

INITIAL SITE ASSESSMENT



Highway 1/Highway 9 Intersection Improvement Project Santa Cruz, California

PREPARED FOR:

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G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. E8436-06-02
March 13, 2012

Mr. Gordon Sweet
BKF Engineers
4670 Willow Road, Suite 250
Pleasanton, California 94588

Subject: INITIAL SITE ASSESSMENT
HIGHWAY 1/HIGHWAY 9 INTERSECTION IMPROVEMENT PROJECT
SANTA CRUZ, CALIFORNIA

Dear Mr. Sweet:

We have performed an Initial Site Assessment (ISA) of the Highway 1/Highway 9 Intersection Improvement Project located in Santa Cruz, California.

The accompanying report presents the details of the ISA conducted at your request as part of the Highway 1/Highway 9 Intersection Improvement Project in cooperation with the Santa Cruz Department of Public Works and the California Department of Transportation. The report summarizes our findings relative to recognized environmental conditions and potential contaminated properties identified within the project boundaries that may impact right-of-way property acquisition and construction of the proposed highway improvements.

Please contact us should you have any questions concerning the contents of this ISA or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

Chris Giuntoli, CAC
Project Manager

John E. Jarend, PE, CEG
Principal

(1 - Electronic) Addressee

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LIST OF ACRONYMS AND ABBREVIATIONS

ACM	asbestos-containing material
ADL	aerially deposited lead
APN	Assessor's Parcel Number
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BKF	BKF Engineers
CAC	Certified Asbestos Consultant
Caltrans	State of California Department of Transportation
CDMG	California Division of Mines and Geology
CEG	Certified Engineering Geologist
CSWRCB	California State Water Resources Control Board
DEED	Deed Restriction Listing
DOGGR	Division of Oil, Gas, and Geothermal Resources
DTSC	Department of Toxic Substances Control
EDR	Environmental Data Resources
FINDS	Facility Index System
ISA	Initial Site Assessment
LCP	lead-containing paint
LQG	large quantity generator
LUST	leaking underground storage tank
MSL	Mean Sea Level
O&M	Operation and Maintenance
PE	Professional Engineer
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
ROW	right-of-way
SCDPW	Santa Cruz Department of Public Works
SLIC	Spills, Leaks, Investigations, and Cleanups
SPRR	Southern Pacific Railroad
SQG	Small Quantity Generator
UPRR	Union Pacific Railroad
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	underground storage tank
VCP	Voluntary Cleanup Program

INITIAL SITE ASSESSMENT

1.0 INTRODUCTION

This report presents the results of an Initial Site Assessment (ISA) of the Highway 1/Highway 9 Intersection Improvement Project (the Site) performed by Geocon Consultants, Inc. for BKF Engineers (BKF) on behalf of the City of Santa Cruz Department of Public Works (SCDPW) and the State of California Department of Transportation (Caltrans). The project consists of the intersection of Highway 1 and Highway 9, and City of Santa Cruz and Caltrans right-of-way (ROW), and adjoining private property parcels proposed for partial acquisition in Santa Cruz, California. The approximate site location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2.

1.1 Purpose and Scope of Services

The ISA was performed as part of the Highway 1/Highway 9 Intersection Improvement Project to determine the presence of recognized environmental conditions and potential contaminated properties at the Site that may impact ROW property acquisition, temporary construction easements, and construction of the proposed highway improvements. The ISA was performed in general accordance with the *Caltrans Initial Site Assessment Guidance Document* and project-specific scoping.

The goal of the ISA was to determine the potential presence of “recognized environmental conditions” (RECs) as defined by the American Society for Testing and Materials (ASTM) *Designation E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Section 1.1.1 of the ASTM *Designation E 1527-05* defines the term “recognized environmental conditions” as “the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.” The term as further defined by ASTM “is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment.” “Historical recognized environmental conditions” are defined as an “environmental condition which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently.”

The main components of this report, as specified by the Caltrans ISA Guidance and ASTM Standards include the following:

- **Physical Setting:** Physical setting references were reviewed and observations made to obtain information concerning the topographic, geologic, and hydrogeologic characteristics of the Site and vicinity. Such information may be indicative of the direction and/or extent that a contaminant could migrate in the event of a spill or release.

- **Site Reconnaissance:** The objective of the site reconnaissance is to observe conditions and activities for indications of evidence of RECs. The site reconnaissance was performed by making observations from public thoroughfares as described in Section 3.0.
- **Site History:** The purpose of consulting historical references is to develop a history of the previous uses of the Site and surrounding area in order to identify if past uses have led to RECs in connection with the Site. Historical sources reviewed included aerial photographs, and topographic and Sanborn Fire Insurance (Sanborn) maps.
- **Records Review:** The objective of the records review is to obtain and review records that will help identify RECs at or potentially affecting the Site. We reviewed publicly available federal, state, and local regulatory agency records for facilities located at and near the Site.

1.2 Report Limitations

This ISA report has been prepared exclusively for BKF, the Client, on behalf of the City of Santa Cruz and Caltrans. The information obtained is only relevant for the dates of the records reviewed or as of the date of the latest site visit. Therefore, the information contained herein is only valid as of the date of the report and will require an update to reflect recent records and site observations. Observations of private parcels were conducted from the vantage of public thoroughfares as described in Section 3.0.

This report is not a comprehensive site characterization and should not be construed as such. The findings and conclusions presented in this report are predicated on the site reconnaissance, a review of the historical usage of the Site, and a review of the specified regulatory records as presented in this report. It should be noted that wetlands delineation, asbestos and lead-containing paint structure surveys, lead in drinking water, radon, methane gas, and mold surveys were not included in the scope of services for this report.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the ISA is implied within the intent of this report or any subsequent reports, correspondence or consultation, either express or implied. We strived to conduct the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

2.0 PHYSICAL SETTING

This section provides a brief description of the physical setting of the Site and surrounding vicinity including topography, geologic and hydrogeologic conditions. Observations of onsite conditions are described in Section 3.0.

2.1 Existing Conditions and Improvements

The Site consists of existing roadways and ROW including: 1) City Santa Cruz ROW at the Highway 1/Highway 9 (River Street) intersection, and sidewalks and landscaped areas along the roadways, 2) Highway 9 ROW, sidewalks and landscaped areas extending from the center of the intersection approximately 1,100 feet north and 550 feet south, and 3) Highway 1 ROW, sidewalks, and landscaped areas extending from the center of the intersection approximately 340 feet east and 860 feet west.

