

## 3.5 Cultural Resources

### 3.5.1 Introduction

This section describes the regulatory and environmental setting for cultural resources in the vicinity of the Proposed Project (including all track variants, technology variants, and the Greenville and Mountain House initial operating segments [IOS]) and the alternatives analyzed at an equal level of detail (Southfront Road Station Alternative, Stone Cut Alignment Alternative, West Tracy Operation and Maintenance Facility [OMF] Alternative, Mountain House Station Alternative, and Downtown Tracy Station Parking Alternatives 1 and 2). It also describes the impacts on cultural resources that would result from implementation of the Proposed Project and mitigation measures that would reduce significant impacts, where feasible and appropriate. Appendix O, *Supporting Cultural Resources Information*, contains additional technical information for this section, including the *Valley Link Historical Resources Inventory and Evaluation Report* (Valley Link HRIER) as well as non-confidential archaeology background.

Potential impacts associated with implementation of the Proposed Project and the alternatives analyzed at an equal level of detail assume the larger environmental footprint at proposed and alternative stations associated with a potential IOS (i.e., Greenville IOS, Mountain House IOS, Southfront Road Station Alternative IOS, and Mountain House Alternative IOS) and/or the expanded parking in 2040. As such, the analysis of the Proposed Project and the alternatives analyzed at an equal level of detail below considers the potential impacts associated with a potential IOS and/or the expanded parking in 2040.

Cultural resources include historic buildings and structures, historic districts, historic sites, prehistoric and historic archaeological sites, and other prehistoric and historic objects and artifacts.<sup>1</sup> The term “historical resource” is a California Environmental Quality Act (CEQA) term that includes significant archaeological and built cultural resources, as described in Section 3.5.4.1, *Methods for Analysis*. Historical resources are further defined, as they relate to their recognition under CEQA, in Section 3.5.2, *Regulatory Setting*. Cumulative impacts on cultural resources, in combination with planned, approved, and reasonably foreseeable projects, are discussed in Chapter 4, *Other CEQA-Required Analysis*.

During the public scoping comment period, the following comments relevant to cultural resources were received:

- Consult with California Native American tribes that are traditionally and culturally affiliated with the Project area to avoid inadvertent discoveries of Native American human remains.
- Perform an archaeological records search with the California Historical Resources Information System.
- Perform a Sacred Lands File (SLF) search.

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<sup>1</sup> Impacts on paleontological resources, such as vertebrate, invertebrate, or plant fossils, are discussed in Section 3.7, *Geology and Soils*.

- Include provisions for identification and evaluation of inadvertently discovered archaeological resources, disposition of recovered cultural items that are not burial associated, and treatment and disposition of inadvertently discovered Native American human remains.
- Evaluate potential impacts on submerged cultural resources in the Project area and recognize that the title for submerged resources is vested in the state and under the California State Lands Commission.

## 3.5.2 Regulatory Setting

This section summarizes federal, state, regional, and local regulations related to cultural resources and applicable to the Proposed Project, as well as the alternatives analyzed at an equal level of detail.

### 3.5.2.1 Federal

#### National Historic Preservation Act

The National Historic Preservation Act (NHPA) (54 United States Code [U.S.C.] § 300101 et seq.) establishes the federal government policy on historic preservation and the programs, including the National Register of Historic Places (NRHP), through which this policy is implemented. Under the NHPA, significant cultural resources, referred to as historic properties, include any prehistoric or historic district, site, building, structure, object, or landscape included in, or determined eligible for inclusion in, the NRHP. Historic properties also include resources determined to be a National Historic Landmark, which are nationally significant historic places designated by the Secretary of the Interior (SOI) because they possess exceptional value or quality in illustrating or interpreting United States heritage. A property is considered historically significant if it meets one or more of the NRHP criteria and retains sufficient historic integrity to convey its significance. This act also established the Advisory Council on Historic Preservation (ACHP), an independent agency that promotes the preservation, enhancement, and productive use of United States historic resources, and advises the President and Congress on national historic preservation policy. The ACHP also provides guidance on implementing Section 106 of the NHPA by developing procedures to protect cultural resources included in, or eligible for inclusion in, the NRHP. Regulations are published in 36 Code of Federal Regulations (CFR) Parts 60, 63, 800.

Section 106 of the NHPA (codified as 36 CFR Part 800) requires that effects on historic properties be taken into consideration in any federal undertaking. The process generally has five steps: (1) initiating the Section 106 of the NHPA process, (2) identifying historic properties, (3) assessing adverse effects, (4) resolving adverse effects, and (5) implementing stipulations in an agreement document.

Section 106 of the NHPA affords the ACHP and the State Historic Preservation Officer (SHPO), as well as other consulting parties, a reasonable opportunity to comment on any undertaking that would adversely affect historic properties. SHPOs administer the national historic preservation program at the state level, review NRHP nominations, maintain data on historic properties that have been identified but not yet nominated, and consult with federal agencies during Section 106 review.

The NRHP eligibility criteria (36 CFR Section 60.4) are used to evaluate significance of potential historic properties. The criteria for evaluation are as follows:

- a. [Properties] that are associated with events that have made a significant contribution to the broad patterns of our history; or
- b. [Properties] that are associated with the lives of persons significant to our past; or
- c. [Properties] that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master; or that possess high artistic values; or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d. [Properties] that have yielded, or may be likely to yield, information important in prehistory or history.

Properties meeting any of the above criteria are considered eligible for listing in the NRHP if they retain integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Section 101(d)(6)(A) of the NHPA allows properties of traditional religious and cultural importance to a Native American tribe to be determined eligible for NRHP inclusion. In addition, a broader range of Traditional Cultural Properties are also considered and may be determined eligible for or listed in the NRHP. Traditional Cultural Properties are places associated with the cultural practices or beliefs of a living community that are rooted in that community's history and that may be eligible because of their association with cultural practices or beliefs of living communities that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. In the NRHP programs, *culture* is understood to mean the traditions, beliefs, practices, lifeways, arts, crafts, and social institutions of any community, be it a Native American tribe, a local ethnic group, or the nation as a whole.

### **American Antiquities Act of 1906**

The American Antiquities Act (16 U.S.C. §§ 431–433) was enacted with the primary goal of protecting cultural resources in the U.S. As such, it prohibits appropriation, excavation, injury, or destruction of “any historic or prehistoric ruin or monument, or any object of antiquity” located on lands owned or controlled by the federal government. The act also establishes penalties for such actions and sets forth a permit requirement for collection of antiquities on federally owned lands.

### **American Indian Religious Freedom Act**

The 1978 American Indian Religious Freedom Act (42 U.S.C. § 1996) protects and preserves the traditional religious rights and cultural practices of American Indians, Eskimos, Aleuts, and Native Hawaiians. The act requires policies of all governmental agencies to respect the free exercise of Native religion and to accommodate access to and use of religious sites to the extent that the use is practicable and is not inconsistent with an agency's essential functions.

### **Archaeological Resources Protection Act**

The Archaeological Resources Protection Act (16 U.S.C. § 470aa et seq.) was enacted in 1979 to provide more effective law enforcement to protect public archaeological sites. The Archaeological Resources Protection Act provides detailed descriptions of the prohibited activities and larger financial and incarceration penalties for convicted violators.

## Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. § 3001) was enacted in 1990 to address the rights of lineal descendants, Indian tribes, and Native Hawaiian organizations to cultural items recovered from federal lands. Cultural items include human remains, funerary objects, sacred objects, and objects of cultural patrimony. NAGPRA also establishes procedures for the inadvertent discovery of Native American cultural items.

## Indian Sacred Sites

Federal Executive Order (EO) 13007 was established in 1996 to protect and preserve Indian religious practices. Federal EO 13007 requires federal agencies to: (1) provide access to and ceremonial use of Indian sacred sites by Indian religious practitioners, (2) avoid adversely affecting the physical integrity of such sites, and (3) maintain the confidentiality of sacred sites where appropriate. This federal EO also outlines procedures federal agencies must follow if a sacred site may be adversely affected or if access to or ceremonial use of a sacred site may be restricted.

### 3.5.2.2 State

#### California Public Resources Code

Archaeological and historical sites are protected pursuant to a wide variety of state policies and regulations, as enumerated under the California Public Resources Code (Public Res. Code). Cultural resources are recognized as nonrenewable resources and receive additional protection under the California Public Res. Code and CEQA.

- California Public Res. Code §§ 5020–5029.5 continued the former Historical Landmarks Advisory Committee as the State Historical Resources Commission. The commission oversees the administration of the California Register of Historical Resources (CRHR) and is responsible for the designation of State Historical Landmarks and Historical Points of Interest.
- California Public Res. Code §§ 5079–5079.65 define the functions and duties of the Office of Historic Preservation (OHP). The OHP is responsible for the administration of federally and state-mandated historic preservation programs in California and the California Heritage Fund.
- California Public Res. Code §§ 5097.9–5097.991 provide protection to Native American historical and cultural resources and sacred sites and identify the powers and duties of the Native American Heritage Commission (NAHC). These sections also require notification to descendants of discoveries of Native American human remains and provide for treatment and disposition of human remains and associated grave goods. The NAHC, upon notification of the discovery of human remains by the coroner, is required to notify those persons it believes to be most likely descended from the deceased Native American. It enables the descendant to inspect the site of the discovery of the Native American human remains and to recommend to the land owner (or person responsible for the excavation) means of treating, with dignity, the human remains and any associated grave goods. Furthermore, under Section 5097.99, it is a felony to obtain or possess Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions. Section 5097.99 also mandates that it is the policy of California to repatriate Native American remains and associated grave goods.

If Native American human remains are identified within the cultural resources study area (also known as the “CEQA study area,” as defined in Section 3.5.3, *Environmental Setting*) and located on

non-federal lands (including private lands), the Tri-Valley–San Joaquin Valley Regional Rail Authority (Authority) must follow the procedures set forth under Section 5097.98.

### **California Register of Historical Resources**

Public Res. Code § 5024.1 establishes the CRHR, which lists all California properties considered to be significant historical resources. The CRHR also includes all properties listed or determined eligible for listing in the NRHP, including properties evaluated under Section 106. The criteria for listing are similar to those of the NRHP. The CRHR regulations govern the nomination of resources to the CRHR (14 Cal. Code Regs. § 4850). The regulations set forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

### **California Environmental Quality Act**

CEQA states that if implementation of a project would result in significant effects on historical and unique archaeological resources, then alternative plans or mitigation measures must be considered. Under CEQA these resources are called “historical resources” whether they are of historic or prehistoric age. Public Res. Code § 21084.1 defines historical resources as those listed, or eligible for listing, in the CRHR, or those listed in the historical register of a local jurisdiction (county or city). NRHP-listed “historic properties” located in California are considered historical resources for the purposes of CEQA and are also listed in the CRHR. The CRHR criteria for listing such resources are based on, and are very similar to, the NRHP criteria. Public Res. Code § 21083.2 and 14 Cal. Code Regs. § 15064.5(c) of the CEQA Guidelines provide further definitions and guidance for historical resources and their treatment.

Section 15064.5 also provides a process and procedures for addressing the existence of, or probable likelihood of, Native American human remains, as well as the unexpected discovery of any human remains within the area of potential effect (APE). This includes consultations with appropriate Native American tribes. Therefore, before impacts and mitigation measures can be identified, the significance of historical resources must be determined.

Under CEQA, historical resources are recognized as being part of the environment. Because Valley Link is a discretionary project and requires the approval or permitting of a public agency, adherence to Public Res. Code § 5024.1 is required. Properties that are listed in or eligible for listing in the NRHP are considered eligible for listing in the CRHR (Public Res. Code § 5024.1(d)(1)) and, thus, are significant historical resources for the purpose of CEQA. Previously unidentified and identified or known cultural resources within the study area will be evaluated per the CRHR criteria (as needed) for eligibility in order to determine if the resource is significant on a state level.

According to CEQA, a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant impact on the environment (14 Cal. Code Regs. § 15064.5(b)). Under CEQA, a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Actions that would materially impair the significance of a historic resource are any actions that would demolish or adversely alter the physical characteristics that convey the property’s historical significance and qualify it for inclusion in the CRHR or in a local register or survey that meet the requirements of Public Res. Code § 5020.1(k) and 5024.1(g).

CEQA includes in its definition of historical resources “any object [or] site ... that has yielded or may be likely to yield information important in prehistory” (14 Cal. Code Regs. § 15064.5[3], State CEQA Guidelines Appendix G).

The Authority, as the lead agency for Valley Link, has the potential to directly affect cultural resources; therefore, Valley Link qualifies as a “project” defined as:

an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and which is any of the following:

- a. An activity directly undertaken by any public agency.
- b. An activity undertaken by a person which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.
- c. An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies. An activity undertaken by a public agency or private activity which must receive some discretionary approval from a government agency which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment (Public Res. Code § 21065).

The State CEQA Guidelines define three ways that a property may qualify as a historical resource for the purposes of CEQA review.

1. The resource is listed in or determined eligible for listing in the CRHR.
2. The resource is included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Res. Code or identified as significant in a historical resource survey meeting the requirements of Public Res. Code § 5024.1(g), unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. The lead agency determines the resource to be significant, as supported by substantial evidence in light of the whole record (14 Cal. Code Regs. § 15064.5(a)).

Properties that are listed in or eligible for listing in the NRHP are considered eligible for listing in the CRHR and thus are significant historical resources for the purpose of CEQA (Public Res. Code § 5024.1(d)(1)).

### **California Register of Historical Resources**

Public Res. Code § 5024.1 establishes the CRHR, which lists all California properties considered to be significant historical resources. The CRHR also includes all properties listed or determined eligible for listing in the NRHP, including properties evaluated under Section 106 of the NHPA. The criteria for listing in the CRHR are similar to those of the NRHP. A historical resource may be eligible for inclusion in the CRHR if it meets any of the following conditions.

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
2. Is associated with lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory.

Aside from meeting a CRHR criterion, a potential historical resource must also retain its historic integrity.

### **California Health and Safety Code—Treatment of Human Remains**

Under Section 8100 of the California Health and Safety Code (Health & Safety Code), six or more human burials at one location constitute a cemetery. Disturbance of Native American cemeteries is a felony (Health & Safety Code § 7052).

Section 7050.5 of the Health & Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must then contact the NAHC, which has jurisdiction pursuant to Public Res. Code § 5097.

### **Assembly Bill 52**

On September 25, 2014, Governor Jerry Brown signed Assembly Bill (AB) 52, which requires the lead agency on a proposed project to consult with any California Native American tribes affiliated with the geographic area. The legislation creates a broad new category of environmental resources, *tribal cultural resources*, which must be considered under CEQA. AB 52 creates a distinct category for tribal cultural resources, requiring a lead agency to not only consider the resource's scientific and historical value, but also whether it is culturally important to a California Native American tribe. AB 52 defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” that are included in or determined to be eligible for inclusion in the CRHR or the local register of historical resources.

AB 52 also sets up an expanded consultation process. Since July 1, 2015, lead agencies are required to provide notice of proposed projects to any tribe traditionally and culturally affiliated with the geographic area. If, within 30 days, a tribe requests consultation, the consultation process must begin before the lead agency can release a draft environmental document. Consultation with the tribe may include discussion of the type of review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. The consultation process will be deemed concluded when either (a) the parties agree to mitigation measures or (b) any party concludes, after a good faith effort, that an agreement cannot be reached. Any mitigation measures agreed to by the tribe and lead agency must be recommended for inclusion in the environmental document. If a tribe does not request consultation, or otherwise assist in identifying mitigation measures during the consultation process, a lead agency may still consider mitigation measures if the agency determines that a project will cause a substantial adverse change to a tribal cultural resource.

### **3.5.2.3 Regional and Local**

Appendix I, *Regional Plans and Local General Plans*, provides a list of applicable goals, policies, and objectives from regional and local plans of the jurisdictions in which Valley Link improvements are proposed. Section 15125(d) of the State CEQA Guidelines requires an environmental impact report (EIR) to discuss “any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans.” These plans were considered during the preparation of this analysis and were reviewed to assess whether the Project would be consistent with the plans of

relevant jurisdictions.<sup>2</sup> Valley Link would be generally consistent with the applicable goals, policies, and objectives related to cultural resources identified in Appendix I.

### 3.5.3 Environmental Setting

This section describes the environmental setting related to cultural resources by geographic segment for Valley Link improvements. For the purposes of this analysis, the *CEQA study area* for cultural resources is referred to the “study area” for both archaeological resources and built environment resources. The information presented in this section is summarized from non-confidential archaeology background and Valley Link HRIR.

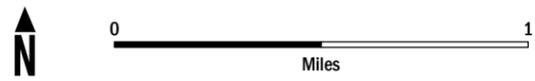
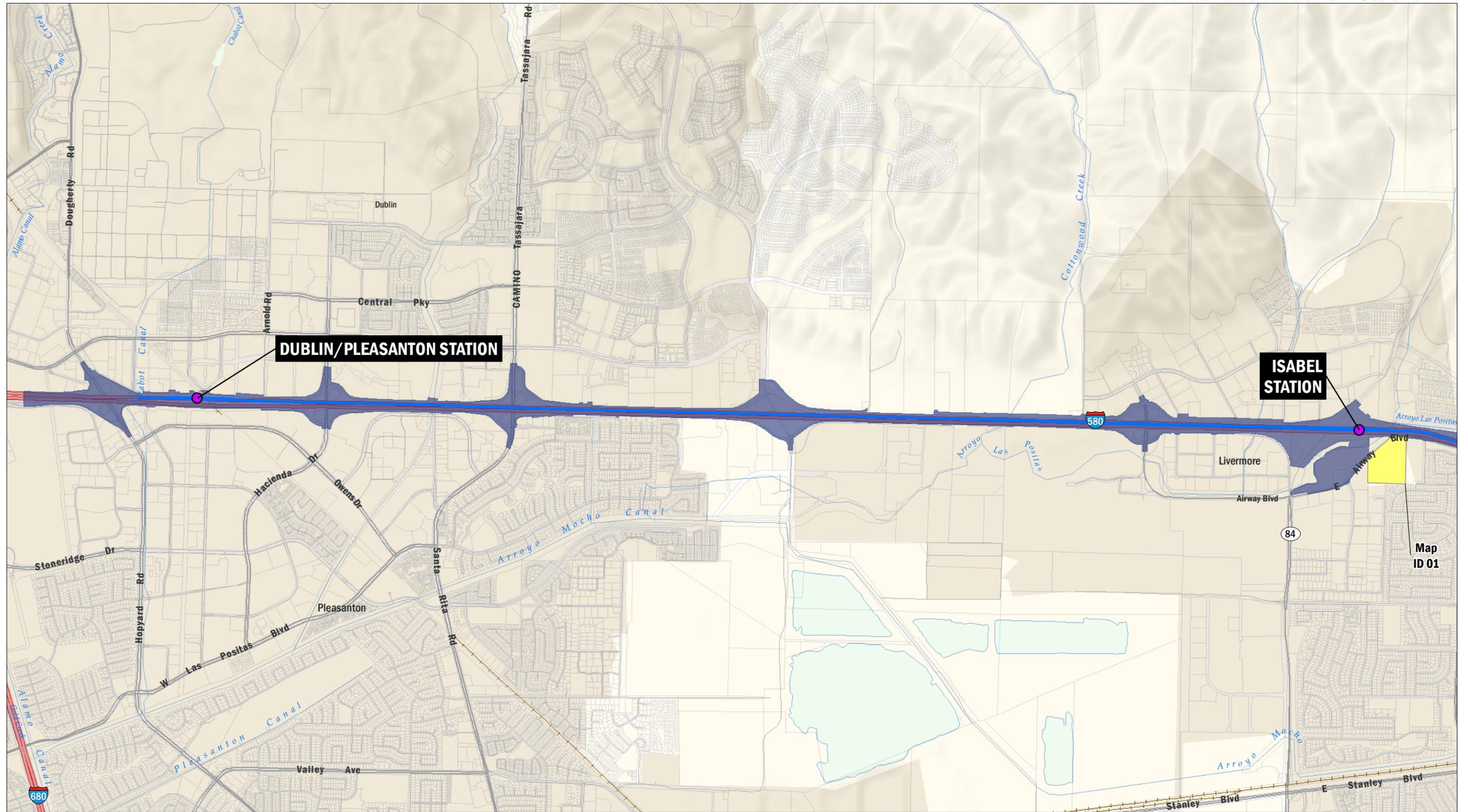
The study area for cultural resources is defined as follows.

- The study area for built environment resources includes parcels intersected by the Valley Link improvement footprint extending out of the existing right-of-way (ROW) of Interstate (I-) 580 in Dublin, Pleasanton, and within the Alameda County Transportation Corridor ROW (former Southern Pacific Railroad [SPRR] line) through the Altamont area, and along or adjacent to existing rail lines through Tracy to Lathrop. Valley Link improvements include new or improved track alignments, stations, siding areas, staging areas, access roads and pedestrian paths, parking structures, crossings, ancillary structures (such as bridges, berms, and culverts), and OMFs. The study area includes areas where property acquisitions, construction, demolition, destruction, or physical change may occur as part of Valley Link improvements. To consider the potential for indirect impacts, the study area for built environment resources extends outside of the footprint, highway, and railroad ROWs in certain areas to consider visual and audible intrusions on properties. This occurs when the improvements are located outside of the existing ROWs; where rail service does not currently exist in the footprint and new track is being added; properties where railroad materials, features, and activities have not been part of their historic setting; or where the introduction of visual or audible elements may affect the use or characteristics of those properties that would be the basis for their eligibility as a historical resource. Figure 3.5-1A through Figure 3.5-1F depict the study areas for built environment resources.
- The study area for archaeological resources is the footprint for the Proposed Project (including all track and technology variants), the station alternatives (Southfront Road Station Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2), the Stone Cut Alignment Alternative, and the West Tracy OMF Alternative. The study area consists of those areas affected by physical changes, including both horizontal surface disturbance and vertical subsurface disturbance, which would be greater than 5 feet below ground surface. Figure 3.5-2A through Figure 3.5-2C depict study areas for archaeological resources.

