

3.2 Agricultural Resources

3.2.1 Introduction

This section describes the regulatory and environmental setting for agricultural 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 agricultural resources and mitigation measures that would reduce significant impacts where feasible and appropriate for the Proposed Project and the alternatives analyzed at an equal level of detail. Appendix K, *Supporting Agricultural Resources Information*, contains additional technical information for this section. There would be no differences in the physical impacts on agricultural resources due to the diesel multiple unit (DMU), hybrid battery multiple unit (HBMU), battery-electric multiple unit (BEMU), and diesel locomotive haul (DLH) technology variants, so this section does not discuss those variants related to physical impacts on agricultural resources. There are some differences in noise from operation of the different technology variants. As such, potential noise impacts on confined animal facilities due to the different technology variants are identified in Impact AG-3c. 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 Station 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.

No forestlands are present in the Proposed Project area or the area of the alternatives analyzed at an equal level of detail; therefore, this topic is not discussed in detail. Cumulative impacts on agricultural resources, in combination with planned, approved, and reasonably foreseeable projects, are discussed in Chapter 4, *Other CEQA-Required Analysis*.

3.2.2 Regulatory Setting

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

3.2.2.1 Federal

No federal agricultural regulations are applicable because the Proposed Project and the alternatives analyzed at an equal level of detail would not be financed in full or in part by the federal government.

3.2.2.2 State

California Land Conservation Act (Williamson Act)

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965 to encourage preservation of the state's agricultural lands and prevent their premature conversion to urban uses. The Williamson Act established an agricultural preserve contract program by which any county or city within the state may tax a landowner at a lower rate, using a scale that is based on the actual use of the land for agricultural purposes as opposed to its unrestricted market value. In return for a reduced tax rate, the owner guarantees that the property remains under agricultural production for a 10-year period. The contract is automatically renewed on an annual basis until the property owner indicates a desire to terminate the contract. Enrollment in the program is voluntary.

The California Department of Conservation has oversight responsibility for Williamson Act program administration and compliance. However, the local government is authorized to adopt rules to govern the administration of agricultural preserves. The state has the following policies regarding public acquisition of, as well as locating public improvements on, lands in agricultural preserves and under Williamson Act contracts (California Government Code §§ 51290–51295):

- Federal, state, or local public improvements and improvements of public utilities, and the acquisition of land, should not be located in agricultural preserves;
- Public improvements that are in agricultural preserves should be located on land other than land under Williamson Act contract; and
- Any agency or entity proposing to locate such an improvement, in considering the relative costs of parcels of land and the development of improvements, should give consideration of the value to the public of land, particularly prime agricultural land, in an agricultural preserve.

In 1998, the state passed the Farmland Security Zone (FSZ) Act sometimes known as the Super Williamson Act. Under the FSZ Act, farmers can receive an additional 35 percent reduction in the land's assessed value for property tax purposes. To earn the additional tax reduction, farmers must agree to keep their land in the conservation program for 20 years, twice as long as required by the Williamson Act. San Joaquin County is the only county to adopt the FSZ Act in the Proposed Project area.

Farmland Mapping and Monitoring Program

The California Department of Conservation administers the Farmland Mapping and Monitoring Program (FMMP), which evaluates the quality of farmlands throughout the state. The suitability of local soil resources plays a crucial part in the FMMP's farmland classifications. The FMMP uses U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) soil survey information, land inventories, and monitoring criteria to classify most of the state's agricultural regions into five agricultural and three nonagricultural land types. Every 2 years, the FMMP publishes this information in its Important Farmland map series. The five agricultural land classifications are as follows:

- **Prime Farmland**—Lands with the best combination of physical and chemical features that are able to sustain long-term production of agricultural crops. The land must be cropped and supported by a developed irrigation water supply that is dependable and of adequate quality

during the growing season. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date.

- **Farmland of Statewide Importance**—Lands that are similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. These lands have the same reliable sources of adequate-quality irrigation water available during the growing season. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date.
- **Unique Farmland**—Lower-quality soils that are used to produce the state’s leading agricultural crops. These lands are usually irrigated but may include non-irrigated orchards or vineyards, as found in some climatic zones of California. Land must have been cropped at some time during the two update cycles prior to the mapping date.
- **Farmland of Local Importance**—Land of importance to the local agricultural economy, as determined by each county’s board of supervisors and local advisory committees. These lands can cover a broad range of agricultural uses, as identified by a local advisory committee convened in each county by the FMMP, in cooperation with the NRCS, and the county board of supervisors. This category of lands may include confined animal agriculture facilities, at the discretion of each county.
- **Grazing Lands**—Lands of at least 40 acres on which the existing vegetation is suited to the grazing of livestock.

The first three categories (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) are considered “Important Farmland” and also meet the definition of agricultural land under the California Environmental Quality Act (CEQA), California Public Resources Code (Public Res. Code) Section 21060.1.

California Farmland Conservancy Program Act (California Public Resources Code §§ 10200–10277)

The California Farmland Conservancy Program (Public Res. Code § 10200 et seq.) supports the voluntary granting of agricultural conservation easements from landowners to qualified nonprofit organizations, such as land trusts, as well as local governments. Conservation easements are voluntarily established restrictions that are permanently attached to property deeds, with the general purpose of retaining land in its natural, open-space, agricultural, or other condition while preventing uses that are deemed inconsistent with the specific conservation purposes expressed in the easements. Agricultural conservation easements define conservation purposes that are tied to keeping land available for continued use as farmland. Such farmlands remain in private ownership, and the landowner retains all farmland use authority, but the farmland is restricted in its ability to be subdivided or used for nonagricultural purposes, such as urban uses. No lands are under agricultural conservation easements in the Proposed Project or in the alternatives analyzed at an equal level of detail.

Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375)

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008 (Chapter 728, Statutes of 2008), provides a new planning process to coordinate community development and land use planning with regional transportation plans (RTPs) in an effort to reduce sprawling land use patterns and dependence on private vehicles, thereby reducing vehicle miles traveled and

greenhouse gas (GHG) emissions associated with vehicle miles traveled. SB 375 is one major tool being used to meet the goals in Assembly Bill 32, the Global Warming Solutions Acts (Chapter 488, Statutes of 2006). Under SB 375, the California Air Resources Board (CARB) sets GHG emission reduction targets for 2020 and 2035 for the metropolitan planning organizations in the state. The 2020 reduction target for the San Joaquin Valley is a 5 percent reduction in per capita GHG emissions; the 2035 target is a 10 percent reduction. Each metropolitan planning organization must then prepare a sustainable communities strategy as part of its RTP that meets the GHG emission reduction targets set by CARB. If the RTP cannot meet the targets, then the metropolitan planning organization must adopt a separate alternative planning strategy instead of the sustainable communities strategy. The alternative planning strategy is adopted separately from the RTP and does not need to reflect fiscal constraints that otherwise apply to the transportation investments identified in the RTP.

Urban sprawl is one of the greatest pressures on agricultural land conversion to urban uses. One of the objectives of the Sustainable Communities and Climate Protection Act of 2008 is to help curb urban sprawl and keep agricultural lands in agricultural use.

3.2.2.3 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 the Project is proposed. Section 15125(d) of the CEQA Guidelines requires an environmental impact report to discuss “any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans.” These plans were considered during preparation of this analysis and reviewed to assess whether the Proposed Project and the alternatives analyzed at an equal level of detail would be consistent¹ with the plans of relevant jurisdictions. Several of these jurisdictions have policies regarding the protection of farmland. Because the Proposed Project and the West Tracy OMF Alternative would result in the conversion of various types of protected farmland, the Proposed Project and the West Tracy OMF Alternative would be inconsistent with such policies. Section 3.2.4, *Impact Analysis*, discloses the impacts relative to farmland.

3.2.3 Environmental Setting

This section describes the environmental setting related to agricultural resources by geographic segment. Several different study areas for impacts related to agricultural resources are used in this analysis. This analysis considers three types of direct impact on Important Farmland. The study area for each type of impact is listed below.

- Temporary use of Important Farmland. The study area for temporary use of Important Farmland is the Proposed Project footprint and the footprint of each alternative analyzed at an equal level of detail.
- Permanent conversion of Important Farmland to nonagricultural use. The study area for permanent conversion of Important Farmland is the Proposed Project right-of-way (ROW).
- Conflicts with existing zoning or an existing Williamson Act/FSZ contract for Important Farmland. The study area for conflicts is the Proposed Project ROW.

¹ 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.

An indirect impact on agricultural resources is an impact that affects Important Farmland but not through direct use or conversion. This analysis considers four types of indirect impact on Important Farmland, each of which has its own study area.

- Creation of unviable severed or remnant parcels of Important Farmland. The study area for the creation of severed or remnant parcels is the set of unviable remnant or severed farmland parcels that could result in future conversion of Important Farmland land in current agricultural use to nonagricultural use.
- Disruption of agricultural infrastructure on or adjacent to Important Farmland through temporary or permanent interruptions of service or access. The study area for impacts on agricultural infrastructure is the Proposed Project footprint and the footprint of each alternative analyzed at an equal level of detail.
- Permanent use of Important Farmland containing capital improvements for confined animal facilities (such as wastewater disposal/treatment fields and on-farm structures associated with confined animals). The study area for capital improvements impacts is 2,500 feet from the track centerline.
- Noise and vibration disturbance at confined animal facilities on Important Farmland. The study area for noise and vibration impacts on confined farm animals is 500 feet from equipment for construction and 500 feet from the track centerline for railway operations.

The discussion of the environment setting begins with a general discussion of regional agriculture, agricultural productivity by county, farmland conversion and protection by county, and farmland infrastructure and processes (Section 3.2.3.1, *Regional Agriculture*). Following this discussion, a detailed description of the agricultural resources for each geographic segment is presented, including information regarding the occurrence of farmlands and confined animal facilities in the vicinity of Proposed Project and the alternatives analyzed at an equal level of detail (Section 3.2.3.2, *Agricultural Resources by Geographic Segment*).

The information presented in this section was obtained from the following sources.

- Location of Important Farmlands: California Department of Conservation 2016a.
- Location of farmlands in protected status under Williamson Act or FSZ: County assessor's offices (County of Alameda 2014; County of San Joaquin 2014).
- National Conservation Easement Database (NCED 2019) and California Conservation Easement Database (CCED 2019).
- Location of confined animal facilities and associated wastewater disposal land data: California Department of Conservation FMMP data (2018) and visual inspection of aerial photography (GoogleEarth 2019a).
- Agricultural productivity: County annual agriculture reports (County of Alameda Department of Agriculture Weights and Measures 2018; County of San Joaquin Office of the Agricultural Commissioner/Sealer of Weights and Measures 2018).
- Local Jurisdiction General Plans (County of Alameda 1994a, 1994b; City of Dublin 2017; City of Lathrop 1991; City of Livermore 2004; City of Pleasanton 2015; City of Tracy 2011; County of San Joaquin 2016).

- Agricultural Census Data from the U.S. Census Bureau (U.S. Department of Agriculture 2012a, 2012b).
- American Farmland Trust (American Farmland Trust 2013).

Figure 3.2-1 through Figure 3.2-9 depict Important Farmlands in the vicinity of the Proposed Project and the alternatives analyzed at an equal level of detail.

3.2.3.1 Regional Agriculture

Alameda County

Agricultural Resources

Approximately 1 percent of land in Alameda County is Important Farmland, with another 46 percent considered grazing land (California Department of Conservation 2016b). Alameda County has undergone substantial rapid urbanization, with associated conversion of agricultural and open space lands in its Tri-Valley area. However, in 2000, Alameda County placed severe restraints on further conversion following the adoption of Measure D (American Farmland Trust, Greenbelt Alliance, and Sustainable Agriculture Education 2011). Accordingly, much of eastern Alameda County remains open space and under agricultural use, predominantly grazing (California Department of Conservation 2016b). Table 3.2-1 presents historical data on farmland and grazing land in Alameda County.

The data in Table 3.2-1 indicate that, between 1996 and 2016, more than half of the county's Prime Farmland was lost (California Department of Conservation 1996a, 2006a, 2016a). During the same period, about one quarter of the county's Farmland of Statewide Importance was lost, but the number of acres of Unique Farmland increased by about 50 percent. The total acreage of grazing land has declined but at substantially lower rates compared with Prime Farmland and Farmland of Statewide Importance during this period.

Table 3.2-1. Alameda County – Important Farmland and Grazing Land

Type of Agricultural Land	Area in Acres for Different Years		
	1996	2006	2016
Prime Farmland	7,551	4,725	3,392
Farmland of Statewide Importance	1,516	1,391	1,127
Unique Farmland	1,402	2,323	2,153
Farmland of Local Importance	--	--	--
Total Important Farmland	10,469	8,439	6,672
Grazing Land	250,276	244,947	240,986

Sources: California Department of Conservation 1996a, 2006a, 2016a.

Adjacent to the study area, the land north of Interstate (I-) 580 in the Livermore Valley (Tri-Valley segment) area of Alameda County is a combination of grazing land and urban land. Some Prime Farmland is located near State Route 84 south of I-580, near the intersection of the two highways (California Department of Conservation 2018) (Figure 3.2-1).

The Altamont Hills (Altamont segment) are covered with a broad swath of grazing land north and south of I-580, with pockets of Prime Farmland, Unique Farmland, and Farmland of Local



Data Sources: Esri Imagery, 2016.