The Site also includes adjacent private property proposed for partial parcel acquisition within the project boundaries. These areas include the properties with the following addresses and associated Santa Cruz County Assessor's Parcel Numbers (APNs):

- Western portion of 744 River Street – residential structure and associated landscaping (APN 008-172-08-000);
- 808 River Street – unofficial parking area in front of the Central Home Supply office/warehouse (008-163-06-000);
- Caltrans ROW on the east side of Highway 9 – Central Home Supply driveway adjacent to Encinal Street (APN 008-163-07-000);
- 115 Coral Street – landscaping in front of Homeless Services Center (APN 008-171-33-000),
- Gateway Plaza shopping center – pedestrian and bicycle access (APNs 008-601-04-000 and 008-601-02-000);
- Northwestern portion of 700/710/720 River Street – driveway, parking area, and landscaping area in front of the medical/office building (APN 008-174-02-000);
- Western portion of 1040 River Street – landscaped area associated with former Salz Leathers property (APN 008-032-04-000); and
- City of Santa Cruz drainage culvert (APN 008-174-01-000).

Assessor's parcel maps provided by the Client depicting parcels proposed for ROW acquisition are presented in Appendix A. The approximate site boundaries, existing site improvements, and adjacent development are depicted on the Site Plan, Figure 2.

2.2 Proposed Improvements

The proposed site improvements require road widening on Highway 1 (west of Highway 9) and on both sides of Highway 9 (River Street), and consist of the following:

Highway 9 (north of the Highway 1/Highway 9 intersection)

- Addition of a second northbound through lane and an 8-foot-wide shoulder on northbound Highway 9, from Highway 1 to Fern Street, to receive vehicular and bicycle traffic from both the new left-turn lane on Highway 1 and the converted shared left/through lane from northbound River Street;
- Addition of a crosswalk at the Highway 9/Fern Street intersection, and a right-turn lane and 4-foot-wide shoulder on northbound Highway 9, between Fern Street and Encinal Street, to accommodate traffic turning into the future Tannery Arts Center;
- Replacement of channelizers with raised concrete median at the intersection of Coral Street to a point approximately 50 feet north beyond Coral Street;
- Provide for sufficient lane width (16 feet) for shared vehicle/bicycle use along the northbound through/left-turn lane on Highway 9 from Fern Street to Encinal Street;
- Addition of a new sidewalk along the east side of Highway 9 from Fern Street to a point 150 feet north of Encinal Street; and
- Addition of a new through/left-turn lane to provide three left-turn lanes onto eastbound Highway 1 and two through lanes to southbound River Street.

River Street (south of the Highway 1/Highway 9 intersection)

- Revision of the left-turn lane to provide a through/left-turn lane, so two lanes extend to northbound Highway 1;
- Extension of the queuing length for the two right-turn lanes on northbound River Street; and
- Realignment of the two southbound lanes to receive traffic from the two through lanes.

Highway 1 west of Highway 1/Highway 9 intersection

- Addition of a left-turn lane so two lanes turn onto northbound Highway 9;
- Removal of the island between the right-turn lane and through lane, and relocation of the existing traffic signal mast arm;
- Reconstruction of the median, from the Highway 1/Highway 9 intersection to the railroad tracks, to accommodate the additional left-turn lane;
- Modification to the median due to related improvements to the Highway 1/Highway 9 intersection; and
- Widening and striping realignment due to widening associated with the second left-turn lane along southbound Highway 1.

Highway 1 east of Highway 1/Highway 9 intersection

- Striping changes may be needed to receive the triple left-turn movement from southbound Highway 9;
- Modification to the median to accommodate Highway 1/Highway 9 intersection improvements, including receiving the three left-turn lane movement from southbound Highway 9; and
- Striping realignment so the westbound lanes on the east side of the intersection coincide with the northbound lanes on the west side of the intersection, which are being shifted to accommodate the new left-turn lane on southbound Highway 1.

The proposed improvements would not require work within the drainage channel or below its ordinary high water mark adjacent to the northeast quadrant of the intersection. A storm drain culvert extends beneath Highway 9 and emerges approximately 25 feet east of the existing Highway 9 roadway. The drainage channel begins where the culvert emerges. Since no headwall structure for the culvert outfall was identified during design surveys, construction of an approximate 6-foot-high retaining wall extending from the Highway 9 road surface down towards the buried culvert would be necessary to support the Highway 9 improvements. Retaining wall construction would affect the embankment extending approximately 20 feet east of the current Highway 9 road surface, but construction activities would not extend to the outfall, the drainage channel, or below the ordinary high water mark.

2.3 Review of USGS Topographic Map

We reviewed the United States Geological Survey (USGS) Santa Cruz, California 7.5-minute quadrangle topographic map dated 1994 to obtain information relative to the topography and previous development of the Site. Based on the review of the USGS map, the topography at the western portion of the Site slopes down slightly to the east. Topography in the central portion of the Site is relatively flat, and onsite elevations range from approximately 8 to 40 feet above mean sea level (MSL). A surface water drainage channel is present at the Site. The channel borders the north side of southbound Highway 1 and connects to the San Lorenzo River, which is located adjacent to the eastern site boundary. Topographic features as depicted on the map are generally representative of observed conditions during our site reconnaissance.

2.4 Soil and Geologic Conditions

Information concerning the geologic conditions in the vicinity of the Site was obtained from a review of the *Geologic Map of the San Francisco-San Jose Quadrangle* (California Division of Mines and Geology [CDMG], 1991). The Site is located in the Coast Ranges Geomorphic Province of California, in the southern San Francisco Bay Area. The region is bounded by the Santa Cruz Mountains to the north, Monterey Bay to the south and the Santa Clara Valley to the east. A review of the referenced geologic map indicates that the Site is underlain by Pleistocene-aged marine terrace deposits.

We reviewed the United States Department of Agriculture's (USDA) National Resources Conservation Service online Soil Survey database (<http://websoilsurvey.nrcs.usda.gov/app/>), which provided information regarding surface soils at the Site (USDA, 2011). The soil survey data indicate that surficial soils at the Site are characterized by the Soquel Loam in the western and central portions, and the Baywood Loamy Sand in the eastern portion. These soils typically consist of sand, silt and clay loam, are well to excessively drained, and have moderate erosion potential.

