

Appendix K

Phase I Environmental Site Assessment

PHASE I ENVIRONMENTAL SITE ASSESSMENT

16 SEPTEMBER 2020

SAN RAFAEL TRANSIT
CENTER PROJECT
San Rafael, California

FOR:
Kimley-Horn and Associates, Inc.
Oakland, California

18303-00.02715



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16 September 2020
18303-00.027125

Adam Dankberg, P.E.
Kimley-Horn and Associates, Inc.
1300 Clay Street
Oakland, CA 94612

Subject: Draft Phase I Environmental Site Assessment for the San Rafael Transit Center Project in San Rafael, California.

Dear Mr. Dankberg:

Please find enclosed our Phase I Environmental Site Assessment prepared for the San Rafael Transit Center Project in San Rafael, California. Please do not hesitate to contact us if you have any questions regarding this report.

Sincerely,

Bruce Abelli-Amen, PG, CHg
Principal, Senior Hydrogeologist
Baseline Environmental Consulting

Patrick Sutton, PE
Environmental Engineer III
Baseline Environmental Consulting

BAA: PS

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PHASE I ENVIRONMENTAL SITE ASSESSMENT

San Rafael Transit Center Project San Rafael, California

1. INTRODUCTION

Baseline Environmental Consulting (Baseline) prepared this Phase I Environmental Site Assessment (ESA) for the San Rafael Transit Center Project (project) located in San Rafael, California. The project improvements would include 17 straight-curb bus bays to accommodate transit, airport shuttles, and Greyhound services at the transit center. The regional location and project study limits are shown on **Figure 1**. The build alternatives being evaluated are the “4th Street Gateway Alternative”, “Whistlestop Block Alternative”, “Move Whistlestop Alternative”, and “Under the Freeway Alternative”. The differences in the layout for each build alternative are shown on **Figure 2**. The project study limits shown on **Figure 1** include all the areas of substantial improvements proposed for each of the build alternatives.

Baseline prepared this Phase I ESA to support the preliminary engineering and environmental review of the proposed project under the California Environmental Quality Act. The purpose of this Phase I ESA is to identify and evaluate potential environmental conditions of concern related to hazardous materials in soil, groundwater, and building materials within the project study limits that could be encountered during construction and maintenance of the proposed project. The scope of services for this Phase I ESA included review and evaluation of the physical setting, historical land uses, environmental records, previous environmental investigations in the project vicinity, and a site reconnaissance.

2. METHODOLOGY

This assessment was prepared in general accordance with ASTM International’s E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process*. The limits of the project site include all areas of substantial improvements associated with each of the build alternatives (**Figure 1**). As discussed further below, Baseline conducted a site reconnaissance and reviewed published maps, technical reports, and environmental records available on regulatory databases to identify and evaluate potential environmental conditions of concern in the project vicinity. Environmental conditions of concern that could potentially be encountered by the proposed project include Recognized Environmental Conditions¹ (RECs), as defined by ASTM International (2013), and the following environmental concerns that are not considered RECs under ASTM 1527-13:

¹ RECs are defined in ASTM E1527-13 as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to 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.” According to ASTM E1527-13, the term “REC” is not intended to include de minimis conditions that

- Aerially-deposited lead (ADL) from highway corridors;
- Soil contamination from railroad corridors; and
- Hazardous building materials.

These environmental conditions of concern were evaluated based on guidance from ASTM E1527-13 and Baseline’s previous experience working on similar projects.

2.1 Review of Physical Setting

The physical setting in the project vicinity was evaluated to determine local groundwater flow direction so that off-site sources of groundwater contamination could be evaluated for their potential to migrate within the project study limits. The topographic and geologic characteristics of the project study limits were determined based on review of published maps and technical reports. Hydrogeologic conditions (e.g., groundwater depth and flow direction) were determined based on information from the State Water Resources Control Board (SWRCB) *GeoTracker* database (SWRCB, 2020).

2.2 Review of Site History and Site Reconnaissance

The history of land uses within and adjacent to the project study limits were evaluated to identify potential sources of hazardous materials that may have resulted in subsurface contamination that could affect the proposed project. Historical land use conditions were determined based on review of aerial photographs and Sanborn Fire Insurance Maps that spanned between 1924 and 2016 (EDR, 2020). The aerial photographs and Sanborn Fire Insurance Maps were georeferenced and imported into a Geographic Information System to spatially analyze land use developments relative to the study limits. Copies of the aerial photographs and Sanborn Fire Insurance Maps reviewed are included in **Appendix A**.

On 15 May 2020, Yilin Tian of Baseline conducted a site reconnaissance to identify current land uses and evidence of potentially undocumented hazardous materials releases (if any) within the project study limits and on adjoining properties. Evidence of potential hazardous materials releases could include on-site waste disposal, apparent odors, stained or discolored surfaces, and stressed or dead vegetation. Baseline also considered conditions that could indicate a potential threat of a hazardous materials release in the near future, such as poorly maintained hazardous materials storage areas in proximity to the project study limits. The site reconnaissance was performed by walking along public rights-of-way.

2.3 Review of Environmental Records

Baseline reviewed environmental records of sites that manage (e.g., generate, use, store, transport, or dispose) and/or have released hazardous materials into the environment to identify potential sources of subsurface contamination within and adjacent to the project study

generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

limits. In accordance with ASTM 1527-13, only environmental records that were reasonably ascertainable² from standard sources³ were reviewed. The standard sources reviewed for this Phase I ESA were derived from the United States Environmental Protection Agency (U.S. EPA) (2020) *Enforcement and Compliance History Online* database, SWRCB (2020) *GeoTracker* database, and Department of Toxic Substances Control (DTSC) (2020) *EnviroStor* database.

Environmental records reviewed for this Phase I ESA are summarized in **Table 1**.

Baseline evaluated the environmental records of hazardous materials release sites located within the minimum search distances defined by ASTM E1527-13, which range from 0.5 to 1.0 mile from the project study limits as shown in **Table 1**. The environmental records for hazardous materials release sites identified within 1.0 mile of the project study limits are summarized in **Appendix B** and evaluated in Section 3.3.

Baseline also reviewed environmental records of sites that manage hazardous materials within or adjacent to the project study limits. Sites that manage (e.g., generate, use, store, transport, or dispose) hazardous materials only pose a threat of adversely affecting the project if there is evidence of a potentially undocumented release or an imminent threat of a release. As discussed above, Baseline conducted a site reconnaissance to determine if there is any evidence of potentially undocumented or future threats of hazardous materials releases in the project vicinity. The environmental records for sites that manage hazardous materials identified within or adjacent to the project study limits are summarized in **Appendix B**.

Table 1: Summary of Primary Environmental Records Reviewed

Environmental Record Source	Search Distance	Reference	Record Source Description
Permitted USTs	On or Adjacent	SWRCB, 2020	Facilities/sites that have a current permit to operate a UST(s) issued by the local permitting agency.
Hazardous Waste Facility/Tiered Permit	On or Adjacent	DTSC, 2020	Facilities/sites that were required to obtain a permit or have received a hazardous waste facility permit from the DTSC or U.S. EPA.
RCRA Facility	On or Adjacent	U.S. EPA, 2020	Facilities/sites that generate, transport, store, treat and/or dispose of hazardous waste as defined by RCRA.
Cleanup Program Site (formerly SLIC)	0.5 mile	SWRCB, 2020	Contaminated sites generally not associated with petroleum USTs with RWQCB oversight for investigation and/or remediation.
Land Disposal Site	0.5 mile	SWRCB, 2020	Regulated waste management units (e.g., waste piles, surface impoundments, and landfills) that discharge waste to land for treatment, storage and disposal.
LUST Cleanup Site	0.5 mile	SWRCB, 2020	Sites contaminated from leaking USTs with RWQCB oversight for investigation and/or remediation.

² According to ASTM 1527-13, reasonably ascertainable information is 1) publicly available, 2) obtainable from its source within reasonable time and cost restraints, and 3) practically reviewable.

³ Standard sources are defined in Section 8 of ASTM 1527-13.

Environmental Record Source	Search Distance	Reference	Record Source Description
Military Evaluation	0.5 mile	DTSC, 2020	Closed and open military facilities with confirmed or unconfirmed releases with DTSC oversight for investigation and/or remediation.
Military UST Site/ Military Cleanup Site/ Military Privatized Site	0.5 mile	SWRCB, 2020	Military sites with RWQCB oversight for investigation and/or remediation.
Voluntary Cleanup	0.5 mile	DTSC, 2020	Sites with either confirmed or unconfirmed releases, and the project proponents have requested DTSC oversight for investigation and/or remediation.
Corrective Action	1.0 mile	DTSC, 2020	Investigation or cleanup activities at RCRA or state-only permitted hazardous waste facilities that have treated, stored, disposed and/or transferred hazardous waste.
Federal Superfund	1.0 mile	DTSC, 2020	Sites where the U.S. EPA proposed, listed, or delisted a site on the NPL.
State Response	1.0 mile	DTSC, 2020	High-priority and high potential risk sites requiring cleanup with DTSC oversight.

Notes: Search distances are defined by ASTM E1527-13 and are relative to the boundary of the project study limits.

DTSC = Department of Toxic Substances Control

LUST = Leaking UST

RCRA = Resources Conservation Recovery Act

NPL = National Priority List

RCRA = Resources Conservation Recovery Act

RWQCB = Regional Water Quality Control Board

SLIC = Spills, Leaks, Investigation, and Cleanup

SWRCB = State Water Resources Control Board

U.S. EPA = United States Environmental Protection Agency

UST = underground storage tank

3. EVALUATION OF EXISTING ENVIRONMENTAL CONDITIONS

This section identifies and evaluates environmental conditions of potential concern in the project vicinity based on review of the physical setting, site history, site reconnaissance, and environmental records.

3.1 Physical Setting

The project is primarily located on Holocene alluvium adjacent to the San Rafael Creek (Graymer, R.W, et al., 2006), which drains east into the San Francisco Bay about 1.5 miles from the project study limits. The project area is relatively flat with an average elevation of about 10 feet relative to the North American Vertical Datum of 1988 (NAVD88) (USGS, 2018). Based on review of previous groundwater investigations performed near the project study limits (ETIC, 2020), the groundwater ranges in depth from about 3 to 6 feet below ground surface and generally flows east-southeast towards the San Rafael Creek (**Figure 3**). However, local groundwater elevations and flow directions within the project study limits could potentially be tidally influenced (i.e., variable over time) based on the proximity to the San Francisco Bay.

3.2 Site History and Site Reconnaissance

As early as 1924, land uses developed within the project study limits included residential dwellings, a hotel, lumber yard, train station, and railroad corridor. Two gasoline service stations were located adjacent to the project study limits (**Figure 4 and Appendix A**). Between 1924 and 1950, the railroad corridor and station operations expanded, the U.S. Highway 101 viaduct was constructed over the project study limits, and additional land uses within the project study limits included a bus station, milk and creamery company, gravel company, and automotive repair services. Two additional gasoline service stations were located within the project study limits, six additional gasoline service stations were located adjacent to the project study limits, and one aboveground oil storage tank was located adjacent to the project study limits (**Figure 4 and Appendix A**). Between 1950 and 1970, the U.S. Highway 101 viaduct expanded, one additional gasoline service station was located within the project study limits, and six additional gasoline service stations were located adjacent to the project study limits (**Figure 4 and Appendix A**).

Since 1970, most of the automotive repair services and all of the gasoline service stations and the aboveground oil tank previously identified within and adjacent to the project study limits have been redeveloped primarily for residential and commercial uses. Based on the site reconnaissance conducted on 15 May 2020, there are two land uses currently located within the project study limits that appear to manage hazardous materials: an automotive repair service station and dry cleaner facility (**Figure 4**).