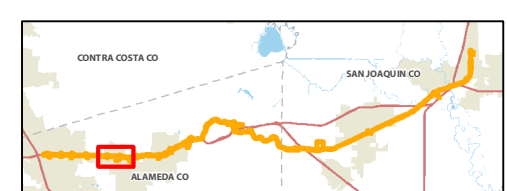
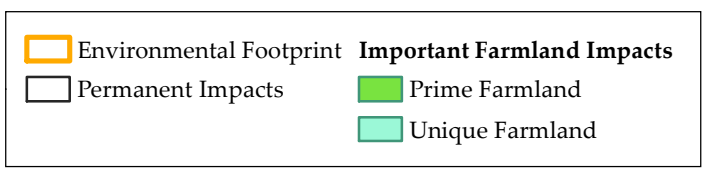
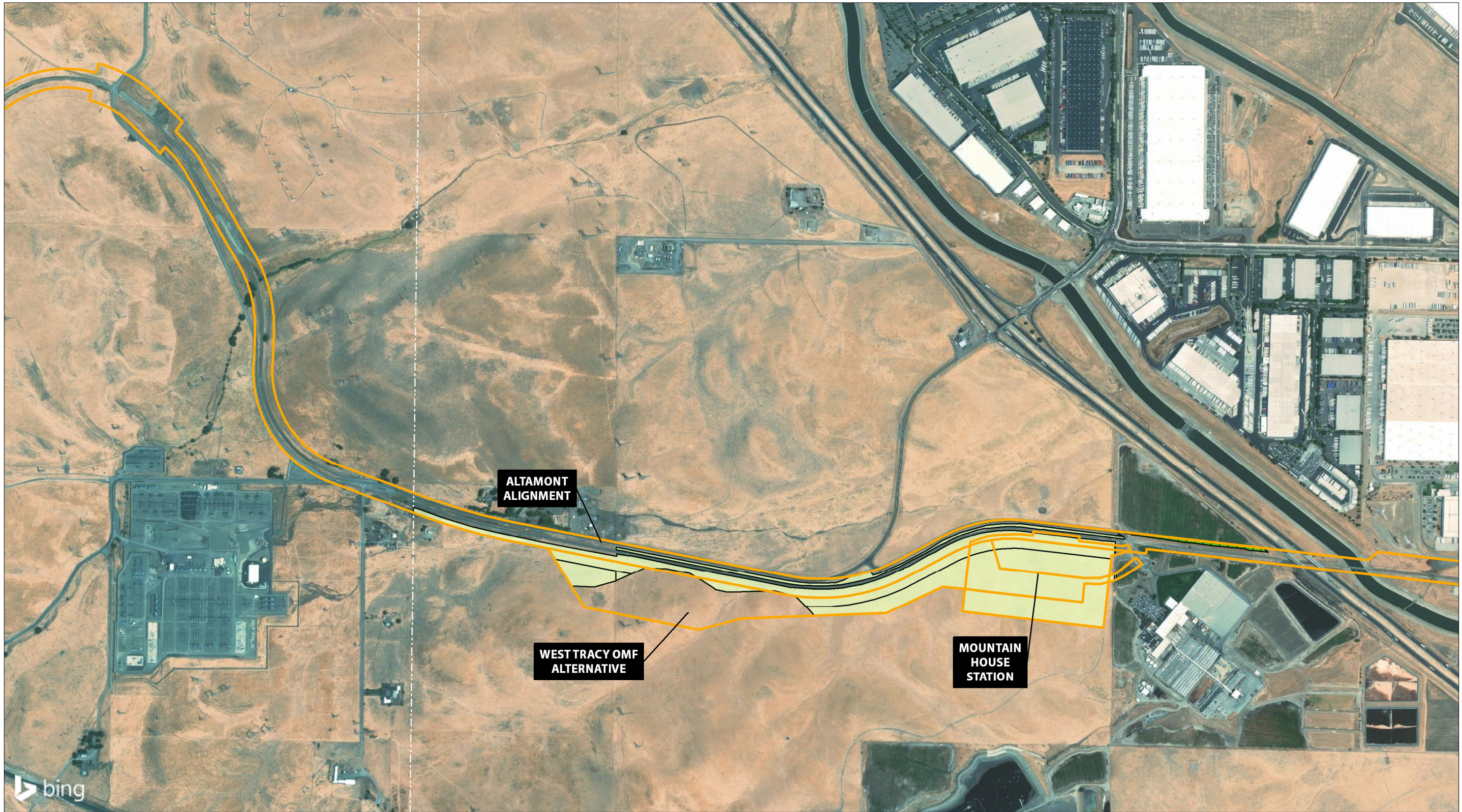


Figure 3.2-1
Temporary and Permanent
Important Farmland Impacts



Data Sources: Esri Imagery, 2016.

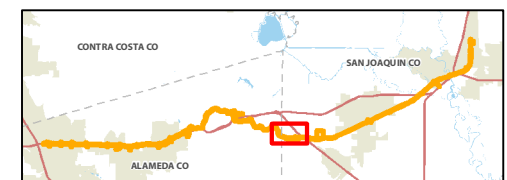
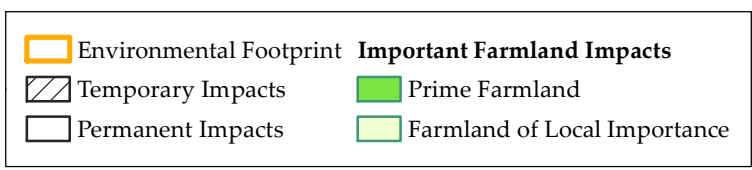
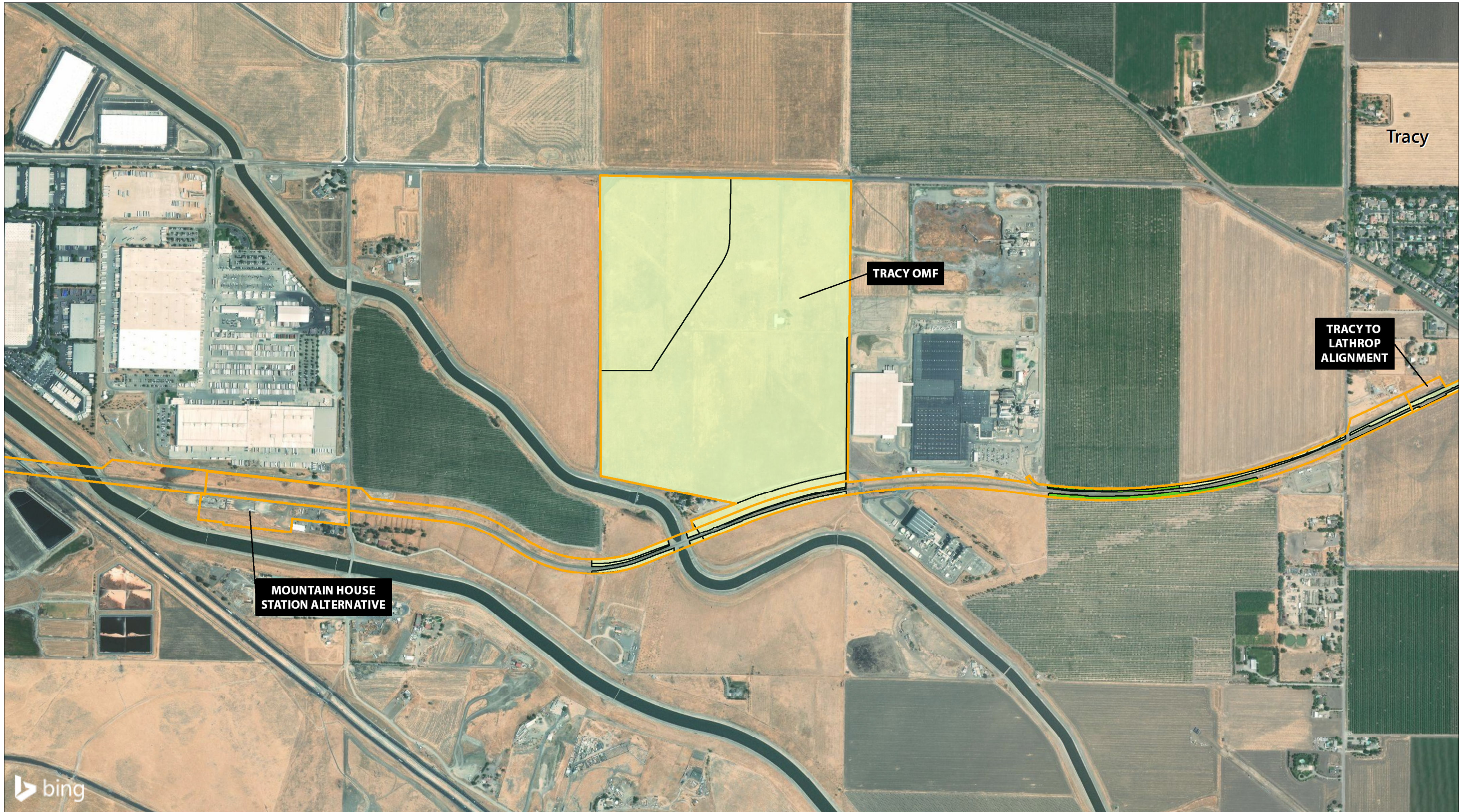


Figure 3.2-2
Temporary and Permanent
Important Farmland Impacts



Data Sources: Esri Imagery, 2016.

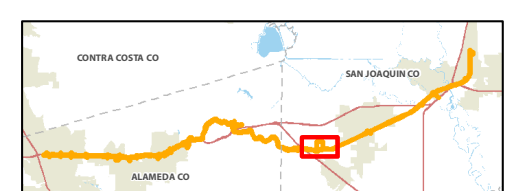
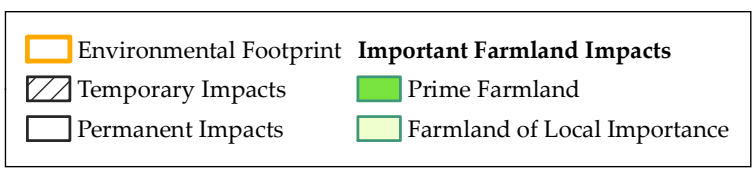


Figure 3.2-3
Temporary and Permanent Important Farmland Impacts



TRACY TO LATHROP ALIGNMENT

Tracy



Data Sources: Esri Imagery, 2016.

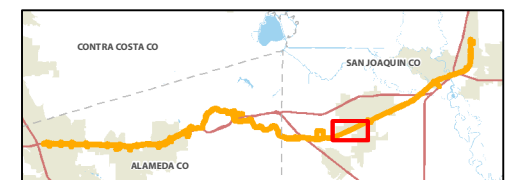
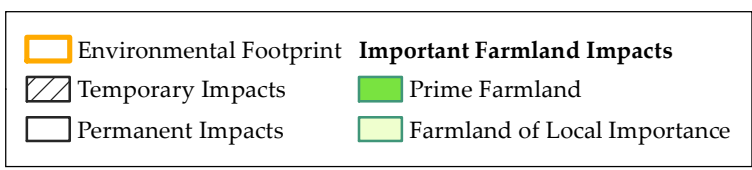


Figure 3.2-4
Temporary and Permanent
Important Farmland Impacts



Data Sources: Esri Imagery, 2016.

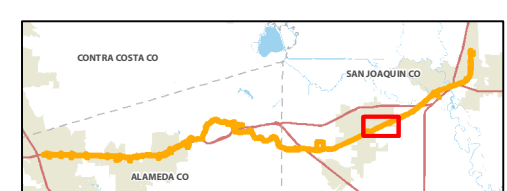
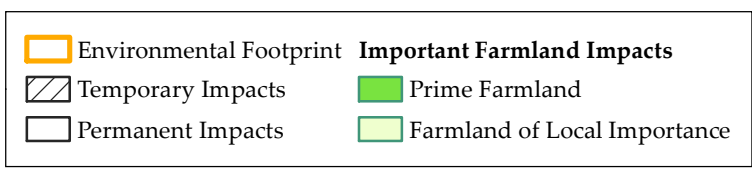
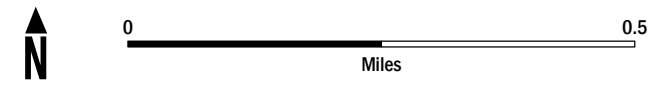
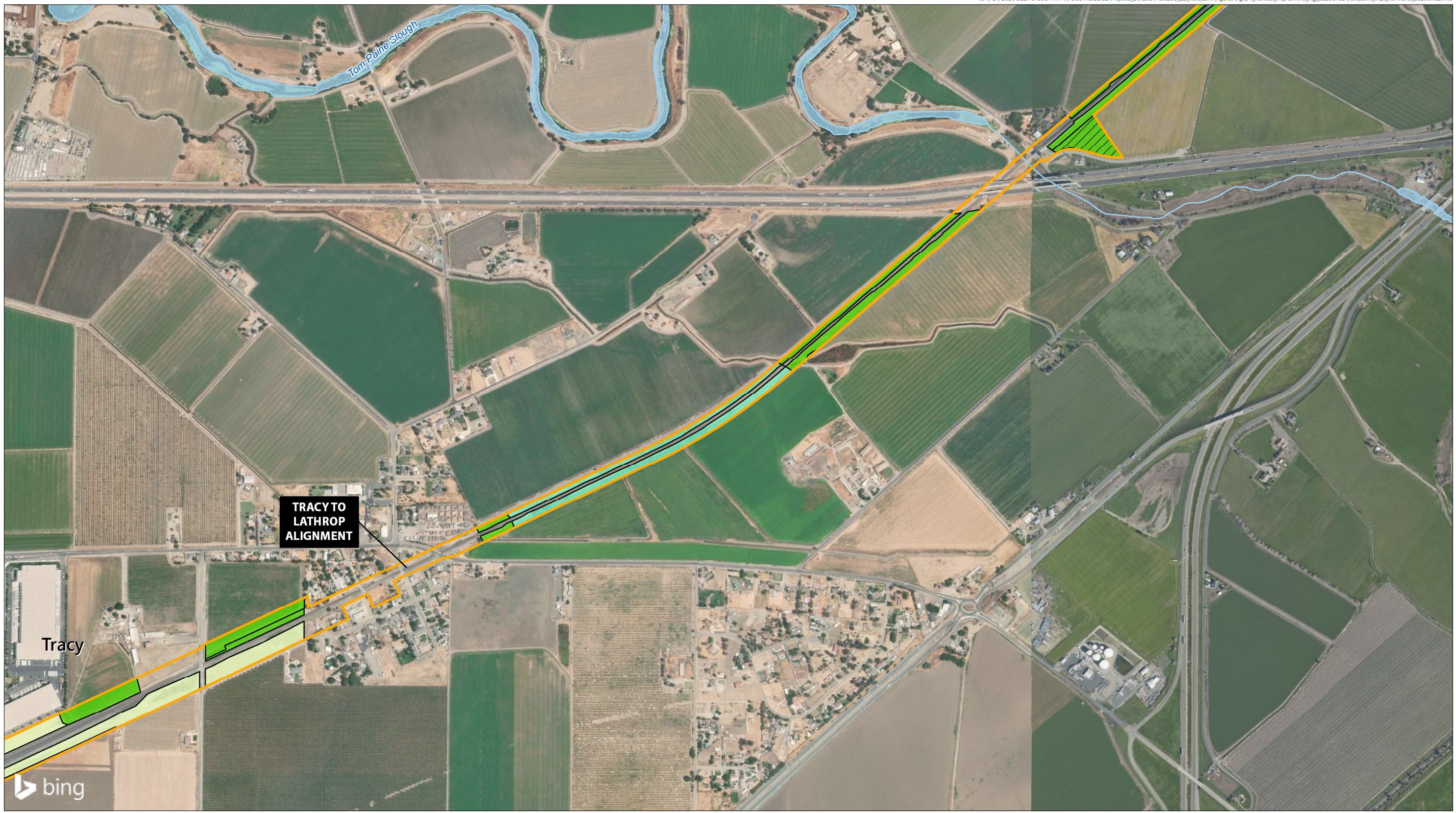


Figure 3.2-5
*Temporary and Permanent
 Important Farmland Impacts*



Data Sources: Esri Imagery, 2016.