Information regarding subsurface conditions in the vicinity of the Site was gathered from reports for the Salz Leathers property, at 1040 River Street, located adjacent to the northeastern boundary of the Site. These documents were provided by the Client and obtained from the California State Water Resources Control Board (CSWRCB) GeoTracker website (<http://geotracker.waterboards.ca.gov>). Soil in the project location reportedly consists of alluvial sediments deposited from the adjacent San Lorenzo River. These sediments are generally characterized by overbank deposits of clay, silt, and fine sand, intermixed with unconsolidated coarse sands and gravels to a depth of approximately 25 feet. The Miocene-aged Santa Margarita Sandstone reportedly underlies the recent river deposits.

2.5 Regional Groundwater Occurrence

We searched for groundwater data in the vicinity of the Site through review of information for nearby leaking underground storage tank (LUST) facilities on the GeoTracker website. According to information presented in an October 31, 2011, report titled *Groundwater Monitoring and Remediation Report – Second Half 2011, Self-Serve Petroleum, 133 Fern Street, Santa Cruz, California*, prepared by Pangea Environmental Services, Inc., for a former gas station located approximately 400 feet west of the Site, groundwater at the property is encountered at depths ranging from approximately 12 to 14 feet and flows in a southeasterly direction, toward the San Lorenzo River.

3.0 SITE RECONNAISSANCE

We conducted a reconnaissance of the Site and performed observations of adjacent properties on September 30, 2011. Since access was not provided to the private properties, observations on the properties were made from publicly accessible areas. A Site Plan depicting the Site and adjacent properties is presented as Figure 2. Photographs taken during the site reconnaissance are attached. Observations noted during the site reconnaissance are summarized below.

3.1 On-Site Observations

The northern portion of the Site is the Highway 9 (River Street) ROW, adjacent sidewalks, and landscaping (Photo 1). This portion of Highway 9 contains two lanes, with left-turn lanes for Encinal and Fern Streets. The western portion of the former Salz Leathers property (1040 River Street) abutting River Street is proposed for partial property acquisition (Photo 2). The Caltrans ROW, located northeast of the Highway 1/Highway 9 intersection, consists of a strip of unpaved land used as a Central Home Supply yard storage area (Photo 3).

The Central Home Supply yard (808 River Street) parking area, and office/warehouse building are located northeast of the Highway 1/Highway 9 intersection, on the east side of River Street. The parking area contains vehicles; the yard contains construction vehicles, and various construction materials, including, but not limited to, wood beams, piles of soil, and pallets with bags of dry concrete (Photos 4 and 5). A chain-link fence is located along the perimeter of the Central Home Supply

property, and vehicles were observed parked along the fence within the River Street ROW. No obvious indications of the use, storage or disposal of hazardous materials were observed at the Central Home Supply property.

The 744 River Street property is developed with a two-story residence situated approximately 20 feet east of the River Street ROW. A chain-link fence and some trees are located between the structure and River Street (Photo 6). The 115-117 Coral Street property is developed with a three-story Homeless Services Center facility (Photo 7). Landscaping is present between the facility building and the Highway 9 ROW (Photo 8).

The Highway 1/Highway 9 (River Street) intersection is located at the central portion of the Site (Photo 9). Highway 1 is oriented generally northeast-southwest within the Site boundaries and consists of a four-lane highway with a median strip. At the intersection of the highways, Highway 1 is a four-lane divided roadway including left- and right-turn lanes (Photos 10 and 11). The northwestern portion of Highway 1 is bounded by an area of vegetated land that extends north, abutting concrete wall. A segment of Union Pacific Railroad (UPRR) tracks crosses Highway 1 approximately 450 feet west of the center of the Highway 1/Highway 9 intersection (Photo 10). Drainage channels run along the northeast and southeast sides of Highway 1, which discharge to the San Lorenzo River to the east.

The commercial property at 700-720 River Street with landscaped area (partial parcel acquisition) abutting River Street is located at the southeast corner of the Highway 1/Highway 9 intersection. The portion of River Street south of the Highway 1/Highway 9 intersection contains two lanes in each direction and expands at the intersection to include two right-turn lanes and a left-turn lane in the northbound direction. The Site also includes adjacent sidewalks and landscaped areas (Photo 12).

The 707 River Street property is developed with a single-story building occupied by Hot Springs Spas at the southwest corner of the Highway 1/Highway 9 intersection. A concrete island located at the intersection contains the River Street gateway sign (Photo 13). The Gateway Plaza shopping center is located further south, on the east side of River Street. Highway 9 south of the Highway 1/Highway 9 intersection is a four-lane roadway with right- and left-turn lanes (Photo 14).

The Site is located in an urban setting of Santa Cruz. The improvement project area primarily consists of roadways and ROWs that are owned and operated by the City of Santa Cruz and Caltrans. Therefore, aerially deposited lead (ADL) and petroleum hydrocarbon impacts to soil as a result of historical automobile traffic are potential environmental concerns at the Site. Additionally, shallow soil adjacent to the existing UPRR tracks may be impacted by petroleum hydrocarbons, metals, herbicides, and polycyclic aromatic hydrocarbons from historical railroad operations.

3.2 Off-Site Observations

In addition to the onsite reconnaissance, adjacent properties were surveyed from public thoroughfares to assess if facilities and/or structures located on these properties are operated by entities that, as of the date of the Environmental Data Resources, Inc. (EDR) database report, potentially use, store, generate, or dispose of hazardous materials/wastes.

The Site is bounded by Highway 9 (River Street) to the north and south, and by Highway 1 to the east and west. The following adjacent streets and businesses are located along the west side of Highway 9 north of Highway 1:

- Public Storage facility at 1017 River Street
- Encinal Street
- Dental Studio at 915 River Street
- Office building at 907 River Street
- S&S Trophy business at 901 River Street
- Fern Street
- Residences at 815, 809, 803 River Street
- Photography Studio at 801 River Street
- Coral Street
- Homeless Services Center at 115/117 Coral Street (Photo 7)

Adjacent properties on the east side of Highway 9, north of Highway 1 include:

- The former Salz Leathers, Inc. facility at 1040 River Street (Photo 2)
- Central Home Supply business at 808 River Street (Photo 4)
- Residence at 744 River Street (Photo 6)
- Drainage channel

Adjacent properties on the west side of Highway 9, south of Highway 1 include:

- Hot Springs Spa at 707 River Street (Photo 13)
- Cottonwood Street
- Ron Cash's automotive repair facility at 619 River Street (Photo 15)
- Commercial warehouse facility at 609 River Street
- Madrone Street

Adjacent properties on the east side of Highway 9 south of Highway 1 consist of the office/medical building at 700-20 River Street, and the Gateway Plaza shopping center.

