prior Sampling Locations at STCM Property


DSP Amendments and
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
Project Number	118-97-1
Figure Number	Figure 3
Date	September 2018
Drawn By	RRN





EXPLANATION

- 

Pilot Test Well Location
- 


Shallow groundwater monitoring well
- 


CMT well location
- 


Abandoned groundwater monitoring well
- 

Estimated PCE contours, December 2017
- Note: Dashed contours are inferred.
- 59

PCE in groundwater concentration ($\mu\text{g/L}$) (for multiport CMT wells highest concentration shown)
- NS

Not Sampled
- 

Reported extent of PCE concentration greater than 100 ppb
- 

Reported extent of PCE concentration greater than 5 ppb
- 

Approximate Site Boundary



APPROXIMATE SCALE (FEET)

Base by Ground Zero Analysis, Inc., Estimated Extent of Dissolved PCE in Ground Water - 4th Quarter 2017 - Figure 9, dated 2/13/2018



Estimated Extent of Dissolved PCE
in Ground Water - 4th Quarter 2017

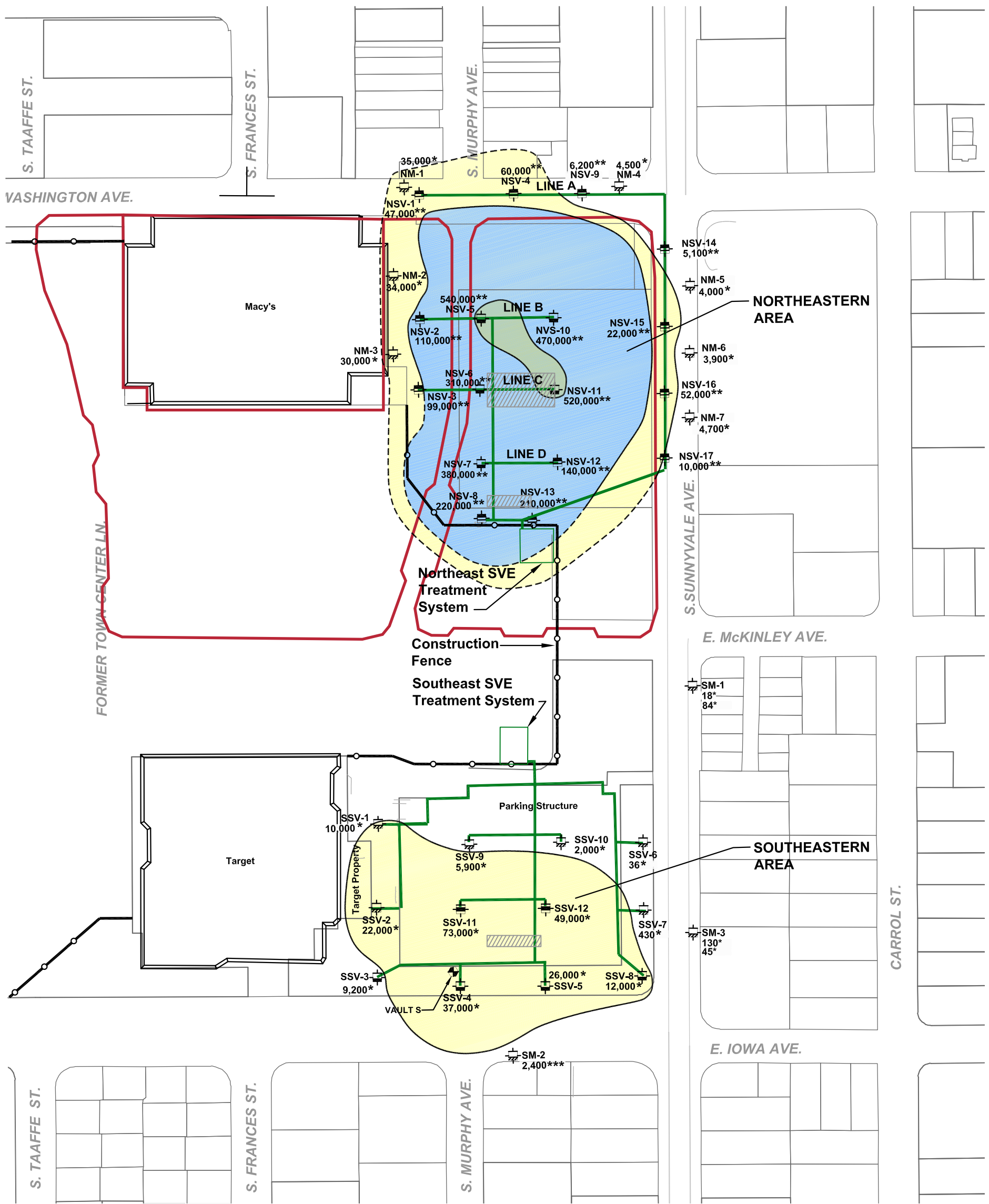
DSP Amendments and
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Sunnyvale, CA