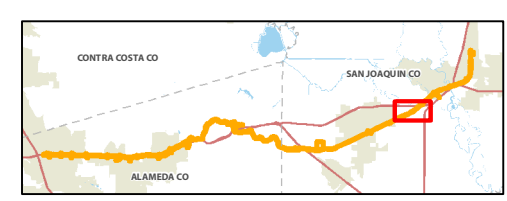
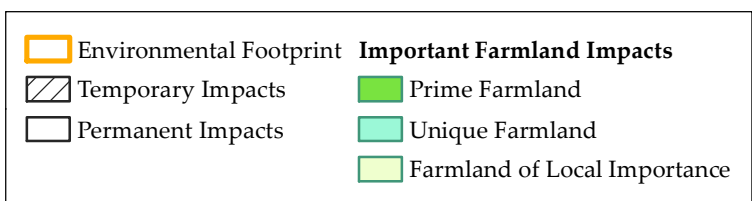
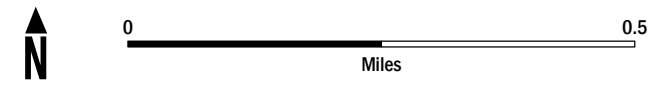


Figure 3.2-6
Temporary and Permanent Important Farmland Impacts



Data Sources: Esri Imagery, 2016.

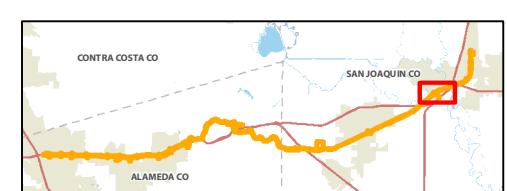
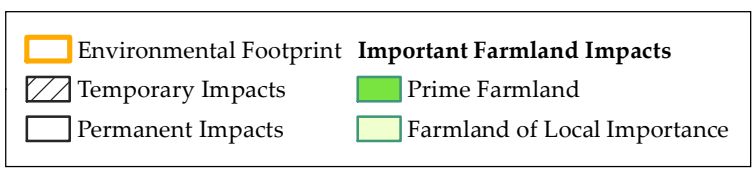
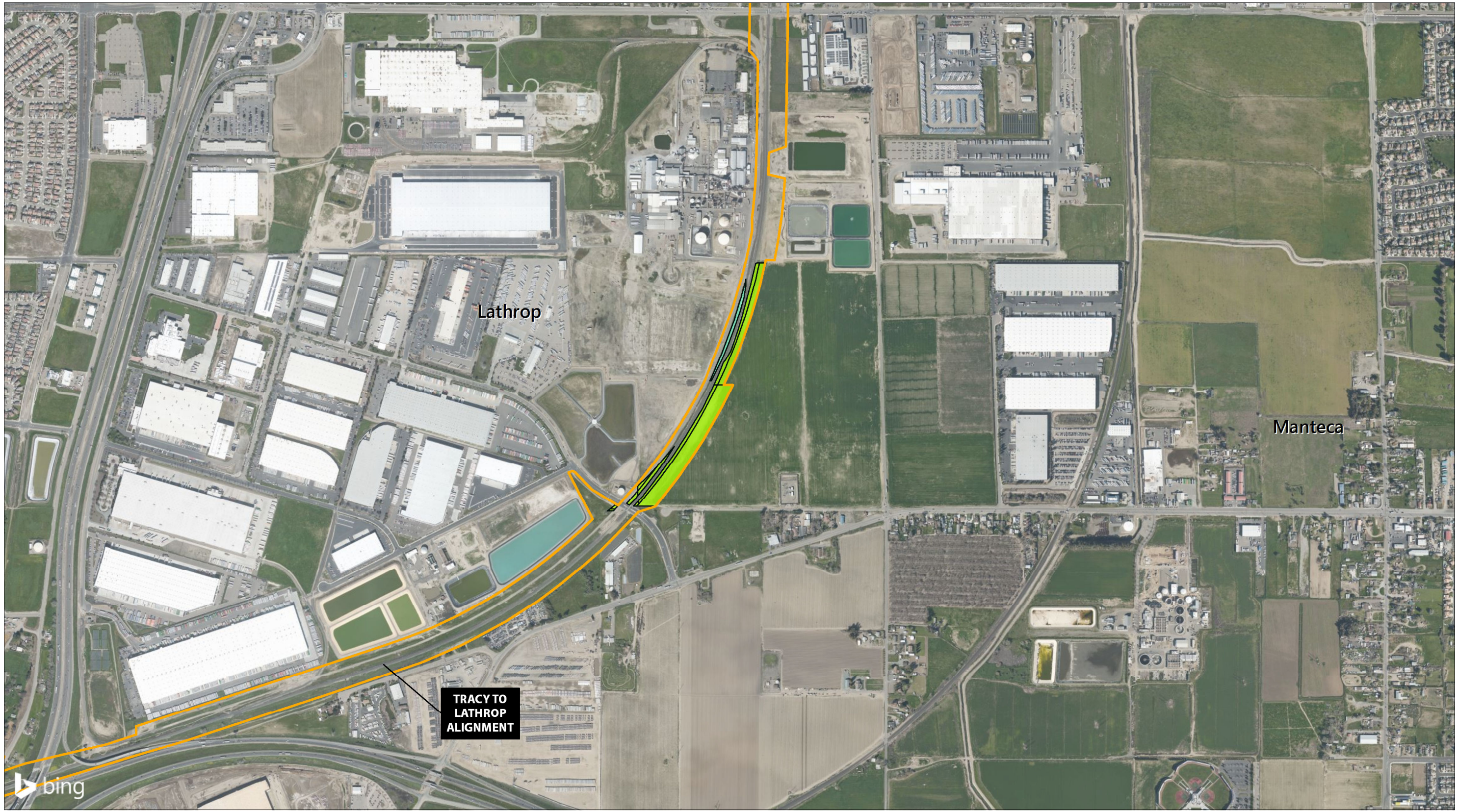


Figure 3.2-7
Temporary and Permanent Important Farmland Impacts



Data Sources: Esri Imagery, 2016.

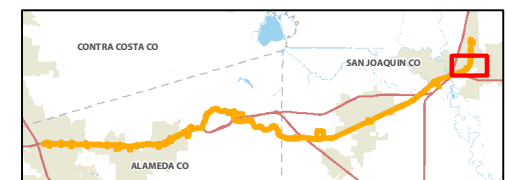
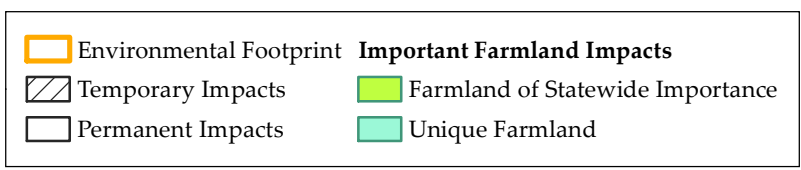
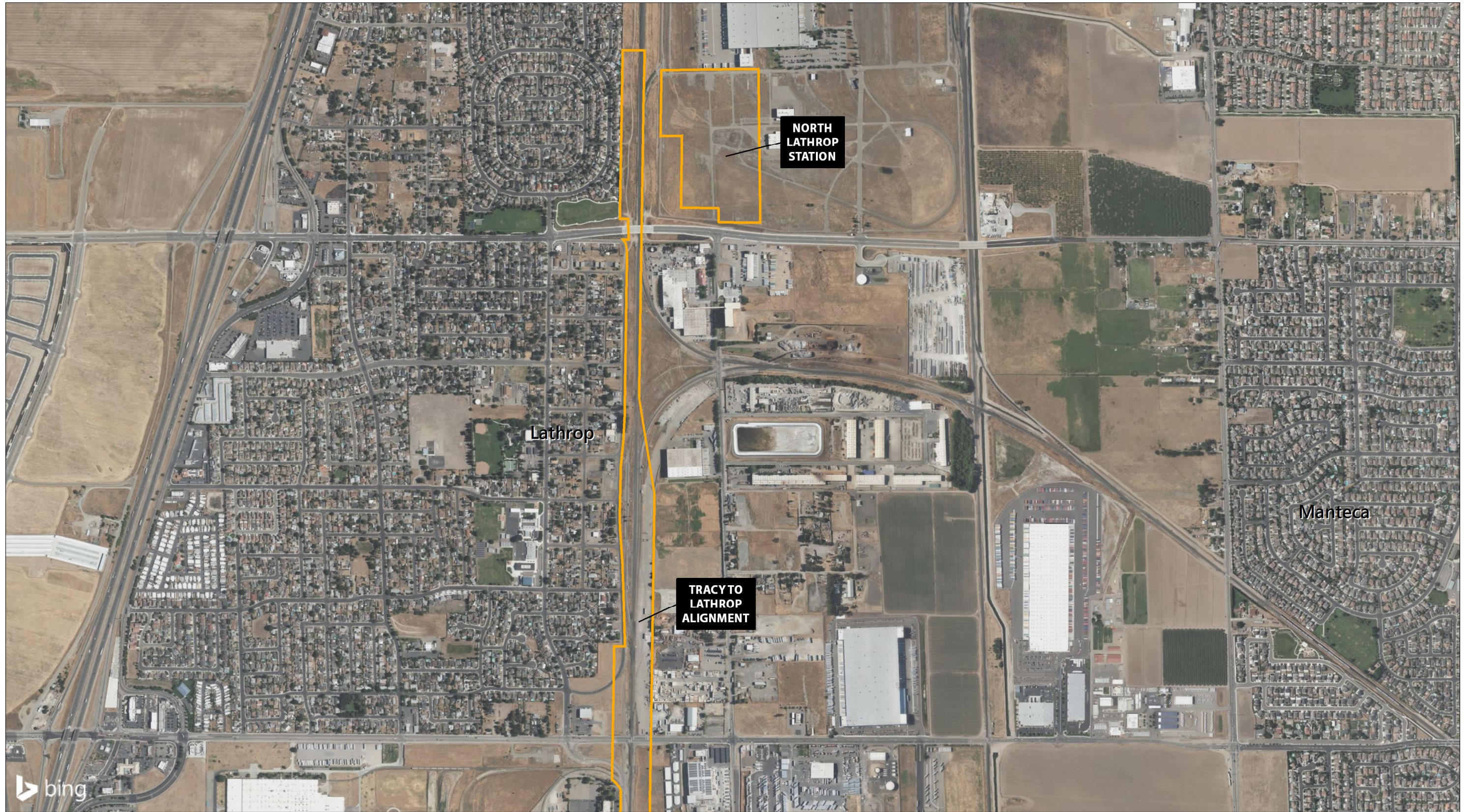


Figure 3.2-8
Temporary and Permanent Important Farmland Impacts



Data Sources: Esri Imagery, 2016.

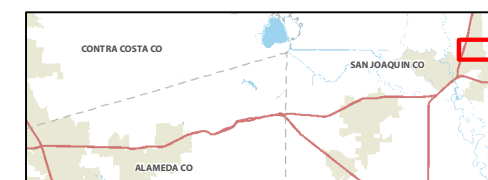
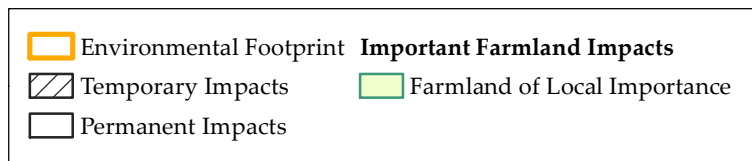
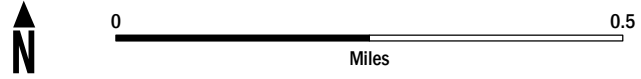


Figure 3.2-9
 Temporary and Permanent
 Important Farmland Impacts

Importance adjacent to the study area in the eastern Altamont Hills (California Department of Conservation 2016a, 2016b) (Figures 3.2-2 and 3.2-3).

Agricultural Productivity

In 2012, approximately 11 percent of farmland was devoted to crops, and approximately 88 percent was pasture (U.S. Department of Agriculture 2012a). Other uses accounted for approximately 1 percent of total farmland. According to the Alameda County 2017 Crop Report, in order of sales value, the most important agricultural commodities in Alameda County in 2017 were cattle and calves, wine grapes, and ornamental trees and shrubs (County of Alameda Department of Agriculture Weights and Measures 2018). The primary source of agricultural production in the study area in Alameda County is cattle grazing (California Department of Conservation 2016b).