Common contaminants of concern in soil and/or groundwater associated with automotive repair services, gasoline service stations, and aboveground oil tanks include heavy metals (e.g., lead and arsenic), total petroleum hydrocarbons, volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs). Common contaminants of concern associated with dry cleaner facilities include chlorinated solvents. Some of these land uses in the project vicinity have documented hazardous materials releases, which are discussed further under Section 3.3. The land uses that do not have documented hazardous materials releases include the following:

- A former gasoline service station (circa 1950) located adjacent to the project study limits at the northeast corner of the current Lincoln Avenue and 3rd Street intersection (**Figure 4**).
- A former automobile service building (circa 1950) located within the project study limits north of the current Hetherton Street and 4th Street intersection (**Figure 4**).
- A former aboveground oil storage tank for a gravel company (circa 1950) located adjacent to the project study limits to the northeast of the current Hetherton Street and 3rd Street intersection (**Figure 4**).
- Former automobile and gasoline service stations (circa 1950 and 1970) and a current automobile service station and dry cleaner building (2020) located within and adjacent

to the project study limits at the northwest, southwest, and southeast corners of the current Irwin Street and 4th Street intersection (**Figure 4**).

Evidence of potentially undocumented hazardous materials releases or future threats of hazardous materials releases was not observed within or adjacent to the project study limits during the site reconnaissance. However, this does not preclude the possibility that undocumented releases may have occurred in the past at these facilities that store and manage hazardous materials. Therefore, undocumented soil and/or groundwater contamination (if any) could potentially be encountered during project construction and maintenance in proximity to historical and current land uses associated with hazardous materials.

3.3 Environmental Records

The review of environmental records identified 54 hazardous materials release sites within 1 mile of the project study limits (**Appendix B**). Release sites that could potentially pose a threat of affecting environmental conditions within the project study limits include sites located within and adjacent to the study limits. In addition, offsite migration of groundwater contaminant plumes from active release sites located hydraulically upgradient (i.e., west) of the project study limits can also pose a potential threat of affecting environmental conditions within the study limits. Based on these screening criteria, 13 of the 54 release sites are considered a potential concern and are discussed further below to determine if they pose a known or potential threat of affecting environmental conditions within the project study limits. The other 41 release sites are either located hydraulically downgradient of the project study limits or are closed sites⁴ and not located within or adjacent to the study limits; therefore, these sites are not expected to affect environmental conditions within the project study limits.

3.3.1 Foodmart

The Foodmart site (Site 01 on **Figure 4**), which is located adjacent to the project study limits, was formerly occupied by a gasoline service station. In 1994, a release of petroleum from leaking underground storage tanks (USTs) was reported following tank removal activities at the site. In 1995, the case was closed by the lead regulatory oversight agency, the San Francisco Bay Regional Water Quality Control Board (Regional Water Board), because it did not appear that further monitoring, investigation or remedial actions were necessary to protect human health, safety, and the environment. According to the most recent groundwater monitoring event in 1995, no residual petroleum hydrocarbons were reported above laboratory reporting limits in the groundwater samples (San Rafael Fire Department, 1995). Therefore, groundwater contamination from the release site is not expected to affect environmental conditions within the project study limits.

3.3.2 D & S Garage

In 1989, a release of petroleum from leaking USTs was reported following tank removal activities at the D&S Garage site (Site 02 on **Figure 4**), which is located adjacent to the project

⁴ Investigation and/or remediation activities have been completed.

study limits. In 2007, the case was closed by the lead regulatory oversight agency (Regional Water Board) because it did not appear that further monitoring, investigation or remedial actions were necessary to protect human health, safety, and the environment. According to the most recent groundwater monitoring event in 2006, residual concentrations of total petroleum hydrocarbons as diesel (TPH-d) and methyl tert-butyl ether (MTBE) were reported in the immediate vicinity of the former USTs about 25 feet west of the project study limits (GPI Environmental Management, 2006). Based on the proximity of the former USTs to the project study limits, residual groundwater contamination from the release site could potentially be encountered during project construction and maintenance.

3.3.3 Former Chevron Station

The Former Chevron Station site (Site 03 on **Figure 4**), which is located adjacent to the project study limits, was formerly a gasoline service station. In 1987, a release of petroleum from leaking USTs was reported following tank removal activities at the site. In 1997, the case was closed by the lead regulatory oversight agency (Regional Water Board) because it did not appear that further monitoring, investigation or remedial actions were necessary to protect human health, safety, and the environment. According to the most recent groundwater monitoring results from 1990 to 1997, residual concentrations of petroleum were not reported in the groundwater monitoring wells located on the eastern portion of the site, which are within about 50 feet of the project study limits (San Rafael Fire Department, 1997). In 1998, an additional UST was discovered and removed from the western portion of the site. According to analytical results of soil and water samples collected during the tank removal, the extent of residual petroleum contamination adjacent to the former UST appeared to be limited; therefore, the regulatory case status has remained closed (Cambria, 1998). Based on the limited extent and age (over 20 years) of residual contamination on the western portion of the site, residual groundwater contamination from the release site is not expected to affect environmental conditions within the project study limits.

3.3.4 John Irish Jeep Dealership

In 1988, a release of petroleum from leaking USTs was reported following tank removal activities at the John Irish Jeep Dealership site (Site 04 on **Figure 4**), which is located adjacent to the project study limits. In 1996, the case was closed by the lead regulatory oversight agency (Regional Water Board) because it did not appear that further monitoring, investigation or remedial actions were necessary to protect human health, safety, and the environment. According to the most recent groundwater sampling results in 1996, residual concentrations of toluene and MTBE were reported in groundwater samples collected in the immediate vicinity of the USTs about 200 feet west of the project study limits (San Rafael Fire Department, 1996a). Based on the proximity to the project study limits, residual groundwater contamination from the release site could potentially be encountered during project construction and maintenance.

3.3.5 Marin Color Service

In 1991, a release of petroleum and paint thinner from leaking USTs was reported following tank removal activities at the Marin Color Service site (Site 05 on **Figure 4**), which is located

adjacent to the project study limits. In 1998, the case was closed by the lead regulatory oversight agency (Regional Water Board) because it did not appear that further monitoring, investigation or remedial actions were necessary to protect human health, safety, and the environment. According to the most recent groundwater sampling results in 1998, residual concentrations of chlorinated solvents were reported in groundwater samples collected about 50 feet west of the project study limits (San Rafael Fire Department, 1998). Based on the proximity to the project study limits, residual groundwater contamination from the release site could potentially be encountered during project construction and maintenance.

3.3.6 Shell

The Shell site (Site 06 on **Figure 4**), which is located adjacent to the project study limits, was formerly a gasoline service station. In 1987, a release of petroleum from leaking USTs was reported following tank removal activities at the site. In 2009, the case was closed by the lead regulatory oversight agency (Regional Water Board) because it did not appear that further monitoring, investigation or remedial actions were necessary to protect human health, safety, and the environment. According to the most recent groundwater sampling results in 2008, residual concentrations of TPH-d and MTBE were reported in groundwater samples collected about 30 feet west of the project study limits (Conestoga-Rovers and Associates, 2008). Based on the proximity to the project study limits, residual groundwater contamination from the release site could potentially be encountered during project construction and maintenance.

3.3.7 Greyhound Line Inc.

On 8 November 1990, a release of petroleum from leaking USTs was reported at the Greyhound Line Inc. site (Site 07 on **Figure 4**), which appears to be located within the project study limits. About two weeks later the case was closed by the lead regulatory agency (Regional Water Board). Previous investigation and summary reports are currently not available for review on the SWRCB *GeoTracker* database. Because the release site appears to be located within the project study limits, residual contamination from the site (if any) could potentially be encountered during project construction and maintenance.

3.3.8 Savoy Rain Tunnel

In 1990, a release of petroleum from leaking USTs was reported at the Savoy Rain Tunnel site (Site 08 on **Figure 4**), which is located adjacent to the project study limits. In 1996, the case was closed by the lead regulatory oversight agency (Regional Water Board) because it did not appear that further monitoring, investigation or remedial actions were necessary to protect human health, safety, and the environment. According to the most recent sampling results, residual concentrations of total petroleum hydrocarbons remain in the soil and groundwater near the former USTs (San Rafael Fire Department, 1996b). Based on the proximity to the project study limits, residual groundwater contamination from the release site could potentially be encountered during dewatering for project construction and maintenance activities.

3.3.9 Exxon

The Exxon site (Site 09 on **Figure 4**), which is located adjacent to the project study limits, was formerly a gasoline service station. In 2003, the case was closed by the lead regulatory oversight agency (Regional Water Board) because it did not appear that further monitoring, investigation or remedial actions were necessary to protect human health, safety, and the environment. According to the most recent groundwater sampling results in 1997, residual concentrations of benzene and xylenes were reported in groundwater samples collected about 75 feet southeast of the project study limits (BACE Environmental, 1997). Based on the proximity to the project study limits, residual groundwater contamination from the release site could potentially be encountered during dewatering for project construction and maintenance activities.

3.3.10 Former Grand Auto Store #9

The Former Grand Auto Store #9 site (Site 10 on **Figure 4**) is an active hazardous materials release site located about 500 feet west of the project study limits. In March 2019, a release of petroleum hydrocarbons and related impacts to soil was reported at the site. The site has since been inactive and previous investigation and summary reports are currently not available for review on the SWRCB *GeoTracker* database. Based on available information, soil contamination from the release site would not be expected to affect environmental conditions within the project study limits.

3.3.11 Former PG&E Manufactured Gas Plant

The former PG&E manufactured gas plant is located about 725 feet west of the project study limits. The investigations and cleanup of hazardous materials releases reported at the former PG&E manufactured gas plant are being regulated by the Regional Water Board under the “PG&E - MGP – San Rafael” site (site 11 of **Figure 4**) and the “PG&E, San Rafael MGP” site (site 12 on **Figure 4**), as well as by the DTSC under the “PG&E, San Rafael MGP” site (site 13 on **Figure 4**). Byproducts from operation of the former manufacture gas plant, such as black tar and oily sludges, have resulted in soil and groundwater contaminations across the site. The primary contaminants of concern identified in groundwater include TPH-d, polynuclear aromatic hydrocarbons (PAHs), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). A slurry wall and groundwater extraction and treatment system are currently being operated at the site to prevent groundwater contamination from migrating offsite. Based on the most recent groundwater monitoring event in 2019, concentrations of TPH-d, PAHs, and BTEX were not reported above laboratory limits in the offsite perimeter monitoring wells located on the east side of the site (ETIC, 2020). Therefore, groundwater contamination from the release site would not be expected to affect environmental conditions within the project study limits.

4. EVALUATION OF OTHER ENVIRONMENTAL CONCERNS

4.1 Aerially-Deposited Lead (ADL)

Lead alkyl compounds were first added to gasoline in the 1920s. Beginning in 1973, the U.S. EPA ordered a gradual phase out of lead from gasoline that significantly reduced the prevalence of

leaded gasoline by the mid-1980s. Prior to the 1970s, the U.S. EPA estimated that approximately 75 percent of the lead in gasoline was emitted as particulate matter in vehicle exhaust (DTSC, 2004). As a result, shallow soils within approximately 20 feet of the edge of pavement in highway corridors have the potential to be contaminated with ADL from historical vehicle emissions prior to the elimination of lead in gasoline (DTSC, 2016).

Based on a review of historical aerial photographs and Sanborn Fire Insurance maps (see Section 3.2), the U.S. Highway 101 viaduct within the study limits (**Figure 4**) was constructed as early as 1946, which was before the phase-out of lead in gasoline. Therefore, project construction and maintenance activities that disturb exposed shallow soils near the U.S. Highway 101 viaduct could encounter ADL contamination.