Properties adjacent to the western portion of Highway 1, west of Highway 9, include Highway 1 (Caltrans ROW), UPRR ROW and the Granite Rock facility at 303 Coral Street. Properties adjacent to the eastern portion of Highway 1, east of Highway 9 include Highway 1 (Caltrans ROW) and the San Lorenzo River.

4.0 SITE HISTORY

This section provides a brief description of the history of the Site and surrounding vicinity based on review of aerial photographs and topographic maps.

4.1 Aerial Photographs

Historical aerial photographs for the years 1931, 1948, 1956, 1964, 1977, 1982, 1987, and 1998 were obtained from EDR. The aerial photograph review was performed to obtain information concerning the history of development on and in the vicinity of the Site. Observations noted during the review are discussed hereinafter. Copies of the aerial photographs are presented in Appendix B.

Year/Scale	Observations	
	Site	Adjacent and Vicinity Properties
1931 (1"=500')	A roadway in the general configuration of the current Highway 9 alignment is present. The current Highway 1 roadway is not present. Numerous structures are located in the area of the former tannery at the northeastern portion of the Site. The eastern portion of the Site, south of the tannery, appears to be undeveloped land. Railroad tracks appear to cross the western portion of the Site.	Adjacent properties generally consist of vacant and agricultural land, and a mix of residential and commercial buildings. Commercial structures are located adjacent to the southwest and southern portions of the Site in the approximate locations of the former Reese Construction facility and Standard Oil Terminals identified in the EDR Report. Unimproved roads in the general configurations of Encinal and Cottonwood Streets are present west of the Site.
1948 (1"=555')	The Highway 9 roadway appears improved. A structure is present at the location of the current residence at 744 River Street at the central portion of the Site. Structures are present along the west side of River Street, between the current Encinal and Coral Streets.	Adjacent and surrounding properties have undergone additional residential and commercial development along River Street north and south of the Site.
1956 (1"=555')	Highway 1 and the intersection with River Street (Highway 9) appear under construction. Some of the structures located in the central portion of the Site have been removed to accommodate the new roadway alignment.	With the exception of grading for the new Highway 1 roadway alignment, adjacent and surrounding properties appear generally similar to the 1948 photograph.
1964 (1"=400')	Highway 1 is present as a four-lane divided roadway with turn lanes to and from River Street. Current Caltrans ROW appears vacant at the northern portion of the Site.	An area of cleared land is present at the current Central Home Supply property at 808 River Street. Remaining adjacent and surrounding land appear generally similar to the 1956 photograph.

Year/Scale	Observations	
	Site	Adjacent and Vicinity Properties
1977 (1"=541')	A portion of the Central Home Supply office/warehouse building and outdoor building material yard are present along River Street at the northern portion of the Site. The remainder of the Site appears similar to the 1964 photograph.	The Central Home Supply office/warehouse building and outdoor building material yard are present adjacent to the northern portion of the Site. Additional commercial structures and parking areas are present in the southern portion of the former tannery facility adjacent north of the Site. Remaining adjacent and surrounding properties appear similar to those in the 1964 photograph.
1982 (1"=690')	The resolution of the photograph is poor; however, the Site appears similar to the 1977 photograph.	The structure (likely the former oil terminal) located south of the Site is no longer present and appears to be vegetated land. Remaining adjacent properties appear similar to those in the 1977 photograph.
1987 (1"=666')	The Site appears similar to the 1982 photograph.	Adjacent and surrounding properties appear similar to those in the 1982 photograph.
1998 (1"=666')	The Site appears similar to the 1987 photograph.	A shopping center is adjacent southeast of the Site. Additional commercial buildings are present south of the Site along River Street. Remaining adjacent properties are similar to the 1987 photograph.

4.2 Review of Historical USGS Topographic Maps

Historical USGS quadrangle topographic maps of Santa Cruz and Ben Lomond, California, for the years 1902, 1948, 1954, 1968, 1981, and 1994 were obtained from EDR and reviewed to obtain information concerning the history of development on and in the vicinity of the Site. Observations noted during the map reviews are discussed hereinafter. Copies of the historical USGS topographic maps are presented in Appendix C.

Year/Scale	Depictions	
	Site	Adjacent and Vicinity Properties
1902 (1:125,000)	The large scale of the map prevents identification of site features; however, a roadway in the general configuration of Highway 9 appears to be present at the Site. Southern Pacific Railroad (SPRR), currently UPRR, tracks appear to cross the western portion of the Site	The Site vicinity appears to be a developed area of Santa Cruz west of the San Lorenzo River.
1948 (1:50,000)	Highway 9 is depicted in its current configuration, though the current Highway 1 intersection is not present. The Site is shaded in pink, indicating urban development and specific features are not depicted.	The Site vicinity consists of urban development.
1954 (1:24,000)	Highway 9 is identified as River Street and is depicted as a secondary highway. The southeastern portion of the Site in the area of the current Caltrans ROW and Central Home Supply property, appear to consist of vacant land.	Structures are depicted along River Street adjacent to the northern portion of the Site. Three commercial buildings are depicted on the former Tannery property north of the Site. Roads that appear similar to the current Encinal, Fern, Coral and Cottonwood Streets are shown lined with structures west of the Site.
1968 (1:24,000)	Highway 1 and the intersection with River Street are depicted in their current configuration. Highway 1 is shown as a primary highway with median strip, including turn lanes to and from River Street.	Adjacent properties to the west, north, and south of the Site are shaded in purple indicating new urban development. Land east of the Highway 9/Highway 1 intersection appears undeveloped.
1981 (1:24,000)	The Site appears similar to the 1968 map.	Adjacent properties are similar to those depicted on the 1968 map.
1994 (1:24,000)	The Site appears similar to the 1981 map.	A commercial building is located on the eastern portion of the former tannery property north of the Site, adjacent to the San Lorenzo River. An additional commercial building is present farther south of the Site. Remaining adjacent properties are similar to those depicted on the 1981 map.