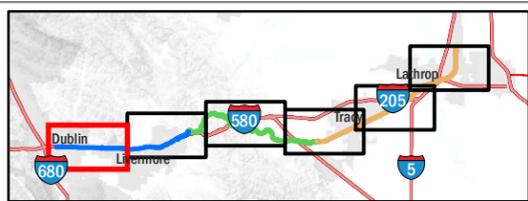
This section also includes a general discussion of the research conducted and methods employed for the technical reports (Appendix O, *Supporting Cultural Resources Information*), which serve to aid in the analysis of cultural resources. The records searches conducted for the technical reports included a review of previously conducted cultural resources studies and recorded archaeological and built environment resources. This research also informed the prehistoric, ethnographic, and historic settings for cultural resources within the region where improvements are located. Detailed

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<sup>2</sup> An inconsistency with regional or local plans is not necessarily considered a significant impact under CEQA, unless it is related to a physical impact on the environment that is significant in its own right.

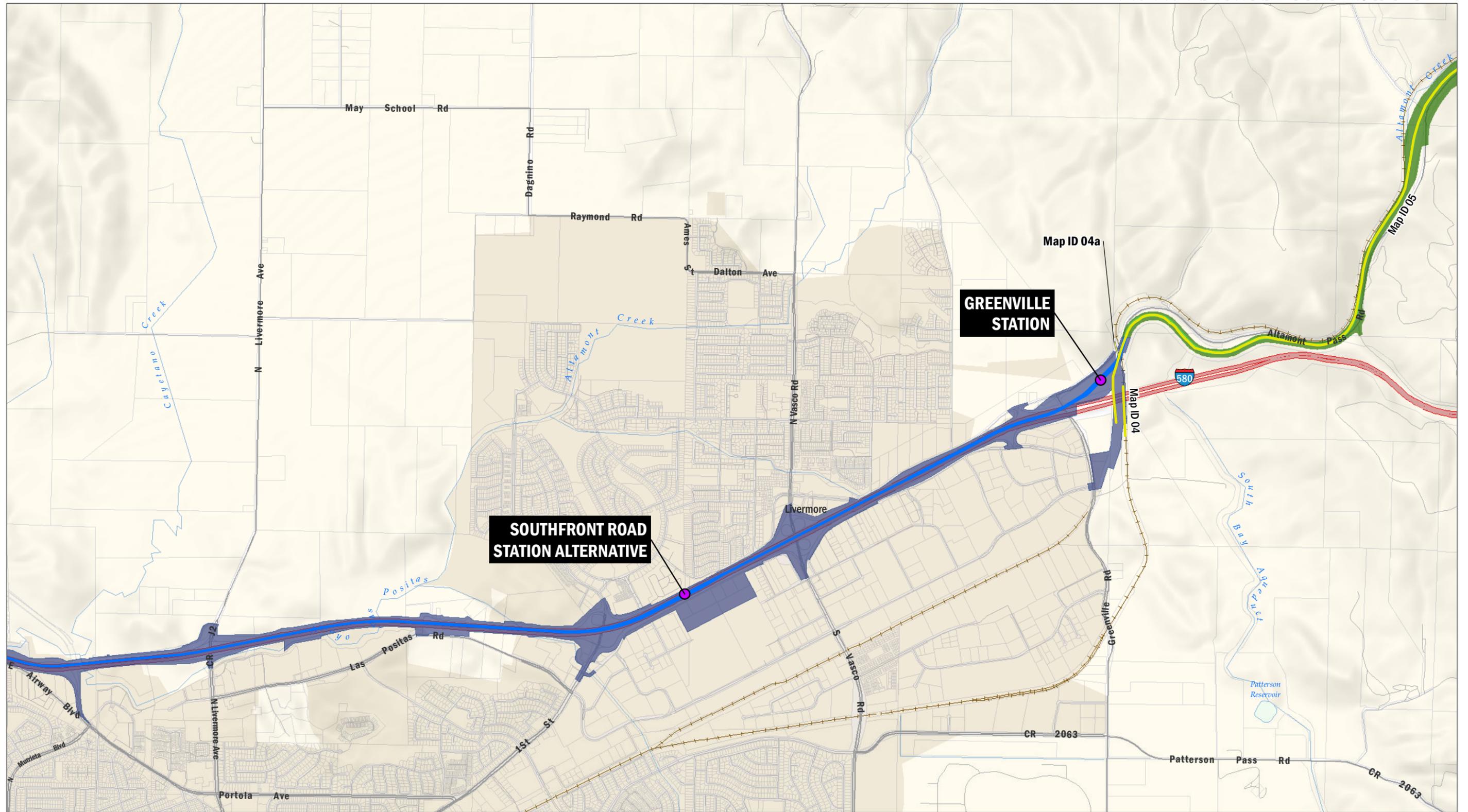


San Joaquin County, 2018; AECOM, 2019

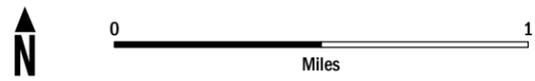


- Proposed Valley Link Station
- Rail Alignment
- Tri-Valley Alignment
- Map IDs
- Environmental Footprint
- Tri-Valley Segment
- Alameda County Parcels

**FIGURE 3.5-1A**  
 Built Environment Resources Study Area  
 Tri-Valley Segment - Section 1

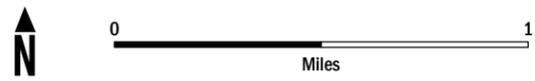
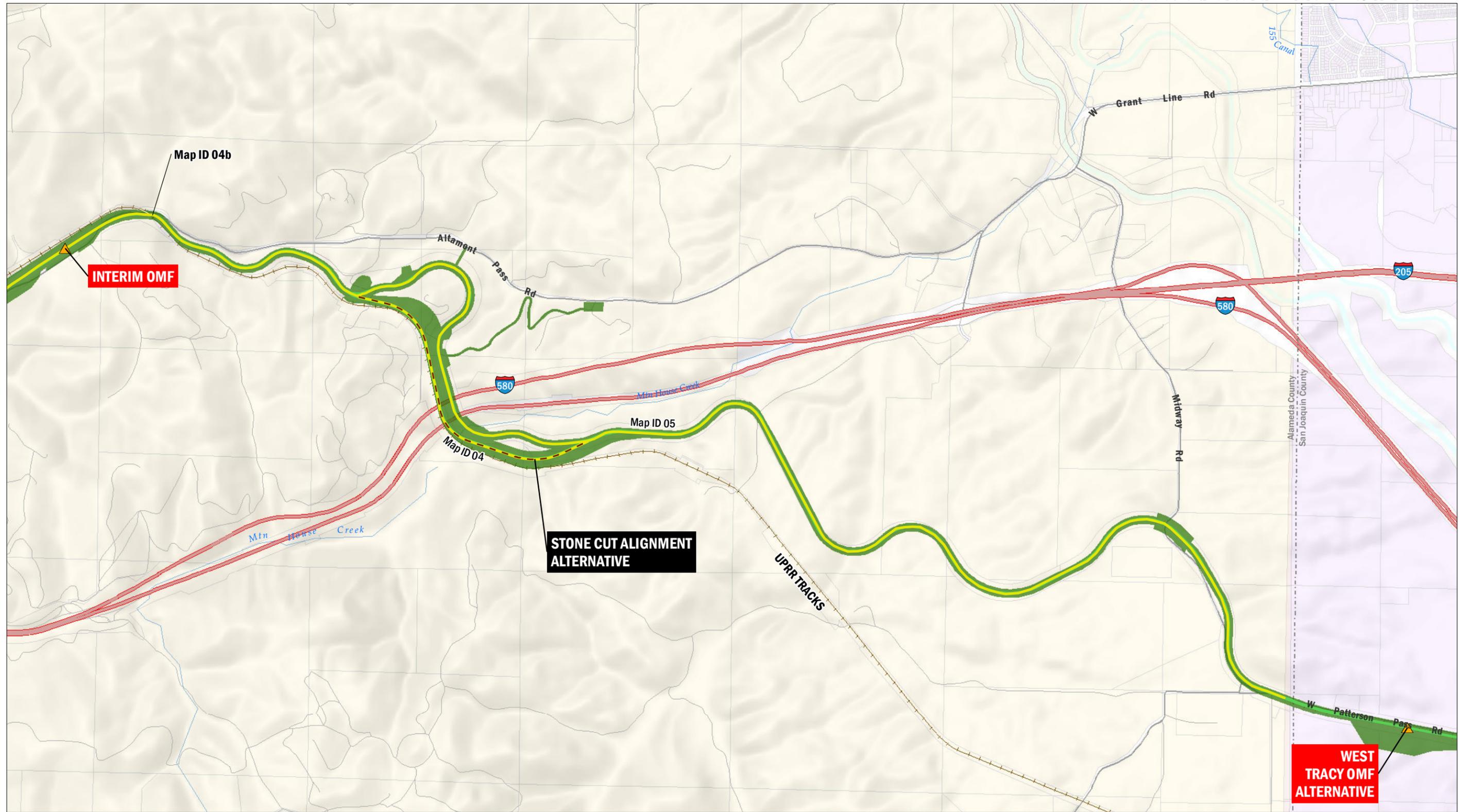


San Joaquin County, 2018; AECOM, 2019

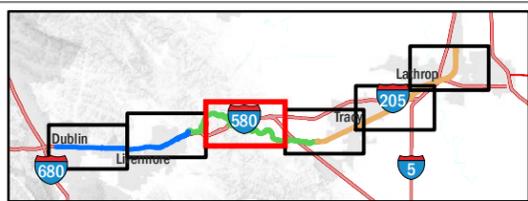


- Proposed Valley Link Station
- Map IDs
- Rail Alignment
  - Tri-Valley Alignment
  - Altamont Alignment
- Map IDs
- Environmental Footprint**
  - Tri-Valley Segment
  - Altamont Segment
  - Alameda County Parcels

**FIGURE 3.5-1B**  
 Built Environment Resources Study Area  
 Tri-Valley Segment - Section 2

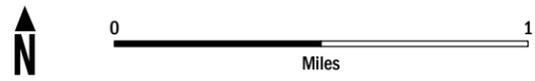
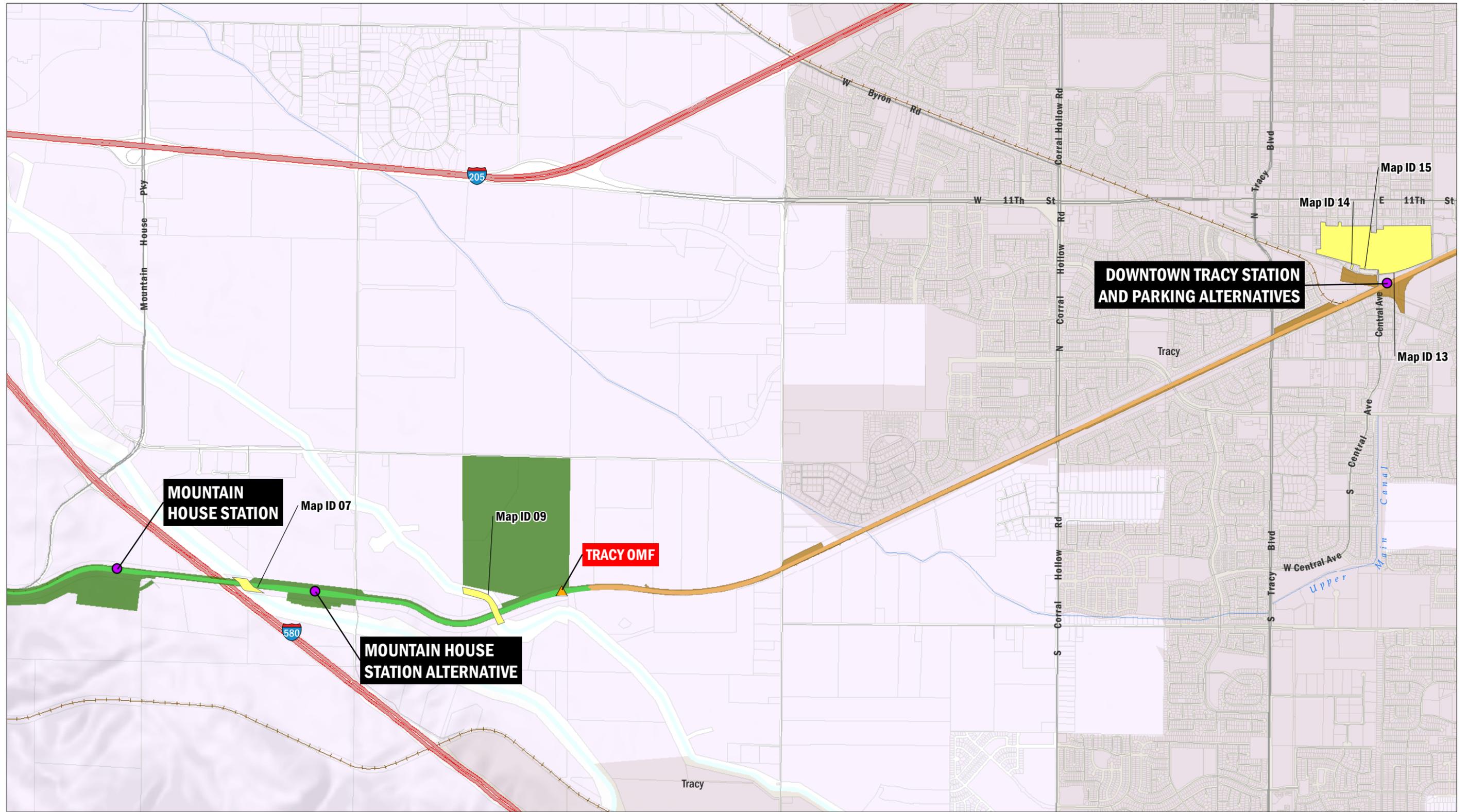


San Joaquin County, 2018; AECOM, 2019

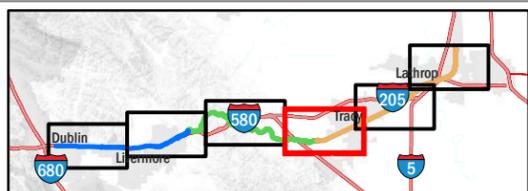


- ▲ Operations and Maintenance Facility (OMF)
- Stone Cut Alignment Alternative
- Map IDs
- Rail Alignment
- Altamont Alignment
- Map IDs
- Environmental Footprint**
- Altamont Segment
- Alameda County Parcels
- San Joaquin County Parcels

**FIGURE 3.5-1C**  
 Built Environment Resources Study Area  
 Altamont Segment - Section 1

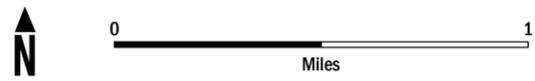
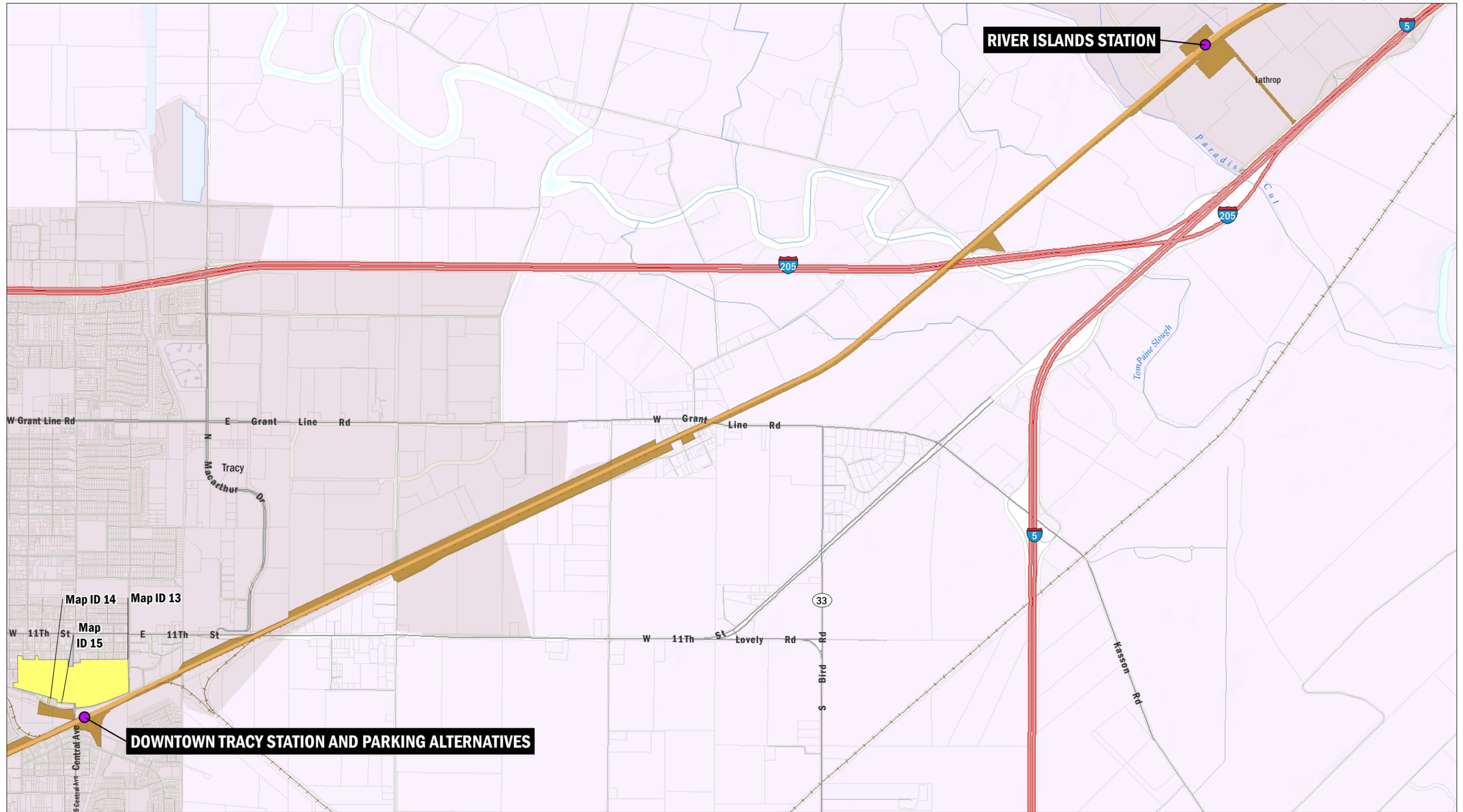


San Joaquin County, 2018; AECOM, 2019

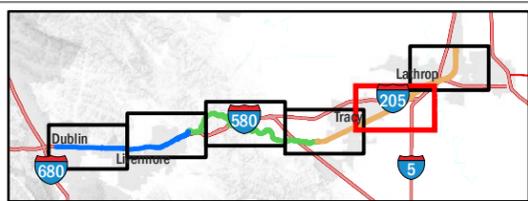


- Proposed Valley Link Station
- ▲ Operations and Maintenance Facility (OMF)
- Rail Alignment**
- Altamont Alignment
- Tracy to Lathrop Alignment
- Map IDs
- Environmental Footprint**
- Altamont Segment
- Tracy to Lathrop Segment
- San Joaquin County Parcels