4.2 Soil Contamination from Railroad Corridors

The most commonly reported soil contamination along railroad corridors are metals and petroleum products from railroad operations. For example, elevated concentrations of arsenic are common in shallow soils from historical applications of inorganic herbicides and leaching from chemically-preserved railroad ties and/or arsenic-laced slag used as ballast material. Other sources of contaminants associated with historical railroad operations may include coal ash from engines and PAHs from diesel exhaust. The risk of soil contamination is generally greater along railroad corridors that have operated in areas with industrial land use, because historical loading practices, leaks during material transfers or storage, and repair activities may have contaminated the soil (Rails-to-Trails Conservancy, 2004).

Based on a review of historical aerial photographs and Sanborn Fire Insurance maps (see Section 3.2), the existing railroad corridor that crosses the project study limits (**Figure 4**) has historically supported former industrial land uses, such as a lumber yard, milk and creamery company, and gravel company (**Appendix A**). Project improvements that encroach on the railroad corridor (if any) could potentially encounter undocumented soil contamination from past railroad operations.

4.3 Hazardous Building Materials

Asbestos-containing materials, such as thermal system insulation, surfacing materials, and asphalt and vinyl flooring, may be present in buildings constructed prior to 1981. Residential buildings prior to 1978 and any commercial or industrial building (regardless of construction date) could have surfaces that have been coated with lead-based paint. Lead and asbestos are state-recognized carcinogens, and lead is a reproductive toxicant. Based on the review of the historical land uses (**Appendix A**), many structures located within the project limits could contain hazardous building materials such as asbestos-containing materials and lead-based paint. Modification or demolition of existing structures during construction of the proposed project could release hazardous building materials into the environment and pose a health risk to construction workers and the public, if not handled and disposed of properly.

5. ASTM 1527-13 DATA GAPS

The ASTM E1527-13 requires the identification of data gaps, along with actions taken to address these gaps, and an opinion as to whether these gaps are significant. A data gap may result from a lack of or inability to obtain information during any of the activities required by ASTM E1527-13. In particular, review of reasonably ascertainable historical land use information from the first developed land use to the present that does not provide sufficient detail to assess potential land use changes at five-year intervals may be considered a data gap. Data gaps identified during the preparation of this Phase I ESA are described, below.

5.1 Historical Land Use Review

The time intervals between some of the historical land use records (**Appendix A**) exceeded 5 years. These data gaps are not considered significant because the types of land uses were relatively consistent between the extended time intervals.

5.2 Environmental Records Review

Standard environmental record sources for state-registered aboveground storage tank (AST) sites were not reviewed, because the records were not reasonably ascertainable. All facilities that have registered ASTs are required to submit information annually to the California Environmental Reporting System (CERS). Information about facilities stored in the CERS database is not currently available for the public to review online. However, no existing ASTs within or adjacent to the project study limits were identified during the review of recent aerial photographs and the site reconnaissance. Furthermore, the storage of hazardous materials in ASTs within or adjacent to the project study limits would not constitute an environmental concern, unless poorly maintained tanks were observed during the site reconnaissance that indicated a potentially undocumented release or threat of a release in the near future. Because no ASTs were observed in proximity to the project study limits during the site reconnaissance (see Section 3.2), this exclusion does not pose a significant data gap.

Standard environmental record sources from the federal government's National Response Center database (formerly the ERNS database), which lists reported hazardous materials releases or spills in quantities greater than the reportable quantities codified in Title 40 of the Code of Federal Regulations Parts 302 and 355, were not reviewed because the records were not reasonably ascertainable. While the records are publicly available, the records generally do not have adequate address information to be located geographically and therefore were not considered practically reviewable. This exclusion does not pose a significant data gap because any substantial releases of hazardous materials that could constitute an environmental concern in proximity to the project study limits would also be identified by the other standard environmental record sources reviewed for this Phase I ESA.

6. ASTM 1527-13 DEVIATIONS

The purpose of this Phase I ESA was not to qualify the project applicant for landowner liability protections associated with commercial real estate transactions under the Comprehensive

Environmental Response, Compensation, and Liability Act (CERCLA). As a result, the following deviations from ASTM E1527-13, which are intended to meet or exceed the federal requirements for landowner liability protections under CERCLA, do not have a significant effect on the findings or conclusions of this Phase I ESA:

- The project site is not a single contiguous commercial parcel, as assumed in ASTM E1527-13; however, this does not affect the findings of this Phase I ESA.
- A title search to identify potential environmental liens and activity and use limitations associated with commercial parcels was not conducted, because there have been no substantial hazardous materials releases reported within the project limits that would likely warrant an environmental lien.
- Interviews with past, present, and prospective owners or operators who are likely to have material information regarding the potential for contamination within the project study limits were not conducted, because such persons could not be identified and any information obtained would likely duplicate information already reviewed from historical land use and regulatory agency environmental records.
- Interviews with state or local government regulatory agency officials regarding the potential for contamination in the project vicinity were not conducted, because any information obtained would likely duplicate information already reviewed from regulatory agency environmental records.

7. CONCLUSIONS

The purpose of this Phase I ESA is to identify and evaluate potential environmental conditions of concern related to hazardous materials in soil, groundwater, and building materials within the project study limits that could be encountered during construction and maintenance of the proposed project. The project study limits include all the areas of substantial improvements proposed for each of the build alternatives. As shown on **Figure 5**, this assessment has identified the following environmental conditions of concern that could be encountered by the proposed project:

- Undocumented soil and/or groundwater contamination (if any) from gasoline service stations, automotive service buildings, a dry cleaner building, and an aboveground oil tank located within or adjacent to the project study limits (**Figure 5**).
- Residual soil and groundwater contamination (if any) from seven hazardous materials release sites located within or adjacent to the project study limits (Sites 02, 04, 05, 06, 07, 08, and 09 on **Figure 5**).
- Soil contamination below the existing U.S. Highway 101 viaduct (**Figure 5**) associated with ADL from historical vehicle emissions.
- Soil contamination along the existing railroad corridor (**Figure 5**) associated with historical railroad operations.

- Lead-based paint, asbestos-containing materials, and other hazardous building materials in existing structures located within the project study limits.

Based on these environmental conditions of concern, construction and maintenance of improvements for the preferred build alternative could result in the disturbance of hazardous materials in soil, groundwater, and/or buildings, which could pose a health risk to construction workers, maintenance workers, the public, and/or the environment.

8. RECOMMENDATIONS

Once a preferred build alternative has been chosen and areas of excavation and demolition are determined, a Phase II Site Investigation should be performed prior to construction to investigate hazardous materials concerns related to soil, groundwater, and building materials that could be disturbed by the proposed project, as identified in this Phase I ESA. All environmental investigations for the project should be provided to the project contractor(s) to incorporate into their Health and Safety and Hazard Communication programs.

9. LIMITATIONS

This Phase I ESA was performed to support the preliminary engineering and environmental review of the proposed project under the California Environmental Quality Act. Baseline's objective is to perform our work with care, exercising the customary thoroughness and competence of earth science, environmental, and engineering consulting professionals, in accordance with the standard for professional services for a consulting firm at the time these services were provided. It is important to recognize that even the most comprehensive scope of services may fail to detect environmental conditions and potential liability at a particular site. Therefore, Baseline cannot act as insurers and cannot "certify or underwrite" that a site is free of environmental contamination, and no expressed or implied representation or warranty is included or intended in this report except that the work was performed within the limits prescribed with the customary thoroughness and competence of our profession.

The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration, analysis of the data, and re-evaluation of the findings, observations, conclusions, and recommendations expressed in this report. The findings, observations, conclusions, and recommendations expressed by Baseline in this report are limited by the scope of services and should not be considered an opinion concerning the compliance of any past or current owner or operator of a site within the project study limits with any federal, state, or local law or regulation. No warranty or guarantee, whether expressed or implied, is made with respect to the data reported or findings, observations, conclusions, and recommendations expressed in this report.

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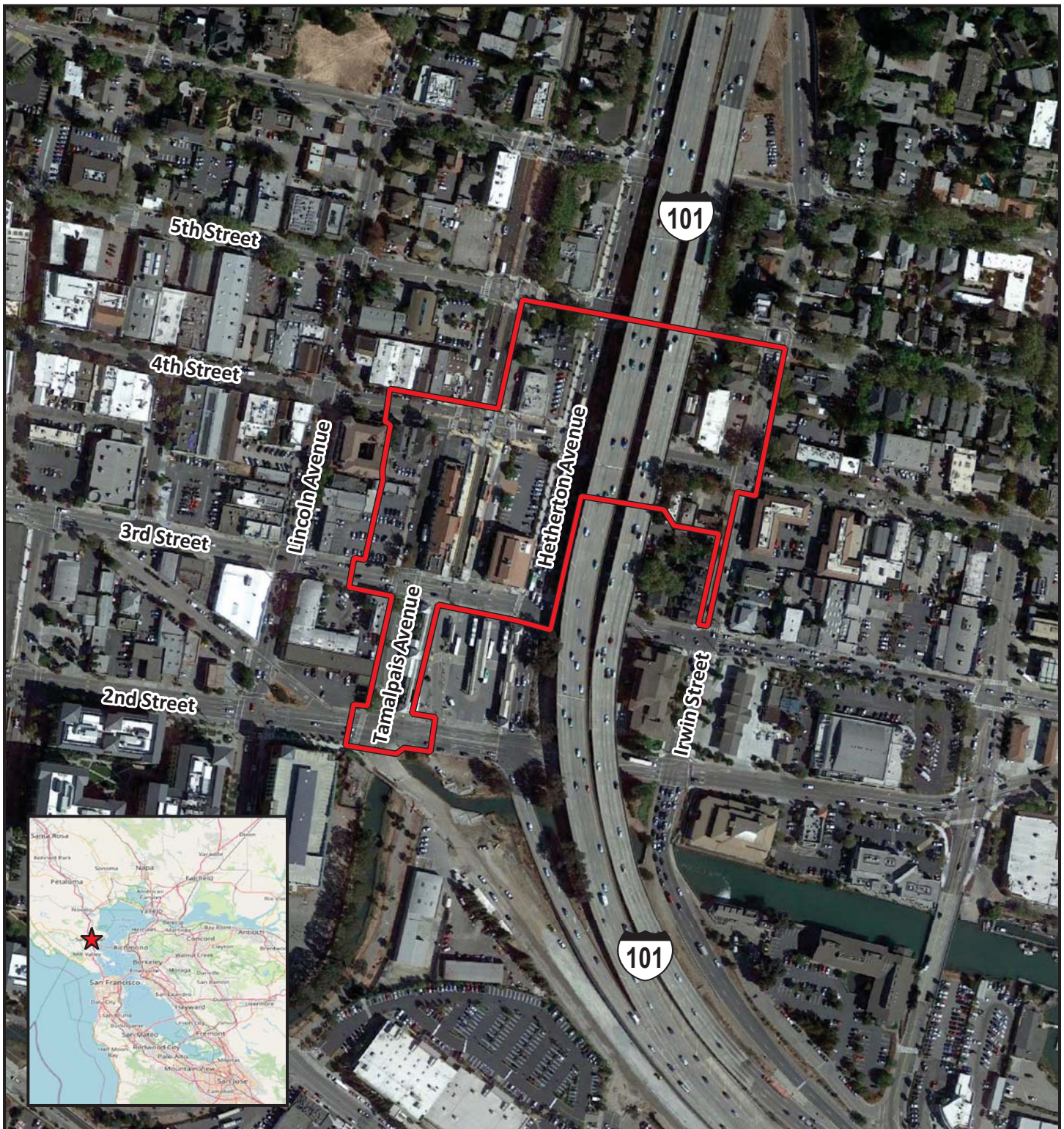
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FIGURES