Project Number
118-97-1

Figure Number
Figure 5

Date
September 2018

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EXPLANATION

- Shallow SVE wells
- Basement SVE well
- Deep SVE well
- Vapor monitoring well
- Approximate location of historical dry cleaner facility
- Conveyance Piping
- Approximate Site Boundary

- PCE soil gas concentrations >10,000 ($\mu\text{g}/\text{m}^3$)
- PCE soil gas concentrations >100,000 ($\mu\text{g}/\text{m}^3$)
- PCE soil gas concentrations >500,000 ($\mu\text{g}/\text{m}^3$)

Notes:

SVE systems shut down on 12 January 2010

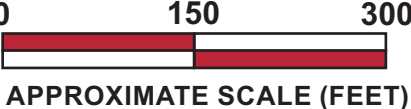
Reported analytical results are PCE concentrations ($\mu\text{g}/\text{m}^3$) using TO-15.

($\mu\text{g}/\text{m}^3$) - micrograms per cubic meter

* Denotes sample collected during 17 January 2008

** Denotes sample collected during 23 January 2008

*** Denotes sample collected during 9 January 2008



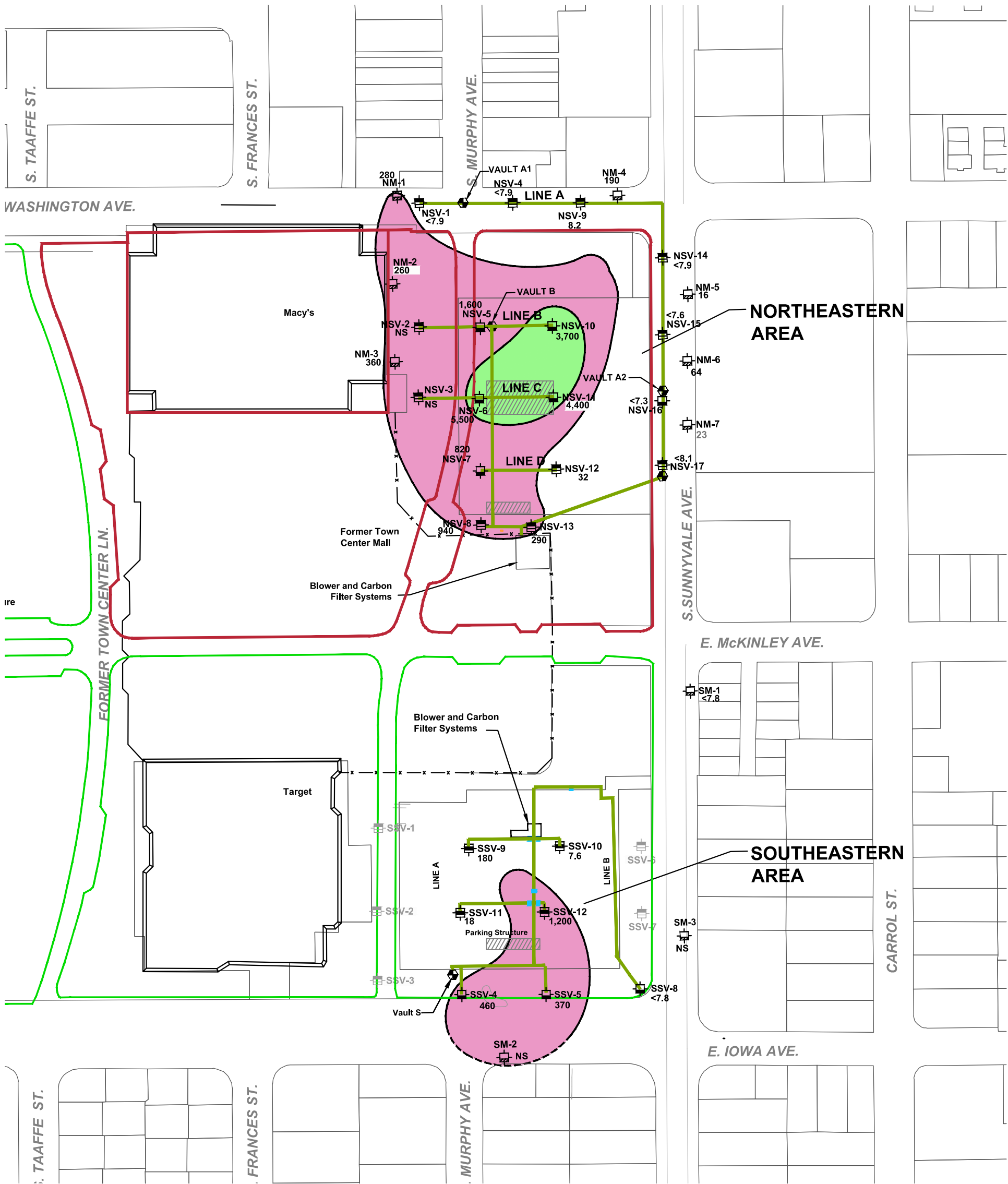
Base by Ground Zero Analysis, Inc., PCE in Soil Gas at Start Up of SVE Systems - January 2018 - Figure 11, dated 4/31/2012



PCE in Soil Gas at Start Up of SVE Systems - January 2008

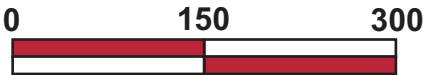
DSP Amendments and Specific Development Project Sunnyvale, CA