**FIGURE 3.5-1D**  
Built Environment Resources Study Area  
Altamont Segment - Section 2

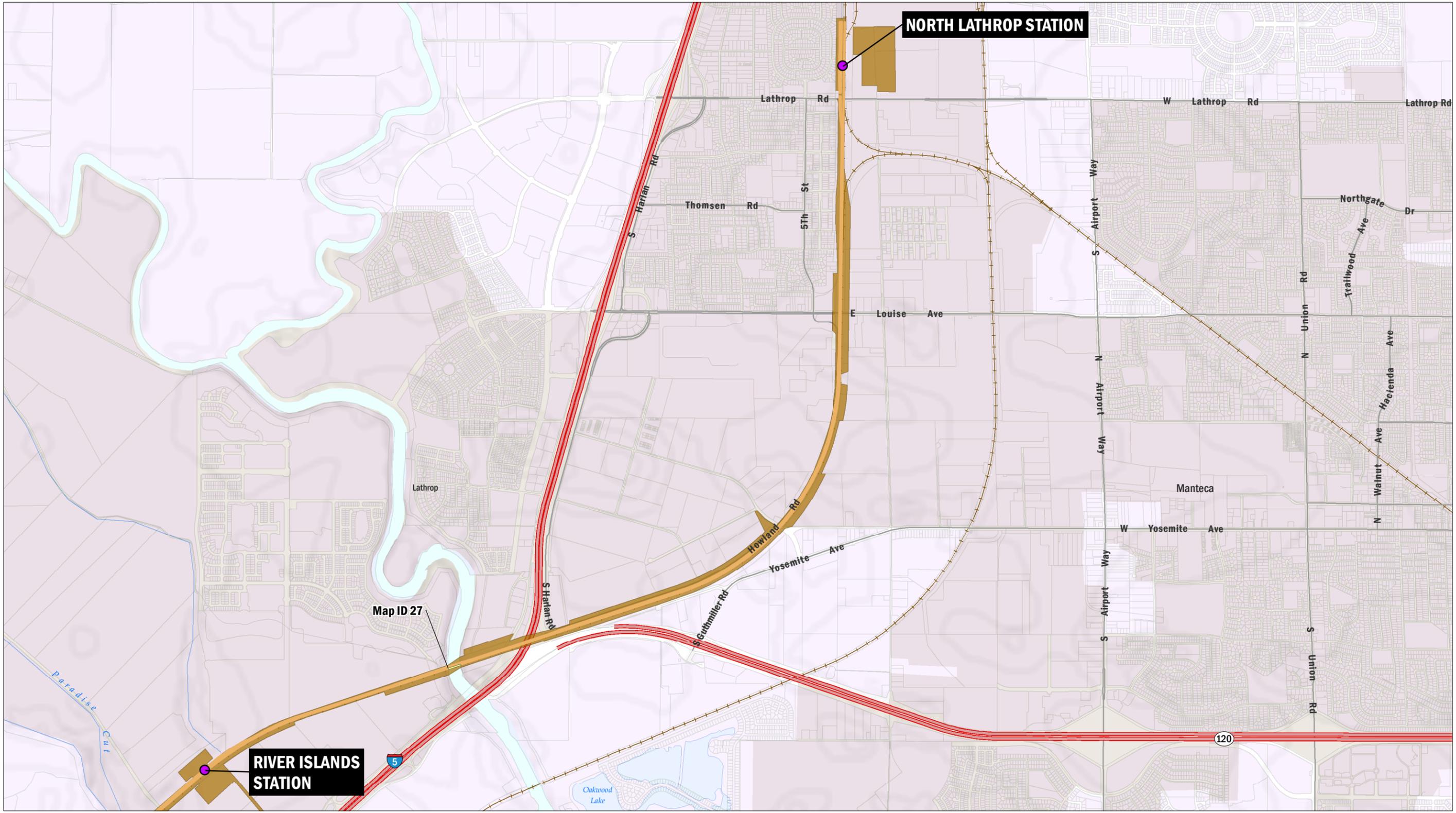


San Joaquin County, 2018; AECOM, 2019



- Proposed Valley Link Station
- Rail Alignment
- Tracy to Lathrop Alignment
- Map IDs
- Environmental Footprint
- Tracy to Lathrop Segment
- San Joaquin County Parcels

**FIGURE 3.5-1E**  
*Built Environment Resources Study Area*  
*Tracy to Lathrop - Section 1*

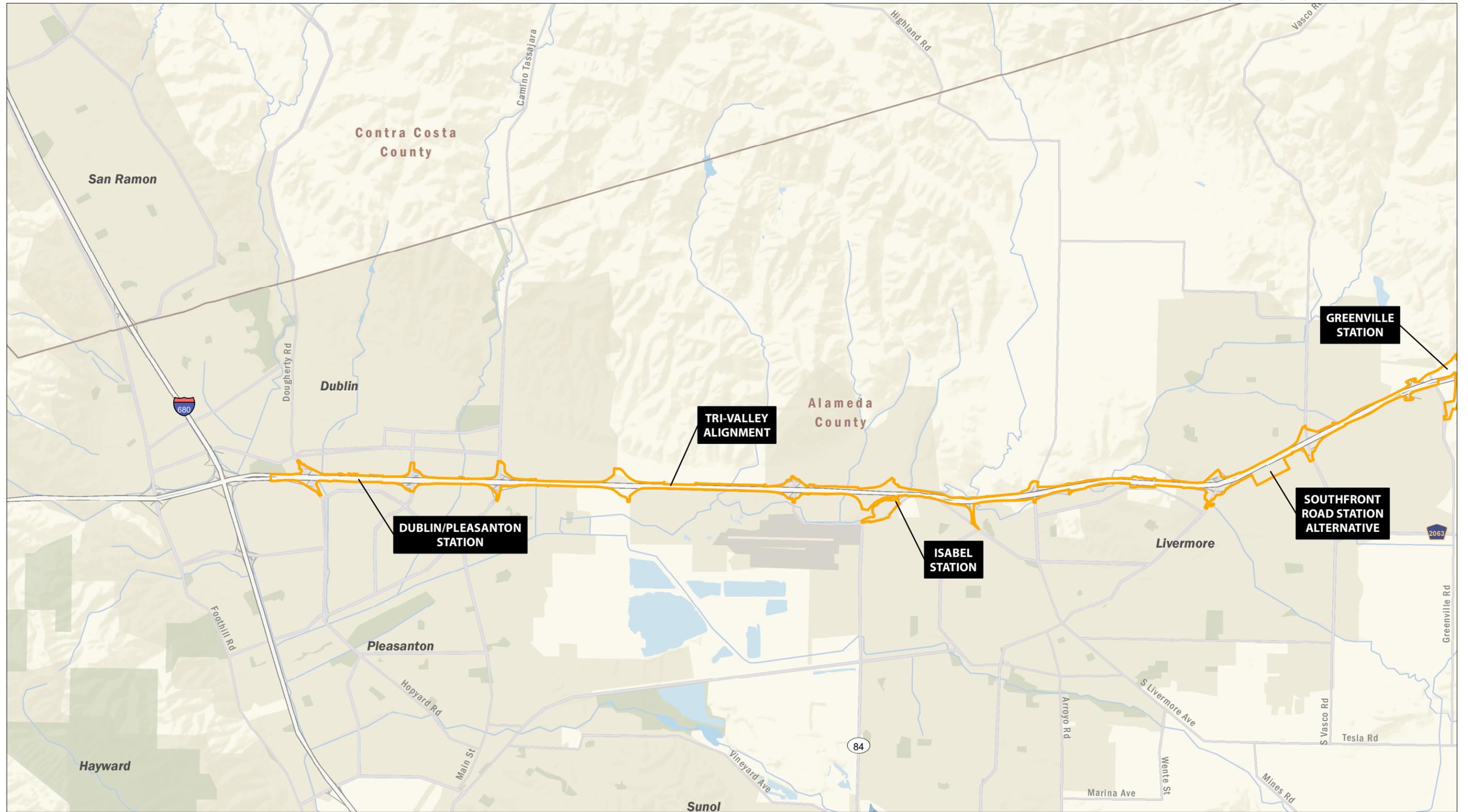


San Joaquin County, 2018; AECOM, 2019



- Proposed Valley Link Station
- Rail Alignment
- Tracy to Lathrop Alignment
- Map IDs
- Environmental Footprint
- Tracy to Lathrop Segment
- San Joaquin County Parcels

**FIGURE 3.5-1F**  
 Built Environment Resources Study Area  
 Tracy to Lathrop - Section 2

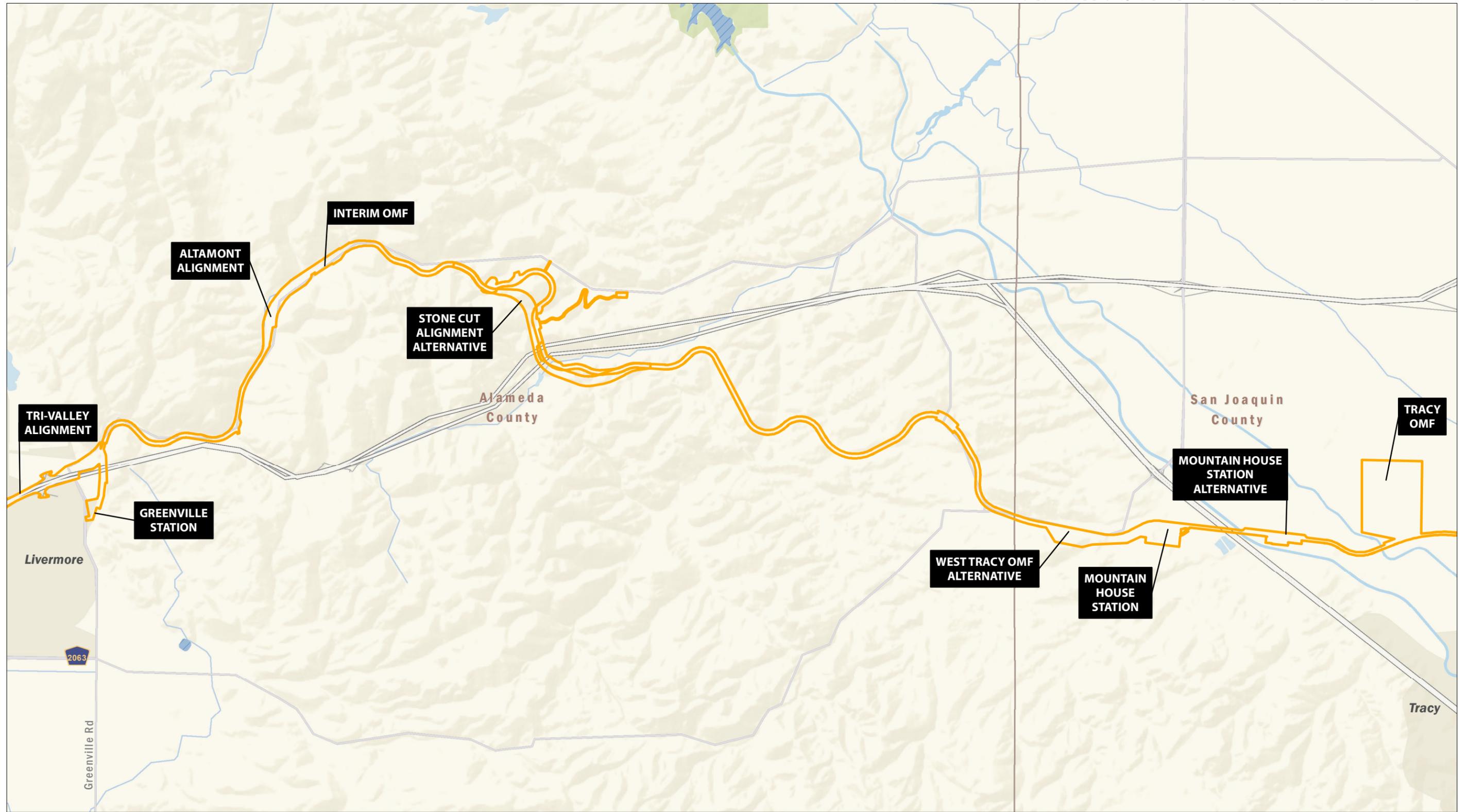


Data Sources: Esri Streetmap 2017

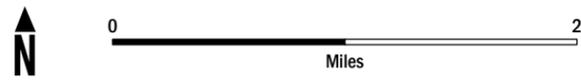
CEQA Study Area



**FIGURE 3.5-2A**  
CEQA Study Area for Archaeological Resources



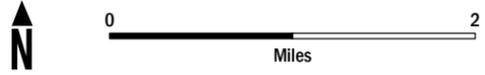
Data Sources: Esri Streetmap 2017



CEQA Study Area



**FIGURE 3.5-2B**  
CEQA Study Area for Archaeological Resources



Data Sources: Esri Streemap, 2017

CEQA Study Area



**FIGURE 3.5-2C**  
CEQA Study Area for Archaeological Resources

descriptions of known archaeological and built environment CEQA resources within the study area are presented in Section 3.5.3.3, *Summary of Known CEQA Historical Resources and Unevaluated Resources*.

### 3.5.3.1 Cultural Resource Data Sources

#### Archaeological Resources

An ICF archaeologist reviewed material on file at the Northwest Information Center (NWIC) and Central Coast Information Center (CCIC), part of the California Historical Resources Information System, on January 10, 2019. Previous records searches cited herein occurred at both the NWIC and the CCIC on November 24, 2015, April 22, 2016, September 19, 2016, February 22, 2017, and January 11, 2019. For the purposes of this analysis the records search area was defined as the footprint, plus a 0.25-mile search radius.

Three archaeological resources were identified within or adjacent to the Proposed Project. Two are precontact resources and one is an historic-era resource. These resources are detailed below:

- **P-39-000014 (CA-SJO-19/H)**—This resource consists of a multi-component site composed of a single-family home and prehistoric midden mound approximately 1.5 meters high. Artifacts found in association with the mound include lithics, groundstone, faunal material, and historic refuse. Human remains were also recorded at this location. This resource has not been evaluated for eligibility for listing to the NRHP or the CRHR.
- **P-39-000141 (CA-SJO-3)**—This resource consists of a long-term prehistoric habitation site located along the San Joaquin River, which was likely mounded before modern development. Associated artifacts include lithics, groundstone, faunal and shellfish remains, botanical remains, clay items, and fire-cracked rock. Human remains were also recorded at this location. This resource has been found eligible for listing to the NRHP and the CRHR.
- **P-39-000013**—This historic-era resource consists of three loci of farm equipment. This equipment consists of three horse-drawn cutters, a horse-drawn rake, and a horse-drawn wagon.

#### Native American Correspondence

On November 26, 2018, ICF contacted the NAHC requesting a review of the SLF and a list of individuals who may have information or interest regarding the Proposed Project and the alternatives analyzed at an equal level of detail. The request contained location details, maps, and a general description of proposed alignments; proposed and alternative stations; and proposed and alternative OMFs. This request is considered formal notification of a proposed project as required under CEQA, specifically Public Res. Code § 21080.3.1 and Chapter 532 Statutes of 2014 (AB 52).

The NAHC responded on January 1, 2019 and stated that a search of the SLF indicated that three known sacred sites are located in the vicinity of the Proposed Project, specifically on the Dublin, Lathrop, and Stockton West U.S. Geological Survey (USGS) Quadrangles. The NAHC also identified specific California Native American Tribes affiliated with the identified sacred sites and provided a list of other Tribes who may wish to consult. These contacts were divided by county. Letters with information about the Proposed Project and the alternatives analyzed at an equal level of detail; a map; and a request to consult were sent to the contacts provided by the NAHC, as noted below.

**Alameda County**

- Irenne Zwierlein, Chairperson – Amah Mutsun Tribal Band of Mission San Juan Bautista
- Ann Marie Sayers, Chairperson – Indian Canyon Mutsun Band of Costanoan
- Charlene Nijmeh, Chairperson – Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- Katherine Erolinda Perez, Chairperson – North Valley Yokuts Tribe
- Andrew Galvan – The Ohlone Indian Tribe
- Tony Cerda, Chairperson – Costanoan Rumsen Carmel Tribe

**San Joaquin County**

- Rhonda Morningstar Pope, Chairperson – Buena Vista Rancheria of Me-Wuk Indians
- California Valley Miwok Tribe
- Sheep Rancheria of Me-Wuk Indians of California
- Sara Dutschke Setchwaelo, Chairperson – Ione Band of Miwok Indians
- Gene Whitehouse, Chairperson – United Auburn Indian Community of the Auburn Rancheria
- Raymond Hitchcock, Chairperson – Wilton Rancheria

On February 4, 2019, Katherine Erolinda Perez sent a response to the letter via email. Ms. Perez recommended that a Native American monitor be present during the construction of the Proposed Project due to the high potential for inadvertent archaeological discoveries.

On February 23, 2019, Ed Silva of the Wilton Rancheria sent a response to the letter with a formal request to consult on the Proposed Project. In a response to this request, the Authority suggested a meeting with the tribe to discuss further needs. Mr. Silva of the Wilton Rancheria replied on March 22, 2019, to set a date of March 26, 2019, to speak via phone. On March 26, 2019, ICF facilitated a phone meeting with Mr. Silva of the Wilton Rancheria. Representatives from ICF, AECOM, and Wilton Rancheria were in attendance. Meeting minutes and all correspondence with California Native American tribes can be found in Appendix O, *Supporting Cultural Resources Information*.

**Geoarchaeological Research**

ICF archaeologist Patrick Reed, MS and ICF archaeologist and GIS Analyst Shane Sparks performed geoarchaeological research through a geologic and archaeological literature review for the *ACEforward* project, which is a project located in a similar study areas as the Proposed Project.<sup>3</sup> Two models were developed to assess where ground disturbance has the potential to encounter previously undocumented archaeological sites. Because the *ACEforward* analysis examined lands included in the Valley Link study area, these earlier models were utilized for the current analysis and are incorporated into this document.

The buried site potential model focuses on the landform age and depositional context. The archaeological sensitivity model focuses on the geomorphologic setting (i.e., water sources and slope), which primarily addresses the ability to inhabit an area for a long period of time, which can increase the archaeological signature, and increase the chances that the remains left behind would

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<sup>3</sup> The Geoarchaeological Analysis has confidential information and has, therefore, not been included in this EIR.

retain sufficient data to be eligible for the NRHP under Criterion D. As a result, the archaeological sensitivity model may not capture sites associated with temporary inland hunting activities (i.e., sparse lithic scatters) or with travel (i.e., lithic isolates). Because this model uses slope as a proxy for suitability, it is poorly suited for predicting the locations of resources typically associated with bedrock outcrops, like caves, rockshelters, and petroglyphs. Though discussed separately as two distinct models, these factors are linked because the age and environment in which a landscape is formed and the geomorphology of a landform has direct bearing on when it becomes accessible for human use, how humans interact with it once it becomes accessible, and how the material remains of these activities are preserved. This study uses *landforms*—geologic units with shared geomorphic origin—as the unit of analysis to consider the timing of the formation of the various landform types that occur in the vicinity of the APE in order to assess the potential for buried archaeological sites to be present within the APE. Distance to historic freshwater sources and topographic slope are also considered in order to assess the archaeological sensitivity of the APE.

The purpose of the geologic literature review was to determine the distribution of landform types and landform ages within the study area and identify historic freshwater sources. Geologic maps developed by Wagner et al. (1991) and Knudsen et al. (2000) were used to define the distribution and ages of the landforms located within the study area vicinity. These maps used an analytical unit referred to as a *geologic unit*, which represents a finer-resolution unit than the landform types and landform age groups developed in the analytical framework. This unit of analysis exceeded the level of resolution required to perform the archaeological sensitivity analysis. As a result, for ease of analysis, geologic units were grouped by age and landform type. Historical freshwater locations were generated from historical topographic maps and USGS national hydrography datasets. This data was used as supplemental research to assess the depositional context and geomorphologic setting in the vicinity of the APE prior to historical development and identify local freshwater sources.

The results of the archaeological literature review identified where known archaeological sites exist within the study area. The locations of prehistoric archaeological sites were used to compare and assess the validity of the buried site potential and archaeological sensitivity models.

Following the geologic and archaeological literature review, geologic map, historic freshwater source, and archaeological site data was uploaded into ArcGIS, which is a geographic information system for working with maps and geographic information. The types and ages of landforms within the study area were recorded and the type and location of archaeological resources were identified. The geologic data was based on geologic mapping data that ranged from 1:24,000 to 1:250,000 in scale, while the historic shoreline data was based on 1:62,500-scale USGS historic topographic maps. Slope was calculated using 10-meter resolution digital elevation models. Using this information and the analytical framework provided below, expectations about buried site potential and archaeological sensitivity across the study area were developed and integrated into GIS simulation models. Both models have been extended approximately 0.25 mile outside of the current study area to account for possible changes in design.

## **Pedestrian Survey**

During previous cultural resources analysis for the *ACEforward* project, portions of the current Proposed Project area were surveyed in January (1, 11, and 14), May (5), June (7 and 9), and July (26 and 27), 2016, and on March 8, 2017. Additional survey of the Altamont Alignment was conducted for the current Proposed Project analysis in February (6 and 7) 2019. Archaeological

surveys using standard archaeological procedures and techniques were completed by individuals who meet the professional qualifications under the SOI's Standards for Archaeology. Due to proposed improvements being located on active rail lines, segments were also accessed via Hi-Rail (guide wheel equipment used to adapt light duty trucks and utility vehicles for railway travel), and archaeologists were accompanied by railroad staff in order to ensure that surveys were conducted in accordance with railroad safety protocol. During the Hi-Rail survey, areas deemed to be of elevated archaeological sensitivity were surveyed on foot.

During the survey, the ground surface was examined for indications of cultural resources. Whenever possible, the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances were examined for artifacts or for indications of buried deposits.

During the archaeological survey, material associated with ongoing railroad activities was observed and included ties, railroad spikes, and glass and plastic insulators. Ground visibility was generally poor, with much of the APE covered by railroad ballast. No subsurface investigations or artifact collections were undertaken during the pedestrian survey.

### **Built Environment Resources**

Cultural resources staff conducted background research to identify known, previously recorded, or evaluated historic-period properties in the study area (see Appendix O, *Supporting Cultural Resources Information*). A review of site records at the NWIC and CCIC was completed, and previously completed surveys and reports, historic maps, and historic property databases/historical resource inventories were reviewed. Additional background research included a review of listed historical resources on the OHP website (such as the listings of the California Historical Landmarks, Points of Historical Interest, and CRHR), California Department of Transportation (Caltrans) Historic Bridge Inventory, local agency register listings, State Historical Resource Commission minutes, and NRHP listings on file with the National Park Service.