Agricultural Preservation

As discussed in Section 3.2.2, *Regulatory Setting*, the Williamson Act provides a mechanism for keeping agricultural land in productive agricultural use by providing tax incentives. Table 3.2-2 presents the acreage of farmland protected under Williamson Act contracts in Alameda County in 2014.

Table 3.2-2. Alameda County – Land under Williamson Act Contracts

Type of Contract	Area (acres)	
	Renewal	Non-renewal
Williamson Act	140,447	4,806
Total	140,447	4,806

Source: County of Alameda 2014.

^a Alameda County does not participate in the Farmland Security Zone program.

Farm Infrastructure and Processes

In eastern Alameda County, much of the land in agricultural use is used for grazing (California Department of Conservation 2016b). Farm roads and ranch roads cross large expanses that otherwise are not reachable by vehicle. Because the land is used primarily for grazing rather than crop farming, there is little major irrigation infrastructure such as irrigation canals in the study area in Alameda County; the only irrigation canal is in the western Altamont Hills, connecting to Patterson Reservoir (GoogleEarth 2019b).

San Joaquin County

Agricultural Resources

Approximately 67 percent of the land in San Joaquin County is Important Farmland, with another 14 percent considered Grazing Land (California Department of Conservation 2016a, 2016c). Although San Joaquin County is substantially agricultural, the county has been undergoing rapid urbanization (American Farmland Trust 2013). Important Farmland and grazing land acreage in the county in 1996, 2006, and 2016 is presented in Table 3.2-3, illustrating the overall loss of agricultural lands in the county over this period. The data in Table 3.2-3 indicate that, between 1996 and 2016, approximately 50,000 acres, or 11 percent, of the county's Prime Farmland was lost (California Department of Conservation 1996b, 2006b, 2016c). However, during the same period,

the number of acres of Unique Farmland and Farmland of Local Importance increased by about 48,000 acres, or 48 percent, for a total rate of Important Farmland loss of 3 percent. The total acreage of Grazing Land has declined at a greater rate (16 percent) compared with the rate of decline of Important Farmland during this period.

Table 3.2-3. San Joaquin County – Important Farmland and Grazing Land

Type of Agricultural Land	Area in Acres for Different Years		
	1996	2006	2016
Prime Farmland	433,130	407,609	381,634
Farmland of Statewide Importance	98,162	89,273	82,618
Unique Farmland	48,760	63,231	81,920
Farmland of Local Importance	53,481	59,957	68,903
Total Important Farmland	633,533	620,070	615,075
Grazing Land	156,195	144,933	129,760

Sources: California Department of Conservation 1996b, 2006b, 2016c.

Near the study area in San Joaquin County (Altamont segment and Tracy to Lathrop segment), the land is dominated by Important Farmland outside of the urban centers of Tracy and Lathrop (California Department of Conservation 2018) (Figures 3.2-4 through 3.2-9). In the western part of the county, the land is primarily Prime Farmland.

Agricultural Productivity

In 2012, approximately 65 percent of farmland was devoted to crops, and approximately 30 percent was pasture (U.S. Department of Agriculture 2012a). Other uses accounted for approximately 5 percent of total farmland. According to the 2017 Agricultural Report, in order of sales value, the most important agricultural commodities in San Joaquin County in 2017 were grapes, milk, almonds, walnuts, cherries, cattle and calves, tomatoes, potatoes, hay (all), and silage (other) (County of San Joaquin Office of the Agricultural Commissioner/Sealer of Weights and Measures 2018).

Agricultural Preservation

As discussed in Section 3.2.2, *Regulatory Setting*, the Williamson Act provides a mechanism to keep agricultural land in productive agricultural use by providing tax incentives. Table 3.2-4 presents the acreage of farmland protected under Williamson Act and FSZ contracts in San Joaquin County in 2014.

Table 3.2-4. San Joaquin County – Land under Williamson Act and Farmland Security Zone Contracts

Type of Contract	Area (acres)		
	Renewal	Non-renewal	Special Valuation
Williamson Act	429,583	6,584	5,195
Farmland Security Zone	60,485	614	506
Total	490,068	7,198	5,701

Source: County of San Joaquin 2014.

Farm Infrastructure and Processes

Farm infrastructure typically includes irrigation and drainage systems, field access roads, power distribution systems, storage structures (e.g., silos and barns), and residences (GoogleEarth 2019c). Many of the croplands in the study area in San Joaquin County rely on the irrigation canals in the area. In the San Joaquin Valley, a grid of roads provides access to parcels throughout the valley. Agricultural productivity relies on each of these infrastructure elements to be able to perform its function reliably. If the irrigation system, for instance, is disrupted, access is cut off; if utilities are interrupted, productivity can fall.

Confined animal agriculture properties, such as dairies and heifer ranches, include areas for forage crop production (e.g., corn). The forage crop areas associated with confined animal agriculture receive dairy waste, in accordance with a nutrient management plan, to dispose of solid and liquid waste in a manner that protects water quality. The requirements of the nutrient management plan include nutrient balance and manure containment, with application of the waste at an appropriate agronomic rate and under permit from the Central Valley Regional Water Quality Control Board. Herd size and the soil type of the receiving area tend to drive the amount of forage area needed to manage the nutrients from a dairy.

Although weather conditions, such as temperature and wind, affect crop production, farmers typically schedule agricultural management and operations to help maximize yields. For example, farmers apply chemicals to extend the blooms of bee-pollinated trees and increase pollination potential. Depending on the crop and the application, ground-level spray rigs and crop dusters are used to apply pesticides and other chemicals. In accordance with Federal Aviation Regulations Part 137, Agricultural Aircraft Operations, and the California Code of Regulations (Cal. Code Regs.), Division 6, Pesticides and Pest Control Operations, aircraft shall apply pesticides when wind speed and direction are favorable to avoid dispersing chemicals beyond the target area (County of San Joaquin Office of the Agricultural Commissioner/Sealer of Weights and Measures 2017).

3.2.3.2 Agricultural Resources by Geographic Segment

Table 3.2-5 shows agricultural resources present in and adjacent to the study area, as appropriate, by geographic segment.

Table 3.2-5. Agricultural Resources by Segment

Geographic Segment	Important Farmland^a	Land under Williamson Act^b	Agricultural Conservation Easement Lands^c	Confined Animal Agriculture and Wastewater Disposal Lands^c
Tri-Valley	Important Farmland (Prime, Unique) is in or adjacent to study area; urban and grazing land are in study area	No land under contract is in study area	None	None
Altamont	No Important Farmland is in or adjacent to study area; grazing land is in study area	Extensive land under contract is in study area	None	None

Geographic Segment	Important Farmland^a	Land under Williamson Act^b	Agricultural Conservation Easement Lands^c	Confined Animal Agriculture and Wastewater Disposal Lands^c
Tracy to Lathrop	Important Farmland (Prime, Unique, Statewide Importance, Local Importance) is in or adjacent to study area; urban land is in study area	Limited land under contract is in study area	None	Four confined animal agriculture facilities and associated wastewater disposal lands are in study area

Sources: California Department of Conservation 2018; County of Alameda 2014; County of San Joaquin 2014; NCED 2019; CCED 2019; GoogleEarth 2019a.

^a California Department of Conservation 2018

^b County of Alameda 2014, County of San Joaquin 2014

^c GoogleEarth 2019a

3.2.4 Impact Analysis

3.2.4.1 Methods for Analysis

Impacts on Important Farmland and lands under Williamson Act and FSZ contract associated with construction and operation of the Proposed Project, as well as the impacts due to the alternatives analyzed at an equal level of detail, were analyzed quantitatively. Impacts resulting from parcel severance and the creation of remnant parcels, impacts on agricultural infrastructure and capital improvements, and noise impacts on confined animal agriculture were analyzed through a combination of quantitative and qualitative methods. Impacts on agricultural infrastructure were analyzed qualitatively. A summary of the methods for analyzing different impacts is included below.

- Direct impacts because of temporary use of Important Farmland and permanent conversion of Important Farmland to nonagricultural use because of construction relied on geographic information system (GIS) mapping and calculations. Direct temporary use of Important Farmland during construction would take place outside the railroad ROW but within the footprint of the Proposed Project or the alternatives analyzed at an equal level of detail, where Important Farmland, as categorized by the California Department of Conservation FMMP, occurs. Direct permanent conversion of Important Farmland to nonagricultural use and direct impacts on land under Williamson Act/FSZ contract because of construction would take place within the railroad ROW where Important Farmland and land under Williamson Act or FSZ contract occur. No impacts on land under an agricultural conservation easement would result because no conservation easements with agricultural purposes occur in the study area.
- Indirect impacts as a result of permanent conversion of Important Farmland to nonagricultural use through parcel severance and the creation of remnant parcels as a result of construction, as well as creation of remainder parcels too small to remain under Williamson Act and FSZ contract, relied on GIS mapping and calculations. Indirect permanent conversion of Important Farmland to nonagricultural use would occur where the Proposed Project or the alternatives analyzed at an equal level of detail would (1) sever access to parcels of Important Farmland, (2) create smaller parcels of Important Farmland that would be too small to farm, or (3) create smaller parcels of Important Farmland under Williamson Act or FSZ contract that would be too small to remain under contract. Access to Important Farmland parcels could be severed if (1)

the Proposed Project the alternatives analyzed at an equal level of detail bisect the parcel or (2) the Proposed Project or the alternatives analyzed at an equal level of detail cause roadway access to be restricted or eliminated, making the Important Farmland parcels inaccessible to farm equipment. Remnant parcels have the potential to become unfarmable if they are too small, defined as 20 acres or less and not adjacent to another parcel in agricultural use to which they could be joined for future agricultural use. County-mandated thresholds for minimum parcel size for Williamson Act or FSZ contract are shown in Table 3.2-9 and vary from 10 to 40 acres, depending on county and type of soil present (prime or nonprime soil) at the parcel.

- Temporary and permanent indirect impacts on Important Farmland as a result of a disruption of agricultural infrastructure, such as utilities, utility and farm access roads to agricultural fields, power supply infrastructure, and irrigation distribution canals, were analyzed qualitatively, based on the location of Important Farmland, as mapped by GIS.
- Temporary and permanent impacts on capital improvements at confined animal facilities because of construction were analyzed through a mixed quantitative and qualitative approach. Project analysts relied on interpretation of color aerial photos to identify confined animal facilities as well as wastewater disposal lands within 2,500 feet of the Proposed Project or the alternatives analyzed at an equal level of detail. In addition, where applicable (i.e., in San Joaquin County), land categorized under the FMMP as confined animal agriculture was used to identify confined animal facilities. To identify wastewater disposal lands, analysts assumed that discrete parcels that are dark green in color, indicating an application of high-nitrogen fertilizer, such as cattle waste, and adjoining an identified confined animal facility are wastewater disposal lands. Because this determination is based on an assumption, the method is an approximation. Impacts on confined animal facility capital improvements, such as structures, pens, and wastewater treatment lagoons, were determined through a visual inspection of aerial photography using GoogleEarth.
- Noise and vibration impacts on confined animal facilities because of construction and operation were analyzed at the confined animal agriculture sites identified described above. Noise and vibration impact analysis relied on the Federal Transit Administration (FTA) guidance manual (2018) and the Federal Highway Administration roadway construction noise model (2006) for construction and operational noise modeling.

The principal sources consulted during impact analysis are listed below.

- Analysis of temporary use and permanent conversion of Important Farmland relied on 2016 FMMP county data to identify Prime Farmland, Unique Farmland, Farmland of Statewide Importance or Farmland of Local Importance (California Department of Conservation 2016a, 2016b, 2016c).
- Analysis of impacts on lands protected under Williamson Act and FSZ contracts used data provided from county assessor's records (County of Alameda 2016; San Joaquin County Assessor 2016).
- Analysis of impacts on lands protected under agricultural conservation easement used data provided by NCED (2019) and CCED (2019).
- Analysis showing parcel severance/remnant parcels relied on GIS parcel data from counties and ROW data from Project plans.

- Analysis of impacts on confined animal facility capital improvements, including wastewater disposal land, relied on visual inspection of aerial photography from GoogleEarth (GoogleEarth 2019a).
- Noise and vibration impacts on confined animals relied on the Conceptual Service Plan in the Project description; the distance to nearest receptor; advanced and lower train reference noise levels to reflect proposed train types, stations, parking lots, and maintenance facilities; and the prediction models provided in the FTA guidance manual (Federal Transit Administration 2018).

3.2.4.2 Thresholds of Significance

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

An impact would be considered significant if construction or operation of the Proposed Project and the alternatives analyzed at an equal level of detail would have any of the following consequences:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to nonagricultural use.²
- Conflict with existing zoning for agricultural use or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forestland (as defined by Public Res. Code § 12220(g)), timberland (as defined by Public Res. Code § 4526), or timberland zoned Timberland Production (as defined by California Government Code § 51104(g)).
- Result in the loss of forestland or conversion of forestland to non-forest use.
- Involve other changes in the existing environment that, because of their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forestland to non-forest use.³

Because no agricultural conservation easements exist in the study area, analysis of these resources is not discussed further. Because no forestland, timberland, or Timberland Production zones exist in the study area, analysis of these resources is not discussed further.

² Conversion of Important Farmland addresses temporary use, permanent direct conversion, and permanent indirect conversion through parcel severance and creation of remnant parcels of Important Farmland.

³ Other changes in the existing environment consist of impacts on Important Farmland as a result of (1) temporary and permanent disruption of agricultural infrastructure as a result of Project construction and temporary disruption of agricultural infrastructure as a result of maintenance activities during the Project operation period; (2) temporary and permanent impacts on capital improvements at confined animal facilities, including wastewater disposal lands; and (3) noise and vibration impacts at confined animal facilities as a result of Project construction and operation.