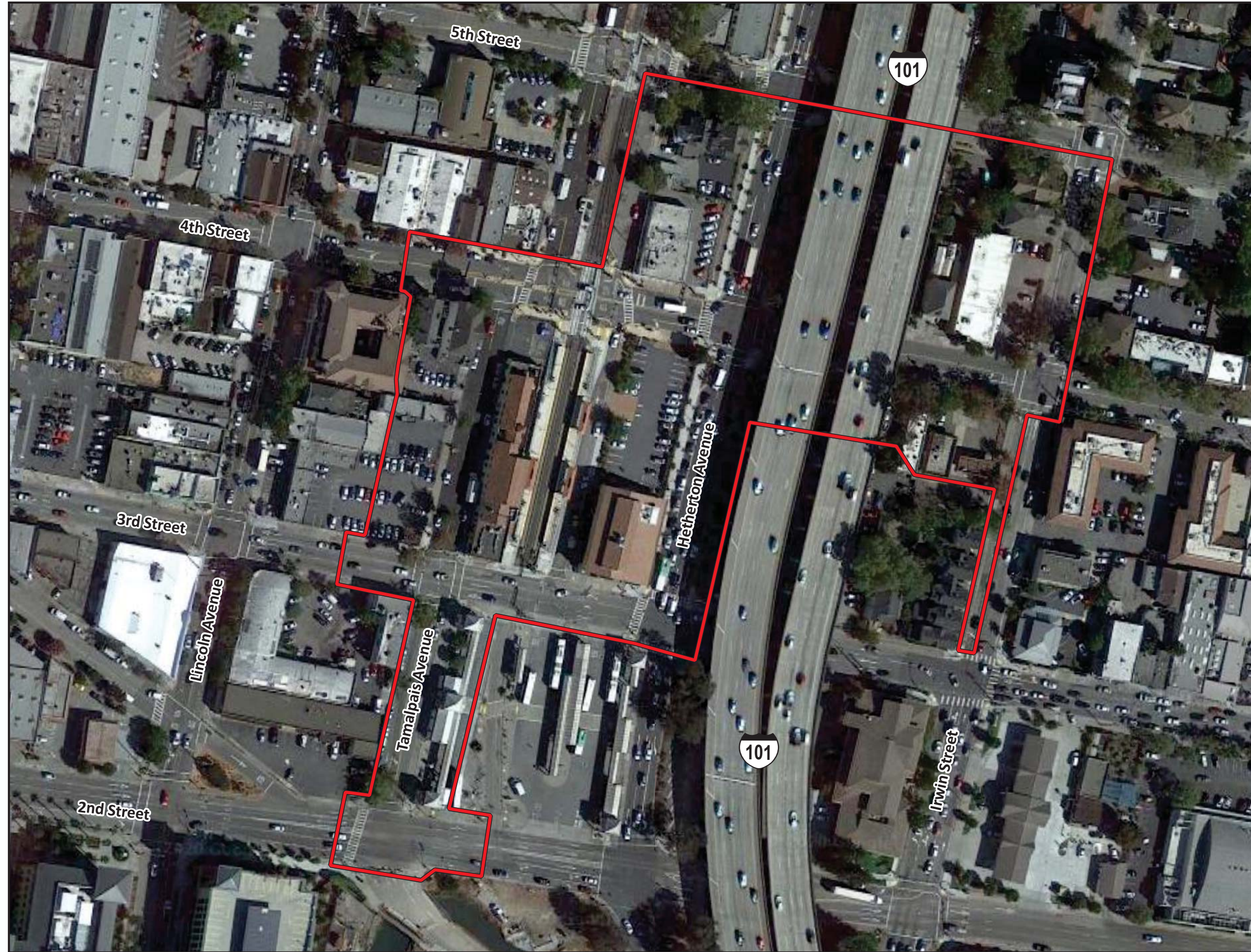


Legend

 Project Study Limits



San Rafael Transit Center Project
San Rafael, California



Legend

 Project Study Limits



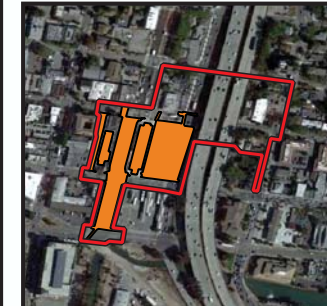
Project Build Alternatives



4th Street Gateway Alternative



Whistlestop Block Alternative



Move Whistlestop Alternative



Under the Freeway Alternative



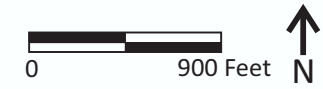
San Rafael Transit Center Project
San Rafael, California



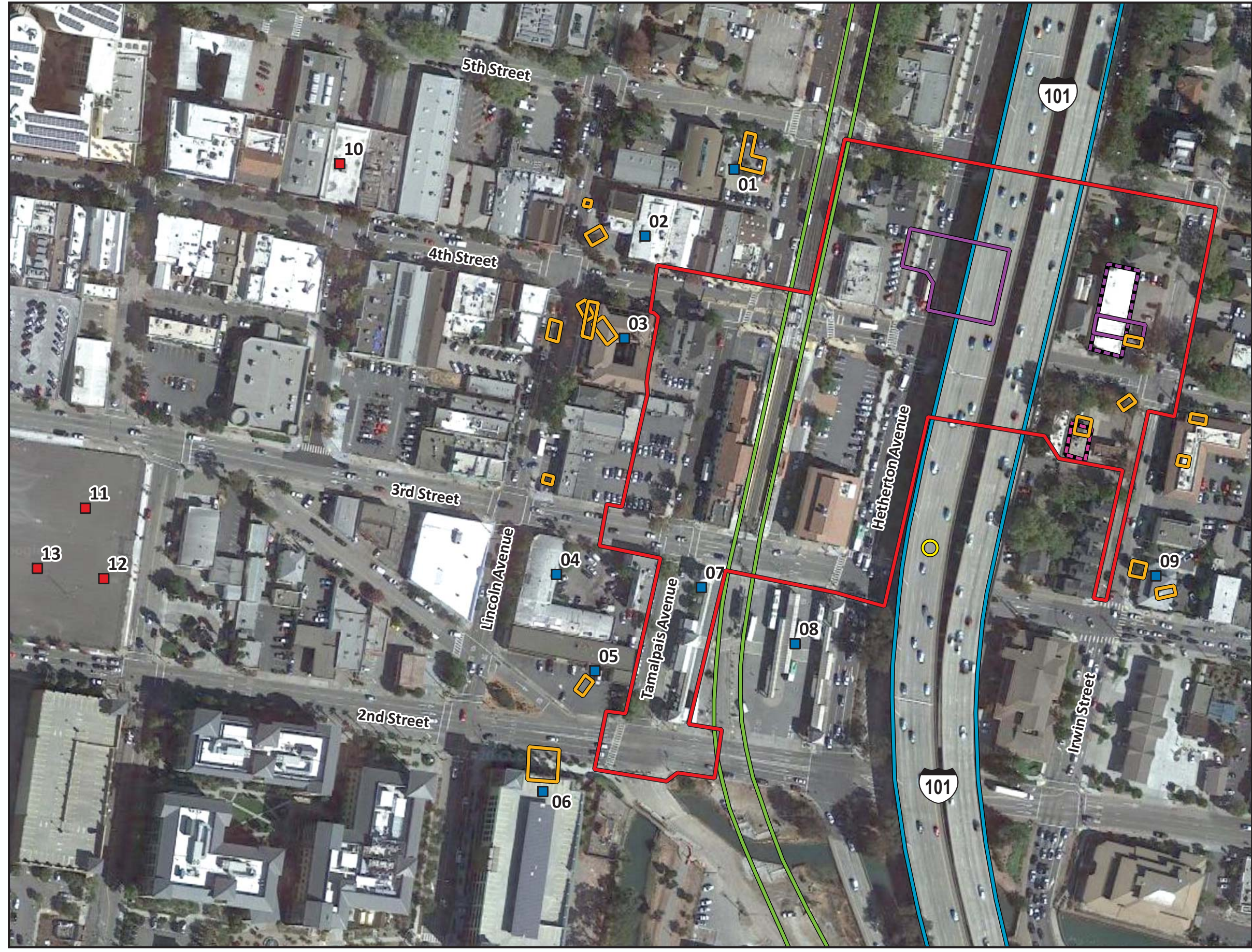
Legend

-  Study Limits
-  -40- Surface Elevation Contour (feet NAVD88)

Note: Inferred groundwater flow direction is derived from groundwater monitoring reports prepared for the former San Rafael Manufactured Gas Plant (ETIC, 2020).



**San Rafael Transit Center Project
San Rafael, California**



Legend

- Project Study Limits
- Railroad Corridor
- U.S. Highway 101 Corridor
- Former Gasoline Service Station
- Former Automotive Service Building
- Current Automotive Service Building
- Current Dry Cleaner Building
- Former Aboveground Oil Tank
- Active Hazardous Materials Release Site
- Closed Hazardous Materials Release Site

Notes: Information about former land uses shown on Sanborn Fire Insurance maps is in Appendix A. Information about release site records (e.g., Site IDs, address, status) is summarized in Appendix B.



Project Build Alternatives

4th Street Gateway Alternative

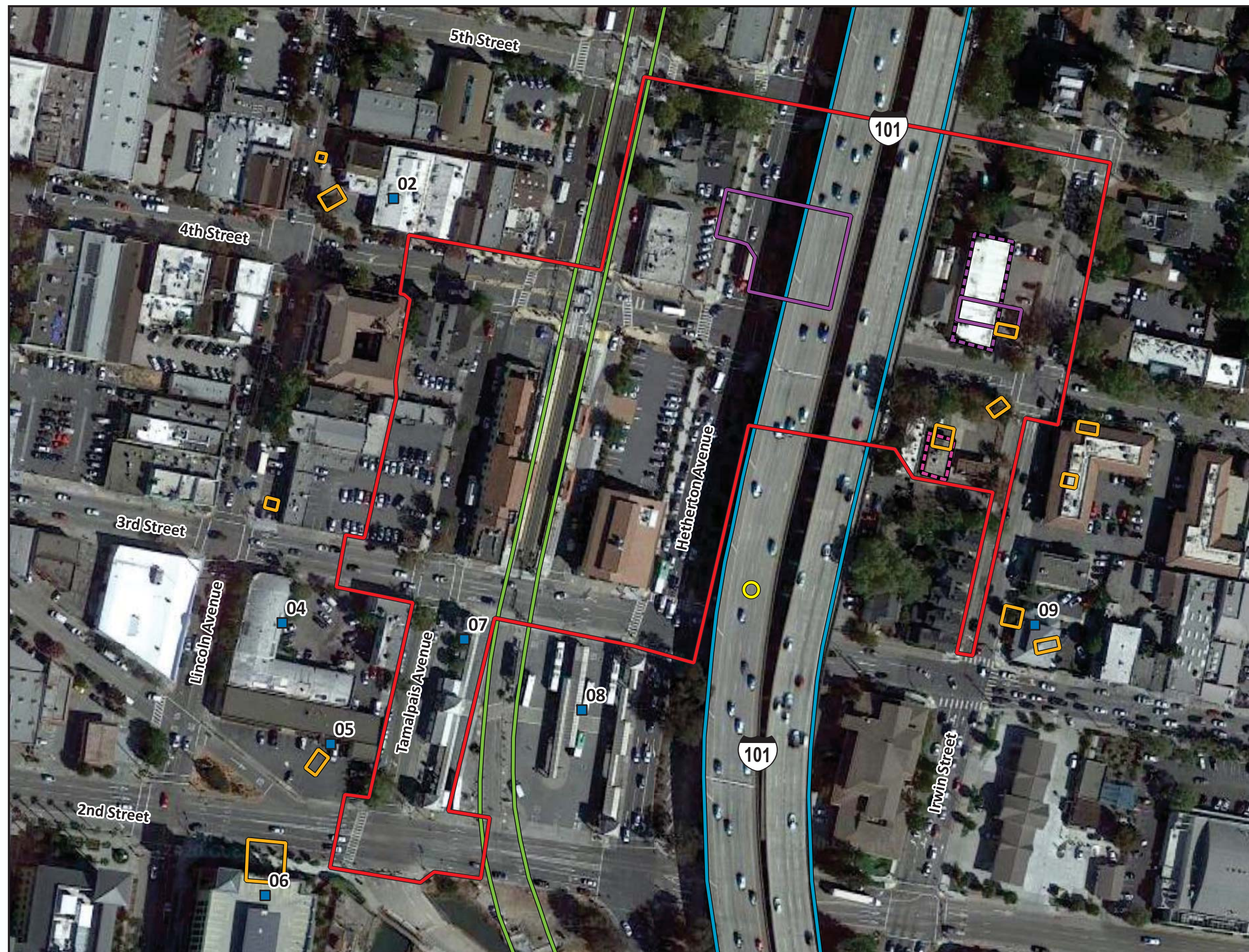
Whistlestop Block Alternative

Move Whistlestop Alternative

Under the Freeway Alternative

BASELINE
ENVIRONMENTAL CONSULTING

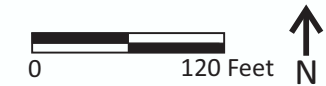
**San Rafael Transit Center Project
San Rafael, California**