Built environment reconnaissance surveys were completed by individuals who meet the SOI Professional Qualification Standards for Architectural History and History. Built environment surveys were completed February 6–7, 2019.

### **3.5.3.2 Prehistoric, Ethnographic, and Historic Conditions**

The Proposed Project and the alternatives analyzed at an equal level of detail are located within Alameda and San Joaquin Counties and extend through four cities and two incorporated communities. Proposed alignments; proposed and alternative stations; and proposed and alternative OMFs are located within both the San Francisco Bay Area (Bay Area) and the Central Valley and through a variety of ecological zones.

The following regions include segments or portions of segments.

- Bay Area (Alameda County)
  - Tri-Valley
  - Altamont (western portion)
- Central Valley (San Joaquin County)
  - Altamont (eastern portion)

- Tracy to Lathrop

## San Francisco Bay Area

### Prehistoric Setting

The prehistoric cultural chronology for the Bay Area was developed through over a century of organized archaeological survey, beginning with N. C. Nelson in 1906 to the present. Since the 1950s, archaeological work in Santa Clara, Alameda, and Contra Costa Counties led to further refinement of the cultural sequence to consist of the Early Holocene (Lower Archaic), Early Period (Middle Archaic), Lower Middle Period (Initial Upper Archaic), Upper Middle Period (Late Upper Archaic), Initial Late Period (Lower Emergent), and Terminal Late Period (Protohistoric Ambiguities).

The Early Holocene (Lower Archaic, calibrated [cal] 8000–3500 B.C.) is characterized by a mobile forager pattern, with the milling slab, handstone, and a variety of large, wide-stemmed and leaf-shaped projectile points, largely composed of local Franciscan chert dominating the assemblage (Hylkema 2002:235; Milliken et al. 2007:114). During the Early Period (Middle Archaic, cal 3500–500 B.C.), several technological and social developments emerged, and new groundstone technology and the first cut shell beads in mortuaries signaled sedentism (living in one place for a period of time), regional symbolic integration, and increased regional trade in the Bay Area (Vellanoweth 2001). The Lower Middle Period (Initial Upper Archaic, cal 500 B.C.–cal A.D. 430) is marked by a “major disruption in symbolic integration systems” (Milliken et al. 2007:115), and new bone tools appeared for the first time, including barbless fish spears, elk femur spatula, tubes, and whistles, as did coiled basketry manufacture (Bennyhoff 1986:70; Bieling 1998:218). The Upper Middle Period (Late Upper Archaic, A.D. cal 430–1050) experienced the abandonment of many sites from the previous period, and single-barbed bone fish spears, ear spools, and large mortars were developed (Milliken et al. 2007:116).

Following the Archaic Period, the Initial Late Period (Lower Emergent, cal A.D. 1050–1550) is marked by a new increased level of sedentism, status ascription, and ceremonial integration in lowland central California (Fredrickson 1973). Evidence for increased social stratification throughout the Bay Area after 1250 A.D. can be found in mortuary practices evidenced by the quality of burial items in high-status burials and cremations (Fredrickson 1984). The Terminal Late Period (Protohistoric Ambiguities) is exhibited by changes in artifact types and mortuary objects and toggle harpoons, hopper mortars, plain corner-notched arrow-sized projectile points, clamshell disk beads, magnesite tube beads, and secondary cremation in the North Bay. The hopper mortar, however, did not spread to the South Bay or Central Bay (Bennyhoff 1994:54; Wickstrom 1986).

### Ethnographic Setting

#### *Ohlone*

The study area passes through the tribal territory of the Ohlone as it crosses through eastern Alameda County. The Ohlone are a linguistically defined group, composed of several autonomous tribelets that spoke eight different but related languages. The Ohlone languages, together with Miwok, compose the Utian language family of the Penutian stock. The territory of the Ohlone people extended along the coast from the Golden Gate to just below Carmel and as far inland as 60 miles, encompassing several inland valleys (Levy 1978:485–486).

The Ohlone were primarily hunters and gatherers. They hunted terrestrial game, such as mule deer, tule elk, pronged antelope, and mountain lion. Traps were set for smaller game, such as rabbit and quail. Marine resources were hunted along the shores, including sea lions and whales, which were prized for their blubber. Water fowl were a very important part of the tribal diet and were trapped along the tidal marshes. Other marine resources, such as salmon, steelhead, school fish, and shellfish, including mussels, were collected and were a major dietary staple. Tule boats were used to collect both saltwater and freshwater marine resources.

The Ohlone also used a wide range of other foods, including various seeds (the growth of which was promoted by controlled burning), buckeye, berries, roots, acorns, nuts, fruits, land and sea mammals, water fowl, reptiles, and insects. The Ohlone used tule balsas for watercraft, bows and arrows, cordage, and bone and ground-stone tools to procure and process their foodstuffs (Levy 1978:491–493; Milliken 1995:20; Milliken 1991:31; Kroeber 1925:467).

The Ohlone were politically organized by tribelet, with each having a designated territory. A territory consisted of one or more villages and camps designated by physiographic features. Each tribelet consisted of several households, which averaged 10 to 15 individuals and were grouped into clans and moieties. Primary sources describe tribelets as small groups of people, averaging 60 to 90 individuals, that were located 3 to 5 miles apart. These groups within a territory were often linked by marriage. The office of tribelet chief, which was inherited patrilineally, could be occupied by a man or a woman. If there was no son to inherit the position, a sister or daughter would assume the position. Duties of the chief included providing for visitors, directing ceremonial activities, and leading fishing, hunting, gathering, and warfare expeditions. The chief served as the leader of a council of elders, which functioned primarily in an advisory capacity to the community.

As stated above, a single tribelet, comprising patrilineal family groups, would occupy a village location at different times of the year. Ohlone villages in the Late Period of the Late Holocene typically had four types of structures. Dwellings were generally domed structures with central hearths. They were thatched with tule, grass, or other vegetal material and bound with willow withes. Permanent settlements were usually placed away from the ocean shore, on high ground. Sweathouses were used by men and women and usually located along streambanks. A sweathouse consisted of a pit that was excavated into the streambank, with a thatched portion constructed against the bank. Dance structures were circular or oval in plan and enclosed by a woven fence of brush or laurel branches, standing approximately 1.5 meters (5 feet). These structures would have one doorway, with a smaller opening directly opposite. The assembly house was a thatched dome structure that was large enough to accommodate all of the inhabitants of the village (Crespi 1927).

On November 4, 1769, a Spanish expedition, led by Gaspàr de Portolà, crossed the Coast Ranges on its way north from Monterey. This party encountered the first group of native Bay Area peoples at the village of Ssalson (near modern-day San Mateo). According to Juan de Crespi, a diarist, this meeting was amicable, and the people of Ssalson took them into their village and feasted with them (Milliken 1995:32).

Seven Spanish missions were founded in Ohlone territory from 1776 to 1797. Once neophytes were inducted into mission life, there was no leaving. If newly baptized neophytes decided they wanted to return to their old way of life, they were considered runaways. Runaways were tracked down and forcibly returned to the missions. While living within the mission system, the Ohlone commingled with other groups, including the Esselen, Yokuts, Miwok, and Patwin. Mission life was devastating to the Ohlone population (Milliken 1995). Following the introduction of Mission life, Ohlones

numbered less than 2,000 as a result of introduced disease, harsh living conditions, and reduced birth rates (Cook 1943a, 1943b).

Under the Mexican government, secularization of the mission lands began in earnest in 1834. The indigenous population scattered away from the mission centers, and the few that were given rancherias from the mission lands were ill equipped to maintain or work their land. Most of the former mission land was divided among loyal Mexican subjects, and the Ohlone who chose to remain in their ancestral territory usually became squatters. Some were given jobs as manual laborers or domestic servants on Mexican ranchos or, later, American cattle ranches. During the next few decades, there was a partial return to aboriginal religious practices, particularly shamanism, and some return to food collection as a means of subsistence (Harrington 1921, in Levy 1978:486–487). Consequently, several multi-ethnic Indian communities (consisting of individuals of Chochenyo, Plains Miwok, Northern Valley Yokuts, Patwin, and/or Coast Miwok descent) were established in the mid-nineteenth century within Ohlone territory (Levy 1978:487).

Although they have yet to receive formal recognition from the federal government, the Ohlone are becoming increasingly organized as a political unit and have developed an active interest in preserving their ancestral heritage. In the latter part of the twentieth century, the Galvan family of Mission San José worked closely with the American Indian Historical Society and successfully prevented destruction of a mission cemetery that lay in the path of a proposed freeway. These descendants incorporated as the Ohlone Indian Tribe and now hold title to the Ohlone Indian Cemetery in Fremont (Yamane 1994, in Bean 1994:xxiv). The descendants are active in maintaining their traditions and advocating for Native American issues.

### **Historic Overview**

The historical era in California began with Spanish colonization and is often divided into three distinctive chronological and historical periods: the Spanish or Mission Period (1542–1821), the Mexican or Rancho Period (1821–1848), and the American Period (1848–present). After Mexican independence in 1821, Spain transferred its lands to the newly established country of Mexico. The Mexican government issued rancho land grants to reward soldiers, promote settlement in California, and encourage agricultural and ranching enterprises. More than 800 rancho grants were bestowed during the Mexican Period throughout California. Four ranchos are located in the CEQA study area in eastern Alameda County: San Ramon (granted 1834, patented 1865), Santa Rita (granted 1839, patented 1865), Valle de San Jose (granted 1839, patented 1865), and Las Positas (granted 1839, patented 1865). In San Joaquin County, only one of the numerous ranchos granted throughout the San Joaquin Valley between 1841 and 1846 intersects the CEQA study area. That rancho was Rancho Pescadero-Grimes (granted 1843, patented 1858), between Tracy and Lathrop with the west bank of the San Joaquin River serving as the eastern boundary (San Joaquin Regional Rail Commission 2017; Cowan 1956 as cited in AECOM 2019). There are no extant built environment features from the Spanish or Mission Period or the Mexican or Rancho Period within the CEQA study area (San Joaquin Regional Rail Commission 2017; Alameda County 2005; Cowan 1956 as cited in AECOM 2019).

The United States took control of California after the Mexican-American War in 1848 with the signing of the Treaty of Guadalupe Hidalgo. California became a state in 1850, and the development patterns in California during the late nineteenth and early twentieth centuries were characterized by agricultural ventures, ranching, mining, and settlement.

## **Railroads**

There are two historic-period railroad routes within the Valley Link CEQA study area: (1) the approximately 11-mile-long Central Pacific Railroad (CPRR) (later SPRR Transcontinental Railroad) constructed in 1869 from just east of Greenville Road in Livermore through the Altamont Pass and just west of the San Joaquin County line at Patterson Pass Road and (2) segments of the Western Pacific Railroad (WPRR) (later Union Pacific Railroad [UPRR]) route constructed circa 1908–1909, consisting of a 1,500-foot-long segment located under the existing I-580 viaducts near Greenville Road and an approximately 1-mile-long segment parallel to the SPRR route in the Altamont Pass that traverses under and over I-580 viaducts. The CPRR/SPRR alignment within the CEQA study area is abandoned in Alameda County, but remains an active rail line in San Joaquin County. Today, the UPRR and Altamont Corridor Express (ACE) utilize the 1908–09 track in Alameda and San Joaquin Counties. The Proposed Project plans to re-activate the 1869 route through the Altamont Pass for Valley Link service.

The Gold Rush in 1848 concentrated development and new settlement in the Bay Area and inland via waterways to the trading centers of Stockton and Sacramento. Although major cities in Northern California like San Francisco, Sacramento, and San Jose were soon connected via railway by the 1850s and early 1860s, California and the western U.S. as a whole remained detached from railways in the east. In 1869, the CPRR met the UPRR at Promontory, Utah, thereby creating the first transcontinental railroad. The transcontinental railroad and several other smaller regional railroads built during the mid-nineteenth and early twentieth centuries contributed to the growth and development of Alameda and San Joaquin Counties. Several towns emerged in Alameda County as a direct result of the railroad. Pleasanton and Livermore grew from provincial rural areas to thriving townships after the railroads were completed, and the small community of Altamont in the pass was established by the CPRR in 1869 (Gudde 1998 as cited in AECOM 2019).

In 1862, the Pacific Railroad Act granted the CPRR the rights to construct a railroad from Sacramento to San Francisco. Later that year, the CPRR assigned its rights to build the line to a group of San Francisco capitalists (Western Pacific Railroad Company) who were constructing a line connecting San Francisco with San Jose. The 120-mile-long San Jose-Sacramento line ran south from Sacramento through Stockton, over the Altamont Pass, across Livermore Valley to Pleasanton, through Niles Canyon and then south to San Jose, where it met the San Francisco and San Jose Railroad. The San Jose-Sacramento line through the Altamont Pass was completed in 1869, thereby completing the Sacramento-San Francisco line and the transcontinental railroad. Engineered structures built for the route through the pass included a tunnel (which passes under the current alignment of I-580) constructed in 1869 with wood timbers. Over the decades the timbers began to fail and were replaced with concrete starting at the east end. By 1909 the tunnel was entirely replaced by concrete and stamped “S.P. Co. A.D. 1909” (*San Francisco Call* 1909 as cited in AECOM 2019). Other historic-period structures along the route include cut-sandstone masonry culverts, concrete and wood culverts, signaling equipment, and wood telegraph poles.

The SPRR deeded its ROW through the Altamont Pass and up to the Alameda/San Joaquin county line to Alameda County when SPRR and UPRR agreed to joint use of the UPRR (former WPRR) tracks through the pass. The track, rails, and ballast were removed in 1984 (Tracy Press 2017 as cited in AECOM 2019).

Settlement of San Joaquin County increased with the completion of the transcontinental railroad in 1869 because the railroad provided easy passenger travel and efficient commercial transport of goods to and from large urban centers such as San Francisco and Sacramento. Construction of the

SPRR's San Joaquin Valley mainline, originally known as the San Joaquin Valley Railroad, began in 1869 and branched off the transcontinental line at the newly established town of Lathrop in San Joaquin County. By 1871, Lathrop had become a major railroad stop.

Tracy was platted in 1878 at the intersection of the CPRR portion of the transcontinental railroad that connected Sacramento to Niles via the Altamont Pass, and the SPRR line that connected Oakland to the CPRR line east of Livermore (Tracy Historical Museum 2019; Hillman and Covello 1985 as cited in AECOM 2019). Tracy was founded after the completion of the CPRR line, which offered the fastest and least expensive route to Los Angeles at the time. Tracy quickly became an important railroad center for the transportation of goods and passengers throughout California, and by 1894 the area became home to the railroad's headquarters, roundhouse, and machine shop (Tracy Historical Museum n.d. as cited in AECOM 2019). Tracy was an agricultural and commercial center for the surrounding farms and ranches, and the city continued to thrive until the mid-twentieth century when diesel engines replaced steam locomotives, and transportation of goods shifted from trains to trucks.

### ***Agriculture and Irrigation***

Several irrigation districts were established in the San Joaquin Valley throughout the late nineteenth and early twentieth centuries. Irrigation districts were cooperative public and private entities with large geographic territories established to overcome water distribution problems and boundary limitations established by cities and municipalities. In San Joaquin County, Tracy farmers used dry farming methods to produce grain crops until the West Side Irrigation District was established in the area in 1914. After the district was established, local agriculture expanded, and Tracy prospered as an agricultural area, growing alfalfa, asparagus, lima beans, sugar beets, and tomatoes.

The diversification and intensification of farming in the San Joaquin Valley led to large agricultural communities being established during the twentieth century. In addition to being able to grow a wide variety of crops, California was also quickly becoming the cattle and dairy hub of the American West. State-wide water conveyance projects in the 1950s through 1970s enabled further agricultural growth in the San Joaquin Valley. The Delta-Mendota Canal was constructed in 1952 as part of the Delta Division of the Central Valley Project (CVP), which is a large-scale, 500-mile-long, federal reclamation project that includes 35 California counties. The CVP consists of a series of dams, canals, reservoirs, tunnels, and power plants that moves domestic, industrial, recreation, navigation, and wetland waters from the Cascade Range in the north to the semi-arid Tehachapi Mountains in the southern part of the state. In 2006, the Delta-Mendota Canal was found to be a contributor to the CVP system, which is eligible for listing in the NRHP for its association with the development of irrigation and agriculture in California (Criterion A). The California Aqueduct, a 444-mile-long canal that runs from the Sacramento-San Joaquin Delta in the north to Riverside County in the south, was constructed between 1960 and 1974 by the California Department of Water Resources as part of the State Water Project. In 2012, the aqueduct was found eligible for the NRHP as the largest and most significant water conveyance system developed as part of the State Water Project and under Criterion C for its complex design necessary to redistribute water through the state of California on such a massive scale. In 2012, the California Aqueduct was less than 45 years old, but was evaluated under Criterion Consideration G for its exceptional importance as a planned comprehensive water redistribution system that helped shape the development of much of California following the mid-twentieth century. The SHPO concurred with all three findings (State Historic Preservation Officer 2012 as cited in AECOM 2019). Both the Delta-Mendota Canal and California Aqueduct are traversed by the Valley Link CEQA study area.

### **Highways, Roads, and Bridges**

Historically, an east-west county road traversed the Livermore Valley, running roughly parallel to the alignment of modern I-580. This road connected Livermore with Dublin to the west, the Altamont Pass, and ultimately to Stockton in San Joaquin County to the east. By 1913, this road was designated as part of the Lincoln Highway, the country's first transcontinental automobile highway connecting San Francisco with New York. By the 1920s, the road was a paved, two-lane highway referred to as the Lincoln Highway and or U.S. Highway (US) 50. In 1938, the road through Altamont Pass, from Greenville Road to Grant Line Road near Tracy, was upgraded to a four-lane divided highway (at the location of the existing I-580), bypassing the narrow and winding road through the canyon (Bay Area Rapid Transit 2008:645 as cited in AECOM 2019). Portions of the old Lincoln Highway alignment dating from 1938 still exist in the CEQA study area as the Altamont Pass Road and the Greenville Overhead (OH) bridge alignment (California Highways 2016 as cited in AECOM 2019).

During the early to mid-twentieth century, road improvements and increased automobile ownership spurred residential development along road corridors and in rural areas. Agricultural lands in Alameda County began to diminish and were steadily replaced with suburban housing as the regional population increased and new roadway transportation networks were developed. In the post-World War II period California's highway system exploded in size with the establishment of new transportation corridors, improved bridge design, and the replacement or upgrade of hundreds of old bridges. The east-west I-580 route within the CEQA study area was constructed during the 1960s between San Rafael in the Bay Area to I-5 near Tracy in San Joaquin County. Segments of I-580 were constructed over or alongside portions of US 50 (San Joaquin Regional Rail Commission 2017 as cited in AECOM 2019).

More than 7,000 highway bridges were built in California between 1965 to 1974, including a series of bridges, overcrossings (OC), undercrossings (UC), and overhead (OH) structures within the I-580 corridor in the Valley Link CEQA study area. As with the previous Statewide Historic Bridge Inventories, Caltrans, as the agency responsible for bridge inspection of both state- and locally owned bridges, conducted a screening process in 2014 to identify historic-period bridges as potentially eligible for inclusion in the NRHP or CRHR. None of the 29 state-owned historic-period roadway bridges within the CEQA study area were found eligible for listing in the NRHP (Caltrans 2015; Caltrans 2018 as cited in AECOM 2019).

Several early-twentieth-century state highways were important to the development and growth of San Joaquin County and its interconnection to the Bay Area. As part of the state highway system, a road connecting Oakland in the Bay Area with Stockton in the San Joaquin Valley was planned via Altamont Pass. In 1909, San Joaquin County paved a portion of this route near Tracy. In 1957, the Bureau of Public Roads approved plans for a bypass in San Joaquin County connecting I-5, which was the most direct north-south route in the state, to I-580 in Alameda County along the northern border of Tracy with the new I-205 bypass route. Construction of the new I-205 freeway bypass was completed and opened to traffic in 1970, creating an east-west connector route between the Bay Area and the San Joaquin Valley that bypassed the town of Tracy. The construction of improved transportation routes including I-580, I-205, and I-5 in the 1960s and 1970s were contributing factors to the growth and development of the Livermore and San Joaquin Valleys during the twentieth century. In the twenty-first century, further development in the form of master-planned communities such as the Vineyards in the Dublin area and Mountain House north of I-580 in Alameda County, and the Tracy Hills and River Islands developments in San Joaquin County have

increased the regional population and thus increased both highway and rail congestion in these corridors connecting residential developments to large area employers (California Highways 2016 as cited in AECOM 2019).

### ***World War II-Era Industry and Postwar Development***

Wartime industries brought thousands of people to California during the 1940s, and the immediate post-war industrialization had a significant effect on Alameda County. Nuclear research facilities became a prominent part of Livermore's landscape following the war. In 1952, the Livermore Radiation Laboratory was established at the Livermore Air Station. The laboratory was later known as the Lawrence Livermore National Laboratory. Located south of I-580 between Vasco Road and Greenville Road, the laboratory and other technology and research industries remain a large employer in the Tri-Valley region.