3.2.4.3 Impacts and Mitigation Measures

Impact AG-1a: The Proposed Project could result in conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance to nonagricultural use because of temporary use.

Level of Impact Prior to Mitigation	<p>Potentially significant (mitigation required)</p> <p><u>Proposed Project</u></p> <p>Altamont Alignment</p> <p>Owens-Illinois Industrial Lead Variant 1, Single Track</p> <p>Owens-Illinois Industrial Lead Variant 2, Double Track</p> <p>Tracy to Lathrop Alignment Variant 1, Single Track</p> <p>Tracy to Lathrop Alignment Variant 2, Double Track</p> <p>No Impact</p> <p><u>Proposed Project</u></p> <p>Tri-Valley Alignment</p> <p>Dublin/Pleasanton Station</p> <p>Isabel Station</p> <p>Greenville Station</p> <p>Interim OMF</p> <p>Tracy OMF</p> <p>Downtown Tracy Station</p> <p>River Islands Station</p> <p>North Lathrop Station</p> <p><u>Alternatives Analyzed at an Equal Level of Detail</u></p> <p>Southfront Road Station Alternative</p> <p>Stone Cut Alignment Alternative</p> <p>West Tracy OMF Alternative</p> <p>Mountain House Station Alternative</p> <p>Downtown Tracy Station Parking Alternative 1</p> <p>Downtown Tracy Station Parking Alternative 2</p>
Mitigation Measure	AG-1.1: Restore Important Farmlands used for temporary staging areas
Level of Impact after Mitigation	Less than Significant

Impact Characterization

As previously discussed in Section 3.2.41, *Methods for Analysis*, construction would require the temporary use of Important Farmland. This land would be temporarily leased from the landowner (per a temporary construction easement) and temporarily removed from agricultural use for the duration of construction. If temporary staging areas are not immediately restored to former agricultural use (pre-construction condition) after construction, disruption in agricultural use may become permanent and result in permanent conversion of Important Farmland to nonagricultural use.

Impact Detail and Conclusions

Proposed Project

Construction

Temporary use of Important Farmland would take place outside the railroad ROW but within the footprint of the Proposed Project where Important Farmland occurs. This temporary use would be a direct impact on Important Farmland. Appendix K, Section K-1.1, *Important Farmland Impacts by Parcel*, provides the list of parcels containing Important Farmland that could be temporarily used during construction of the Proposed Project.

None of the following proposed alignments, stations, and OMFs would temporarily use Important Farmland: Tri-Valley Alignment; Dublin/Pleasanton Station; Isabel Station; Greenville Station; Interim OMF, Mountain House Station; Tracy OMF; Downtown Tracy Station; River Islands Station; and North Lathrop Station. Therefore, these proposed alignments, stations, and OMFs would not result in temporary impacts on Important Farmland. Table 3.2-6 shows the acreage of Important Farmland for the proposed alignments, stations, and OMFs that would be temporarily used for construction.

The Altamont segment would traverse primarily Grazing Land. However, the Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track) would result in the temporary use of a small area of Prime Farmland and Farmland of Local Importance (see Table 3.2-6). The 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) is potentially significant. The Tracy to Lathrop segment would traverse urban land and Important Farmland. The Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track would result in temporary use of small areas of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance (see Table 3.2-6). The impact due to these proposed alignments is potentially significant.

Table 3.2-6. Temporary Use of Important Farmland^a

Segment	Proposed Alignments	Important Farmland (acres)				Total
		Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	
Altamont	Altamont Alignment, including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track	1.8	--	--	1.0	2.8
Tracy to Lathrop	Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop	3.6	0.06	0.05	4.3	8.1

Segment	Proposed Alignments	Important Farmland (acres)				Total
		Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	
	Alignment Variant 2, Double Track					
Total		5.4	0.06	0.05	5.3	10.9

Source: California Department of Conservation 2016a.

^a Only proposed and alternative facilities with impacts are presented in the table. All proposed and alternative facilities with no impact were omitted from this table.

Operation and Maintenance

Operation of the Proposed Project involves train operation and maintenance of the system. Train operation would not result in temporary or permanent impacts because of direct or indirect permanent conversion of Important Farmland. Maintenance of the Proposed Project includes track maintenance, station maintenance, and fleet maintenance. Maintenance would not result in direct or indirect temporary or permanent impacts on Important Farmland because track and station maintenance activities would be conducted inside the acquired railroad ROW. Thus, there would be no impact related to the temporary use of Important Farmland from operation and maintenance of the Proposed Project.

Alternatives Analyzed at Equal Level of Detail

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 would not temporarily use Important Farmland. Therefore, construction of these alternatives would not result in temporary impacts on Important Farmland. In addition, similar to the proposed stations, alignments, and OMF, operation and maintenance of these alternative stations, alignments, and OMF would not result in direct or indirect temporary or permanent impacts on Important Farmland. There would be no impact related to the temporary use of Important Farmland from operation and maintenance of these alternatives.

Mitigation Measures

Mitigation Measure AG-1.1 would be implemented for the Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); the Tracy to Lathrop Alignment Variant 1, Single Track; and the Tracy to Lathrop Alignment Variant 2, Double Track.

Mitigation Measure AG-1.1: Restore Important Farmlands used for temporary staging areas

Prior to any ground-disturbing activities at the site of a temporary disturbance area located on Important Farmland, the contractor will engage a qualified restoration specialist or soil scientist to prepare a site restoration plan. The purpose of the plan will be to return each disturbed site to similar slope and soil conditions after construction is complete. This restoration plan will address site-specific actions (e.g., topsoil salvage and replacement, soil decompaction), the sequence of implementation, and the parties responsible for implementation and successful achievement of restoration. Before beginning construction on Important Farmland, the

contractor will (1) submit the qualifications of the restoration specialist or soil scientist to the Tri-Valley–San Joaquin Valley Regional Rail Authority (Authority) for review and approval and (2) after Authority approval, coordinate with the specialist to develop a draft restoration plan and will submit the restoration plan to the Authority for review and obtain Authority (and, if applicable, the landowner) approval. The restoration plan will also include time-stamped photo documentation of the pre-construction conditions of all temporary disturbance areas.

The Authority will ensure that the contractor will return all construction access, mobilization, material laydown, and staging areas on Important Farmlands to a condition equal to the pre-construction staging condition through implementation of the restoration plan. This requirement will be included in the construction contract requirements.

Significance with Application of Mitigation

Implementation of Mitigation Measure AG-1.1 would reduce impacts from temporary use of Important Farmland during construction to a less-than-significant level for the Proposed Project. This mitigation would be effective in minimizing any conversion of Important Farmland to nonagricultural use because it will require any Important Farmland temporarily used for construction access, mobilization, material laydown, and staging to be returned to a condition equal to the pre-construction staging condition. The required restoration plan and the Authority’s oversight, ensuring that the restoration plan is properly implemented, will maintain Important Farmland in equal quantities to those at the beginning of construction. The impact would be less than significant after mitigation for the Proposed Project.

Comparison of Alternatives

There would be no temporary use of Important Farmland within the proposed Greenville Station, Tracy OMF, Downtown Tracy Station, and Mountain House Station. In addition, there would be no temporary use of Important Farmland within the portion of the Altamont Alignment that the Stone Cut Alignment Alternative would replace. Likewise, there would be no temporary use of Important Farmland within 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. Thus, the alternative stations, alignments, and OMF would have the same no impact during construction or operations as the proposed stations, alignments, and OMF.

Impact AG-1b: Construction of the Proposed Project could result in direct permanent conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance to nonagricultural use.

Level of Impact Prior to Mitigation	Potentially significant (mitigation required)
	<u>Proposed Project</u>
	Isabel Station
	Altamont Alignment
	Owens-Illinois Industrial Lead Variant 1, Single Track
	Owens-Illinois Industrial Lead Variant 2, Double Track
	Mountain House Station
	Tracy OMF
	Tracy to Lathrop Alignment Variant 1, Single Track
	Tracy to Lathrop Alignment Variant 2, Double Track

River Islands StationAlternatives Analyzed at an Equal Level of Detail

West Tracy OMF Alternative

No ImpactProposed Project

Tri-Valley Alignment

Dublin/Pleasanton Station

Greenville Station

Interim OMF

Downtown Tracy Station

Mountain House Station

Alternatives Analyzed at an Equal Level of Detail

Southfront Road Station Alternative

Stone Cut Alignment Alternative

Mountain House Station Alternative

Downtown Tracy Station Parking Alternative 1

Downtown Tracy Station Parking Alternative 2

Mitigation Measure AG-1.2: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland)

Level of Impact after Mitigation **Significant and unavoidable**

Impact Characterization

As previously discussed in Section 3.2.4.1, *Methods for Analysis*, construction would result in direct permanent conversion of Important Farmland to nonagricultural use. This conversion would occur where the direct impact area is situated on Important Farmland. Because this is a linear project, the permanent conversion of Important Farmland would often consist of a strip of farmland taken from existing parcels, although the area of direct impact could be larger around stations.

Impact Detail and Conclusions**Proposed Project****Construction**

Permanent conversion would occur within the railroad ROW where land categorized as Important Farmland (i.e., Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance) occurs. The cause of permanent conversion of Important Farmland, direct use of the land, is a direct impact on Important Farmland. Appendix K-1, *Important Farmland Impacts by Parcel*, provides the list of parcels containing Important Farmland that could be permanently converted by implementation of the Proposed Project.

None of the following proposed stations, alignment, and OMF would be located on areas identified as Important Farmland: Tri-Valley Alignment; Dublin/Pleasanton Station; Greenville Station, Interim OMF; Downtown Tracy Station; and North Lathrop Station. Therefore, these proposed stations,

alignment, and OMF would not permanently convert Important Farmland and there would be no impact on Important Farmland from these proposed stations, alignment, and OMF.

Table 3.2-7 shows the acreage of Important Farmland that would be directly permanently converted to nonagricultural use by the Proposed Project through direct use of the land within the rail ROW.

Table 3.2-7 also includes the permanent impacts from the West Tracy OMF Alternative. This alternative is discussed further below.

Table 3.2-7. Direct Permanent Conversion of Important Farmland^a

Segment	Proposed Project and West Tracy OMF Alternative	Important Farmland (acres)				Total
		Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	
Tri-Valley	Isabel Station	5.9	--	5.6	--	11.5
Altamont	Altamont Alignment, including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track	2.7	--	--	24.0	26.7
	Mountain House Station	--	--	--	30.4	30.4
	Tracy OMF	< 0.1	--	--	201.5	201.5
	West Tracy OMF Alternative	--	--	--	25.9	25.9
Tracy to Lathrop	Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track	45.6	9.8	10.9	51.8	118.1
	River Islands Station	22.7	--	--	--	22.7

Source: California Department of Conservation 2016a.

^a Only proposed and alternate facilities OMFs with impacts are presented in the table. All proposed and alternative facilities with no impact were omitted from this table.

The Proposed Project would traverse a combination of urban lands, grazing lands, and lands with Important Farmland. As summarized in Table 3.2-7, the following proposed alignments, stations, and OMF would result in the conversion of Important Farmland to nonagricultural uses: Isabel Station; Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Mountain House Station; Tracy OMF; Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station. The impact of the Proposed Project is potentially significant.

Operation and Maintenance

Operation of the Proposed Project would involve train operation and maintenance of the system. Train operation would not result in temporary or permanent impacts because of direct or indirect permanent conversion of Important Farmland. Maintenance of the Proposed Project would include

track maintenance, station maintenance, and fleet maintenance. Maintenance would not result in direct or indirect temporary or permanent impacts on Important Farmland because track and station maintenance activities would be conducted inside the acquired railroad ROW.

Alternatives Analyzed at Equal Level of Detail

The Southfront Road Station Alternative, Stone Cut Alignment Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2 would not be located on areas identified as Important Farmland. Therefore, these alternatives would not permanently convert Important Farmland and there would be no impact on Important Farmland from construction of these alternatives.

As summarized in Table 3.2-7, the West Tracy OMF Alternative would result in the conversion of Important Farmland to nonagricultural uses. The impact from construction of the West Tracy OMF Alternative is potentially significant.

In addition, similar to the Proposed Project, operation and maintenance of these alternatives would not result in direct or indirect temporary or permanent impacts on Important Farmland. There would be no impact related to the permanent use of Important Farmland from operation and maintenance of these alternatives.

Mitigation Measures

Mitigation Measure AG-1.2 would be implemented for the Isabel Station; Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Mountain House Station; Tracy OMF; Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station.

Mitigation Measure AG-1.2 would also be implemented for the West Tracy OMF Alternative.

Mitigation Measure AG-1.2: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland)

The Authority will enter into an agreement with the California Department of Conservation and its California Farmland Conservancy Program to implement agricultural land mitigation. The Authority will fund the California Farmland Conservancy Program's work to identify suitable agricultural land for mitigation of impacts and fund the purchase of agricultural conservation easements from willing sellers. The performance standards for this measure are to preserve Important Farmland in an amount commensurate with the quantity and quality of the converted farmlands, within the same agricultural regions where the impacts occur, at a replacement ratio of not less than 1:1 for Important Farmlands that are permanently converted to nonagricultural use by the Proposed Project and 0.5:1 for Important Farmland parcels that are divided into severed or remnant parcels that are not viable for continued agricultural production.

The Authority will document implementation of Mitigation Measure AG-1.2 through completion of the agreement and a report to the Authority Board showing completion of conservation easement acquisition.

Significance with Application of Mitigation

Mitigation Measure AG-1.2 would reduce impacts from permanent conversion of Important Farmland as a result of direct use of the land within the rail ROW by requiring purchase of agricultural conservation easements at a ratio of 1:1 for direct use of Important Farmland. This mitigation measure would be effective in minimizing the overall permanent conversion of Important Farmland to a nonagricultural use because it would preserve Important Farmland in an amount commensurate with the quantity and quality of the converted farmlands and within the same agricultural regions where the impacts would occur. However, because mitigation would not prevent conversion of Important Farmland, the impact from the Proposed Project would be significant and unavoidable due to the Isabel Station; Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Mountain House Station; Tracy OMF; Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station.