Legend

- Project Study Limits
- Railroad Corridor
- U.S. Highway 101 Corridor
- Former Gasoline Service Station
- Former Automotive Service Building
- Current Automotive Service Building
- Current Dry Cleaner Building
- Former Aboveground Oil Tank
- Hazardous Materials Release Site

Notes: Information about former land uses is shown on Sanborn Fire Insurance maps in Appendix A. Information about release site records (e.g., Site IDs, address, status) is summarized in Appendix B.



Project Build Alternatives



4th Street Gateway Alternative

Whistlestop Block Alternative



Move Whistlestop Alternative

Under the Freeway Alternative



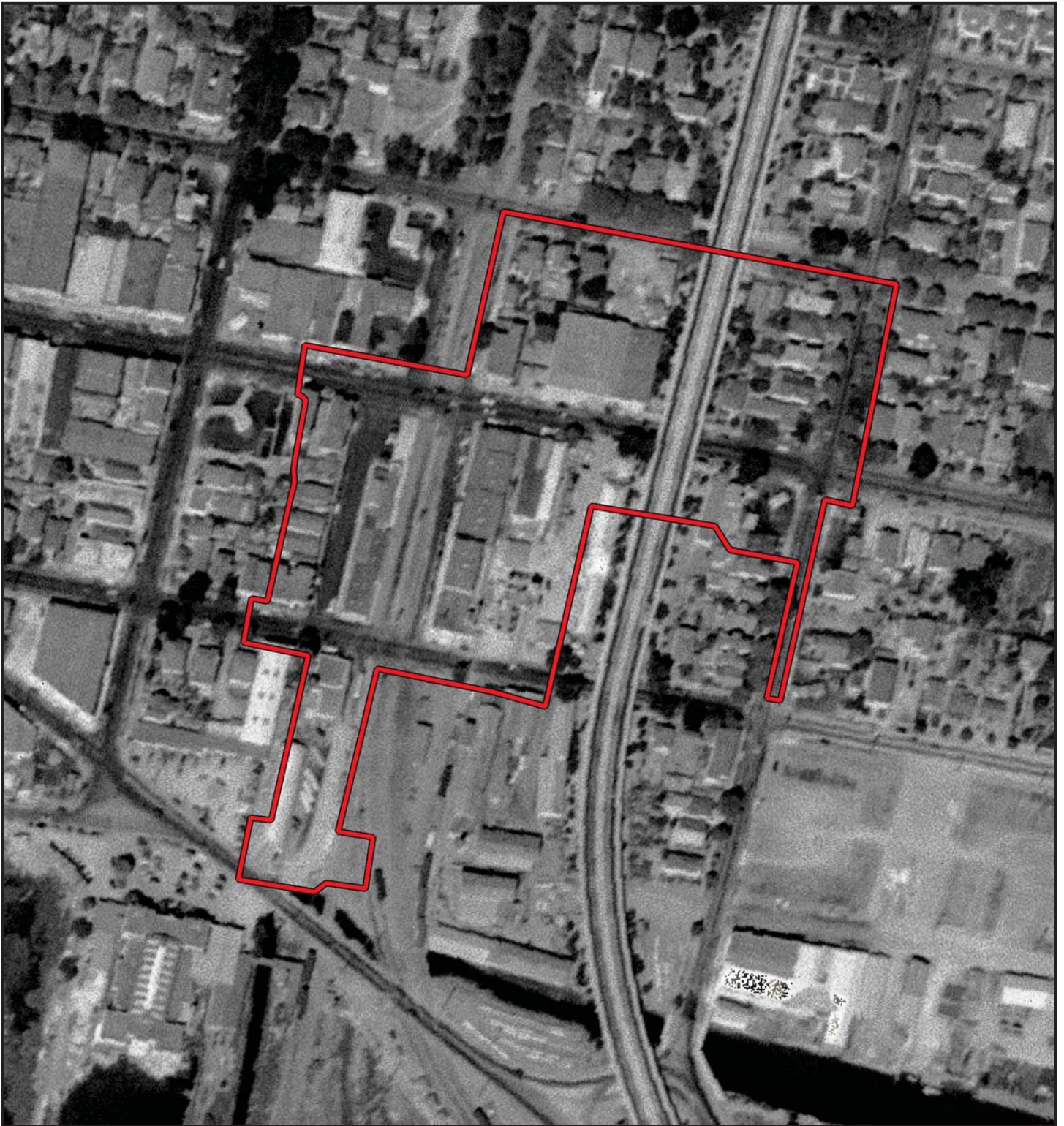
San Rafael Transit Center Project
San Rafael, California

APPENDICES

APPENDIX A

**HISTORICAL AERIAL PHOTOGRAPHS AND
SANBORN FIRE INSURANCE MAPS**

1946 Aerial Photograph



Legend

 Project Study Limits

Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



1953 Aerial Photograph



Legend

 Project Study Limits

Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



1957 Aerial Photograph



Legend

 Project Study Limits

Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



1963 Aerial Photograph



Legend

 Project Study Limits

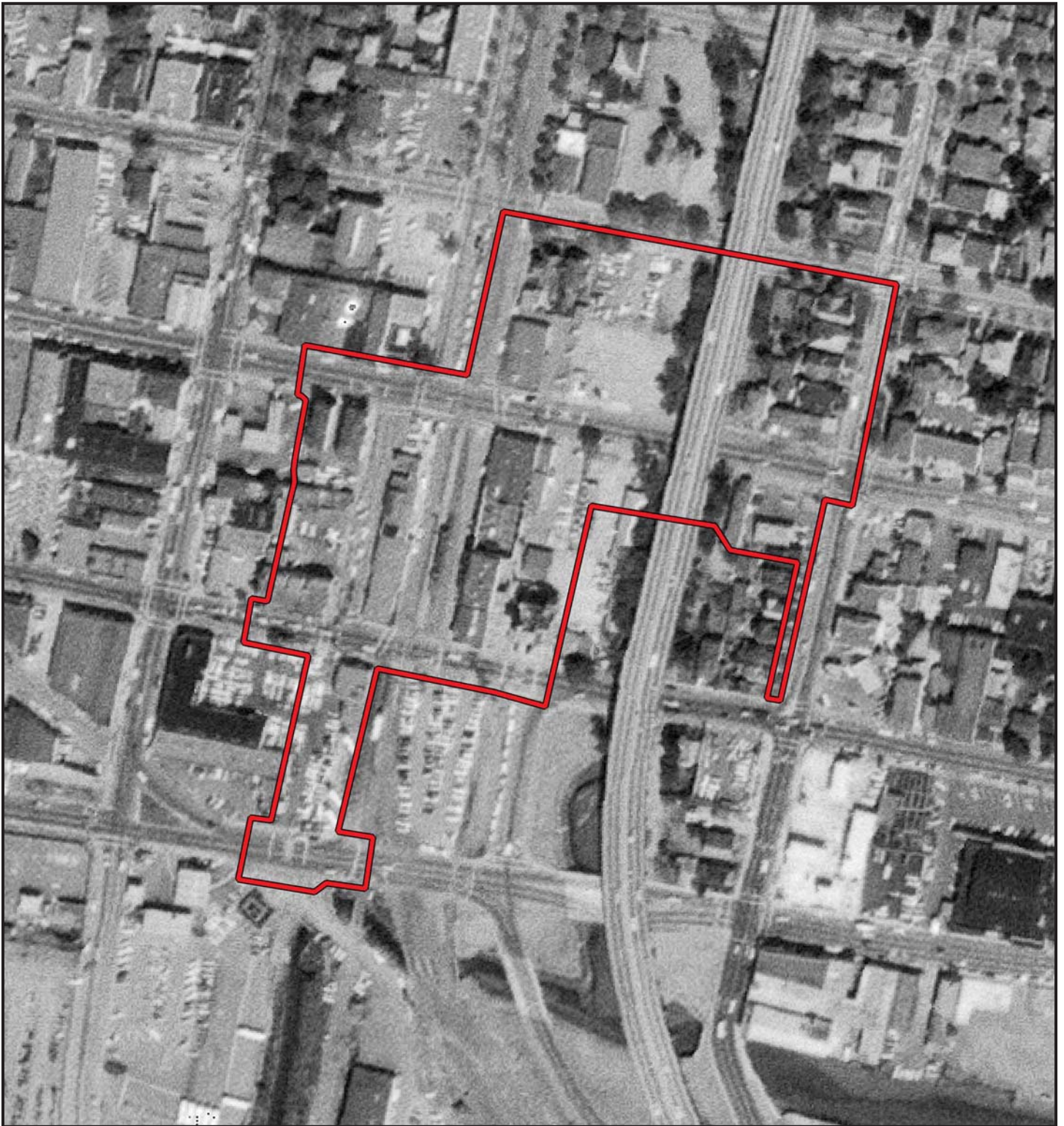
Source: EDR, 2020.