Military activities brought thousands of people to the San Joaquin Valley. Established in 1942, the San Joaquin Depot was made up of distribution facilities at three separate locations: Tracy, Sharpe (Lathrop), and Stockton's Rough and Ready Island. The 724-acre Sharpe Army Depot, located in the CEQA study area, was responsible for the management, storage, inventory, and issue of general supplies from this facility to military sites in western states, Alaska, Hawaii, and the Pacific, and stored overflow supplies for the Port of Stockton. After World War II, the Army transferred a portion of the facility to the Transportation Corps, and in 1946, the entire facility was transferred to the Quartermaster General and subsequently to the U.S. Army Corps of Engineers. In the immediate post-war era, the function of the depot shifted to the repair of construction equipment that returned from overseas combat (California Military Department 2016a; Green and McAroy 1984 as cited in AECOM 2019).

Major facilities at the Sharpe Army Depot were constructed during World War II, and as activities at the depot increased during the Korean War and Vietnam Conflict, additional buildings and structures were added. During the Cold War, the Western Distribution Center was constructed within the depot in 1988. Elements of the Sharpe Army Depot and the property as a whole have been inventoried and evaluated on various forms of recordation over time and most recently for the *ACEforward* EIR the property and the individual resources within were found ineligible for consideration as historical resources for the purposes of CEQA (Wills 2010; Green and McAroy 1984; Eidness 1996; Cheever and Berryman 2006; Macedo 2012 as cited in AECOM 2019).

New agricultural, industrial, and real estate industries emerged in San Joaquin County after World War II, which resulted in residential and population growth. During the late 1950s, the Tracy Army Depot continued to thrive as it became part of the Department of Defense Manager Supply System, and several major agricultural industries established processing plants in Tracy, including Heinz and Holly Sugar. The Owens-Illinois Glass Company purchased a 150-acre site, four miles southwest of Tracy in 1960. The plant was completed in 1962 and was the second Owens-Illinois Glass Company glass container manufacturing plant in Northern California, with the first located in Oakland. The Owens-Illinois Glass Company had other similar plants throughout the United States, including Los Angeles and Seattle on the west coast. The Tracy site was selected by company president Carl R. Megowen because of the belief in the future of the San Joaquin Valley (California Military Department 2016b; *Oakland Tribune* 1960 as cited in AECOM 2019).

The Federal Aviation Agency (now the Federal Aviation Administration) constructed a million-dollar transmitter on the parcel west of the Owens-Illinois Glass Company Tracy Plant in 1961. The transmitter served the San Francisco Federal Aviation Agency station and replaced an existing

Federal Aviation Agency facility in Belmont that controlled long-distance overseas commercial and military flights (*Oakland Tribune* 1961 as cited in AECOM 2019).

### ***Bay Area Rapid Transit System***

To help alleviate post-World War II highway congestion in the Bay Area metropolis, the state legislature formed the San Francisco Bay Area Rapid Transit District in 1957, comprising the five counties of Alameda, Contra Costa, Marin, San Francisco and San Mateo. After years of planning and voting measures, construction for the Bay Area Rapid Transit (BART) system began in 1964. The Transbay tube structure was completed in 1969, and by 1970, the system extended to Fremont, Concord, Daly City and Richmond. From 1971 to 1972, there was a gradual phase-out of major construction work, and the transition from a construction-oriented organization to an operating railroad began. The next major construction programs were in 1991 including the Dublin/Pleasanton line extension, which was opened in May 1997. The extension program increased the BART system by 46 percent with the addition of 33 miles and 10 new stations. The Dublin/Pleasanton BART station, which was constructed to serve the rapidly growing Tri-Valley area, serves as an intermodal transit hub for people travelling from eastern Alameda County to San Joaquin County (BART 2019 as cited in AECOM 2019).

### ***Altamont Corridor Express***

San Joaquin County voters approved a half-cent tax in 1990 for transportation projects but identified initiating passenger rail service through the Altamont Pass as a priority. Seven years later, the ACE Joint Powers Authority was created by the San Joaquin Regional Rail Commission (SJRRRC), the Alameda County Congestion Management Agency, and the Santa Clara Valley Transportation Authority. The ACE Joint Powers Authority immediately secured operation on UPRR tracks, allocated service management to SJRRRC, and signed a train operation contract with a private company. On October 19, 1998, the ACE train initiated daily weekday service with two round trips between Stockton and San Jose. The 82-mile-long route travels through three counties and includes 10 stations. A third round trip was added in 2001 and a fourth in 2006. A new stop was also added at the downtown Santa Clara Caltrain Station to allow commuters and travelers more rail route connectivity and transfers to Caltrain and Amtrak at the San Jose Diridon Station. Since 2011, ridership has more than doubled, with 2018 numbers reporting 5,900 weekday ridership or 1.5 million passengers a year (Trains.com 2006; APTA 2018; ACE 2017 as cited in AECOM 2019).

## **3.5.3.3 Summary of Known CEQA Historical Resources and Unevaluated Resources**

### **Archaeological Resources**

#### **Tri-Valley and Altamont**

No previously recorded archaeological resources were identified within either the Tri-Valley segment or the Altamont segment.

#### **Tracy to Lathrop**

No archaeological resources were identified in or adjacent to the three stations in the Tracy to Lathrop segment. However, the following potential prehistoric or historic archaeological properties were identified within the Tracy to Lathrop segment at or adjacent to the proposed alignment:

- **P-39-000014/CA-SJO-19/H** consists of a multi-component site, consisting both of prehistoric and historic-era material, including a midden deposit with faunal and human remains and lithics. This site is at the same location as P-39-000141. This site has not been formally evaluated for listing to either the CRHR or the NRHP.
- **P-39-000141/CA-SJO-3** consists of a prehistoric mound containing lithics, groundstone, faunal and shellfish remains, botanical materials, fire-cracked rock, clay items, and one burial. This site has been found eligible for listing to the NRHP and the CRHR.
- **P-39-000013** consists of isolated historic farm equipment including 3 horse-drawn cutters, a horse-drawn rake, and a horse-drawn wagon. This site has not been formally evaluated for listing to either the CRHR or the NRHP.

Both P-39-000014 (CA-SJO-19/H) and P-39-000141 (CA-SJO-3) sites are located within the Project area, directly east of the San Joaquin River. Additional testing will need to occur prior to construction to determine if the P-39-000014/CA-SJO-19/H site is a CEQA resource.

### Built Environment

A built environment field survey of the CEQA study area for the improvements and alternatives/variants was conducted in February 2019. Prior to the field survey, investigators identified and researched the age of the properties in the CEQA study area using various sources, including construction plans, Google Earth, county assessor's records, historic imagery and aerial photographs, and historic maps. Information from past identification and evaluation efforts for historic-period properties in the CEQA study area was also used in the field. The field surveys were conducted by individuals that meet the SOI's Professional Qualification Standards for Architectural History and History.

Overall, 34 historic-period built environment properties were identified in the study area. Historic-period properties are defined as 45 years old or older (constructed prior to 1974) and properties less than 45 years old with exceptional significance. Eighteen historic-period properties were previously identified within the CEQA study area and 16 were newly identified and recorded within the CEQA study area. Eleven of the historic-period properties resources are listed or eligible for the NRHP, CRHR, and/or local registers and are considered historical resources for the purposes of CEQA. Table 3.5-1 summarizes the 11 built environment historical resources in the study area and Proposed Project improvements that may potentially affect these resources. See Figures 3.5-1A through 3.5-1F for location of historical resources, segments, and Project improvements. For additional information about the historic-period built environment and historic resource locations (assigned Map ID numbers), please refer to the Valley Link HRIER, included in Appendix O, *Supporting Cultural Resources Information*.

The segments of the CEQA study area within Alameda County contain a variety of historic-period built environment resources that reflect the region's history of transportation, agriculture, and industrial and residential development. In Alameda County, the majority of historic property types are related to railroads, including portions of the CPRR/SPRR and the WPRR/UPRR in the Altamont Pass, which include engineering structures like extant railroad bridges, culverts, and a tunnel, as well as signals and the former settlement of Altamont. Other resources include those relating to agriculture, rural residential properties, light industrial properties, and roadway bridges developed in the post-World War II period.

The Tracy to Lathrop segment of the CEQA study area within San Joaquin County also includes railroads and related infrastructure. The most common historic property types in San Joaquin County are commercial and single-family residences dating from the early twentieth century through the post-World War II period, rural residential properties, and irrigation features such as canals, levees, and aqueducts. The resource types present in the Tracy to Lathrop segment highlight the importance of the railroad and water irrigation, which resulted in agricultural, commercial, and residential development and population growth.

**Table 3.5-1. CEQA Historical Resources (Built Environment) in the CEQA Study Area**

Map ID# <sup>a</sup>	Resource Identifier	Address/Resource name or type and description	City, County	Year Built	Current Evaluation CHR Status Code	Applicable Criteria	Project Segment(s)	Nearest Valley Link Project Improvement(s)
01	P-01-002204; P-01-002205	487 E Airway Blvd/ Gandolfo Ranch	Livermore, Alameda County	1885– 1950	2S2	NRHP A, C CRHR 1, 3 ACRHR A, C	Tri-Valley	Isabel Station
04	P-01-002190	WPRR railroad alignment/ 1,500-foot segment under I-580 viaducts east of Greenville Road; 1-mile segment in Altamont Pass	Alameda County	circa 1908–09	3S, 3CS, 5S3	NRHP A CRHR 1 ACRHR A	Tri-Valley;  Altamont	Greenville Station  Stone Cut Alignment Alternative
04a <sup>b</sup>	Caltrans Bridge No. 33C0013	Altamont Pass Road UP on WPRR railroad alignment	Alameda County	1908, 1919	3S, 3CS, 5S1	NRHP A CRHR 1 ACRHR A	Tri-Valley	Tri-Valley Alignment  Greenville Station
04b <sup>b</sup>	P-01-010671; Caltrans Bridge No. 33C0109	Altamont Pass Road UP on WPRR railroad alignment	Alameda County	1907, 1915	3S, 3CS, 5S1	NRHP A CRHR 1 ACRHR A	Altamont	Altamont Alignment
05	P-01-001783; CA-ALA-000623H	SPRR Grade / 11-mile segment from east of Greenville Road to Patterson Road just west of San Joaquin County line	Alameda County	circa 1869	3S, 3CS, 5S3	NRHP A, C CRHR 1, 3 ACRHR A, C	Tri-Valley  Altamont	Tri-Valley Alignment  Greenville Station  Altamont Alignment  Interim OMF Stone Cut Alignment Alternative
07	P-39-000090	California Aqueduct	Tracy, San Joaquin County	1960– 1974	2S2	NRHP A, C, Criterion Consideration G	Altamont	Owens-Illinois Industrial Lead Variant 2, Double Track

Map ID# <sup>a</sup>	Resource Identifier	Address/Resource name or type and description	City, County	Year Built	Current Evaluation CHR Status Code	Applicable Criteria	Project Segment(s)	Nearest Valley Link Project Improvement(s)
09	P-39-000089	Delta-Mendota Canal	Tracy, San Joaquin County	1952	3B, 3CB	NRHP A CRHR 1, 3	Altamont	Owens-Illinois Industrial Lead Variant 2, Double Track  Tracy OMF
13	P-39-002871; HRI 5376-0001-9999	Tracy Historic District	Tracy, San Joaquin County	1890–1930	3S, 3CS	NRHP C CRHR 3	Tracy to Lathrop	Downtown Tracy Station  Downtown Tracy Station Parking Alternative 1  Downtown Tracy Station Parking Alternative 2
14	P-39-000505	47 W 6th St/West Side Bank	Tracy, San Joaquin County	1910	1S, 3D	NRHP A, C CRHR 1, 3	Tracy to Lathrop	Downtown Tracy Station  Downtown Tracy Station Parking Alternative 1  Downtown Tracy Station Parking Alternative 2
15	77 W 6th St	77 W 6th St/residence	Tracy, San Joaquin County	1900	3S, 3CS	NRHP C CRHR 3	Tracy to Lathrop	Downtown Tracy Station

Map ID# <sup>a</sup>	Resource Identifier	Address/Resource name or type and description	City, County	Year Built	Current Evaluation CHR Status Code	Applicable Criteria	Project Segment(s)	Nearest Valley Link Project Improvement(s)
								Downtown Tracy Station Parking Alternative 1
								Downtown Tracy Station Parking Alternative 2
27	P-39-000002; P-39-000548	19010 S Manthey Rd/Mossdale Railroad Bridge; Warren Truss vertical lift bridge, site of completion of Pacific Railroad	Tracy, San Joaquin County	1869, 1945	3S, 3CS	NRHP A, C CRHR 1, 3	Tracy to Lathrop	Tracy to Lathrop Alignment Variant 1, Single Track  Tracy to Lathrop Alignment Variant 2, Double Track

<sup>a</sup> The properties are listed geographically from east to west; Map ID# corresponds to Figure 3 in Appendix O (*Valley Link HRIER*).

<sup>b</sup> These two WPRR bridges were recorded together on DPR 523L Update forms for the WPRR.

ACRHR = Alameda County Register of Historical Resources; Caltrans = California Department of Transportation; CHL = California Historical Landmark; CHR = California Historical Resource; CRHR = California Register of Historical Resources; NRHP = National Register of Historic Places; OMF = operation and maintenance facility; SPRR = Southern Pacific Railroad; UP = Underpass; WPRR = Western Pacific Railroad

**California Historical Resource Status Codes (OHP 2003)**

1S = Individual property listed in NRHP by the Keeper. Listed in the CRHR.

2S2 = Individual property determined eligible for NRHP by a consensus through Section 106 process. Listed in the CRHR.

3B = Appears eligible for NRHP both individually and as a contributor to a NRHP-eligible district through survey evaluation.

3CB = Appears eligible for CRHR both individually and as a contributor to a CRHR-eligible district through survey evaluation.

3D = Appears eligible for NRHP as a contributor to a NRHP eligible district through survey evaluation.

3S = Appears eligible for NRHP as an individual property through survey evaluation.

3CS = Appears eligible for CRHR as an individual property through survey evaluation.

5S1 = Individual property that is listed or designated locally.

5S2 = Individual property that is eligible for local listing or designation.

5S3 = Appears individually eligible for local listing or designation through survey evaluation.

## Tri-Valley

There are two built environment historical resources within the Tri-Valley segment study area (**Map ID # 01 and 04a**) and two resources within both the Tri-Valley and Altamont segments (**Map ID #04 and #05**). Because only a small portion of the 11-mile-long SPRR Grade (**P-01-001783/SPRR Grade/Map ID #05**) is within the Tri-Valley segment, it is described in the Altamont segment. The respective sections of Map ID #04 are addressed in the appropriate Project segments.

- **P-01-002204/P-01-002205/Gandolfo Ranch/Map ID #01:** The Gandolfo Ranch Historic District includes a working ranch with a Victorian-style farmhouse, a Craftsman-style residence, and a collection of barns and other agricultural outbuildings that date from the late nineteenth and early twentieth centuries. The district has been determined eligible for listing in the NRHP at the local level of significance under Criterion A for its important association with agricultural development of Livermore during its period of significance (1885–1950), and NRHP Criterion C, as a nineteenth century ranch (period of significance between 1885 and 1930). In addition, the circa 1870s residence is also individually eligible at the local level under Criterion C, as a representative example of a Gothic Revival/Folk Victorian farmhouse. The SHPO determined this property eligible for inclusion in the NRHP as a historic district in 2001 (BART 2017), and the district is listed in the CRHR. Therefore, the property is a historical resource for the purposes of CEQA.
- **Caltrans Bridge No. 33C0013/Altamont Pass Road UP/Map ID #04a:** The Altamont Pass Road UP is a 425-foot-long, multi-span deck plate girder with a pony deck approach on the south end. The bridge is supported on three steel trestles and one concrete pier. Cable handrails line the multi-span deck plate girder section. It was built in 1908 (altered in 1919) and carries a single track of the WPRR/UPRR over Altamont Pass Road and the former SPRR grade. The bridge was informally inventoried and subsequently added to a local register. The bridge was reevaluated for the NRHP, CRHR, and the Alameda County Register of Historical Resources (ACRHR) as an Alameda County Landmark as part of this study and was found eligible for the NRHP under Criterion A, the CRHR under Criterion 1, and the ACRHR under Criterion A as an element of the WPRR and is considered a historical resource for the purposes of CEQA.
- **P-01-002190/WPRR/Map ID #04:** An approximately 1,500-foot-long portion of the WPRR/UPRR in the Tri-Valley segment was built circa 1908–09 through the Altamont and Livermore passes that roughly parallel the 1869 SPRR alignment. Recent evaluations of nearby segments of the WPRR, located between Niles Junction and Sunol, and a short segment of the railroad east of Livermore, concluded the rail resource segments are eligible under NRHP Criterion A and CRHR Criterion 1 for their association with important historic events and representative of the last transcontinental railroad to be constructed in the United States. The resources were also found to be individually eligible as contributors to a larger historical resource (such as the entire WPRR, if such a resource is ever found to exist). The WPRR resources are also eligible under ACRHR Criterion A. The WPRR railroad segment recorded for this Project near Greenville Road east of Livermore share similar construction history and historic context, and as such, they shares similar eligibility statements and levels of integrity; and the WPRR segments recorded for the Proposed Project are considered a historical resource for CEQA.

## Altamont

There are five built environment historical resources within the Altamont segment study area.

- **P-01-002190/WPRR/Map ID #04:** An approximately 1-mile-long portion of the WPRR in the Altamont segment built circa 1908–09 through the Altamont Passes that roughly parallel the 1869 SPRR alignment. Recent evaluations of nearby segments of the WPRR, located between Niles Junction and Sunol, and a short segment of the railroad east of Livermore, concluded the rail resource segments are eligible under NRHP Criterion A and CRHR Criterion 1 for their association with important historic events and representative of the last transcontinental railroad to be constructed in the United States. The resources were also found to be individually eligible as contributors to a larger historical resource (such as the entire WPRR, if such a resource is ever found to exist). The WPRR resources are also eligible under ACRHR Criterion A. The WPRR railroad segments recorded for the Proposed Project in the Altamont Pass share similar construction history and historic context, and as such, they shares similar eligibility statements and levels of integrity; and the WPRR segments recorded for the Proposed Project are considered a historical resource for CEQA.
- **P-01-010671/Caltrans Bridge No. 33C0109/Altamont Pass Road UP/Map ID #04b:** The Altamont Pass Road UP is a 143-foot-long, through truss railroad bridge that was originally constructed circa 1907 (altered 1915) and carries a single track of the WPRR/UPRR over Altamont Pass Road and the former SPRR grade. The bridge was previously recorded and evaluated in 1998 for the NRHP and found ineligible, but was not evaluated for the CRHR or for the ACRHR as an Alameda County Landmark. The bridge was reevaluated for the NRHP, CRHR, and the ACRHR as an Alameda County Landmark as part of this study and was found eligible for the NRHP under Criterion A, the CRHR under Criterion 1, and the ACRHR under Criterion A as an element of the WPRR and is considered a historical resource for the purposes of CEQA.
- **P-01-001783/CA-ALA-000623H/SPRR Grade/Map ID #05:** The SPRR grade was built as part of the original transcontinental railroad that was celebrated as completed on May 10, 1869. The segment between Sacramento and Oakland was completed in August 1869 and truly completed the railroad as a transcontinental railroad connecting the Atlantic and Pacific oceans. The segment through the Livermore Valley was the linchpin that completed the larger Sacramento-Oakland route. Based on the previous evaluations and research, the 11-mile segment of SPRR Grade and associated structures in Alameda County recorded for this study meet NRHP, CRHR, and local register criteria, and are considered historical resources for the purposes of CEQA.
- **P-39-000090/California Aqueduct/Map ID #07:** The California Aqueduct is a 444-mile-long canal that runs from the Sacramento-San Joaquin Delta in the north to Riverside County in the south. It was constructed between 1961 and 1972 by the California Department of Water Resources as part of the State Water Project. In 2011, the aqueduct was evaluated as eligible for the NRHP and CRHR under Criterion A/1 as a comprehensively planned and publicly sanctioned water conveyance public works project that facilitated development throughout the state. It also was evaluated as eligible under Criterion C/3 for its complex design to redistribute water throughout California on a massive level. Because much of the California Aqueduct was not 50 years old at the time it was recorded in 2011, it also was evaluated as eligible under NRHP Criterion Consideration G and the CRHR special consideration for properties less than 50 years old. The California SHPO concurred that the resource was eligible for listing in the NRHP in 2012. After review of the previous recordation and current field check and research, the present evaluation concludes that the property retains the level of integrity of location, design, setting,

materials, workmanship, feeling, and association it had at the time of last recordation and still appears to meet the criteria for listing in the NRHP and CRHR; and the property is considered a historical resource for the purposes of CEQA. No local register criteria were identified.

- **P-39-000089/Delta-Mendota Canal/Map ID #09:** The Delta-Mendota Canal is south of West Schulte Road southwest of Tracy. The canal was constructed in 1952 as part of the Delta Division of the CVP, a large-scale federal water storage, transfer, and delivery system that conveys water from California's wetter northern regions to the more arid central and southern regions of the state. In 2006, the U.S. Bureau of Reclamation drafted an NRHP multiple property listing for the CVP. The U.S. Bureau of Reclamation considers the Delta-Mendota Canal a contributing property to the CVP, which is eligible for listing in the NRHP under Criterion A for its association with the development of irrigation and agriculture in California. After review of the previous recordation and desktop review, the present evaluation concludes that the property retains the level of integrity of location, design, setting, materials, workmanship, feeling, and association it had at the time of last recordation; and it appears to meet the criteria for listing in the NRHP and CRHR. The property is considered a historical resource for the purposes of CEQA.