For the same reasons listed above, even with implementation of Mitigation Measure AG-1.2, the impact from construction of the West Tracy OMF Alternative would be significant and unavoidable because the mitigation would not prevent conversion of Important Farmland.

Comparison of Alternatives

There would be no permanent impacts on Important Farmland from construction of the proposed Greenville Station and Downtown Tracy Station. In addition, there would be no permanent impacts on Important Farmland within the portion of the Altamont Alignment that the Stone Cut Alignment Alternative would replace. Likewise, there would be no permanent impacts on Important Farmland from construction of the Southfront Road Station Alternative, Stone Cut Alignment Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2. Thus, the Southfront Road Station Alternative, Stone Cut Alignment Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2 would have the same no impact as the proposed Greenville Station and Downtown Tracy Station.

The West Tracy OMF Alternative is located on Important Farmland and would result in a significant and unavoidable impact from the permanent conversion of Important Farmland. The proposed OMF (Tracy OMF) would also result in a significant and unavoidable impact. The proposed Tracy OMF would have a greater impact than the West Tracy OMF Alternative (see Table 3.2-7).

There would be no permanent impacts on Important Farmland from construction of the Mountain House Station Alternative. However, construction of the Mountain House Station would result in a significant and unavoidable impact due to the permanent conversion of Important Farmland (see Table 3.2-7). Thus, the impact related to the permanent conversion of Important Farmland from construction of the Mountain House Station Alternative (no impact) would be much lower than the impacts from construction of the Mountain House Station (significant and unavoidable).

Operation and maintenance of these alternatives would be similar to the operation and maintenance of the Proposed Project and would have the same no impact during operation.

Impact AG-1c: Construction of the Proposed Project could convert Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance to nonagricultural use because of parcel severance or creation of remnant parcels.

Level of Impact Prior to Mitigation	<p>Potentially significant (mitigation required)</p> <p><u>Proposed Project</u> Altamont Alignment Owens-Illinois Industrial Lead Variant 1, Single Track Owens-Illinois Industrial Lead Variant 2, Double Track</p> <p>Less than Significant</p> <p><u>Proposed Project</u> Mountain House Station Tracy OMF Tracy to Lathrop Alignment Variant 1, Single Track Tracy to Lathrop Alignment Variant 2, Double Track River Islands Station</p> <p><u>Alternatives Analyzed at an Equal Level of Detail</u> West Tracy OMF Alternative</p> <p>No Impact</p> <p><u>Proposed Project</u> Tri-Valley Alignment Isabel Station Dublin/Pleasanton Station Greenville Station Interim OMF Downtown Tracy Station North Lathrop Station</p> <p><u>Alternatives Analyzed at an Equal Level of Detail</u> Southfront Road Station Alternative Stone Cut Alignment Alternative Mountain House Station Alternative Downtown Tracy Station Parking Alternative 1 Downtown Tracy Station Parking Alternative 2</p>
Mitigation Measure	AG-1.2: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland)
Level of Impact after Mitigation	Significant and unavoidable

Impact Characterization

As previously discussed in Section 3.2.4.1, *Methods for Analysis*, construction would result in indirect permanent conversion of Important Farmland to nonagricultural use because of parcel severance or creation of remnant parcels. This conversion would occur where the Proposed Project, alternative station, or alternative OMF would (1) sever access to parcels of Important Farmland or (2) create smaller parcels of Important Farmland that would be too small to farm. Access to Important Farmland parcels could be severed if the Proposed Project, alternative station, or alternative OMF (1) bisects the parcel or (2) causes roadway access to be restricted or eliminated, making the Important Farmland parcels inaccessible to farm equipment. Remnant parcels too small to farm are defined as those 20 acres or less. The cause of permanent conversion of Important Farmland, the

creation of Important Farmland on severed or remnant parcels, is an indirect impact on Important Farmland and falls outside the area of direct permanent conversion. Appendix K-2, *Potential Severed and Remnant Parcels*, provides a list of parcels showing property-specific permanent indirect impacts, both severed parcels and remnant parcels that would be too small to farm.

Impact Detail and Conclusions

Proposed Project

Construction

Table 3.2-8 shows the acreage of Important Farmland and number of parcels that would be indirectly permanently converted to nonagricultural use because of the creation of severed or remnant parcels by the Proposed Project. The Proposed Project would not result in severed parcels (i.e., no access).

Table 3.2-8 also includes the acreage of Important Farmland and number of parcels that would be indirectly permanently converted to nonagricultural use because of the creation of severed or remnant parcels for the West Tracy OMF Alternative. This alternative is discussed further below.

Table 3.2-8. Potential Creation of Important Farmland Severed and Remnant Parcels^a (acres)

Proposed Project and West Tracy OMF Alternative	Important Farmland Remnant Parcels	Assessment Acreage	Assessment Number	
	Acres	Number of Affected Parcels	Acreage of Unviable Remnant Parcels ^b	
			Number of Unviable Remnant Parcels ^b	
Altamont Alignment, including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track	40.8 ^c	11 ^c	0.9 ^c	1 ^c
Mountain House Station	0.5 ^c	3 ^c	--	--
Tracy OMF	5.2	5	--	--
West Tracy OMF Alternative	42.5	4	--	--
Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track	92.5	28	--	--
River Islands Station	18.8	4	--	--

Source: California Department of Conservation 2016a.

^a Only proposed and alternative facilities with impacts are presented in the table. All proposed and alternative facilities with no impact were omitted from this table.

^b Determinations of viability are preliminary and based on visual review of aerial photography and assessor's parcel number mapping data rather than ROW analysis, coupled with GIS analysis of identified remnants.

^c An unviable remnant parcel on the Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track) and Mountain House Station belong to the same parcel.

Preliminary analysis suggests that no severed parcels of Important Farmland would be created; access would continue to all parcels affected by construction of the Proposed Project. Although

multiple remnant parcels of Important Farmland would result from construction of the Proposed Project, most of these are adjacent to large tracts of Important Farmland and could continue to be operated for agriculture, if necessary, through acquisition by a neighboring landowner.

The Tri-Valley Alignment, Isabel Station, Dublin/Pleasanton Station and Greenville Station would not result in remnant parcels. Therefore, there would be no impact on Important Farmland from the creation of severed or remnant parcels from the Tri-Valley Alignment, Isabel Station, Dublin/Pleasanton Station, or Greenville Station.

The Altamont segment would traverse primarily Grazing Land. The Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Mountain House Station; and Tracy OMF would result in the creation of 46.5 acres of remnant parcels of Important Farmland from 18 affected parcels. Preliminary assessment suggests that one of the remnant parcels present in 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 unviable for continued agricultural production because it would not be adjacent to other Important Farmland to which it could be joined for future agricultural production. The 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) is potentially significant. The Mountain House Station and Tracy OMF would not result in remnant parcels that would be viable for continued agricultural production and, therefore, the impact from the construction of the Mountain House Station and Tracy OMF would be less than significant. The Interim OMF would not result in remnant parcels. Therefore, there would be no impact on Important Farmland from the creation of severed or remnant parcels from the Interim OMF.

The Tracy to Lathrop segment would traverse urban land and Important Farmland. The Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station would result in the creation of 111.3 acres of remnant parcels from 27 parcels. Preliminary assessment suggests that all these remnant parcels would be viable for continued agricultural production because of shape or adjacency to other parcels in agricultural use. Therefore, the impact on Important Farmland from the creation of severed and remnant parcels would be less than significant. The Downtown Tracy Station and North Lathrop Station would not result in remnant parcels. Therefore, there would be no impact on Important Farmland from the creation of severed or remnant parcels from the Downtown Tracy Station and North Lathrop Station.

Operation and Maintenance

Operation of the Proposed Project would involve train operation and maintenance of the system. Train operation would not result in permanent impacts because of indirect permanent conversion of Important Farmland through parcel severance or the creation of remnant parcels. Maintenance of the Proposed Project includes track maintenance, station maintenance, and fleet maintenance. Maintenance would not result in direct or indirect temporary or permanent impacts on Important Farmland because track and station maintenance activities would be conducted inside the acquired railroad ROW.

Alternatives Analyzed at Equal Level of Detail

The Southfront Road Station Alternative, Stone Cut Alignment Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking

Alternatives 2 would not result in remnant parcels. Therefore, there would be no impact on Important Farmland from the creation of severed or remnant parcels from these alternatives.

The West Tracy OMF Alternative would result in the creation of 42.5 acres of remnant parcels from four parcels. These remnant parcels would remain viable for continued agricultural production. Thus, this impact would be less than significant.

Operation and maintenance of these alternatives would be similar to the operation and maintenance of the Proposed Project and would have the same no impact during operation and maintenance.

Mitigation Measures

Mitigation Measure AG-1.2 would be implemented for the Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track).

Mitigation Measure AG-1.2: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland)

Refer to measure description under Impact AG-1b.

Significance with Application of Mitigation

Implementation of Mitigation Measure AG-1.2 would reduce impacts from permanent conversion of Important Farmland because of the creation of severed or remnant parcels by requiring the purchase of agricultural conservation easements at a ratio of 0.5:1 for remnant parcels. This mitigation measure would be effective in minimizing the overall permanent conversion of Important Farmland to a nonagricultural use because it would preserve Important Farmland in an amount commensurate with the quantity and quality of the affected farmlands and within the same agricultural regions where the impacts occur. However, because the analysis has taken the approach that the loss of any Important Farmland is significant and mitigation would not prevent conversion of Important Farmland, the impact from the Proposed would be significant and unavoidable due to the Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track).

Comparison of Alternatives

There would be no impact from the creation of severed or remnant parcels from construction of the proposed Greenville Station and Downtown Tracy Station. In addition, there would be no impact from the creation of severed or remnant parcels from the portion of the Altamont Alignment that the Stone Cut Alignment Alternative would replace. Likewise, there would be no impact from the creation of severed or remnant parcels from construction of the Southfront Road Station Alternative, Stone Cut Alignment Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2. Thus, the Southfront Road Station Alternative, Stone Cut Alignment Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2 would have the same no impact as the proposed Greenville Station, portion of the Altamont Alignment, and Downtown Tracy Station.

The West Tracy OMF Alternative would create remnant parcels that would be viable and would result in a less-than-significant impact. Likewise, the proposed Tracy OMF would create remnant parcels that would be viable and would result in a less-than-significant impact. The West Tracy OMF

Alternative would create the greatest amount of remnant parcels of Important Farmland, resulting in 42.5 acres of remnant parcels of Important Farmland from four parcels. The Tracy OMF would create a smaller area of remnant parcels of Important Farmland (5.2 acres from five parcels). All these remnants are anticipated to remain viable for continued agricultural use. The West Tracy OMF Alternative and the proposed Tracy OMF would both result in a less-than-significant impact.

There would be no impact from the creation of severed or remnant parcels from the Mountain House Station Alternative. However, while construction of the Mountain House Station would create a remnant parcel, it would be viable for continued agricultural use and thus would result in a less-than-significant impact. Thus, the impact related to the creation of remnant parcels from construction of the Mountain House Station Alternative (no impact) would be slightly lower than the impacts from construction of the Mountain House Station (less than significant).

Operation and maintenance of these alternatives would be similar to the operation and maintenance of the Proposed Project and would have the same no impact during operation and maintenance.

Impact AG-2: Construction of the Proposed Project would conflict with existing zoning for agricultural use or a Williamson Act contract.

Level of Impact	<p>Less than significant <u>Alternatives Analyzed at an Equal Level of Detail</u> West Tracy OMF Alternative</p> <p>No Impact <u>Proposed Project</u> Tri-Valley Alignment Dublin/Pleasanton Station Isabel Station Greenville Station Altamont Alignment, variants 1 and 2 Mountain House Station Interim OMF Tracy OMF Tracy to Lathrop Alignment, variants 1 and 2 Downtown Tracy Station River Islands Station North Lathrop Station</p> <p><u>Alternatives Analyzed at an Equal Level of Detail</u> Southfront Road Station Alternative Stone Cut Alignment Alternative Mountain House Station Alternative Downtown Tracy Station Parking Alternative 1 Downtown Tracy Station Parking Alternative 2</p>
Mitigation Measure	None required

Impact Characterization

Construction could result in the cancellation of Williamson Act or FSZ contracts on Important Farmland that is under such contract and that intersects the new ROW. Permanently removing

portions of parcels from agricultural use could result in remainder agricultural parcels containing Important Farmland that are currently under Williamson Act or FSZ contract becoming smaller than the county threshold for Williamson Act or FSZ contracts. Remainder parcels of this type may become ineligible for continued inclusion in the protection program and thus could indirectly result in the conversion of agricultural use to nonagricultural use.

Table 3.2-9 shows the minimum acreage requirements for parcels to be included in Williamson Act and FSZ protection programs by county. The creation of remnant parcels that are below each county's threshold for Williamson Act and FSZ contracts could result in a change in a parcel's tax status, which may affect agricultural profitability if property taxes increase as a result. Appendix K-3 lists parcels that would be affected by the Proposed Project, alternative stations, and alternative OMF.

Table 3.2-9. Williamson Act and Farmland Security Zone Minimum Parcel Size Requirements by County (acres)

County	Williamson Act		Farmland Security Zone	
	Prime Soils	Non-prime Soils	Prime Soils	Non-prime Soils
Alameda County	10	40	n/a	n/a
San Joaquin County	20	40	20	40

Source: County of Alameda 2011; County of San Joaquin 2015

Based on a review of the NCED database for the study area (NCED 2019), no agricultural easements would be affected by the Proposed Project, alternative stations, or the alternative OMF; therefore, the Proposed Project, alternative stations, or the alternative OMF would not affect land that is under an agricultural conservation easement.