San Rafael Transit Center Project

0 200 Feet



1968 Aerial Photograph



Legend

 Project Study Limits

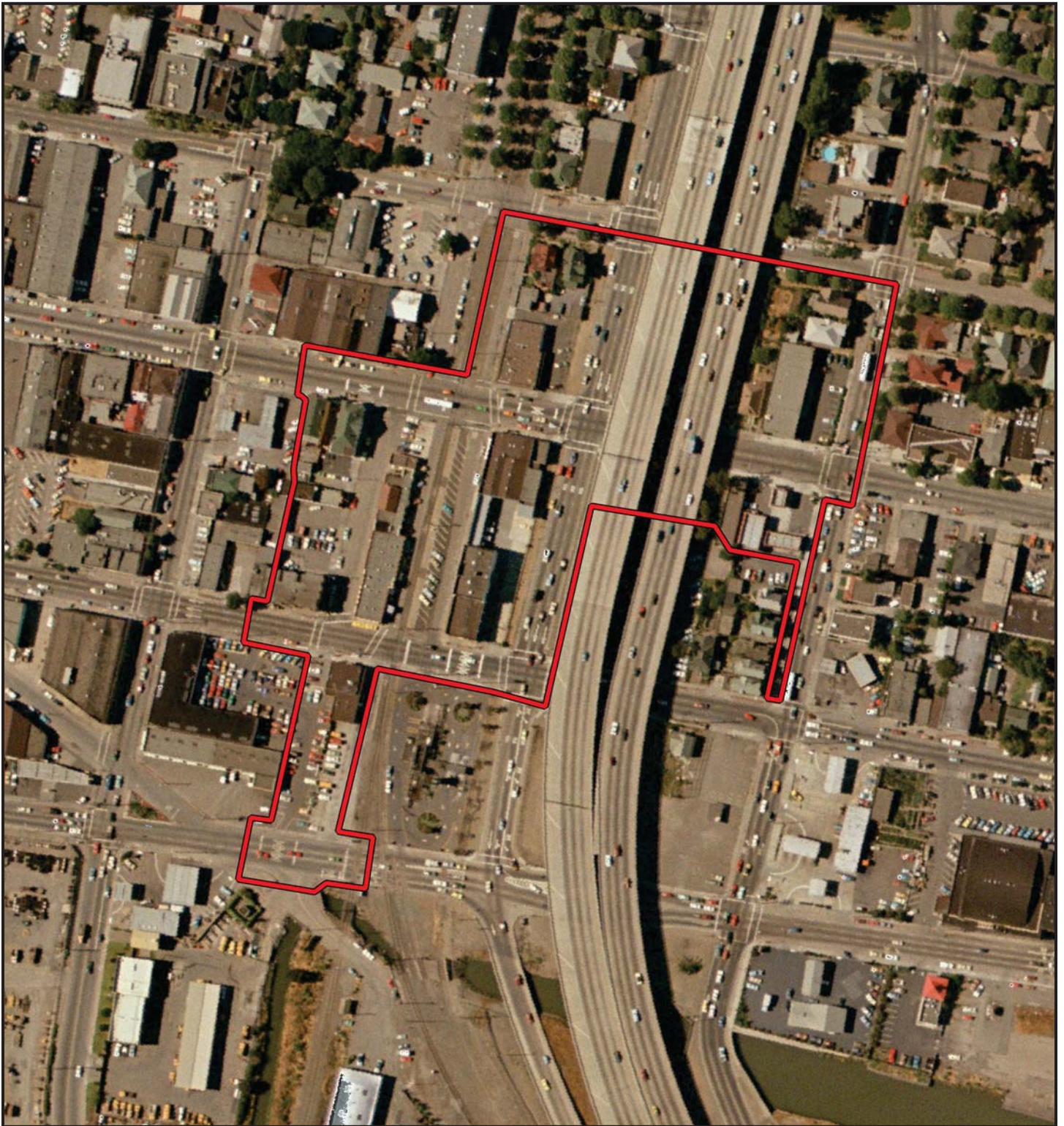
Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



1974 Aerial Photograph



Legend

 Project Study Limits

Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



1983 Aerial Photograph



Legend

 Project Study Limits

Source: EDR, 2020.

San Rafael Transit Center Project

0 200 Feet



1987 Aerial Photograph



Legend

 Project Study Limits

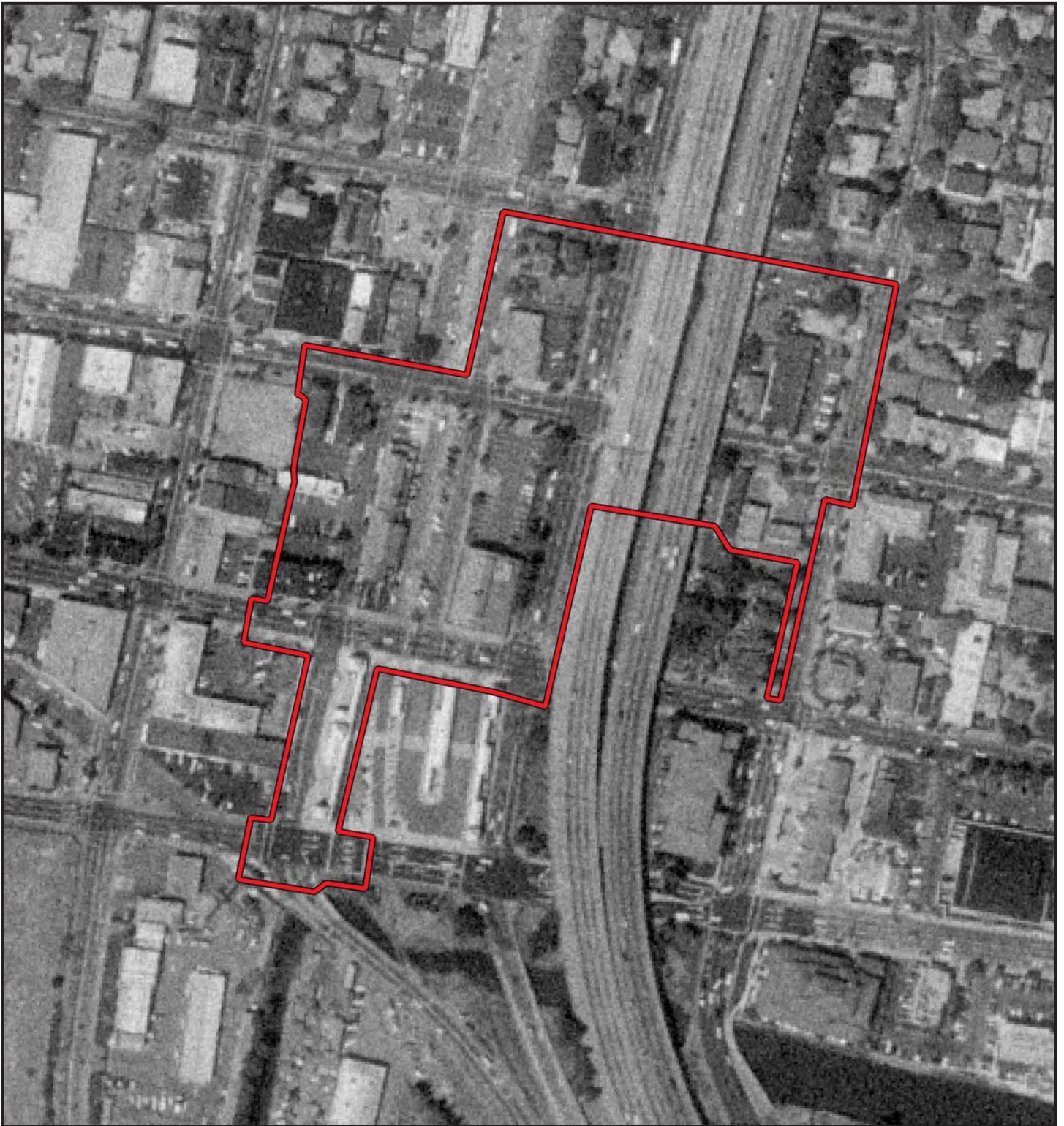
Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



1993 Aerial Photograph



Legend

 Project Study Limits

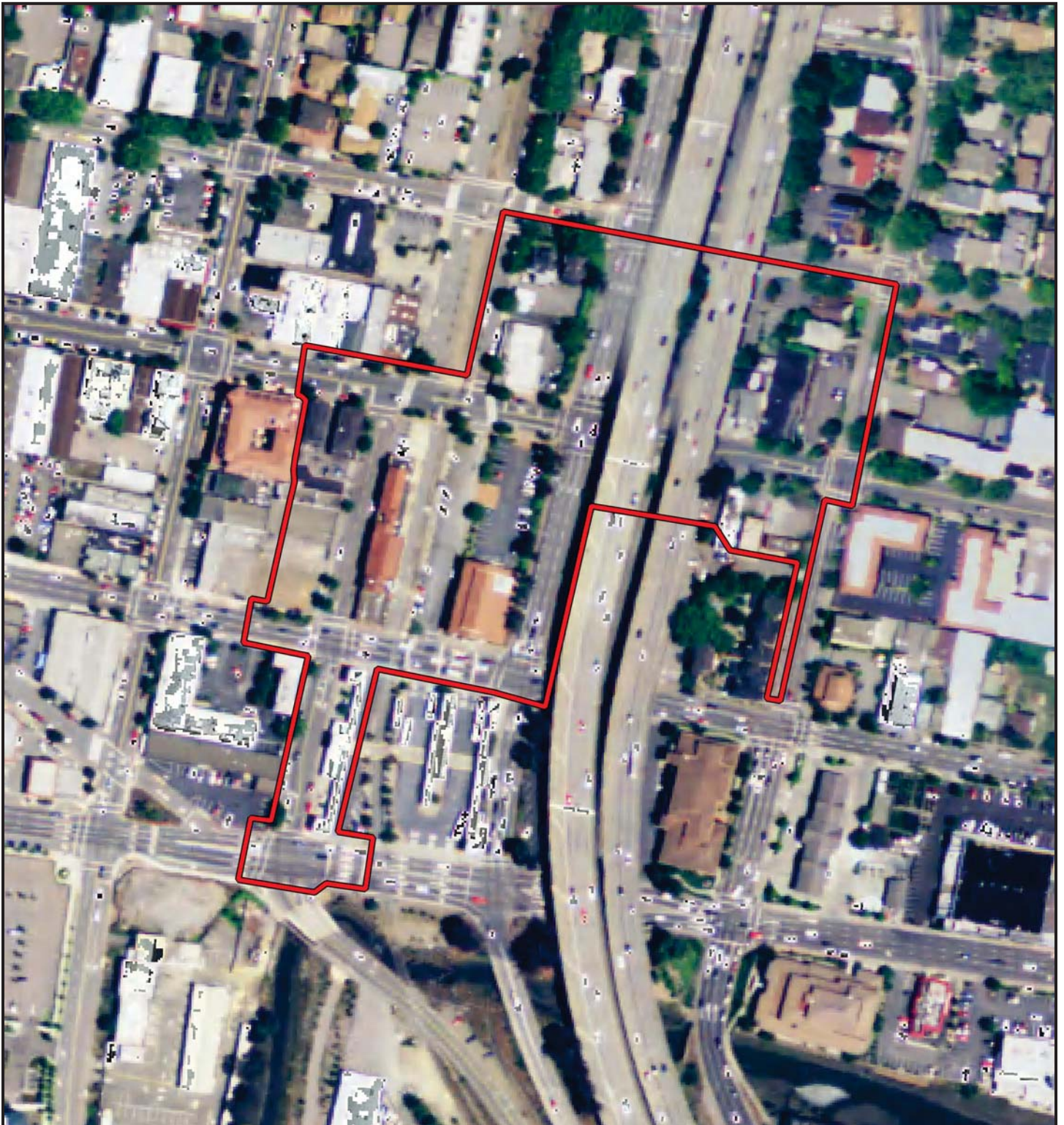
Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