### Tracy to Lathrop

There are four built environment historical resource within the Tracy to Lathrop segment study area.

- **P-39-002871/Tracy Historic District/Map ID #13:** The Tracy Historic District was inventoried in 1978 by the City of Tracy Architecture and Historic Survey. That same year the California OHP found the district eligible for listing in the NRHP, but did not include NRHP criteria language. The 1978 city inventory did not include a formal evaluation of the district's eligibility for listing in the NRHP or CRHR or as a CEQA historical resource. A 2002 inventory evaluated the Tracy Historic District as eligible for the NRHP under Criteria A and C for its association with the early settlement and development of Tracy and for its late nineteenth and early twentieth century architecture, but did not evaluate the district's eligibility for listing in the CRHR or as a CEQA historical resource. The inspected portion of the district, with exception of the residence at 121 E. 6th Street, appears to meet the criteria for listing in the NRHP and CRHR, and the district retains the level of integrity of location, design, setting, materials, workmanship, feeling, and association; and appears to be a historical resource for the purposes of CEQA.
- **P-39-000505/47 W 6th St/West Side Bank/Map ID# 14:** The West Side Bank is a Beaux-Arts Neoclassical Revival-style brick building with a blue limestone façade that was built in 1910 and originally designed by San Francisco architect William H. Weeks. The building was recorded on a NRHP nomination form in 1978 and found eligible for the NRHP under Criterion A and Criterion 3. The bank was subsequently listed in the NRHP in December 1978 and therefore also is listed in the CRHR. The building is also a contributing property to the NRHP- and CRHR-eligible Tracy Historic District (P-39-002871). The building retains integrity of location, design, setting, materials, workmanship, feeling, and association; and after review of the previous recordation and current field check and research, the present evaluation concludes that the property appears to be eligible for the NRHP and CRHR. No local register criteria were identified. The property is considered a historical resource for the purposes of CEQA.

- **77 W 6th St/77 W 6th St/Map ID # 15:** This Queen Anne-style residence was built in 1900. It is located outside of the Tracy Historic District (P-39-002871) boundary. The residence was recently recorded and evaluated in 2017 and found to be a good example of vernacular Queen Anne-style architecture and eligible for the NRHP under Criterion C and the CRHR under Criterion 3. No local register criteria were identified. The property is considered a historical resource for the purposes of CEQA.
- **P-39-000548; P-39-000002/CHL 780-7/Mossdale Railroad Bridge/Map ID #27:** The Mossdale Railroad Bridge is a Warren Truss vertical lift bridge that was built in 1942. The bridge is at the site of the completion of the transcontinental railroad over the San Joaquin River, which is designated as California Historical Landmark 780-7 and listed in the CRHR. In 1986, the bridge itself was evaluated as ineligible, but was reevaluated in 2002 and determined eligible for listing in the CRHR. The property retains integrity of location, design, setting, materials, workmanship, feeling, and association; and after review of the previous recordation and current field check and research, the present evaluation concludes that the property appears to be eligible for the NRHP and CRHR. No local register criteria were identified. The property is considered a historical resource for the purposes of CEQA.

### 3.5.4 Impact Analysis

This section describes the Proposed Project's environmental impacts on significant cultural resources, including the station alternatives (Southfront Road Station Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Station Tracy Parking Alternative 2), the Stone Cut Alignment Alternative, and the West Tracy OMF Alternative. It describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant. Measures to mitigate significant impacts are provided, where appropriate.

#### 3.5.4.1 Methods for Analysis

Cultural resource impacts associated with the construction and operation of specific project-level improvements are analyzed by assessing how the improvements would affect specific historical resources (which include both archaeological and built resources).

Impacts were considered significant if construction or operation of the Proposed Project could cause a substantial change in the significance of a historical resource. Substantial changes could be caused by direct and indirect impacts from Proposed Project improvements. Direct impacts on built environment resources result from physical changes to a property (e.g., demolition, physical alterations, or a partial ROW acquisition that could change the historic setback of built environment historical resources within a parcel) that would affect the character-defining features and integrity of the resource that conveys its significance. Activities that cause direct impacts on archaeological resources are typically associated with construction, including ground disturbance, or the material or physical alteration of the environment for excavation, staging, heavy equipment usage and movement, drilling, demolition, and relocation. Potential indirect impacts that could affect the historic aspects of the setting and feeling of built environment historical resources include visual, sound, and vibration impacts or changes resulting from construction or operation of the improvements. Potential indirect impacts on archaeological resources would primarily result from increased human activity or population growth in the vicinity. Such activity could lead to increased construction and recreation in the area, which could potentially damage archaeological resources.

The following impact analysis has been completed for purposes of CEQA and considers the impacts of project--level improvements on the historical resources identified in the study area. The impact analysis considered each alternative to assess if the Proposed Project would cause a substantial change in the significance of the identified historical resources. The impact analysis assesses the temporary and permanent direct and indirect impacts from construction and operation, and analyzes if the impacts are significant or less than significant. For the most part, impacts on cultural resources are limited to permanent impacts from Project construction, as opposed to its operation. Historical resources that have the potential to be affected by the Proposed Project are discussed in the following sections.

### 3.5.4.2 Thresholds of Significance

The State CEQA Guidelines Appendix G (14 Cal. Code Regs. § 15000 et seq.) has identified significance criteria to be considered for determining whether a project could have significant impacts on cultural resources.

An impact would be considered significant if construction or operation of the Project would have any of the following consequences.

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

In addition, the 2019 CEQA Appendix G has identified tribal cultural resources as a separate environmental factor that could potentially be affected by projects. The following includes the checklist criteria:

- Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
  - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The conclusions made in Impact CUL-1 through Impact CUL-3 apply for the Proposed Project and the alternatives analyzed at an equal level of detail.

### 3.5.4.3 Impacts and Mitigation Measures

#### DMU, HBMU, BEMU, and DLH Technology Variants

There would be some different impacts on historical resources depending on the implementation of the technology variants (diesel multiple unit [DMU], hybrid battery multiple unit [HBMU], battery-electric multiple unit [BEMU], or diesel locomotive haul [DLH]).

Construction of the DMU, HBMU, and DLH technology variants would have the same overall impact. Construction of the BEMU technology variant would require construction of an overhead catenary system (OCS) on the Altamont Pass and would, therefore, require more construction activity than the DMU, HBMU, and DLH technology variants. To identify the worst-case scenario, this analysis considers the larger footprint required to construct the OCS associated with the BEMU technology variant. As such, the analysis of the Proposed Project below considers the potential impacts associated with the BEMU technology variant. Although the degree of impact during construction would be greater for the BEMU technology variant than the DMU, HBMU, and DLH technology variants, the overall impact conclusions identified below would be the same for the four technology variants (DMU, HBMU, BEMU, and DLH). As such, the construction impacts associated with the DMU, HBMU, BEMU, and DLH technology variants are not discussed any further.

Operation of the DMU, HBMU, and DLH technology variants would be the same. Operation of the BEMU technology variant would be different than the DMU, HBMU, and DLH technology variants because the BEMU technology variant would include OCS. The OCS infrastructure would not be implemented as a part of the DMU, HBMU, and DLH technology variants. The differences in operational impacts between the DMU, HBMU, and DLH technology variants, and the BEMU technology variant are discussed in Impact CUL-1. There are no other differences in the impacts between the DMU, HBMU, BEMU, and DLH technology variants, other than what is described in Impact CUL-1.

**Impact CUL-1: Construction and operation of the Proposed Project would directly or indirectly cause a substantial adverse change in the significance of a built environment historical resource.**

Level of Impact Prior to Mitigation	Potentially significant (mitigation required) <sup>4</sup>
	<u>Proposed Project</u> Tri-Valley Alignment Greenville Station Altamont Alignment Owens-Illinois Industrial Lead Variant 2, Double Track Tracy to Lathrop Alignment Variant 2, Double Track Battery-Electric Multiple Unit (BEMU) Train Technology Variant
	<u>Alternatives Analyzed at an Equal Level of Detail</u> Stone Cut Alignment Alternative
	<b>Less than significant/No Impact</b> <u>Proposed Project</u>

<sup>4</sup> See Table 3.5-2 below, which summarizes the built environment historical resources that would potentially be affected by the Proposed Project.

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	Dublin/Pleasanton Station
	Isabel Station
	Interim OMF
	Owens-Illinois Industrial Lead Variant 1, Single Track
	Mountain House Station
	Tracy OMF
	Tracy to Lathrop Alignment Variant 1, Single Track
	Downtown Tracy Station
	River Islands Station
	North Lathrop Station
	<u>Alternatives Analyzed at an Equal Level of Detail</u>
	Southfront Road Station Alternative
	Mountain House Station Alternative
	West Tracy OMF Alternative
	Downtown Tracy Station Parking Alternative 1
	Downtown Tracy Station Parking Alternative 2
<b>Mitigation Measures</b>	CUL-1.1: Prepare and submit Historic American Engineering Record documentation
	CUL-1.2: Prepare interpretive exhibits
<b>Level of Impact after Mitigation</b>	<b>Less than Significant</b>

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## Impact Characterization

As shown in Table 3.5-1, built environment historical resources are located within and outside of the existing railroad ROW. Because railroad features located within the existing ROW are considered historical resources, Proposed Project improvements within the ROW such as new track and track upgrades, could result in the physical alteration of the resource or its surroundings. For improvements outside of the existing railroad ROW (such as station improvements, parking lot improvements, and pedestrian overcrossings) nearby historical resources could be similarly affected. Proposed Project improvements could result in changes in the significance of a historical resource to the point where the resource would no longer be considered historic; these impacts would be potentially significant. Construction impacts are summarized after the discussion below in Table 3.5-2.

The potential impacts on built environment historical resources are limited to permanent impacts from the construction of Valley Link improvements, as opposed to its operation, including proposed train technology, service frequency, or service hours. Therefore, operation and maintenance would have no impact on built environment historical resources.

## Impact Detail and Conclusions

### Proposed Project

#### *Tri-Valley Segment*

As described below, there are four built environment historical resources with the Tri-Valley segment that could be directly or indirectly affected by the Proposed Project.

### *Tri-Valley Alignment*

A small segment of the 11-mile-long **SPRR Grade (P-01-001783/SPRR Grade/Map ID #05)** is located within the Tri-Valley segment, and improvements could result in direct impacts through the realignment of the SPRR Grade with the construction of aerial guideway from the I-580 median into the SPRR Grade ROW north of I-580. The aerial guideway from I-580 would introduce a visual element that would affect the feeling and setting of the historical resource and would also result in direct impacts through alterations of the original alignment of the SPRR Grade. The impacts would be significant but would be reduced to less than significant with mitigation.

The Proposed Project could also result in indirect visual impacts on the **Altamont Pass Road UP (Caltrans Bridge No. 33C0013/Map ID# 04a)** through the construction of the aerial guideway from the I-580 median and north towards the bridge if the Greenville Station is selected; however, the construction of the aerial guideway would not result in an adverse change to the bridge's integrity of location, design, setting, materials, workmanship, feeling, or association. The impacts on the historical resource would thus be less than significant.

### *Dublin/Pleasanton Station*

Because the Dublin/Pleasanton Station is not located in the vicinity of built environment historical resources, Project implementation would not affect such resources at the Dublin/Pleasanton Station. Therefore, no impacts on historical resources are expected.

### *Isabel Station*

The Isabel Station could result in indirect impacts on the **Gandolfo Ranch Historic District (P-01-002204; P-01-002205/Map ID# 01)** if physical changes are made to its setting or viewshed. The station would include constructing a pedestrian overcrossing to a new station platform in the I-580 median, enlargement of an existing BART surface parking lot south of I-580, and passenger amenities such as shelters, benches, lighting, security cameras, signage, ticketing, bicycle storage facilities, emergency call boxes, and East Airway Boulevard restriping and intersection signalization. Although the pedestrian overpass and other passenger facilities would introduce new structures into the viewshed of the Gandolfo Ranch Historic District, the historic context and viewshed of the resource has been previously compromised by modern development, and the addition of these structures would not substantially alter the district's current context or viewshed.

In addition, the proposed pedestrian overpass and passenger facilities would be physically separated from the Gandolfo Ranch Historic District by East Airway Boulevard and would be over 500 feet from the buildings and structures that contribute to the significance of the ranch in the northern portion of the district south of East Airway Boulevard. Furthermore, existing circa 2000s commercial buildings along East Airway Boulevard and vegetation north of East Airway Boulevard visually separate the Isabel Station improvements from the historic ranch buildings and historic district. Therefore, the Proposed Project would not result in indirect adverse impacts on the setting or viewshed of the Gandolfo Ranch Historic District, and Project implementation would result in less-than-significant impacts on this historical resource.

### *Greenville Station*

The Greenville Station could result in direct impacts on the **SPRR Grade (P-01-001783/Map ID# 05)**, including a cut-stone culvert contributing feature of the historical resource, and indirect impacts on the setting of the SPRR Grade. Project improvements (assuming Greenville Station IOS)

include construction of the Valley Link alignment transition from the I-580 median to the elevated station platform via a single-track viaduct crossing over westbound I-580; construction of four surface parking lots providing a total of approximately 1,025 parking spaces north of I-580 and three surface parking lots providing a total of approximately 1,475 parking spaces south of I-580, for a total of approximately 2,500 parking spaces; a Valley Link mainline track with an additional station track for passing; a 400-foot-long by 30-foot-wide, double-track, elevated Valley Link station platform; 10 kiss-and-ride parking spaces and four bus bays; and stairs and Americans with Disabilities Act (ADA)-compliant ramps to access the platform from the parking lots; passenger amenities; and roadway improvements. The parking total includes an approximately 310-space surface parking lot on the site of a cut-stone culvert of the SPRR Grade. This cut-stone culvert is a contributing element of the historical resource. The parking lots south of I-580 would be constructed on the alignment of the SPRR Grade, resulting in a direct impact on the historical resource's alignment. The station improvements would also introduce a visual element that would affect the feeling and setting of the historical resource with modern passenger facilities. The proposed parking lots and construction of main line track that requires realignment of the original SPRR Grade would result in a direct impact on the resource. The impacts on this historical resource would be significant but would be reduced to less than significant with mitigation.

The Project improvements could also result in indirect impacts on the **Altamont Pass Road UP (Caltrans Bridge No. 33C0013/Map ID# 04a)** through the construction of mainline track under the bridge; however, reinstalling single track and reactivating rail activity under the bridge would not result in an adverse change to the bridge's integrity of location, design, setting, materials, workmanship, feeling, or association and would result in less-than-significant impacts on the historical resource. The station improvements are proposed on an adjacent 30-acre site that is used as a dirt race track, and construction of the station is not expected to substantially alter the bridge's current setting or viewshed, which has already been altered with the construction of and later widening of I-580 and the construction of the dirt track; therefore, Project implementation would result in less-than-significant impacts on the historical resource.

A new, separate 1,000-foot-long by 15-foot-wide ACE platform east of the proposed Valley Link platform along the existing tracks of the former **WPRR (now UPRR) (P-01-002190/Map ID#04)** would directly affect this historical resource. Access to the ACE platform would be provided by ADA-compliant ramps and stairs from the Valley Link platform to the ACE platform. The UPRR is a long, linear resource, and the introduction of surface parking lots south of I-580 outside of the ROW and construction of a station platform within the existing ROW within a small segment of the rail line would not substantially alter the location, design, setting, materials, feeling, and association of the entire resource or the individual segment. Overall, the construction of the platform and adjacent surface parking lot would not further diminish the integrity of the WPRR as the setting has already been altered with the construction of modern commercial buildings within the immediate vicinity and the construction and later widening of I-580. The impacts on the historical resource would thus be less than significant.

### ***Altamont Segment***

As described below, there are five built environment historical resources within the Altamont segment that could be directly or indirectly affected by the Proposed Project.

*Altamont Alignment (Inclusive of the Owens-Illinois Industrial Lead Variant 1, Single Track, and the Owens-Illinois Industrial Lead Variant 2, Double Track)*

The Altamont Alignment, which would operate within the existing Alameda County Transportation Corridor ROW, would directly affect the **P-01-001783/SPRR Grade/Map ID #05 resource**. Proposed upgrades to the interior of the existing railroad tunnel including fire suppression, ventilation, water, communications, and electrical systems could cause a direct impact on the resource. The physical changes to the tunnel could cause a change the characteristics and historic integrity of design, setting, materials, workmanship, and feeling of the 1909-constructed tunnel. The impacts would be significant but would be reduced to less than significant with mitigation. Other improvements that would have direct impact on **P-01-001783/SPRR Grade/Map ID #05** include grading the Alameda County Transportation Corridor ROW, placement of sub-ballast and ballast, installation of track with concrete ties and continuous welded rail, adding four new at-grade road crossings, and reconfiguring the Altamont Pass Road/Dyer Road intersection. However, these improvements would not affect the design, setting, materials, workmanship, feeling, and association of the railroad alignment to such an extent that the resource would not be able to physically convey its historic significance. Therefore, Project implementation would result in less-than-significant impacts on the historical resource.

Because the Owens-Illinois Industrial Lead Variant 1, Single Track improvements would not be located in the vicinity of built environment historical resources, Project implementation would not result in direct or indirect impacts on historical resources at this Project element.

Owens-Illinois Industrial Lead Variant 2, Double Track would directly affect **P-39-000090/California Aqueduct/Map ID# 07** with the construction of a new railroad bridge across the aqueduct north of an existing railroad bridge and **P-39-000089/Delta-Mendota Canal/Map ID# 09** through the widening of an existing box culvert railroad bridge over the canal. Neither of the railroad bridges spanning the California Aqueduct or the Delta-Mendota Canal have been identified as contributors to the historical resources. The new railroad bridge over the California Aqueduct would not be an obtrusive element and would resemble the existing railroad bridge. Recent commercial, industrial, and residential development surrounds the historical resource, which has also affected its setting and feeling. Widening the existing box culvert over the Delta-Mendota Canal would not affect the historic integrity aspects of location, design, feeling, setting, and association of the historical resource. Project implementation along the Owens-Illinois Industrial Lead Variant 2, Double Track would result in less-than-significant impacts on the described historical resources.

*Interim OMF*

Potential Interim OMF improvements that result in direct and indirect impacts on **P-01-001783/SPRR Grade/Map ID #05** include a single track and siding that would be constructed in the Alameda County Transportation Corridor ROW from Greenville Station to approximately 2,250 feet east of Dyer Road. The non-revenue single-track would provide track to the proposed Interim OMF to be constructed within the Alameda County Transportation Corridor ROW within the site of the former Altamont settlement, which was determined not to be a historical resource. The construction of the Interim OMF within the Alameda County Transportation Corridor ROW, including track and buildings to support train layovers, storage, maintenance, and operations associated with the Project, within an area that was historically used for rail activities would not adversely affect the historical resource. The Interim OMF Project improvements would result in less-than-significant impacts on the historical resource.

### *Mountain House Station*

Because the Mountain House Station would not be located in the vicinity of built environment historical resources, its construction would not affect such resources. There would therefore be no impacts on historical resources associated with construction of the Mountain House Station.

### *Tracy OMF*

The Tracy OMF would result in direct impacts on **P-39-000089/Delta-Mendota Canal/Map ID# 09** through the widening of an existing box culvert or construction of a new crossing over the canal, as well as new track, buildings, and maintenance services. The canal is a long, linear resource, and the introduction of an OMF in the vicinity of one small segment of the canal would not substantially alter the feeling and setting of the entire resource or the individual segment, especially as construction would occur in a previously altered setting surrounded by recent residential and industrial development. The new crossing would not be an obtrusive element and would resemble an existing crossing to the south. Overall, the construction of the OMF and the new crossing would not further diminish the integrity of the Delta-Mendota Canal. Project implementation would result in less-than-significant impacts on the historical resource.

### *Battery-Electric Multiple Unit (BEMU) Train Technology Variant*

This variant includes an overhead catenary system (OCS) within the Altamont segment of the Proposed Project along the Alameda County Transportation Corridor ROW, as well as in the UPRR for the Stone Cut Alignment Alternative. The installation of OCS could directly affect **P-01-002190/WPRR/Map ID #04** and **P-01-001783/SPRR Grade/Map ID #05** within the existing railroad ROWs; however, both railroads historically contained telegraph poles, wires, signals, and other railroad infrastructure within the ROW not unlike the proposed OCS system. Therefore, construction of the OCS for the BEMU variant would be less than significant with mitigation.

### ***Tracy to Lathrop Segment***

As described below, there are four built environment historical resources in the Tracy to Lathrop segment that could be directly or indirectly affected by the Proposed Project.

#### *Tracy to Lathrop Alignment Variant 1, Single Track*

Tracy to Lathrop Alignment Variant 1, Single Track would have a direct impact on the **Mossdale Railroad Bridge (P-39-000002/P-39-000548/Map ID# 27)** resource resulting from upgrades to the railroad tracks on the bridge. However, the existing tracks were recently installed, and the track upgrades would not affect the bridge's character-defining features. Therefore, the track upgrades would not cause a substantial adverse change to the resource or diminish its integrity or ability to convey its historical significance. Project implementation would result in less-than-significant impacts on the historical resource.