4.3 Review of Sanborn Maps

Sanborn Maps depicting the Site and vicinity were obtained from the EDR library for the years 1886, 1888, 1892, 1905, 1928, 1950, and 1988. Specifically, the Sanborn Maps depict the western and southern portions of the Site, but do not include the area northeast of the current Highway 1/Highway 9 intersection. Copies of the Sanborn Maps are presented in Appendix D. Observations noted during the map reviews are discussed hereinafter.

1886, 1888, and 1892 Maps - Map coverage consists of the northern portion of River Street and the area to the east, which is identified as the “San Lorenzo Tannery.” The tannery consists of buildings on the east and west sides of River Street, north of Encinal Street. A generally east-west trending stream is depicted crossing River Street in a culvert located north of Encinal Street, and discharges to the San Lorenzo River. The tannery buildings are identified as Hide Drying Houses, Beam Houses, Bark Houses, Tanning Vats, and dwellings. A facility labeled as I.X.L. Tannery is located directly south of the San Lorenzo Tannery on the east side of River Street across from Encinal Street. The “Santa Cruz Soap and Glue Works,” consisting of six structures, is located south of the I.X.L. Tannery. Dwellings are located on the west side of River Street between Encinal and Fern Streets.

1905 Map – Map coverage is expanded to include areas along River Street from Fern Street (north) to Madrone Street (south). The tannery is identified as “Kullman-Salz & Co.’s Santa Cruz Tannery” and has expanded with additional structures. The “Soap and Glue Works” facility has also expanded and is identified as “Parsons and Hamilton.” Residences are located along the west side of River Street and on Coral, Cottonwood, and Madrone Streets west of the Site.

1928 Map – The map includes the area northeast of the Site, in the area of the current Caltrans ROW and the Central Home Supply property. This area of the ROW appears to consist of mostly vacant land and two storage sheds; the area of the current Central Home Supply property consists of a residence and three structures. The areas between Coral and Madrone Streets, and along the southeastern side of River Street, appear generally unchanged and consist of residences. However, a building identified as “Poultry Producers of Central California” is located at the northwest corner of Madrone Street, adjacent to the railroad tracks. The area west of River Street and south of Madrone Street has been developed with the “Associated Oil Company” and the “Standard Oil Company” facilities. Each of these facilities contains petroleum storage tanks and Oil Houses located on the western sides of the properties, adjacent to the railroad tracks. A structure identified as “Grain & Feed/ Hay Warehouse” is located south of the intersection of Potrero and River Streets.

1950 Map – No changes are noted relative to the 1928 Map, except that the area on the western side of River Street, between Encinal and Coral Streets, is developed with additional residential and commercial buildings including an “Oil Burner Factory” located in a building on the southwest corner of Coral Street (129/131 Coral Street) and a Pretzel Bakery (125 Coral Street) is identified in the building to the east of the Site. In addition, a “Richfield Oil Company” facility is located at the southwest corner of Encinal Street and the railroad tracks and includes three steel oil tanks surrounded by an “earthen dyke.” The Texas Co., located at the southwest corner of the intersection of Coral Street and the railroad tracks, includes “two steel oil tanks on the ground.”

1988 Map – The Salz Tannery facility contains additional buildings and some of the existing structures appear to have been expanded. The area south of the tannery is identified as “Building Supplies Storage Yard,” and the current Central Home Supply office/warehouse building is depicted at the southeastern portion of the property. The four-lane, divided State Highway 1 is present north of Cottonwood Street and is also identified as State Highway 9 in parentheses. The area to the north of Highway 1 consists of a vacant parcel of land that extends from River Street to the railroad tracks west of the Site. An apartment building and the “City Shelter” are located on the northwest corner of the Highway 1/Highway 9 intersection. Residences are located at the southwest corner of the intersection of River and Coral Streets. The former “Oil Burner Factory” is identified as “Misc. warehouse.” The former “Pretzel Bakery” has been expanded and is occupied by a metal fabricating facility.

A building that appears to be the one currently occupied by Hot Springs Spas (707 River Street) is located at the southwest corner of the Highway 1/River Street intersection. An auto service facility is located at the southwest corner of the intersection of River and Cottonwood Streets, and a pipe yard is located at the northwest corner of the intersection of Madrone and River Streets. The former oil company facilities have been replaced with commercial buildings. Residences remain on the east side of River Street on the property currently developed as the Gateway Plaza shopping center.

5.0 REGULATORY AGENCY RECORDS

A regulatory agency database search was performed for the Site and surrounding areas. We also reviewed regulatory agency files, and reports provided by the Client.

5.1 Database Review

EDR performed a search of Federal, State, and local databases for the Site and surrounding areas. A copy of the EDR report entitled *EDR Radius Map Report with Geocheck, Hwy 1/Hwy 9 Intersection Improvement Project, Santa Cruz, CA*, dated September 20, 2011, is presented in Appendix E.

5.1.1 Site

The EDR Report identified the former Salz Leathers, Inc. property located at 1040 River Street, included within the boundaries of the Site, listed in the following databases:

- Spills, Leaks, Investigation, and Clean-up (SLIC);
- Leaking Underground Storage Tanks (LUST);
- Department of Toxic Substances Control (DTSC) EnviroStor;
- Recorded Land Use Restrictions (DEED);
- DTSC Voluntary Cleanup Program (VCP);
- HIST UST, SWEEPS UST, CA FID UST (underground storage tank [UST] facility listings that are no longer maintained or updated); and
- Resource Conservation and Recovery Act - Small Quantity Generator (RCRA-SQG).

The Salz Leathers, Inc. property owner is listed as the City of Santa Cruz Redevelopment Agency. The property has a recorded land use covenant and an executed operation and maintenance (O&M) agreement, which fulfill the requirements to certify that a final remedy has been implemented. The final remedy includes continued groundwater monitoring, operation of a soil vapor extraction system, and maintenance of a cap. The land use covenant restricts use of shallow groundwater and maintenance of a cap over seven areas at the property. The current regulatory status and extent of residual contamination at the Salz Leathers, Inc. facility is discussed below in Section 5.3.