Impact Detail and Conclusions

Proposed Project

Construction

Important Farmland under Williamson Act or FSZ contract that lies within the Proposed Project's ROW would be permanently removed from uses that are consistent with the contracts, including agricultural uses. Removal of this land from parcels that are under contract could result in the creation of remainder parcels that would fall below county thresholds for these contracts, as shown in Table 3.2-9 above. The creation of remainder parcels that would be below each county's threshold for Williamson Act or FSZ contracts would result in the land being removed from contract and could additionally result in a change in a parcel's tax status, which may affect agricultural profitability and viability if property taxes increase. Any remnant parcels of Important Farmland that would be too small to be viable for continued agricultural use or that would be severed from access are analyzed separately under Impact AG-1c. Therefore, the only remainder parcels that this analysis considers would be on non-prime soils with remainder parcel sizes less than 40 acres but greater than or equal to 20 acres. GIS analysis shows that the Proposed Project would create no remainder parcels of less than 40 acres of land under Williamson Act contract on non-prime soil in the study area.

None of the proposed alignments, stations, or OMFs of the Proposed Project could reduce parcels enough in size after construction that they would no longer qualify to remain under Williamson Act

contract. There would be no impact resulting from creation of remainder parcels of Important Farmland under Williamson Act contract due to the Proposed Project.

Appendix K-3, *Williamson Act Impacts by Parcel*, provides the list of parcels under Williamson Act contract that could be affected by construction of the Proposed Project; their original acreage and their resulting acreage construction; and the total number and acreage of parcels that would be smaller than each county's threshold for protected farmland contracts.

Because none of the proposed alignments, stations, or OMFs would create remainder parcels of land under Williamson Act that includes Important Farmland in addition to those remnant parcels already accounted for under Impact AG-1c, there would be no impact.

Operation and Maintenance

Operation of the Proposed Project would involve train operation and maintenance activities. Operation would not affect land under Williamson Act and FSZ contracts through permanent use of land the Proposed Project. Maintenance of the Proposed Project would include track maintenance, station maintenance, and fleet maintenance. Maintenance would take place within the rail ROW. Therefore, maintenance would not affect land under Williamson Act and FSZ contracts through permanent use of the land. No impact would result from operation and maintenance of the Proposed Project.

Alternatives Analyzed at Equal Level of Detail

The Southfront Road Station Alternative, Stone Cut Alignment Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2 are not located on land under Williamson Act contract; therefore, construction of these alternative stations would result in no impact from the permanent use of land under Williamson Act.

The West Tracy OMF Alternative could result in permanent use of land under Williamson Act contract. However, the affected remainder parcel is on prime soils and is therefore accounted for under Impact AG-1c. Further, according to viability analysis, the remainder parcel would be viable for continued agricultural use because of its adjacency to other Important Farmland in agricultural use. Therefore, the impact on Williamson Act from the West Tracy OMF Alternative would be less than significant.

In addition, similar to the Proposed Project, operation and maintenance of these alternatives would not affect land under Williamson Act and FSZ contracts. There would be no impact related to the permanent use of lands under Williamson Act and FSZ contracts from operation and maintenance of these alternatives.

Impact AG-3a: Construction and operation of the Proposed Project could result in the conversion of Important Farmland to nonagricultural use through temporary or permanent disruption of agricultural infrastructure.

Level of Impact Prior to Mitigation	Potentially significant (mitigation required)
	<p><u>Proposed Project</u></p> <p>Isabel Station Altamont Alignment Owens-Illinois Industrial Lead Variant 1, Single Track Owens-Illinois Industrial Lead Variant 2, Double Track Mountain House Station Tracy OMF Tracy to Lathrop Alignment Variant 1, Single Track Tracy to Lathrop Alignment Variant 2, Double Track River Islands Station</p>
	<p><u>Alternatives Analyzed at an Equal Level of Detail</u></p> <p>West Tracy OMF Alternative</p>
	No impact
	<p><u>Proposed Project</u></p> <p>Tri-Valley Alignment Dublin/Pleasanton Station Greenville Station Interim OMF Downtown Tracy Station North Lathrop Station</p>
	<p><u>Alternatives Analyzed at an Equal Level of Detail</u></p> <p>Southfront Road Station Alternative Stone Cut Alignment Alternative Mountain House Station Alternative Downtown Tracy Station Parking Alternative 1 Downtown Tracy Station Parking Alternative 2</p>
Mitigation Measures	<p>Mitigation Measure AG-3.1: Notify agricultural property owners or leaseholders</p> <p>Mitigation Measure AG-3.2: Coordinate with utility and energy service providers</p> <p>Mitigation Measure AG-3.3: Verify new irrigation facilities are operational before disconnecting the original facility</p> <p>Mitigation Measure AG-3.4: Maintain access to Important Farmlands</p> <p>Mitigation Measure AG-3.5: Provide permanent equipment crossings on affected access roads</p> <p>TRA-1.1: Transportation Management Plan for Project Construction</p>
Level of Impact after Mitigation	Less than Significant

Impact Characterization

Construction could temporarily or permanently disrupt agricultural infrastructure serving Important Farmland. Construction could result in temporary service interruption for utilities if utilities must be relocated to accommodate construction activities. Furthermore, construction could temporarily or permanently disrupt access to irrigation infrastructure or farm road access if irrigation infrastructure or roads are temporarily closed, permanently closed, or relocated.

Impact Detail and Conclusions

Proposed Project

Construction

Construction of the Proposed Project would involve realigning and widening roadways; constructing new track or reconstructing existing track; constructing track and roadway supporting structures, such as new bridges (track or roadway over waterway) and grade separation structures; and constructing new station facilities, such as station platforms with amenities, station and station tail tracks, and passenger amenities such as parking and bus pull-outs. Because all segments would include Important Farmland adjacent to the Proposed Project (see Tables 3.2-6 and 3.2-7, above), all segments also include infrastructure essential to agricultural operation.

Construction activities that temporarily or permanently affect Important Farmland (see Table 3.2-6 and Table 3.2-7) have the potential to temporarily or permanently disrupt agricultural infrastructure as a result of service interruptions; service shutdowns; or relocations of utilities, farm roads, and irrigation infrastructure. If temporary or permanent service, irrigation, or farm road interruptions or relocations are not coordinated with agricultural producers, agricultural operations could be affected, potentially resulting in the conversion of Important Farmland. A summary of potential impacts is included below:

- Temporary interruption of utility services during construction could result in a lack of power to drive irrigation devices, heating or cooling devices, and other essential agricultural activities.
- Temporary interruption or permanent relocation of irrigation infrastructure during construction could result in either insufficient irrigation water being provided or the incorrect timing for irrigation water.
- Temporary interruption or permanent relocation of farm roads could temporarily or permanently inhibit access to agricultural fields, thereby interfering with producers' ability to plant, maintain, and harvest their crops. In addition, interruption of farm road infrastructure could also limit or eliminate access to irrigation canals and ditches used for irrigation and drainage. If road access is not maintained or travel times to existing or relocated irrigation facilities are not communicated to users, major canal breaches could result in damage to agricultural lands (crops). The extent of the damage would depend on the duration of the disruption and the crop type. Damage to permanent crops⁴ could result in a longer delay in the return to full productivity compared with the irrigation of seasonal row crops. Furthermore, interruption or relocation of road infrastructure could temporarily or permanently interfere with the movement of livestock.

⁴ The term *permanent crops* refers to crops grown for many seasons, such as grapes, fruits, nuts, or olives. It does not include tree farms.

Some of the Proposed Project would be constructed on land that is currently designated as Grazing Land by the California Department of Conservation FMMP, which could affect agricultural infrastructure associated with grazing operations. Grazing land is not considered Important Farmland under CEQA; however, a disruption to agricultural infrastructure serving grazing land could have indirect (i.e., downstream) effects on agricultural productivity of grazing land. Because grazing land is not Important Farmland, effects on grazing land are not considered in this analysis.

In the Tri-Valley segment, Isabel Station is on Important Farmland that would either be temporarily or permanently used (see Tables 3.2-6 and 3.2-7). The potential exists for construction of the Isabel Station to temporarily or permanently interrupt utilities, irrigation infrastructure, and farm access roads. The impact for the Isabel Station is potentially significant. The Tri-Valley Alignment, Dublin/Pleasanton Station, and Greenville Station are not on or adjacent to Important Farmland. Therefore, the Tri-Valley Alignment, Dublin/Pleasanton Station and Greenville Station would not have potential to interrupt or relocate agricultural infrastructure. No impacts would occur for the Tri-Valley Alignment, Dublin/Pleasanton Station and Greenville Station and no mitigation would be required.

In the Altamont segment, the Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and Owens-Illinois Industrial Lead Variant 2, Double Track); Mountain House Station; and Tracy OMF are on or adjacent to Important Farmland that would be either temporarily or permanently used (see Tables 3.2-6 and 3.2-7). The potential exists for construction of this proposed alignment, station, and OMF to temporarily or permanently interrupt utilities, irrigation infrastructure, and farm access roads. The impact for this proposed alignment, station, and OMF is potentially significant. The Interim OMF is not on or adjacent to Important Farmland. Therefore, the Interim OMF would not have potential to interrupt or relocate agricultural infrastructure. The Interim OMF would have no impact and no mitigation would be required.

In the Tracy to Lathrop segment, the Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station are on or adjacent to Important Farmland that would be either temporarily or permanently uses (see Tables 3.2-6 and 3.2-7). The potential exists for construction of this proposed alignment and station to temporarily or permanently interrupt utilities, irrigation infrastructure, and farm access roads. The impact for this proposed alignment and station is potentially significant. The Downtown Tracy Station and the North Lathrop Station are not on or adjacent to Important Farmland and therefore would not have the potential to interrupt or relocate agricultural infrastructure. The Downtown Tracy Station and the North Lathrop Station would have no impact and no mitigation would be required.

Operation and Maintenance

Operation of the Proposed Project would involve train operation. Maintenance of the Proposed Project would include track maintenance, station maintenance, and fleet maintenance. Of these activities, train operation and track and station maintenance have potential to affect agricultural infrastructure and confined animal agriculture.

Project operation would not disrupt agricultural infrastructure. However, maintenance on or adjacent to Important Farmland permanently used by the Proposed Project (see Table 3.2-7) could have potential to disrupt agricultural infrastructure temporarily because of service interruptions or temporary relocations of farm roads. If temporary service interruptions or temporary road relocations are not coordinated with agricultural producers, agricultural operations could be temporarily affected, potentially resulting in conversion of Important Farmland. No permanent

disruption of agricultural infrastructure is anticipated because of Proposed Project operations and maintenance.

A summary of potential impacts is included below:

- Temporary interruption of utility services during maintenance activities could result in a lack of power to drive irrigation devices, heating or cooling devices, and other essential agricultural activities.
- Temporary interruption or relocation of irrigation infrastructure during operation and maintenance activities could result in either insufficient irrigation water being provided or the incorrect timing of irrigation water.
- Temporary interruption of farm roads during maintenance activities could temporarily inhibit access to agricultural fields, thereby interfering with producers' ability to plant, maintain, and harvest their crops. In addition, interruption of road infrastructure could also limit or eliminate access to irrigation canals and ditches used for irrigation and drainage. If access roads are not maintained or travel times to existing or relocated irrigation facilities are not communicated to users, any major canal breaches that may occur as a result of non-project related events could cause increased damage to agricultural lands (crops) because of the increased time required to reach the breach for repair. The extent of the damage would depend on the duration of the disruption and the crop type. Damage to permanent crops⁵ could result in a longer delay in the return to full productivity compared with the irrigation of seasonal row crops. However, adherence to stipulations in the construction management plan prepared in response to encroachment permit requirements would ensure that quick and efficient access to canals is maintained.

The Proposed Project would involve operation on land currently designated as grazing land by the California Department of Conservation FMMP and would affect agricultural infrastructure associated with grazing operations. Grazing is not considered Important Farmland under CEQA; however, disruption to agricultural infrastructure serving grazing land could have indirect (i.e., downstream) effects on agricultural productivity of grazing land. Because grazing land is not Important Farmland, effects on grazing land are not considered in this analysis.

In the Tri-Valley segment, Isabel Station is on Important Farmland. The potential exists for maintenance activities for Isabel Station to temporarily interrupt utilities and farm access roads, which would be a potentially significant impact. The Tri-Valley Alignment, Dublin/Pleasanton Station, and Greenville Station are not on or adjacent to Important Farmland and therefore would not have the potential to interrupt agricultural infrastructure, and no impact would occur.

In the Altamont segment, the Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Mountain House Station; and Tracy OMF are on or adjacent to Important Farmland. The potential exists for maintenance of this proposed alignment, station, and OMF to temporarily interrupt utilities and farm access roads, which would be a potentially significant impact. The Interim OMF is not on or adjacent to Important Farmland and therefore would not have the potential to interrupt agricultural infrastructure, and no impact would occur.

⁵ The term *permanent crops* refers to crops grown for many seasons, such as grapes, fruits, nuts, or olives. It does not include tree farms.

In the Tracy to Lathrop segment, the Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station are on or adjacent to Important Farmland. The potential exists for maintenance of these proposed alignments and stations to temporarily interrupt utilities and farm access roads, which would be a potentially significant impact. The Downtown Tracy Station and North Lathrop Station are not on or adjacent to Important Farmland and therefore would not have the potential to interrupt agricultural infrastructure, and no impact would occur.

Alternatives Analyzed at Equal Level of Detail

The Southfront Road Station Alternative, Stone Cut Alignment Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2 are not on or adjacent to Important Farmland and therefore would not have the potential to interrupt agricultural infrastructure during construction or operation. These alternatives would have no impact during construction or operation.

The West Tracy OMF Alternative is on or adjacent to Important Farmland (see Tables 3.2-6 and 3.2-7). The potential exists for construction and operation of the West Tracy OMF Alternative to temporarily or permanently interrupt utilities, irrigation infrastructure, and farm access roads. The impact for the West Tracy OMF Alternative is potentially significant during construction and operations.