#### *Tracy to Lathrop Alignment Variant 2, Double Track*

Tracy to Lathrop Alignment Variant 2, Double Track would have an indirect impact on **Mossdale Railroad Bridge (P-39-000002/P-39-000548/Map ID# 27)** resulting in adverse effects. The variant proposes construction of a new UPRR bridge across the San Joaquin River, north of the existing bridge, which would affect the bridge's integrity of setting. Other key aspects of integrity, like the historical resources' location, design, workmanship, materials, feeling, and association,

would not be affected. Impacts on this historical resource would be significant but would be reduced to less-than-significant levels with mitigation.

#### *Downtown Tracy Station*

The Downtown Tracy Station could have indirect impacts on three historical resources: **Tracy Historic District/P-39-002871/Map ID# 13**, **West Side Bank/P-39-000505/Map ID# 14**, and **77 W 6th St/Map ID# 15**. Those improvements include expansion of the existing parking lot plus the construction of a surface parking lot in the UPRR ROW at the southwest corner of the North Central Avenue/West 6th Street intersection just outside the southwest boundary of the historic district and south of the West Side Bank and 77 West 6th Street. Construction of the surface parking lot would not cause a substantial adverse change to the historical resources because their settings have previously been altered by existing residential and commercial uses and other non-historic period visual elements such as surface parking lots and non-historic landscape features and buildings. Project implementation would result in less-than-significant impacts on these historical resources.

#### *River Islands Station*

There are no built environment historical resources in the vicinity of River Islands Station; therefore, there are no such resources present that would be affected by construction of the River Islands Station. No impacts on historical resources are anticipated.

#### *North Lathrop Station*

There are no built environment historical resources in the vicinity of North Lathrop Station; therefore, there are no such resources present that would be affected by construction of the North Lathrop Station. No impacts on historical resources are anticipated.

#### **Summary**

In summary, the Tri-Valley Alignment, Altamont Alignment, and Tracy to Lathrop Alignment Variant 2, Double Track improvements would result in changes to the significance of historical resources, the **P-01-002190/WPRR/Map ID #04**, **SPRR Grade (P-01-001783/Map ID #05)**, and the **Mossdale Railroad Bridge (P-39-000002/P-39-000548/Map ID# 27)**. With the implementation of mitigation measures, the impacts would be reduced to less than significant.

#### **Alternatives Analyzed at an Equal Level of Detail**

##### ***Southfront Road Station Alternative***

Because the Southfront Road Station Alternative would not be located in the vicinity of built environment historical resources, there are no historical resources that may be directly or indirectly affected by Project activities. Therefore, no impacts related to the Southfront Road Station Alternative on historical resources are expected.

##### ***Stone Cut Alignment Alternative***

The Stone Cut Alignment Alternative would result in direct and indirect effects on the 1-mile segment of the **P-01-002190/WPRR/Map ID #04** and to a portion of **P-01-001783/SPRR Grade/Map ID #05** in the Altamont Pass through the construction of an approximately 2.15-mile-long double-tracked bypass, cutting/filling at the transition areas where the Valley Link double track

leaves the SPRR grade to parallel the UPRR alignment, a new railroad bridge over eastbound I-580 east of the existing non-historic UPRR bridge, crossing under westbound I-580 within the existing UPRR ROW cut that would be widened to accommodate the double track, and installation of OCS. This alternative would result in three sets of tracks within this bypass area: two new tracks for Valley Link and the existing UPRR freight track; however, no changes to the existing UPRR track are proposed and Valley Link trains would not operate on the UPRR track along this bypass segment of the alternative. The bypass construction would leave in place approximately 2 miles of the original **P-01-001783/SPRR Grade/Map ID #05** and avoid direct impacts on the 1909-constructed tunnel, which is a character-defining and contributing feature of the historical resource.

The construction of the double-track bypass from the SPRR Grade towards the UPRR and back to the SPRR Grade necessitates cutting/filling of the topography between the **P-01-002190/WPRR/Map ID #04** and **P-01-001783/SPRR Grade/Map ID #05** ROWs and a portion of the UPRR ROW under I-580 would be widened to accommodate the new double track parallel to the existing UPRR track.

The construction of the Stone Cut Alignment Alternative improvements within and between the Alameda County Transportation Corridor ROW and UPRR ROW is in an area historically used for rail activities and would not result in substantial adverse change the historical resource to such an extent that they would not be able to physically convey their historic significance. The original alignment of **P-01-002190/WPRR/Map ID #04** and **P-01-001783/SPRR Grade/Map ID #05** would still be retained as part of this alternative and the area would still be used as a railroad transportation corridor. The **P-01-002190/WPRR/Map ID #04** is not significant as an engineering feature, and the changes to the historical resource through this alternative (including widening the existing railroad cut under westbound I-580, installation of OCS (BEMU variant only), installation of a new railroad bridge parallel to the existing line, and double-tracking along the existing UPRR line) would not result in a substantial adverse change to the resource that cannot be mitigated to less than significant.

Both of the railroad features are long linear resources, and the improvements for the Stone Cut Alignment Alternative would not substantially alter the design of the entire resource or the individual segments, to such an extent that they would not be able to physically convey their historic significance. Furthermore, the area for the alternative bypass construction would occur where the setting and feeling of both historical resources have been negatively affected with the construction and expansion of I-580 transforming the area into a major vehicular traffic corridor under and over the railroad lines, and by the development of large wind turbine facilities throughout the pass. Through avoidance of the tunnel, the **P-01-001783/SPRR Grade/Map ID #05** retains integrity of location, design, materials, workmanship, feeling, and association of the engineering feature of the historical resource. Overall, the direct and indirect impacts of the Stone Cut Alignment Alternative to **P-01-002190/WPRR/Map ID #04** and **P-01-001783/SPRR Grade/Map ID #05** would be less than significant with mitigation.

### ***Mountain House Station Alternative***

The Mountain House Station Alternative could indirectly affect the **P-39-000090/California Aqueduct/Map ID# 07** resource through the introduction of new passenger rail improvements and new parking infrastructure near the resource; however, recent commercial, industrial, and residential development in the vicinity of the aqueduct previously affected its setting and feeling, and the historical resource would not be further affected by the station improvements. Construction

of the Mountain House Station Alternative would result in less-than-significant impacts on the historical resource.

#### ***West Tracy OMF Alternative***

There are no built environment historical resources in the vicinity of the West Tracy OMF Alternative that would be affected by the Proposed Project. There would therefore be no impacts on historical resources associated construction of the West Tracy OMF Alternative.

#### ***Downtown Tracy Station Parking Alternative 1***

The Downtown Tracy Station Parking Alternative 1 would have indirect impacts on three historical resources: **Tracy Historic District/P-39-002871/Map ID# 13, West Side Bank/P-39-000505/Map ID# 14, and 77 W 6th St/Map ID# 15**. Proposed improvements include the construction of a 400-foot-long by 20-foot-wide station platform and a three-level parking structure on the site of the existing Tracy Transit Center surface parking lot and improvements to the existing at-grade crossing on North Central Avenue. However, improvements would not cause a substantial adverse change to the historical resources as their settings have been previously altered by existing residential and commercial uses and other non-historic-period visual elements such as surface parking lots and non-historic landscape features and buildings. Project implementation would result in less-than-significant impacts on these historical resources.

#### ***Downtown Tracy Station Parking Alternative 2***

Implementation of the Downtown Tracy Station Parking Alternative 2 would have indirect impacts on three historical resources: **Tracy Historic District/P-39-002871/Map ID# 13, West Side Bank/P-39-000505/Map ID# 14, and 77 W 6th St/Map ID# 15**. Those improvements include the construction of a three-level parking structure within the existing UPRR ROW at the southwest corner of the North Central Avenue/West 6th Street intersection just outside the southwest boundary of the historic district and south of the West Side Bank and 77 West 6th Street. However, construction of the parking structure would not cause a substantial adverse change to the historical resources as their settings have previously been altered by existing residential and commercial uses and other non-historic period visual elements such as surface parking lots and non-historic landscape features and buildings. Therefore, Project implementation would result in less-than-significant impacts on these historical resources.

**Table 3.5-2. Proposed Project Impacts on CEQA Historical Resources (Built Environment)**

Map ID#	Resource Identifier	Address/Resource Name or Type and Description	City, County	Year Built	Improvement	Impacts
<b>Tri-Valley Segment</b>						
01	P-01-002204; P-01-002205	487 E Airway Blvd/Gandolfo Ranch	Livermore, Alameda County	1885–1950	Isabel Station	Indirect, LTS impact
04a	Caltrans Bridge No. 33C0013	Altamont Pass Road UP on WPRR railroad alignment	Alameda County	1908, 1919	Tri-Valley Alignment Greenville Station	Indirect, LTS impact Indirect, LTS impact
04	WPRR railroad alignment (P-01-002190)	WPRR railroad alignment	Alameda County	circa 1908-09	Greenville Station	Direct and Indirect, LTS impact
05	P-01-001783; CA-ALA-000623H	SPRR Grade	Alameda County	circa 1869	Tri-Valley Alignment Greenville Station	Direct and Indirect, LTS impact with mitigation Direct and Indirect, LTS impact with mitigation
<b>Altamont Segment</b>						
04	WPRR railroad alignment (P-01-002190)	WPRR railroad alignment	Alameda County	circa 1908-09	Stone Cut Alignment Alternative	Direct and Indirect, LTS impact with mitigation
04b	P-01-010671; Caltrans Bridge No. 33C0109	Altamont Pass Road UP on WPRR railroad alignment	Alameda County	1907, 1915	Altamont Alignment	Indirect, LTS impact
05	P-01-001783; CA-ALA-000623H	SPRR Grade	Alameda County	circa 1869	Altamont Alignment Stone Cut Alignment Alternative Interim OMF	Direct, LTS impact with mitigation Direct and Indirect, LTS impact with mitigation

Map ID#	Resource Identifier	Address/Resource Name or Type and Description	City, County	Year Built	Improvement	Impacts
						Direct and Indirect, LTS impact with mitigation
07	P-39-000090	California Aqueduct	Tracy, San Joaquin County	1960–1974	Altamont Alignment, inclusive of the Owens-Illinois Industrial Lead Variant 2, Double Track	Direct, LTS impact
					Mountain House Station Alternative	Indirect, LTS impact
09	P-39-000089	Delta-Mendota Canal	Tracy, San Joaquin County	1952	Altamont Alignment, inclusive of the Owens-Illinois Industrial Lead, Variant 2	Direct, LTS impact
					Tracy OMF	Direct, LTS impact
<b>Tracy to Lathrop Segment</b>						
13	P-39-002871	Tracy Historic District	Tracy, San Joaquin County	1890–1930	Downtown Tracy Station	Indirect, LTS impact
					Downtown Tracy Station Parking Alternative 1	Indirect, LTS impact
					Downtown Tracy Station Parking Alternative 2	Indirect, LTS impact
14	P-39-000505	47 W 6th St/ West Side Bank	Tracy, San Joaquin County	1910	Downtown Tracy Station	Indirect, LTS impact
					Downtown Tracy Station Parking Alternative 1	Indirect, LTS impact

Map ID#	Resource Identifier	Address/Resource Name or Type and Description	City, County	Year Built	Improvement	Impacts
					Downtown Tracy Station Parking Alternative 2	Indirect, LTS impact
15	N/A	77 W 6th St/residence	Tracy, San Joaquin County	1900	Downtown Tracy Station	Indirect, LTS impact
					Downtown Tracy Station Parking Alternative 1	Indirect, LTS impact
					Downtown Tracy Station Parking Alternative 2	Indirect, LTS impact
27	P-39-000002; P-39-000548	Mossdale Railroad Bridge	Lathrop, San Joaquin	1946	Tracy to Lathrop Alignment Variant 1, Single Track	Direct, LTS impact
					Tracy to Lathrop Alignment Variant 2, Double Track	Indirect, LTS with mitigation

## Mitigation Measures

The following mitigation measures would apply to the Proposed Project facilities that have the potential to cause a substantial adverse change in the significance of built environment historical resources. The following mitigation measures would also apply to the Stone Cut Alignment Alternative. The historical resources identified within the Proposed Project and the Stone Cut Alignment Alternative that may be subject to significant impacts include the following:

- WPRR railroad alignment/P-01-002190/Map ID #04
- SPRR Grade/P-01-001783/Map ID #05
- Mossdale Railroad Bridge/P-39-000002/P-39-000548/Map ID# 27

### **Mitigation Measure CUL-1.1: Prepare and submit Historic American Engineering Record documentation**

Before any alteration of historical resources or any nearby Project construction (including, but not limited to, tree removal/vegetation clearing; ground-disturbing activities such as earthmoving, grading, excavation; equipment/vehicle and trailer staging; and installation of temporary or permanent fencing), the Authority shall retain a professional who meets the SOI's Professional Qualifications Standards for Architectural History and/or History to prepare written and photographic documentation of historical resources that would be potentially significantly affected by the Project. The documentation of historical resources should be prepared based on the National Park Service's Historic American Engineering Record (HAER) historical report guidelines. The written historical data should follow the HAER three-part outline format for engineering structures, which includes (1) historical information (physical history, historical context), (2) structural/design information (general statement, description, mechanicals, site information), and (3) sources of information. The written historical data should be printed on 8.5- by 11-inch archival bond paper. Efforts should also be made to locate original construction drawings/plans and photographs of the historical resource during its period of significance. If located, these drawings/plans/photographs should be photographed, reproduced, and included in the dataset. Prior to the start of construction, large-format (4- by 5-inch or larger negative-size) black-and white archival photographs would be taken. Photograph views for the dataset should include (1) contextual views; (2) views of each side of the structure and interior views, where possible/applicable; (3) oblique views; and (4) detail views of character-defining features. The photographs would be processed for archival permanence in accordance with HAER photographic specifications. Each view would be fully captioned and, if necessary, perspective corrected. All views also would be referenced on a photographic key. The photographic key would be on a map of the resource and show the photograph number with an arrow to indicate the direction of the view. The archival recordation would be submitted by the Authority to the California Railroad Museum (Sacramento) and the California State Library (Sacramento) for their permanent collections.

### **Mitigation Measure CUL-1.2: Prepare interpretive exhibits**

Interpretive exhibits would provide information regarding the specific historical resources that would be affected as part of the Project. The interpretive exhibits would utilize images, narrative history, drawings, or other material produced for the mitigation described above, including the HAER documentation, or other archival sources. The interpretive exhibits would be display

panels and would be installed at proposed stations/platforms nearest the historical resource that may be adversely affected by the Project. The signage would provide a brief history of the resource, engineering features and characteristics, historic photographs, and the reason for alteration.

### Significance with Application of Mitigation

Implementation of Mitigation Measures CUL-1.1 (Prepare and submit Historic American Engineering Record documentation) and CUL-1.2 (Prepare interpretive exhibits) would reduce potential impacts on historical resources to a less-than-significant level for the Proposed Project and the Stone Cut Alignment Alternative.

### Comparison of Alternatives

Implementation of the Greenville Station would result in the physical alteration of a cut-stone culvert that is a contributing feature of the **SPRR Grade (P-01-001783/Map ID #05)** and the realignment of the SPRR Grade compared to the Southfront Road Station Alternative, which would not be in the vicinity of built environment historical resources that may be directly or indirectly affected by proposed Project activities. Therefore, the Southfront Road Station Alternative would result in the least impacts on historical resources.

Implementation of the Altamont Alignment would result in the physical alteration of the SPRR Tunnel, which is a character-defining and contributing feature of the **SPRR Grade (P-01-001783/Map ID #05)**. The Stone Cut Alignment Alternative would avoid the SPRR Tunnel and reduce direct impacts to the character-defining and contributing feature of **P-01-001783/SPRR Grade/Map ID #05**. The Stone Cut Alignment Alternative would result in less direct impacts on historical resource, including the **SPRR Grade (P-01-001783/Map ID #05)** tunnel.

The Mountain House Station Alternative would result in indirect impacts on the **California Aqueduct (P-39-000090/Map ID#07)**. The proposed Mountain House Station would result in no direct or indirect impacts on historical resources, including the California Aqueduct. The West Tracy OMF Alternative would result in no direct or indirect impacts on historical resources, while the Tracy OMF would result in direct impacts on the **Delta-Mendota Canal (P-39-000089/Map ID#09)**. Therefore, of the proposed OMF and project-level OMF alternatives, the West Tracy OMF Alternative would result in the least impacts on historical resources.

Although the Downtown Tracy Station, Downtown Tracy Station Parking Alternative 1, or Downtown Tracy Station Parking Alternative 2 improvements could result in indirect impacts on three historical resources, the Downtown Tracy Station would have less indirect impacts on historical resources because the improvements would be at grade level and would not introduce new visual elements compared to the construction of three-level parking structures in the Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2. The proposed Downtown Tracy Station and the parking alternatives (Downtown Tracy Station Parking Alternatives 1 and 2) would both have less-than-significant impacts on historical resources.

**Impact CUL-2: Construction and operation of the Proposed Project could cause a substantial adverse change in the significance of an archaeological resource or tribal cultural resource.**

<b>Level of Impact Prior to Mitigation</b>	<b>Potentially significant (mitigation required)</b>
<b>Mitigation Measures</b>	CUL-2.1: Develop and implement an archaeological testing plan CUL-2.2: Conduct cultural resources awareness training CUL-2.3: Develop an archaeological monitoring plan CUL-2.4: Implement avoidance and protection measures CUL-2.5: Conduct archaeological monitoring CUL-2.6: Implement procedures in case of inadvertent discoveries
<b>Level of Impact after Mitigation</b>	<b>Less than Significant</b>

### Impact Characterization

The potential for impacts on archaeological resources occurs when a project disturbs or destroys portions of an archaeological resource during ground disturbance. This includes both known resources and previously unknown resources. Impacts from the Proposed Project and the alternatives analyzed at an equal level of detail vary because some of the proposed and alternative facilities occur within the boundaries of known sites and some are located within areas determined to have increased sensitivity for as-yet-undocumented resources.

Potential impacts on archaeological resources would be limited to construction because operation and maintenance of the Proposed Project would not involve ground disturbance. As such, operation and maintenance of the Proposed Project would result in no impact on archaeological resources and is not discussed any further in this section. Likewise, for the same reasons, operation and maintenance of the alternatives analyzed at an equal level of detail would result in a less-than-significant impact on archaeological resources and are not discussed any further in this section.

### Impact Detail and Conclusions

Impacts on archaeological resources, both known and as yet undocumented, occur as a result of ground disturbance during construction. To aid in the early identification of known resources, a records search and literature review was conducted of the Proposed Project footprint in its entirety, as well as the footprints of the alternatives analyzed at an equal level of detail. To further clarify whether any proposed or alternative alignments; proposed or alternative stations; or proposed or alternative OMFs have the potential to hold as-yet-undocumented archaeological resources, geoarchaeological research was conducted to identify areas within the footprint with elevated archaeological sensitivity.<sup>5</sup>

As discussed in Chapter 2, *Project Description*, construction would involve construction of track, relocation of utilities, construction of track-supporting structures and grade separation structures, and construction of stations and maintenance facilities. Construction of track would involve grading for the track subgrade. Construction of bridges (including grade separations) would involve grading for temporary access roads, drilling and placing piles, and excavating for foundations. Construction of stations and maintenance facilities would involve grading for parking structures, rough grading

<sup>5</sup> The Geoarchaeological Analysis has confidential information and has, therefore, not been included in this EIR.

for stations and pedestrian overpasses and underpasses, structural excavation for walls, and excavation for installation of utilities. Most of these activities would involve excavation at depths greater than 5 feet below ground surface.

Each proposed or alternative alignment; proposed and alternative station; and proposed and alternative OMF is discussed below and assessed for its potential to affect archaeological resources. This includes the presence of known archaeological resources, heightened archaeological sensitivity, and associated ground disturbance. Construction would primarily be within disturbed areas where there have been multiple previous episodes of excavation and construction. However, previous disturbance does not preclude the potential to affect cultural deposits, and, therefore, areas of heightened cultural sensitivity remain.

## **Proposed Project**

### ***Tri-Valley Segment***

No archaeological resources were identified within the Tri-Valley segment. However, overall, the Tri-Valley segment is within an area generally considered sensitive for archaeological resources. The majority of work would occur within previously disturbed context, but in some areas deep excavation is proposed. The activities that would require deep excavation include the construction of new retaining walls, subsurface culvert work, and the replacement of portions of several bridges across Las Positas Creek for the Tri-Valley Alignment. Acquisition of additional ROW and easements to facilitate the widening of I-580 would include areas that may not have been subject to previous disturbance. These areas may have an increased sensitivity for as-yet undocumented archaeological resources. Thus, the impact from construction of the Tri-Valley Alignment would be potentially significant.

No known archaeological sites are located close to the Dublin/Pleasanton Station, Isabel Station, or Greenville Station. However, these stations would be in areas with increased archaeological sensitivity. While most of the station work would occur within previously disturbed areas, such as the median of I-580 and existing BART Station ROW, some work would occur within newly acquired parcels that have not been subject to development and therefore may contain intact subsurface archaeological deposits. Additionally, the depth of excavation associated with the construction of the stations has the potential to affect as-yet-undocumented archaeological resources. This impact would be potentially significant.

### ***Altamont Segment***

While no archaeological resources were identified within the Altamont segment, and the majority of proposed activities in this area include at-grade work within previously disturbed context, the potential remains to encounter as-yet undocumented archaeological resources. Deeper excavation would be required for new undercrossing of Altamont Pass Road and construction of new at-grade crossings, which would be required as a part of the Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track). Ground disturbance associated with these activities has the potential to affect as-yet undocumented archaeological resources. Additionally, similar to the Tri-Valley Alignment, acquisition of additional ROW and easements would include areas that may not have been subject to previous disturbance and therefore may have a higher level of archaeological sensitivity. This impact from the Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single

Track and the Owens-Illinois Industrial Lead Variant 2, Double Track) would be potentially significant.