5.1.2 Adjacent and Surrounding Properties

Based on the database search performed by EDR and the groundwater flow direction in the site vicinity, the following sections provide additional information regarding listed properties located within the site vicinity. For the purposes of this ISA, the site vicinity is defined as properties within approximately ¼-mile upgradient, 1/8-mile crossgradient (based on reported groundwater flow directions), or adjacent to the Site.

LUST, SLIC, and EnviroStor Listings

Review of the EDR Report indicates that the following eleven facilities in the site vicinity are referenced in the LUST, SLIC, and EnviroStor databases:

- AD CO Electric, 606 River Street (closed case);
- Reese Construction Plaza, 511 and 515 River Street (closed case);
- Devco Oil, 139 Encinal Street (closed case);
- Santa Cruz Petroleum, 133 Fern Street (open case);
- Chevron (Former) Standard Oil Bulk Plant, 317 Potrero Street (open case);
- Commercial Warehouse, 320 Coral Street (closed case);
- Graniterock Co., 129/303 Coral Street (closed case);
- Bogard Construction Inc., 350 Coral Street, (closed case);
- River Street Property, 320 River Street (closed case);
- Las Animas Concrete, 1111 River Street (closed case); and
- Corporation Yard, 1125 River Street (open case, reported impacts to soil only).

The EDR Report included The Texas Company at 136 Coral Street as an EnviroStor listing; however, the property name and address were not included on the DTSC EnviroStor online database (<http://www.envirostor.dtsc.ca.gov/public/>). The assessor parcel number and location coordinates included in the EDR Report listing refers to 136 Carol Street, which is located approximately one mile east of the Site.

Based on information presented in the EDR Report, properties listed with a “case closed” regulatory status present a low risk for impacting construction activities associated with the Highway 1/Highway 9 Improvement Project. Additional information for properties in the site vicinity with open regulatory cases is provided in Section 5.3.

RCRA SQG, FINDS and HAZNET Listings

There are 18 properties in the project vicinity that are referenced on the Resource Conservation and Recovery Act (RCRA) Small and Large Quantity Generator (SQG and LQG) listings as generating between 100 and 1,000 kilograms, and greater than 1,000 kilograms, respectively, of hazardous waste per month. Within the project vicinity, there are seven properties listed in the Facility Index System (FINDS) from cross reference to other regulatory listings relating to chemical use, storage and disposal, and seven properties with HAZNET listings for filing hazardous waste manifests. The following listed facilities are located within the site vicinity:

- Harley Gillespie, 125 Coral Street;
- Wilson and Harrington, Inc., 126 Fern Street;
- Laidlaw Transit Santa Cruz, 117 Fern Street;
- Beta Technology, Inc., 105 Harvey West Boulevard;
- Las Animas Concrete, 146 Encinal Street;
- United Parcel Service, 1122 River Street;
- Devco Oil, 139 Encinal Street;
- Bayshore Press, 310 Coral Street;
- City of Santa Cruz, 1125 River Street;
- Granite Rock Co., 303 Coral Street;
- Bayside Oil II, Inc., 210 Encinal Street;
- Santa Cruz Metro Transit District, 1200 River Street;
- Phoenix Refinishing, 220C Fern Street;
- Pacific Bell, 195 Harvey West Boulevard;
- Santa Cruz Metro Transit Dist, 138 Golf Club Drive;
- Costco Wholesale #149, 220 Sylvania;
- JA-CO Machine Works, LLC, 308 Encinal Street; and
- FEI Microwave, 330 Encinal Street.

UST/AST Listings

Review of the EDR Report indicates that there are eight facilities at and in the vicinity of the site vicinity that are referenced as containing registered USTs or aboveground storage tanks (ASTs) and include the following:

- Santa Cruz Metro Transit District, 1122 River Street;
- Santa Cruz Petroleum, 133 Fern Street;
- Devco Oil, 139 Encinal Street;
- City of Santa Cruz Corporation Yard, 1125 River Street;
- Granite Rock Co., 129/303 Coral Street;
- Bayside Oil, 210 Encinal Street;
- SC Metro Transit District, 138 Golf Club Drive; and
- UPS, 251 Sylvania Street.

5.2 Orphan Properties

The EDR *Orphan Summary* identifies properties that have incomplete address information and could not be specifically plotted. A total of 15 properties were listed in the *Orphan Summary*. None of the properties listed on the *Orphan Summary* are expected to pose an environmental concern to the Project ESA. The EDR *Orphan Summary* is presented in the EDR report presented in Appendix E.

5.3 Regulatory Case Document Review

Regulatory agency files and EDR database details were reviewed for information pertaining to potential contaminated properties with open case files located within approximately ¼-mile upgradient, 1/8-mile crossgradient (based on reported groundwater flow directions), or adjacent to the Site. Information was obtained from a review of available CSWRCB GeoTracker website (<http://geotracker.waterboards.ca.gov>) and DTSC EnviroStor website (<http://www.envirostor.dtsc.ca.gov/public/>) reports. Information obtained from these sources for potential contaminated properties in the site vicinity is summarized below.

Former Salz Leathers, Inc., 1040 River Street. The DTSC provided oversight during the investigation and remediation of the former tannery property, which operated between 1855 until 2001. The historical operations resulted in releases of hazardous chemicals, including metals, petroleum, and solvents, to soil and groundwater at the property. The DTSC issued a No Further Action Required letter for the property on July 27, 2007, which stated that all response actions, other than long-term O&M activities, have been completed. The ongoing O&M activities include: maintenance of capped areas of the property, continued groundwater monitoring, and continued operation of the soil vapor extraction and treatment system. In addition, a land use covenant has been recorded at the property, which restricts use of the facility to: 1) ensure that areas where chemicals remain in soil at levels that exceed site cleanup goals remain capped and are not developed for sensitive uses, 2) ensure that shallow groundwater at the property is not used for domestic purposes, and 3) require non-interference with caps installed on Capped Property Areas, the groundwater monitoring system, and soil vapor extraction and treatment system. Based upon the DTSC evaluation, the agency concluded that that the facility no longer poses a threat to human health or the environment.