2005 Aerial Photograph



Legend

 Project Study Limits

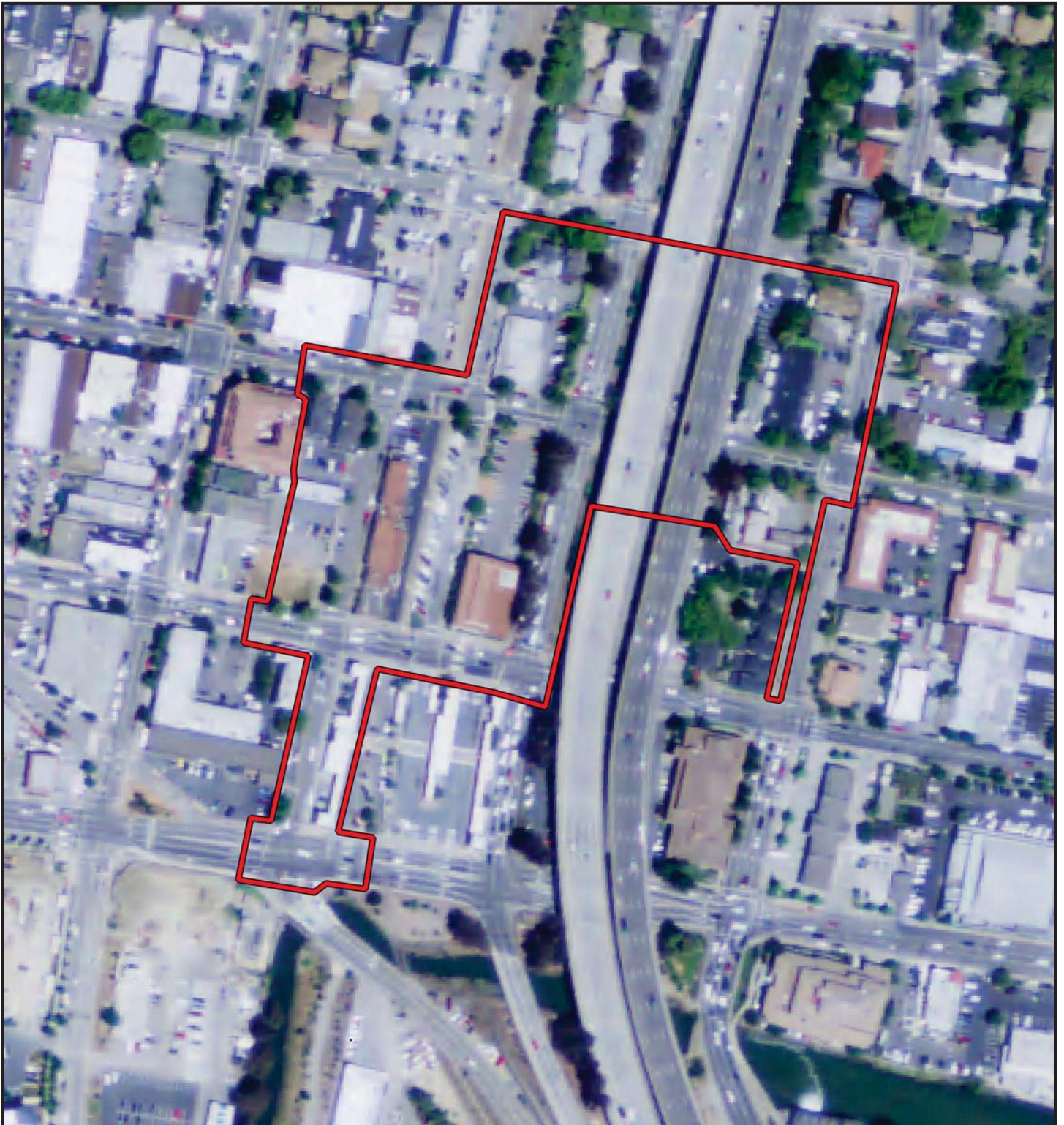
Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



2009 Aerial Photograph



Legend

 Project Study Limits

Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



2012 Aerial Photograph



Legend

 Project Study Limits

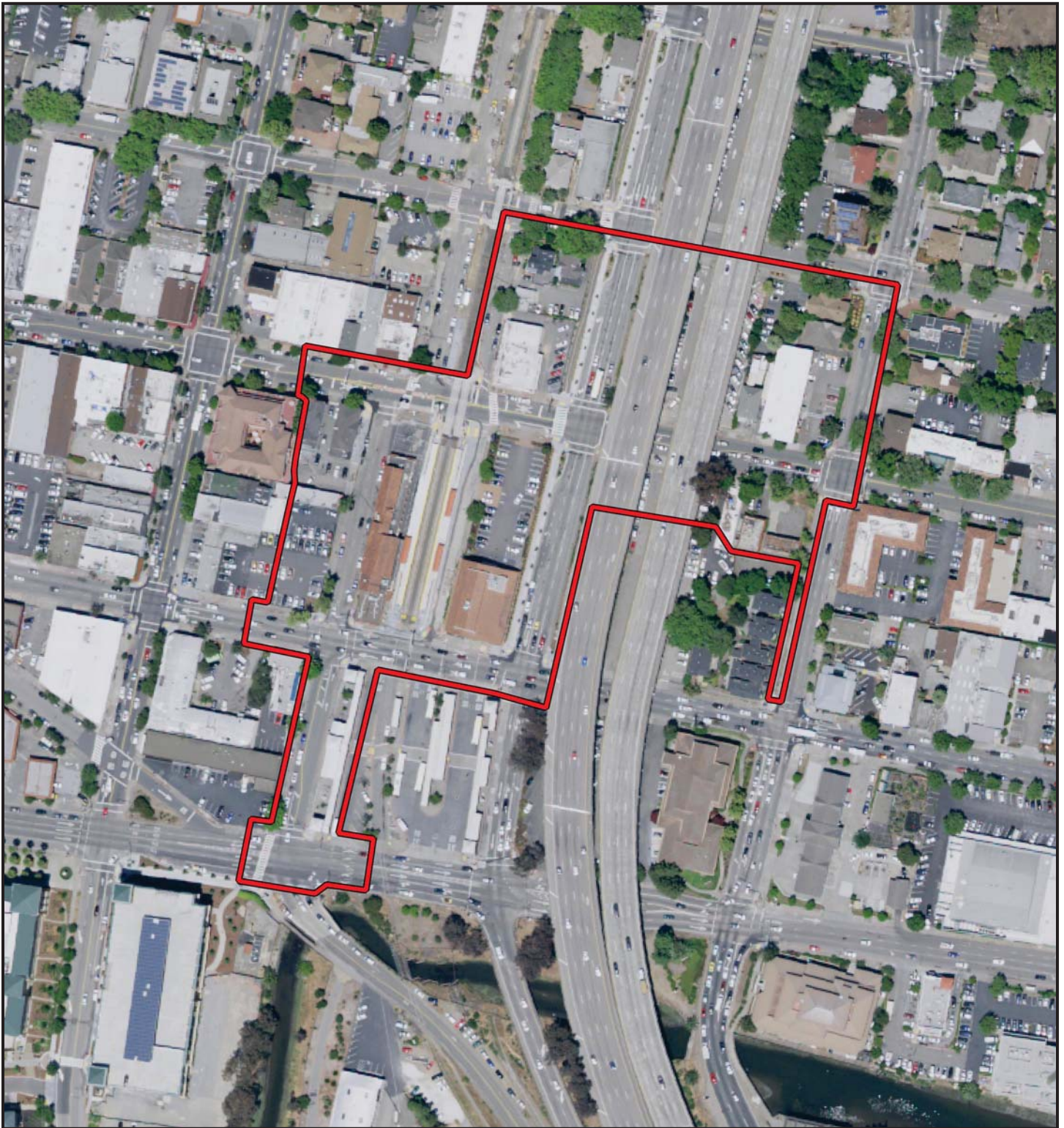
Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



2016 Aerial Photograph



Legend

 Project Study Limits

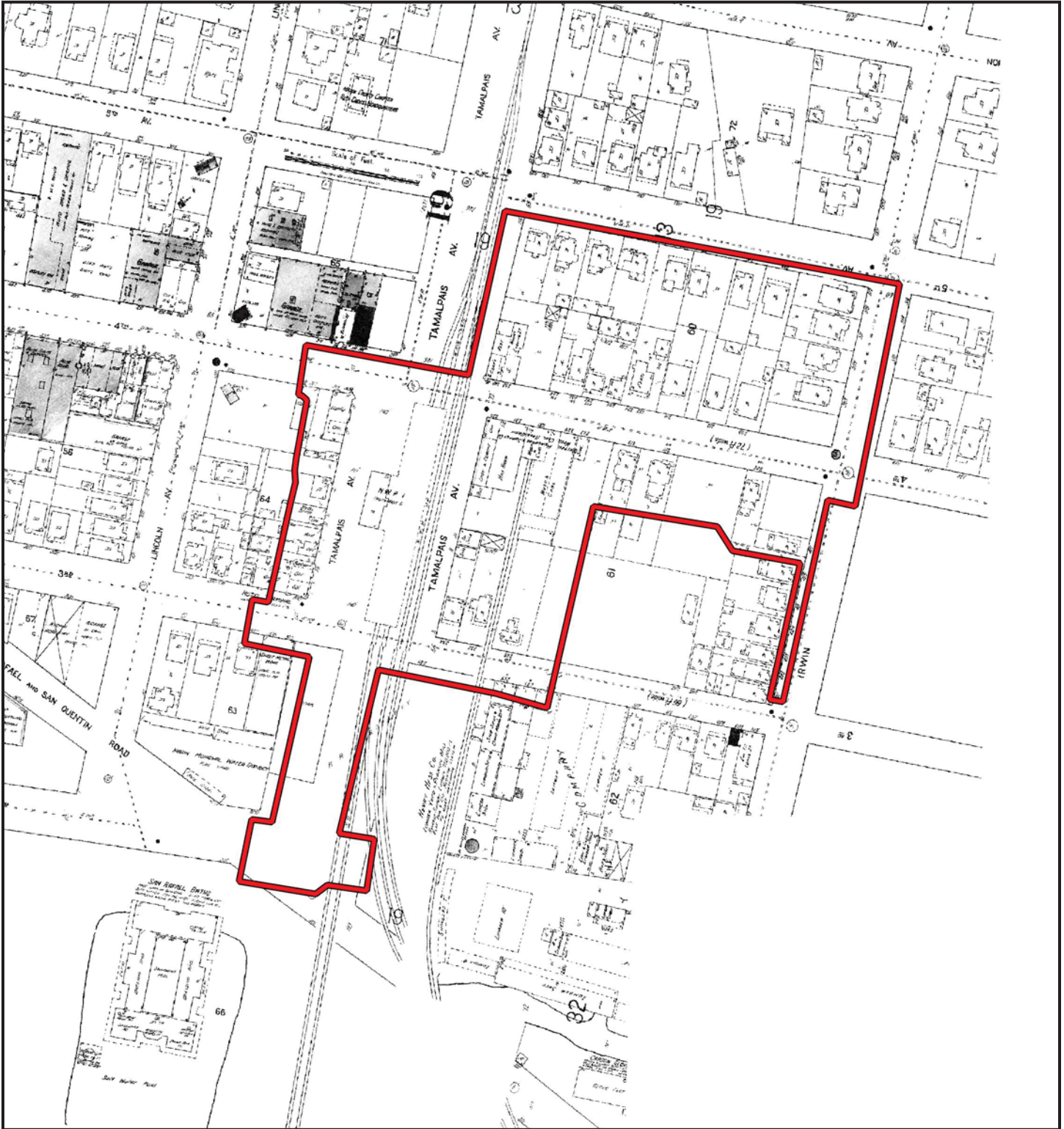
Source: EDR, 2020.