Construction of the Interim OMF, Mountain House Station, and the Tracy OMF would also include deep ground disturbance that has the potential to affect as-yet-undocumented archaeological resources. This impact would be potentially significant.

### ***Tracy to Lathrop Segment***

Two potential prehistoric archaeological properties (**P-39-000014/CA-SJO-19/H** and **P-39-000141/CA-SJO-3**) were identified within the Tracy to Lathrop segment. The **P-39-000014/CA-SJO-19/H** site has not been evaluated yet and the **P-39-000141/CA-SJO-3** site has been found eligible for listing to the NRHP and the CRHR. Although these resources were apparently heavily disturbed for the I-5/State Route 120 interchange, construction in the areas may disturb any archaeological resources if present. It is currently unknown whether features associated with these resources extend into the improvement areas, and, because of the current active use of the railroad and extent of rail cover in this area, archaeological testing is infeasible at this time. One historic-era farm dump (**P-39-000013**) is also located adjacent to the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track. Although this is likely a small assortment of isolated farm equipment, it is unknown if subsurface historic artifacts or features are present at this location. It has not been formally evaluated or determined ineligible.

Tracy to Lathrop Alignment Variant 1, Single Track includes construction of a new siding east of the UPRR undercrossing of the I-5 bridge. This proposed siding would be located within the current boundaries of **P-39-000141 (CA-SJO-03)**. Any ground disturbance at this location would affect the known archaeological resource. This impact would be potentially significant.

Tracy to Lathrop Alignment Variant 2, Double Track includes the construction of the new siding east of the UPRR undercrossing of the I-5 bridge mentioned above, as well as the construction of a new UPRR bridge across the San Joaquin River, north of the existing UPRR bridge. Construction of the new bridge would entail the driving or drilling of 14 piles ranging from 6 feet to 8 feet in diameter up to a depth of 20 feet below surface. This work is considered substantial ground disturbance and is located close to (more than 700 feet west of) both previously identified precontact resources. As the San Joaquin River is a large freshwater source, it is likely that the boundaries of both resources extend to its banks. Any ground disturbance at this location would potentially affect the known archaeological resource. This impact would be potentially significant.

The River Islands Station is located east of Paradise Cut, a main distributary of the San Joaquin River, to the west of the San Joaquin River itself. Both precontact resources are located approximately 1.5 miles east of the proposed station. The proximity to the known resources, as well as major freshwater sources, indicates that this area has an increased potential to hold as-yet-undocumented archaeological resources. The ground disturbance associated with the construction of the station also increases this potential. Accordingly, impacts would be potentially significant.

No known archaeological resources have been identified in the vicinity of the Downtown Tracy Station or North Lathrop Station. Additionally, the Downtown Tracy Station or North Lathrop Station are not within an area considered sensitive for subsurface archaeological deposits. However, due to depth of ground disturbance associated with construction of both stations, the potential remains for construction to encounter as-yet-undocumented archaeological resources. The impact from the Downtown Tracy Station and North Lathrop Station would be potentially significant.

***Greenville IOS and Mountain House IOS***

Implementation of the Greenville IOS would require construction of the Tri-Valley Alignment, Dublin/Pleasanton Station, Isabel Station, Greenville Station, Interim OMF, and a portion of the Altamont Alignment. Implementation of the Mountain House IOS would require construction of the Tri-Valley Alignment; Dublin/Pleasanton Station; Isabel Station; Greenville Station; Altamont Alignment; Owens-Illinois Industrial Lead Variant 1, Single Track; Owens-Illinois Industrial Lead Variant 2, Double Track; Mountain House Station; and Tracy OMF. Either IOS would include modified station designs to accommodate additional ridership associated with being an interim end-line station.

The potential impacts from the proposed alignments, stations, and OMFs, which are identified above, consider a conservative footprint that accounts for the potential design of an interim end-line station. As such, implementation of the Greenville IOS and Mountain House IOS would result in a potentially significant impact on archaeological resources, as described above.

**Alternatives Analyzed at an Equal Level of Detail**

No known archaeological resources are located in the vicinity of the Southfront Road Station Alternative. However, this area is considered to be sensitive for archaeological resources, and the ground disturbance associated with the station's construction also increases the potential to encounter as-yet-undocumented archaeological resources. The impacts on as-yet-undocumented archaeological resources would be potentially significant.

While no archaeological resources were identified within the Stone Cut Alignment Alternative, and the majority of activities in this area include work within previously disturbed context, the potential remains to encounter as-yet-undocumented archaeological resources. Deep excavation would be required for the development of the track bed, which will include cutting into existing slopes and/or filling in low areas. Ground disturbance associated with construction of the Stone Cut Alignment Alternative would include excavation that would extend up to 50 feet below ground surface. Additionally, acquisition of additional ROW and easements would include areas that may not have been subject to previous disturbance and therefore may have a higher level of archaeological sensitivity. This impact from the Stone Cut Alignment Alternative would be potentially significant.

Construction of the Mountain House Station Alternative and West Tracy OMF Alternative would include deep ground disturbance that has the potential to affect as-yet-undocumented archaeological resources. This impact would be potentially significant.

No known archaeological resources have been identified in the vicinity of the Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2. Additionally, the Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2 are not within an area considered sensitive for subsurface archaeological deposits. Ground disturbance associated with construction of both the Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2 would be minimal. However, the potential remains for construction to encounter as-yet-undocumented archaeological resources. The impact from the Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2 would be potentially significant.

## Mitigation Measures

Mitigation Measures CUL-2.1 through CUL-2.5 would apply to the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track because previously recorded CEQA resources and unevaluated resources are located within or immediately adjacent to these alignments. Mitigation Measures CUL-2.2 and CUL-2.6 would apply to all proposed alignments, stations, and OMFs.

In addition, Mitigation Measures CUL-2.2 and CUL-2.6 would apply to the Southfront Road Station Alternative, Stone Cut Alignment Alternative, Mountain House Station Alternative, West Tracy OMF Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2.

### **Mitigation Measure CUL-2.1: Develop and implement an archaeological testing plan**

This measure would apply to the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track because previously recorded CEQA resources and unevaluated resources are located within or immediately adjacent to these alignments. Two potential prehistoric archaeological properties (P-39-000014/CA-SJO-19/H and P-39-000141/CA-SJO-3) were identified within the Tracy to Lathrop segment. One historic-era farm dump (P-39-000013) is also located adjacent to the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track. Although this is likely a small assortment of isolated farm equipment, it is unknown if subsurface historic artifacts or features are present at this location. It has not been formally evaluated or determined ineligible. Tracy to Lathrop Alignment Variant 1, Single Track includes construction of a new siding east of the UPRR undercrossing of the I-5 bridge. This proposed siding would be located within the current boundaries of P-39-000141 (CA-SJO-03). Due to the presence of known archaeological resources in the proposed work area, archaeological testing should occur to determine the extent of the specifically identified resources as well as its significance under CEQA.

Prior to construction (any ground-disturbing activity) the Authority will retain a qualified archaeologist to prepare an archaeological testing plan (ATP). The ATP should include the following items:

- Background and Anticipated Resource Types
- Research Questions that can be addressed by the collection of data from the defined resource types
- Field Methods and Procedures
- Cataloging and Laboratory Analysis
- Findings and Interpretation

The ATP will be implemented to determine the extent of archaeological resources within any area where there will be ground disturbance. The results of the study will be summarized into a technical document that will determine whether further study is necessary. The technical document will also determine whether additional mitigation will be needed, and can lead to additional studies and, if needed, even further mitigation.

**Mitigation Measure CUL-2.2: Conduct cultural resources awareness training**

This measure would apply to construction of all Proposed Project and alternative facilities. Prior to construction (any ground-disturbing activity) contractor personnel who conduct or are associated with ground disturbance will attend a preconstruction cultural resources awareness tailboard training session provided by the contract archaeologist. The training will address measures to avoid or protect artifacts and archaeological features, cultural resources identification, and the mandatory procedures to follow should potential cultural resources be exposed during construction.

**Mitigation Measure CUL-2.3: Develop an archaeological monitoring plan**

This measure would apply to the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track.

Prior to construction (any ground-disturbing activity), the Authority will retain a qualified archaeologist to prepare an archaeological monitoring plan (AMP). The AMP will identify areas considered archaeologically sensitive and where archaeological monitoring will be required. The AMP will include protocol that outlines archaeological monitoring best practices, anticipated resource types, and an unanticipated discovery protocol. The unanticipated discovery protocol will describe steps to follow if unanticipated archaeological discoveries are made during construction activities and will identify the chain of contact. The lead agency will review and approve the AMP prior to any ground-disturbing activities.

**Mitigation Measure CUL-2.4: Implement avoidance and protection measures**

This measure would apply to the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track.

Changing the rail alignment to avoid newly discovered sites is likely infeasible; however, access areas and laydown sites may be relocated, where feasible, should their location be found to be on archaeological sites. All avoidance and protection measures for archaeological resources will be delineated on construction drawings.

**Mitigation Measure CUL-2.5: Conduct archaeological monitoring**

This measure would apply to the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track.

During construction (any ground-disturbing activity) the Authority will be responsible for providing qualified archaeological and tribal monitors to observe any ground-disturbing construction activities with potential to affect archaeological remains in areas that have been identified as archaeologically sensitive. Archaeological sensitivity is based on areas in proximity to known archaeological sites, areas identified by the tribal consulting parties as sensitive, and/or geo-archaeological analysis.

**Mitigation Measure CUL-2.6: Implement procedures in case of unanticipated discoveries**

This measure would apply to construction of all Proposed Project and alternative facilities. If archaeological deposits are encountered during ground disturbance, work in the area is to stop immediately. The Authority will retain a qualified archaeologist who will be contacted to assess

the discovery. Archaeological deposits include, but are not limited to, flaked stone or groundstone, midden and shell deposits, historic-era refuse, and/or structure foundations. The unanticipated discovery protocol outlines the processes to follow in the event of an unanticipated discovery.

Should the discovery include human remains, all parties will comply with federal and state regulations and guidelines regarding the treatment of human remains, including relevant sections of NAGPRA (§ 3(c)(d)), California Health & Saf. Code Section 8010 et seq., and Cal. Public Res. Code Section 5097.98, and consult with NAHC, tribal groups, and the SHPO.

### **Significance with Application of Mitigation**

Because of the presence of the rail line, pavement, urban overlay, and property acquisition issues, in the majority of the CEQA study area, evaluation through archaeological testing is not feasible. Mitigation Measures CUL-2.1 through CUL-2.5 would be implemented where previously unevaluated resources are located in order to determine their eligibility as a CEQA resource (Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track). Mitigation Measures CUL-2.2 and CUL-2.6 are applicable to all areas where ground disturbance would occur, which includes all proposed alignments, stations, and OMFs. The mitigation measures described above would allow for adequate evaluation and identification of both known and as-yet undocumented archaeological resources. Conformance with these mitigation measures would reduce potential impacts on unique archaeological resources from the Proposed Project to a less-than-significant level.

For the same reasons listed above, implementation of Mitigation Measures CUL-2.2 and CUL-2.6 would reduce the impact on archaeological resources due to the alternatives analyzed at an equal level of detail (Southfront Road Station Alternative, Stone Cut Alignment Alternative, Mountain House Station Alternative, West Tracy OMF Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2) to a less-than-significant level.

### **Comparison of Alternatives**

The proposed Greenville Station and the Southfront Road Station Alternative would include a similar amount of construction-related ground disturbance. Therefore, the Greenville Station and the Southfront Road Station Alternative would have a similar potential to affect as-yet-undocumented archaeological resources. Both the proposed Greenville Station and the Southfront Road Station Alternative would result in a less-than-significant impact after implementation of mitigation.

The Stone Cut Alignment Alternative would include deeper construction-related ground disturbance than the portion of the proposed Altamont Alignment that the Stone Cut Alignment Alternative would replace. Therefore, the Stone Cut Alignment Alternative has an increased potential to affect as-yet-undocumented archaeological resources. Nonetheless, both would result in a less-than-significant impact after implementation of mitigation.

The proposed Mountain House Station and the Mountain House Station Alternative would include the same amount of construction-related ground disturbance. Therefore, the proposed Mountain House Station and the Mountain House Station Alternative would have a similar potential to affect as-yet-undocumented archaeological resources. Both the proposed Mountain House Station and the

Mountain House Station Alternative would result in a less-than-significant impact after implementation of mitigation.

The West Tracy OMF Alternative includes the same components as the proposed Tracy OMF; however, additional grading would be required at this location due to the uneven topography. Therefore, more ground disturbance would be needed to complete the construction of the West Tracy OMF Alternative, which would result in a greater potential to affect as-yet-undocumented archaeological resources. Nonetheless, the West Tracy OMF Alternative and the proposed Tracy OMF would both result in a less-than-significant impact after implementation of mitigation.

Implementation of the Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2 instead of the proposed Downtown Tracy Station would not change the impact associated with archaeological resources. Construction of both the alternative stations (Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2) and the proposed Downtown Tracy Station would result in a less-than-significant impact on archaeological resources after implementation of mitigation.

**Impact CUL-3: Construction of the Proposed Project could disturb human remains, including those interred outside of formal cemeteries.**

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<b>Level of Impact Prior to Mitigation</b>	<b>Potentially significant (mitigation required)</b>
<b>Mitigation Measures</b>	CUL-3.1: Comply with state laws relating to Native American remains
<b>Level of Impact after Mitigation</b>	<b>Less than Significant</b>

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### Impact Characterization

The potential for impacts associated with disturbance of human remains occurs when a project encounters or disturbs such remains, including in areas outside of formal cemeteries and known burial sites. The potential for such impacts to occur varies, depending on anticipated excavation activities. Ground disturbance would be limited during the construction phase, as such this analysis focus on the construction impacts. A discussion of the anticipated less-than-significant operation and maintenance impacts is included below.

Operation and maintenance of the Proposed Project does not include ground disturbance. Maintenance activities include annual vegetation trimming and herbicide application and are not anticipated to affect any known or as-yet-undocumented archaeological resources. Thus, operation and maintenance of the Proposed Project would result in a less-than-significant impact related to disturbing Native American human remains. Likewise, for the same reasons, operation and maintenance of the alternatives analyzed at an equal level of detail would result in a less-than-significant impact related to disturbing Native American human remains.

## Impact Detail and Conclusions

### Proposed Project

#### *Tri-Valley and Altamont Segments*

As stated above in Impact CUL-2, no known archaeological resources are present in the Tri-Valley segment or Altamont segment. However, the potential remains to encounter unanticipated deposits, including human remains, during ground disturbance of the proposed alignments, stations, and OMFs located in the Tri-Valley segment and Altamont segment. This impact would be potentially significant.

#### *Tracy to Lathrop Segment*

As noted under Impact CUL-2, one unevaluated resource and one resource found eligible for listing to the NRHP and the CRHR were identified within the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2. Their presence indicates an elevated potential for the presence of cultural resources and human remains within the CEQA study area. Two precontact resources (**P-39-000014/CA-SJO-19/H** and **P-39-000141/CA-SJO-3**) are close to each other along the east side of the San Joaquin River. The ground disturbance proposed for the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2 would likely impact these resources, and therefore holds the potential to affect a known archaeological resource with associated human remains. This impact would be potentially significant.

Also as discussed in Impact CUL-2, the River Islands Station would be located in an area considered sensitive for precontact archaeological resources, due to its proximity to freshwater as well as the presence of known archaeological resources in the area. Both precontact sites include human remains. The ground disturbance associated with the construction of the River Islands Station also increases this potential. This impact would be potentially significant.

No known archaeological resources have been identified in the vicinity of the Downtown Tracy Station or North Lathrop Station. Additionally, the Downtown Tracy Station and North Lathrop Station are not within an area considered sensitive for subsurface archaeological deposits. However, due to depth of ground disturbance associated with construction of both stations, the potential remains for construction to encounter as-yet undocumented archaeological resources, including human remains. This impact would be potentially significant.

#### *Greenville IOS and Mountain House IOS*

Implementation of the Greenville IOS would require construction of the Tri-Valley Alignment, Dublin/Pleasanton Station, Isabel Station, Greenville Station, Interim OMF, and a portion of the Altamont Alignment. Implementation of the Mountain House IOS would require construction of the Tri-Valley Alignment; Dublin/Pleasanton Station; Isabel Station; Greenville Station; Altamont Alignment; Owens-Illinois Industrial Lead Variant 1, Single Track; Owens-Illinois Industrial Lead Variant 2, Double Track; Mountain House Station; and Tracy OMF. Either IOS would include modified station designs to accommodate additional ridership associated with being an interim end-line station.

The potential impacts from the proposed alignments, stations, and OMFs, which are identified above, consider a conservative footprint that accounts for the potential design of an interim end-line

station. As such, implementation of the Grenville IOS and Mountain House IOS would result in a potentially significant impact on human remains, as described above.

### **Alternatives Analyzed at an Equal Level of Detail**

As stated above in Impact CUL-2, no known archaeological resources are present in the Tri-Valley segment or Altamont segment. However, the potential remains to encounter unanticipated deposits, including human remains, during ground disturbance of the Southfront Station Alternative, Stone Cut Alignment Alternative, Mountain House Station Alternative, and West Tracy OMF Alternative. This impact would be potentially significant.

No known archaeological resources have been identified in the vicinity of the Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2. Additionally, the Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2 are not within an area considered sensitive for subsurface archaeological deposits. However, due to depth of ground disturbance associated with construction of both station alternatives, the potential remains for construction to encounter as-yet-undocumented archaeological resources, including human remains. This impact would be potentially significant.

### **Mitigation Measures**

Mitigation Measure CUL-3.1 would be implemented for the Proposed Project, including all alignments, stations, and OMFs, to minimize potential impacts on human remains.

In addition, Mitigation Measure CUL-3.1 would also be implemented for the Southfront Road Station Alternative, Stone Cut Alignment Alternative, West Tracy OMF Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2 to minimize potential impacts on human remains.

#### **Mitigation Measure CUL-3.1: Comply with state laws relating to Native American remains**

If human remains of Native American origin are discovered during ground-disturbing activities, it will be necessary to comply with state laws regarding the disposition of Native American burials, which fall within the jurisdiction of the NAHC (Pub. Res. Code § 5097). If human remains are discovered or recognized in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

1. The county coroner has been informed and has determined that investigation of the cause of death is required; and
2. If the remains are of Native American origin:
  - a. The descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Pub. Res. Code § 5097.98; or
  - b. The NAHC was unable to identify a descendent or the descendent failed to make a recommendation within 24 hours after being notified by the commission.

According to California Health & Saf. Code, six or more human burials at one location constitute a cemetery (§ 8100), and disturbance of Native American cemeteries is a felony (§ 7052).

Section 7050.5 requires that excavation be stopped in the vicinity of the discovered human remains until the coroner can determine whether the remains are those of a Native American.

### **Significance with Application of Mitigation**

Implementation of Mitigation Measure CUL-3.1, as well as mitigation measures included in Impact CUL-2 would allow for evaluation, identification, and respectful treatment of archaeological resources, including human resources, and would therefore reduce potential impacts on human remains associated with construction of the Proposed Project to a less-than-significant level.

For the same reasons listed above, implementation of Mitigation Measures CUL-3.1 would reduce the impact on human remains from construction of the Southfront Road Station Alternative, Stone Cut Alignment Alternative, West Tracy OMF Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2 to a less-than-significant level.

### **Comparison of Alternatives**

The proposed Greenville Station and the Southfront Road Station Alternative have similar limits of construction-related ground disturbance and, therefore, would have similar potential to affect as-yet-undocumented archaeological resources, including those containing human remains. Both the proposed Greenville Station and the Southfront Road Station Alternative would result in a less-than-significant impact after implementation of mitigation

The Stone Cut Alignment Alternative would include deeper construction-related ground disturbance than the portion of the proposed Altamont Alignment that the Stone Cut Alignment Alternative would replace. Therefore, the Stone Cut Alignment Alternative has an increased potential to affect as-yet-undocumented archaeological resources. Both would result in a less-than-significant impact after implementation of mitigation.

As discussed for Impact CUL-2, the ground disturbance associated with the West Tracy OMF Alternative has greater potential to affect as-yet-undocumented archaeological resources, including those containing human remains, than the proposed Tracy OMF. Nonetheless, the West Tracy OMF Alternative and proposed Tracy OMF would both result in a less-than-significant impact after implementation of mitigation.

The proposed Mountain House Station and the Mountain House Station Alternative have similar limits of construction-related ground disturbance and, therefore, would have similar potential to affect as-yet-undocumented archaeological resources, including those containing human remains. Both the proposed Mountain House Station and the Mountain House Station Alternative would result in a less-than-significant impact after implementation of mitigation

The proposed Downtown Tracy Station and the alternative stations (Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2) have similar limits of construction-related ground disturbance and, therefore, would have similar potential to affect as-yet-undocumented archaeological resources, including those containing human remains. Both the proposed Downtown Tracy Station and the alternative stations (Downtown Tracy Station Parking Alternative 1 and Downtown Tracy Station Parking Alternative 2) would result in a less-than-significant impact after implementation of mitigation.