Groundwater monitoring activities required by the O&M Program include a well in the vicinity of a former gasoline UST located approximately 10 to 15 feet east of the River Street ROW and approximately 160 feet north of Encinal Street. Benzene has historically been detected above the cleanup goal in groundwater samples collected from MW-4, located approximately 50 feet east of the former UST; however, no analytes were detected in the groundwater sample collected from this well during a monitoring event conducted in December 2009. A diesel UST was also formerly located approximately 20 to 30 feet east of the Highway 9 ROW, across from Encinal Street. Although USTs at the property have been removed, residual petroleum impacted soil may be present at these locations.

The area of the former USTs is not included within the boundaries of the area proposed for partial acquisition for the improvement project. However, should the proposed improvement plans be modified in this area, petroleum impacted soil may be encountered if these areas are to be excavated. Due to the current regulatory status of the facility, investigation and remedial activities that have been conducted at the property, and groundwater flow away from the Site, the former Salz Leathers, Inc. facility presents a low risk for impacting construction activities associated with the Highway 1/Highway 9 Intersection Improvement Project.

Santa Cruz Petroleum, 133 Fern Street. This property is located approximately 400 feet west of the Site, is listed in the EDR Report as an open LUST case. The property is currently occupied by a commercial glass art studio but operated as a self-serve card-lock fueling facility until 1998. In 2000, one 12,000-gallon diesel UST, three 12,000-gallon gasoline USTs, and associated equipment were removed from the facility. Between May 2004 and 2005, seven groundwater monitoring wells were installed on and off the property, including two downgradient locations on Coral Street (300 feet west of the Site). Monitoring data collected at the facility in September 2011 indicated that groundwater was measured at depths between approximately 12 and 14 feet and flows towards the southeast. Total petroleum hydrocarbons as gasoline and as diesel, benzene, and methyl-tert butyl ether were detected in the groundwater samples collected from the downgradient monitoring wells located in Coral Street. A soil vapor extraction system currently operates at the property. Based on the distance from the Site and the defined extent of petroleum impacted groundwater, this property presents a low risk for impacting construction activities associated with the Highway 1/Highway 9 Intersection Improvement Project.

Corporation Yard, 1125 River Street. This property is located approximately 1,000 feet north of the Site, is listed in the EDR Report as an open LUST case. The facility had a reported release of gasoline due to a tank overfill in 1991, impacting soil only. No recent data or information is available regarding the regulatory status of this property. Based on the distance from the Site and information available on the GeoTracker website, this property presents a low risk for impacting construction activities associated with the Highway 1/Highway 9 Intersection Improvement Project.

Former Standard Oil Bulk Plant, 317 Potrero Street. This property, located approximately 250 feet south of the Site at the intersection of River and Potrero Streets, is currently a commercial/retail shopping plaza. A bulk oil storage facility operated at the property between 1922 and 1976. The facility stored petroleum products in 14 ASTs that were removed from the property in 1976. The groundwater flow direction measured at the property in October 2011 was toward the southeast. The results of site investigation activities conducted in October 2011 indicate that petroleum hydrocarbons are present in soil and groundwater beneath the facility, with concentrations in groundwater greatest in onsite monitoring wells parallel to Potrero Street. Based on information available on the GeoTracker website, reported groundwater flow direction (southeast), and its location, this property presents a low risk for impacting construction activities associated with the Highway 1/Highway 9 Intersection Improvement Project.

5.4 California Department of Conservation – Division of Oil, Gas, and Geothermal Resources

We reviewed the California Department of Conservation – Division of Oil, Gas, and Geothermal Resources (DOGGR) website (<http://www.consrv.ca.gov/dog/>) for oil or gas wells within the site vicinity. Based on a review of DOGGR wildcat and field maps, oil or gas wells are not depicted on the Site or in the site vicinity.

5.5 Prior Environmental Report

We reviewed our prior report titled, *Draft Initial Site Assessment, Highway 1/Highway 9 Intersection Improvement Project, Santa Cruz, California* (Draft ISA), dated March 6, 2008, that we prepared for the Site to evaluate known and potential environmental conditions that may impact proposed

Highway 1/Highway 9 Intersection Improvement Project construction activities. The following findings were presented in our Draft ISA:

- The Site consists of existing roadways and ROW including: 1) City of Santa Cruz ROW at the Highway 1/Highway 9 intersection, and sidewalks and landscaped areas along the roadways, 2) Highway 9 ROW, sidewalks and landscaped areas extending from the center of the intersection approximately 1,100 feet north and 550 feet south, and 3) Highway 1 ROW, sidewalks, and landscaped areas extending from the center of the intersection approximately 340 feet east and 860 feet west.

The Site also consists of portions of the following private properties adjacent to existing roadways for partial parcel acquisition within the project boundaries: 700-720, 744, 808, and 1040 River Street, 115 Coral Street, and Caltrans ROW northeast of the Highway 1/Highway 9 intersection, Gateway Plaza shopping center, and the City of Santa Cruz drainage culvert.

- Groundwater at the adjacent Salz Leather property was encountered at depths between approximately 7 and 16 feet and flows to the east/southeast toward the San Lorenzo River, generally consistent with measurements at properties in the vicinity.
- A review of the historical information suggests that the Site and vicinity have been developed since at least the mid-1800s, including the Highway 9 roadway. The central portion of the Site, in the area of the current Highway 1/Highway 9 intersection, has been developed with residences from at least 1905 until approximately 1955. The current Highway 1/Highway 9 alignment at the Site was constructed in approximately 1956. Adjacent properties have been developed for residential and commercial uses since at least 1902. The Salz Leathers, Inc. property at 1040 River Street, located northeast of the Site, operated as a leather manufacturing facility/tannery from 1855 until 2001. The residential property at 744 River Street was constructed prior to 1931, and the Central Home Supply office/warehouse building at 808 River Street was constructed in 1970.
- The Site is located adjacent to the former Salz Leathers, Inc. facility, which has well-documented impacts to soil, groundwater, surface water, and sediment, resulting from historical tannery operations. The DTSC issued a No Further Action Required letter for the property on July 27, 2007, which stated that response actions, other than long-term O&M activities, have been completed. Based on the current regulatory status, completed investigation and remedial activities that have been conducted at the property, and groundwater flow away from the Site, the former Salz Leathers, Inc. facility has a low potential to pose an environmental concern to the Site.
- Two properties with open LUST cases were identified upgradient of the Site, Devco Oil at 139 Encinal Street, and Santa Cruz Petroleum/Self-Serve Petroleum at 133 Fern Street. Based upon our review of reports for these properties, these facilities have a low potential for environmental concern to the Site.