Project Number	118-97-1
Figure Number	Figure 6
Date	September 2018
Drawn By	RRN



EXPLANATION

- | | | | |
|--|---|--|---|
| | Shallow SVE well | | Maximum extent of PCE soil gas concentration greater than 240 $\mu\text{g}/\text{m}^3$ (Residential ESL) |
| | Deep SVE well | | Maximum extent of PCE soil gas concentration greater than 2,100 $\mu\text{g}/\text{m}^3$ (Commercial ESL) |
| | Vapor monitoring well | | |
| | Abandoned shallow SVE well | | |
| | Traffic rated vault | | |
| | Conveyance Piping | | |
| | Approximate location of historical dry cleaner facility | | |
| | Approximate Site Boundary | | |
| | 280 | | PCE soil vapor concentration $\mu\text{g}/\text{m}^3$ |
| | NS | | Not Sampled |



APPROXIMATE SCALE (FEET)

Base by Ground Zero Analysis, Inc., PCE in Soil Gas - 4th Quarter 2017 - Figure 14, dated 2/14/2018



CORNERSTONE
EARTH GROUP

PCE in Soil Gas - 4th Quarter 2017

DSP Amendments and
Specific Development Project
Sunnyvale, CA

Project Number

118-97-1

Figure Number

Figure 7

Date

September 2018

Drawn By

RRN

APPENDIX A – DATABASE SEARCH REPORT

APPENDIX B – HISTORICAL AERIAL PHOTOGRAPHS AND TOPOGRAPHIC MAPS

APPENDIX C – LOCAL STREET DIRECTORY SEARCH RESULTS

APPENDIX D – QUESTIONNAIRES

APPENDIX E – WATER BOARD NFA LETTERS