San Rafael Transit Center Project

 0 200 Feet



1924 Sanborn Fire Insurance Map



Legend

 Project Study Limits

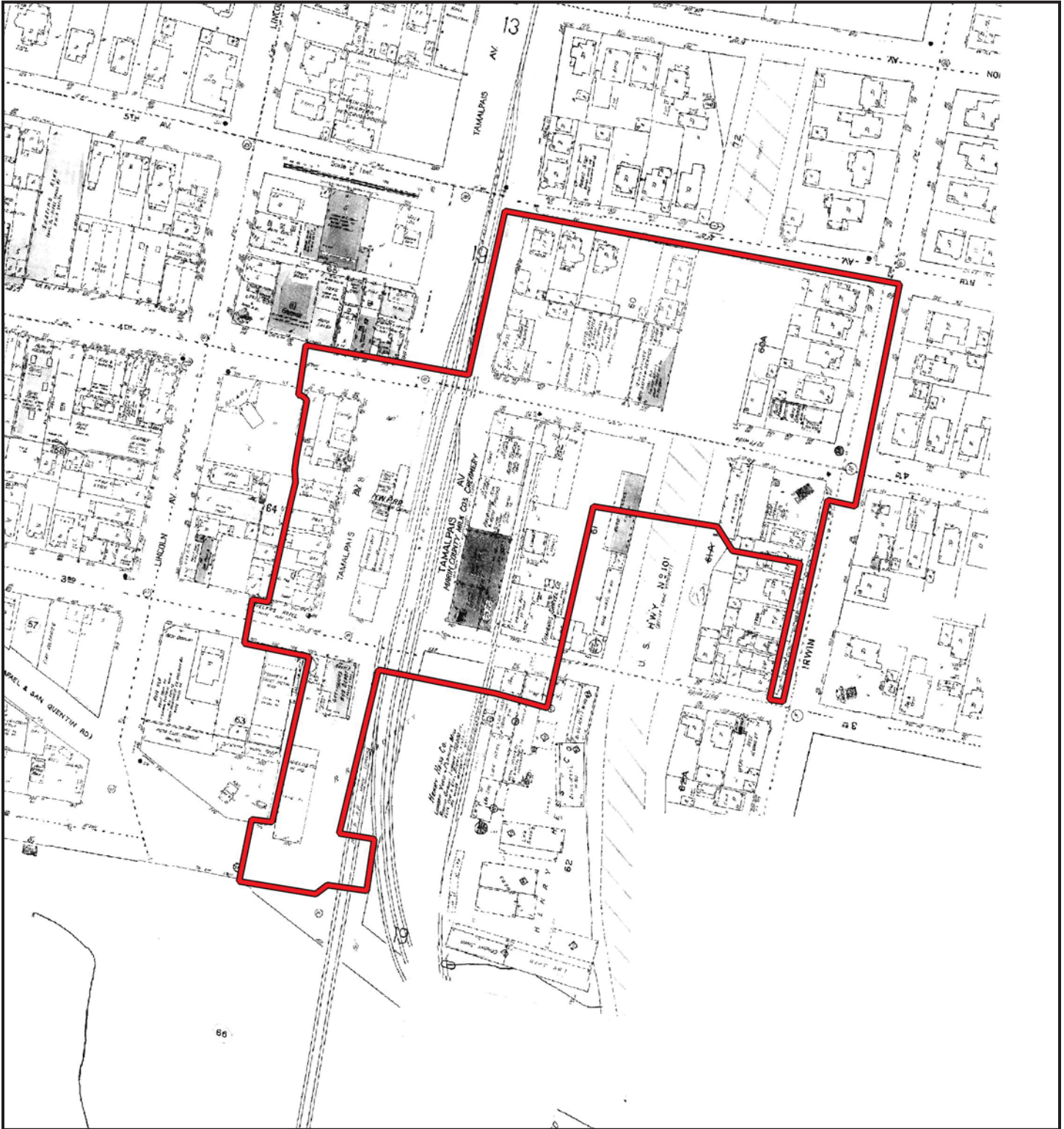
Source: EDR, 2020.

San Rafael Transit Center Project

0 200 Feet



1950 Sanborn Fire Insurance Map



Legend

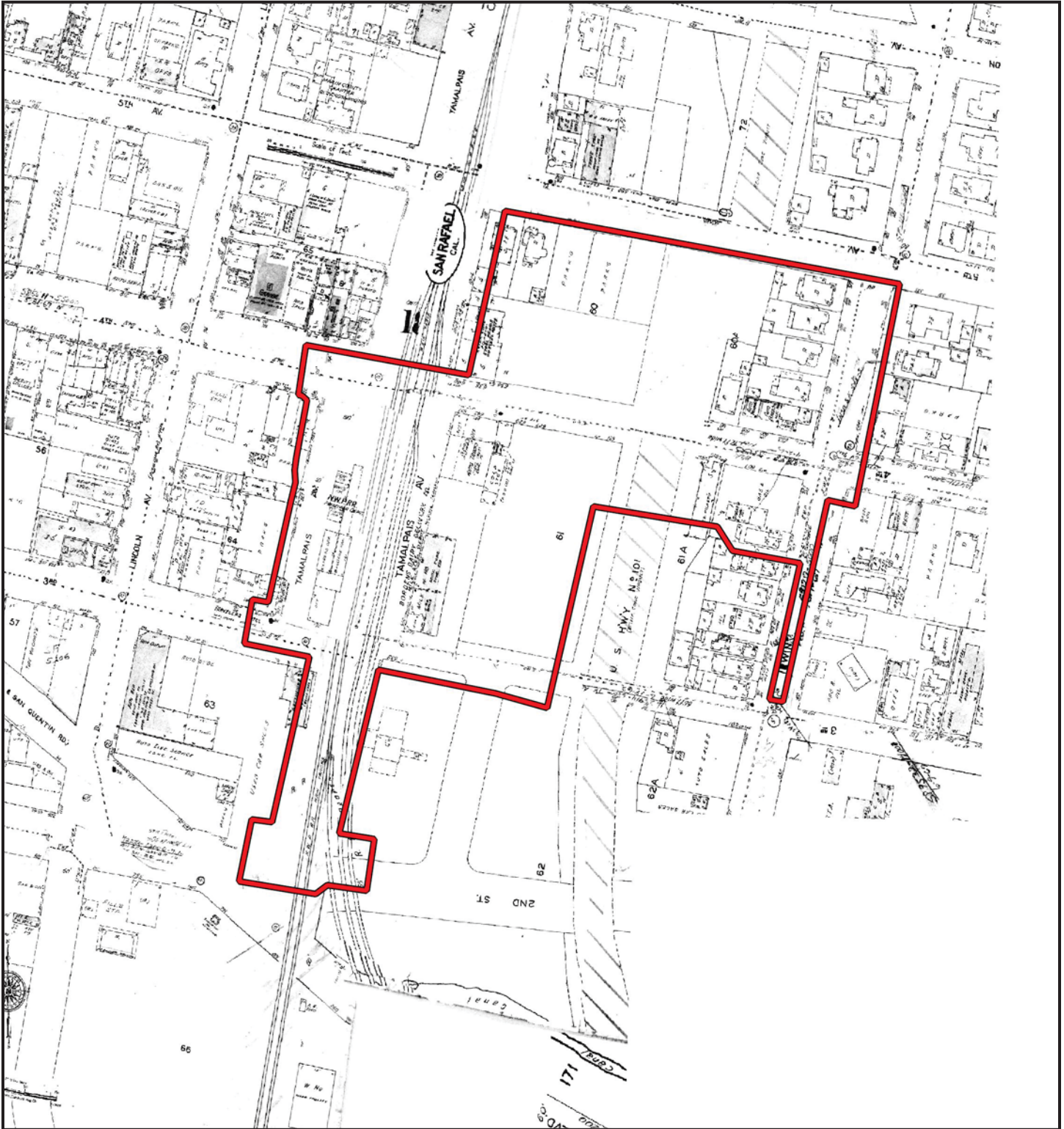
 Project Study Limits

Source: EDR, 2020.

San Rafael Transit Center Project



1970 Sanborn Fire Insurance Map



Legend

 Project Study Limits

Source: EDR, 2020.

San Rafael Transit Center Project








APPENDIX B

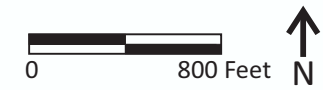
SUMMARY OF ENVIRONMENTAL RECORDS SEARCH



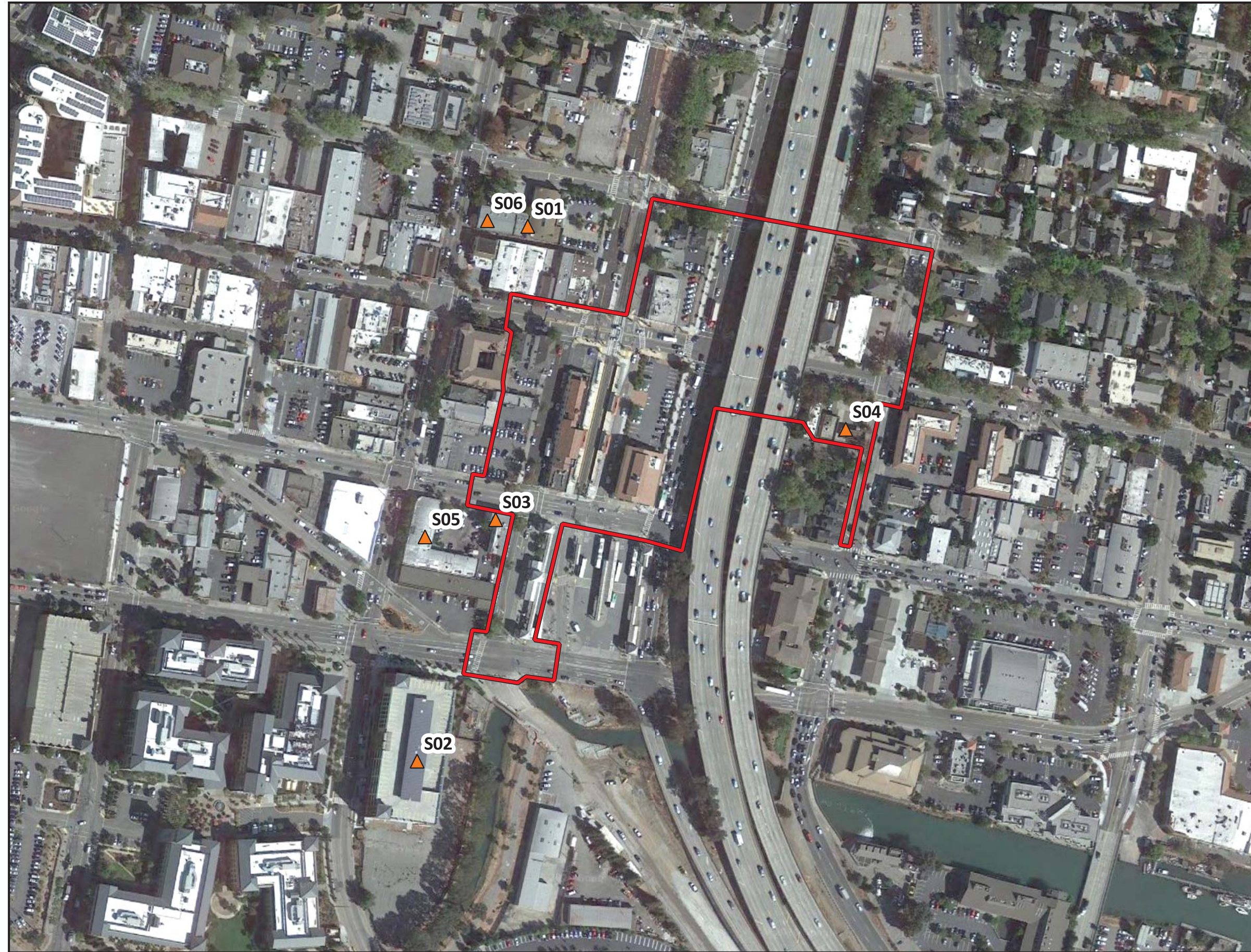
Legend

-  Project Study Limits
-  0.5-Mile Buffer
-  1.0-Mile Buffer
-  Active Release Site
-  Closed Release Site



Note: Information about release site records (e.g., Site IDs, address, status) is summarized in Table B1.



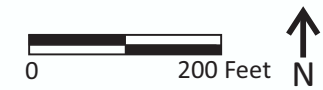
San Rafael Transit Center Project
San Rafael, California



Legend

-  Project Study Limits
-  Hazardous Materials Storage Site

Note: Information about storage site records (e.g., Site IDs, address, status) is summarized in Table B2.



**San Rafael Transit Center Project
San Rafael, California**