Our 2008 Draft ISA conclusions consisted of the following identified and potential RECs and possible environmental concerns at the Site:

- Shallow soil within the Highway 1 and Highway 9 ROW at the Site has likely been impacted by ADL and petroleum hydrocarbons resulting from historical vehicular traffic and emissions; and
- Based on the age of the residential structure at 744 River Street and the commercial building at 808 River Street (proposed for partial acquisition), asbestos-containing materials (ACM) and lead-containing paint (LCP) may have been used in construction of the buildings.

A soil investigation was recommended to evaluate potential ADL and petroleum hydrocarbons in site soils in the vicinity of any project improvement excavations. Additionally, an asbestos and LCP survey was recommended for structures at the 744 and 808 River Street properties if they are to be demolished or renovated as part of the improvement project.

6.0 SUMMARY OF FINDINGS

The following is a summary of the ISA findings for the Highway 1/Highway 9 Intersection Improvement Project in Santa Cruz, California:

- The Site consists of existing roadways and ROW including: 1) City of Santa Cruz ROW at the Highway 1/Highway 9 (River Street) intersection, and sidewalks and landscaped areas along the roadways, 2) Highway 9 ROW, sidewalks and landscaped areas extending from the center of the intersection approximately 1,100 feet north and 550 feet south, and 3) Highway 1 ROW, sidewalks, and landscaped areas extending from the center of the intersection approximately 340 feet east and 860 feet west.

The Site also includes adjacent private property proposed for partial parcel acquisition at the following addresses and locations:

- Western portion of 744 River Street (APN 008-172-08-000);
 - 808 River Street (008-163-06-000);
 - Caltrans ROW (APN 008-163-07-000);
 - 115 Coral Street (APN 008-171-33-000);
 - Gateway Plaza shopping center (APNs 008-601-04-000 & 008-601-02-000);
 - 700-720 River Street (APN 008-174-02-000);
 - 1040 River Street (APN 008-032-04-000); and
 - City of Santa Cruz drainage culvert (APN 008-174-01-000).
- Soil at the project location consists of alluvial sediments deposited from the adjacent San Lorenzo River. These sediments are generally characterized by overbank deposits of clay, silt, and fine sand, intermixed with unconsolidated coarse sands and gravels to a depth of approximately 25 feet. Groundwater in the site vicinity is encountered at depths ranging from approximately 12 to 14 feet and flows in a southeasterly direction, toward the San Lorenzo River.
 - A review of the historical information obtained during the preparation of this report indicates that the Site and vicinity have been developed since at least the mid-1800s, including the Highway 9 roadway. The central portion of the Site, in the area of the current Highway 1/Highway 9 intersection, was developed with residences from at least 1905 until approximately 1955. The current Highway 1/Highway 9 alignment was constructed in approximately 1956. Adjacent properties have been developed for residential and commercial uses since at least 1902. The Salz Leathers, Inc. property at 1040 River Street, located northeast of the Site, operated as a leather manufacturing facility/tannery from 1855 until 2001. A portion of UPRR has crossed the western portion of the Site since at least 1902. The residential property at 744 River Street was constructed prior to 1931, and the Central Home Supply office/warehouse building was constructed in 1970.

- The Site is located adjacent to the former Salz Leathers, Inc. facility, which has well-documented impacts to soil, groundwater, surface water, and sediment, resulting from historical tannery operations. The DTSC issued a No Further Action Required letter for the property on July 27, 2007, which stated that response actions, other than long-term O&M activities, have been completed.
- Three properties with open LUST cases were identified in the site vicinity. However, identified environmental conditions at the properties present a low risk for impacting construction activities associated with the Highway 1/Highway 9 Intersection Improvement Project.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The Highway 1/Highway 9 Intersection Improvement Project includes partial acquisition of private properties located adjacent to the Highway 1/Highway 9 Intersection in Santa Cruz, California. The results of the ISA indicate the following potential impacts requiring further evaluation for impact on the design and construction of the Highway 1/Highway 9 Intersection Improvement Project:

- Shallow soil within the Highway 1 and Highway 9 ROW at the Site may be impacted by ADL and petroleum hydrocarbons from historical vehicle emissions and traffic; and
- Shallow soil adjacent to the existing UPRR tracks may be impacted by petroleum hydrocarbons, metals, herbicides, and polycyclic aromatic hydrocarbons from historical railroad operations.

We recommend that a soil investigation be performed to determine the potential presence of lead and petroleum hydrocarbons in site soils in the vicinity of any project improvement excavations. Additionally, if the improvement project includes soil excavation at the existing UPRR ROW, a soil investigation should be conducted to determine the presence of petroleum hydrocarbons, metals, herbicides, and polycyclic aromatic hydrocarbons in site soil. If proposed construction activities extend to the depth of groundwater, sampling of groundwater should be included in the environmental investigation. These investigations should be conducted to evaluate potential environmental impairments, and soil and groundwater material management and possible disposal requirements.

Structures present on properties proposed for partial acquisition may contain ACM and LCP. An asbestos and LCP survey must first be conducted at buildings proposed for demolition as part of the improvement project to satisfy Monterey Bay Unified Air Pollution Control District requirements (asbestos) and demolition waste disposal characterization (asbestos and lead).

Other potential environmental constraints that may be encountered during planned construction activities include thermoplastic paint striping. Yellow thermoplastic and paint striping that is removed during planned roadway improvements may require special handling and disposal requirements unless combined with sufficient asphalt grindings per Caltrans' Special Provisions.

The results of the site reconnaissance, historical and regulatory file research, and prior field investigations have indicated the potential presence of closed USTs at and near the properties proposed for partial acquisition. If encountered during roadway improvement activities, undocumented USTs, septic systems and domestic/agricultural/oil wells should be properly removed or abandoned in accordance with Santa Cruz County requirements.

A Caltrans ISA Checklist summarizing the findings, conclusions, and recommendations of this ISA is presented in Appendix F.

8.0 REFERENCES

- American Society for Testing and Materials *Designation E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, 2005.
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