Mitigation Measures

The following mitigation measures would be implemented for the Isabel Station; Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Mountain House Station; Tracy OMF; Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station.

The following mitigation measures would also be implemented for the West Tracy OMF Alternative.

Mitigation Measure AG-3.1: Notify agricultural property owners or leaseholders

Prior to the start of any construction or maintenance activity on or adjacent to Important Farmland that would result in temporary use of Important Farmland, the Authority will provide written notification to agricultural property owners or leaseholders immediately adjacent to the footprint of the alignment, station, or OMF. The notification will indicate the intent to begin construction or maintenance, including the estimated date for the start of construction or maintenance activities. In order to provide agricultural property owners or leaseholders sufficient lead time and make any changes to their operations due to construction or maintenance, this notification shall be provided at least 3 months but no more than 12 months prior to the start of the activity.

Mitigation Measure AG-3.2: Coordinate with utility and energy service providers

Prior to construction, the contractor will prepare a technical memorandum documenting how construction or maintenance activities that could affect utility or energy service deliveries would be coordinated with service providers to minimize or avoid interruptions. The technical memorandum will be provided to the Authority for review and approval.

Mitigation Measure AG-3.3: Verify new irrigation facilities are operational before disconnecting the original facility

Where relocating an irrigation facility is necessary, the contractor will verify the new facility is operational prior to disconnecting the original facility, where feasible. The contractor will document all relocations in a memorandum for Authority review and approval.

Mitigation Measure AG-3.4: Maintain access to Important Farmlands

Where construction would temporarily affect existing farm access roads with valid use rights serving Important Farmland, the Authority will coordinate with agricultural property owners or leaseholders to provide temporary access, as necessary to maintain routine agricultural operations and normal business activities during Project construction. If temporary crossings are necessary, they shall comply with State legal requirements for railroad crossings.

Mitigation Measure AG-3.5: Provide permanent equipment crossings on affected access roads

Where construction would permanently affect existing farm access roads with valid use rights serving Important Farmland, the Authority will coordinate with agricultural property owners or leaseholders to provide permanent access, as necessary to maintain routine agricultural operations and normal business activities. If new crossings are necessary, they shall comply with State legal requirements for railroad crossings.

Mitigation Measure TRA-1.1: Transportation Management Plan for Project Construction

Refer to measure description under Impact TRA-1 in Section 3.17.

Significance with Application of Mitigation**Proposed Project*****Construction***

Implementation of Mitigation Measures AG-3.1, AG-3.2, AG-3.3, AG-3.4, AG-3.5, and TRA-1.1 would reduce impacts from temporary and permanent disruption of agricultural infrastructure serving Important Farmland during construction to a less-than-significant level. The mitigation measures would be effective in minimizing conversion of Important Farmland to nonagricultural uses for the reasons listed below.

- Mitigation Measure AG-3.1 will require that the construction schedule be communicated to agricultural property owners and leaseholders of Important Farmland adjacent to the Proposed Project to allow them time to adjust operations to accommodate the planned construction activities.
- Mitigation Measure AG-3.2 will require that utility and energy service disruptions because of construction be coordinated with utility and energy service providers to minimize or avoid disruptions.
- Mitigation Measure AG-3.3 will require the contractor to verify a new irrigation facility is operational prior to disconnecting the original facility to maintain continuity of irrigation services.

- Mitigation Measure AG-3.4 will require that access to Important Farmlands be maintained during construction.
- Mitigation Measure AG-3.5 will require that permanent access be provided at the end of construction if access is interrupted, to allow for continued movement during agricultural operations.
- Mitigation Measure TRA-1.1 will require development and implementation of a transportation management plan for the construction period, which will minimize construction effects on transportation movement, including movement associated with agricultural operations.

With implementation of these mitigation measure, the impact from temporary and permanent disruption of agricultural infrastructure serving Important Farmland during construction would be less than significant for the Proposed Project [due to the Isabel Station; Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Mountain House Station; Tracy OMF; Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station].

As with the Proposed Project, construction of the West Tracy OMF Alternative could result in a potentially significant impact during construction due to the temporary and permanent disruption of agricultural infrastructure serving Important Farmland. For the same reasons listed above, implementation of Mitigation Measures AG-3.1, AG-3.2, AG-3.3, AG-3.4, AG-3.5, and TRA-1.1 would reduce these potential impacts to a less-than-significant level.

Operations and Maintenance

Implementation of Mitigation Measures AG-3.1, AG-3.2, and AG-3.3 would reduce impacts from temporary of agricultural infrastructure serving Important Farmland during maintenance activities to a less-than-significant level. The mitigation measures would be effective in minimizing the conversion of Important Farmland to nonagricultural uses for the reasons listed below.

- Mitigation Measure AG-3.1 will require that the maintenance schedule be communicated to agricultural property owners and leaseholders of Important Farmland adjacent to the Proposed Project to allow them time to adjust operations and accommodate planned maintenance activities.
- Mitigation Measure AG-3.2 will require that utility and energy service disruptions because of maintenance activities be coordinated with utility and energy service providers to minimize or avoid disruptions.
- Mitigation Measure AG-3.3 will require the contractor to verify a new irrigation facility is operational prior to disconnecting the original facility to maintain continuity of irrigation services.

With implementation of these mitigation measure, the impact from temporary and permanent disruption of agricultural infrastructure serving Important Farmland during operation and maintenance would be less than significant for the Proposed Project [due to Isabel Station; Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Mountain House Station; Tracy OMF; Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station].

As with the Proposed Project, maintenance of the West Tracy OMF Alternative could result in a potentially significant impact during maintenance due to the temporary and permanent disruption of agricultural infrastructure serving Important Farmland. For the same reasons listed above, implementation of Mitigation Measures AG-3.1, AG-3.2, and AG-3.3 would reduce these potential impacts to a less-than-significant level.

Alternatives Analyzed at Equal Level of Detail

The Southfront Road Station Alternative, Stone Cut Alignment Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2 would not have the potential to interrupt agricultural infrastructure during construction or operation. Likewise, the proposed Greenville Station, portion of the Altamont Alignment, and Downtown Tracy Station would not have the potential to interrupt agricultural infrastructure during construction or operation. Thus, the Southfront Road Station Alternative, Stone Cut Alignment Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2 would have the same no impact during construction and operation as the proposed Greenville Station, portion of the Altamont Alignment, and Downtown Tracy Station.

The West Tracy OMF Alternative and the proposed Tracy OMF are both on or adjacent to Important Farmland. Construction and maintenance of the West Tracy OMF Alternative and the proposed Tracy OMF could both have a potentially significant impact from the interruption of agricultural infrastructure. The West Tracy OMF Alternative and the proposed Tracy OMF differ with respect to their proximity to Important Farmland. The West Tracy OMF Alternative is on grazing land and Farmland of Local Importance. The proposed Tracy OMF is on Prime Farmland and Farmland of Local Importance, with a small area of grazing land, and would be constructed over a portion of an irrigation canal. In addition, the proposed Tracy OMF is the largest facility and located on the largest area of Important Farmland. Therefore, the Tracy OMF would have the greatest potential to disrupt agricultural infrastructure on or adjacent to Important Farmland temporarily or permanently. Nonetheless, the impacts associated with the Tracy OMF or West Tracy OMF Alternative would both be less than significant with mitigation.

The Mountain House Station Alternative would not have the potential to interrupt agricultural infrastructure during construction or operation. However, construction and operation of the Mountain House Station would result in a potentially significant impact on agricultural infrastructure that would be reduced to a less-than-significant level with mitigation. Thus, the impact on agricultural infrastructure from construction and operation of the Mountain House Station Alternative (no impact) would be lower than the impacts from construction and operation of the Mountain House Station (less than significant after mitigation).

Impact AG-3b: Construction and operation of the Proposed Project would not result in conversion of Farmland to nonagricultural use through temporary or permanent displacement or severance of confined animal agriculture capital improvements.

Level of Impact	Less than Significant
	<u>Proposed Project</u>
	Tracy to Lathrop Alignment Variant 1, Single Track
	Tracy to Lathrop Alignment Variant 2, Double Track
	No impact
	<u>Proposed Project</u>
	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
 Interim OMF
 Mountain House Station
 Tracy OMF
 Downtown Tracy Station
 River Islands Station
 North Lathrop Station

Alternatives Analyzed at an Equal Level of Detail

Southfront Road Station Alternative
 Stone Cut Alignment Alternative
 West Tracy OMF Alternative
 Mountain House Station Alternative
 Downtown Tracy Station Parking Alternative 1
 Downtown Tracy Station Parking Alternative 2

Mitigation Measures **None required**

Impact Characterization

Construction could temporarily or permanently displace or sever capital improvements in confined animal facilities such as wastewater treatment ponds, milking facilities, and feedlots. In addition, construction could result in the conversion of the land on which confined animal facilities are located or the temporary or permanent use wastewater disposal croplands. Confined animal agriculture facilities consist of two types: (1) confined animal facilities where the confined animals are housed and fed, and their wastewater is processed and (2) wastewater disposal croplands where wastewater is disposed. Both types of facilities must be permitted by the relevant Regional Water Quality Control Board. The relocation or reconfiguration of capital improvements associated with confined animal agriculture operations could require undergoing a time-consuming process to obtain water quality permits to replace the lost facility. Precluding access to croplands that receive dairy wastewater would require modification of the affected dairy's waste management and nutrient management plans and could require farmers to pay for off-site waste disposal or reduce their herd sizes. Financial hardship because of modifying wastewater disposal permits or reducing herd size could jeopardize the commercial viability of a confined animal agriculture facility. Both types of effect could lead to temporary or long-term decreased agricultural production, dairy closure, and potential conversion of agricultural land to nonagricultural use.

Construction staging could have a direct impact on agricultural farmland if temporary work areas (e.g., staging) or permanent structures are placed in areas designated as Important Farmland (discussed under Impacts AG-1a and AG-1b) or as confined animal facility operations, if the construction easement or permanent footprint would require temporary or permanent relocation of capital improvements, including structures, pens, wastewater treatment lagoons, and waste/wastewater management land.

Impact Detail and Conclusions

Proposed Project

Construction

The following proposed alignments, stations, and OMFs would not be located near confined animal agriculture facilities: Tri-Valley Alignment; Dublin/Pleasanton Station; Isabel Station; Greenville Station; Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Interim OMF; Mountain House Station; Tracy OMF; Downtown Tracy Station; River Islands Station; and North Lathrop Station. Thus, these proposed alignments, stations, and OMFs would have no impact on structures, pens, wastewater treatment lagoons, or wastewater disposal fields.

As shown in Table 3.2-12, the only confined animal facilities located near the Proposed Project are near the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track. The Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track would not affect any structures, pens, or wastewater treatment lagoons in any of the confined animal facilities. However, all these confined animal facilities are near fields that have been identified through inspection of aerial imagery as wastewater disposal fields, which also are adjacent to these alignments. Table 3.2-11 shows the acreage of the wastewater disposal fields associated with each nearby confined animal facility that would be temporarily or permanently used by the Proposed Project.⁶ However, all the wastewater disposal fields are also categorized as Important Farmland under the FMMP, and these temporary impacts are accordingly accounted for above in Impact AG-1. Therefore, the impact is less than significant, and no mitigation is required.

Operation and Maintenance

Operation of the Proposed Project would involve train operation. Maintenance of the Proposed Project would include track maintenance, station maintenance, and fleet maintenance. Train operation and track and station maintenance would not affect capital improvements or wastewater disposal fields. Maintenance of Proposed Project operations and maintenance activities would not affect capital improvements and wastewater disposal fields because they would take place within an acquired ROW. Thus, there would be no impact from operation and maintenance of the Proposed Project.

⁶ Table 3.2-11 also discusses approximate noise level, discussed in Impact AG-3c.

Table 3.2-10. Confined Animal Facilities Temporarily and Permanently Affected by the Proposed Project within 2,500 Feet of Proposed Project^a

Proposed Alignments	Facility Location	Distance of Confined Animal Facility from Track Centerline (feet)	Approximate Noise Level at Holding Area (Construction) (dBA)	Approximate Noise Level at Holding Area (Operation) (dBA)^b	Temporary Effect on Capital Improvements	Permanent Effect on Capital Improvements
Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track	West Schulte Road, southwest of Tracy	0	76.9	70.4	No effect on structures, pens, or lagoons; 0 acres of wastewater disposal field	No effect on structures, pens, or lagoons; 3.3 acres of wastewater disposal field
	Banta Road, northeast of Tracy	0	80.5	74.5	No effect on structures, pens, or lagoons; 0 acres of wastewater disposal field	No effect on structures, pens, or lagoons; 4.4 acres of wastewater disposal field
	Berry Avenue, northeast of Tracy	650	64.4	58.8	No effect on structures, pens, or lagoons; 0 acres of wastewater disposal field	No effect on structures, pens, or lagoons; 2.5 acres of wastewater disposal field
	Cedar Avenue, northeast of Tracy	1,600	61.0 ^b	52.5 ^c	No effect on structures, pens, or lagoons; 0 acres of wastewater disposal field	No effect on structures, pens, or lagoons; 0 acres of wastewater disposal field

Sources: California Department of Conservation 2016b, 2016c; Google Earth 2019a.

^a Only proposed and alternative facilities with impacts are presented in the table. All proposed and alternative facilities with no impact were omitted from this table.

^b The noise presented in this column represents the noise due to operation of the DLH technology variant. Because this technology variant would be louder than the other technology variants, this represents a conservative estimate of the potential noise at these holding areas.

^c Noise and vibration analysis at the Cedar Avenue confined animal facility includes analysis of vibration from pile-driving at the Paradise Cut bridge construction site.

dBA = A-weighted decibel

Alternatives

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 would not be located near confined animal agriculture facilities. Thus, construction, operation, and maintenance of these alternatives would have no impact on structures, pens, wastewater treatment lagoons, or wastewater disposal fields.

Comparison of Alternatives

There would be no confined animal facilities located near the alternatives analyzed at an equal level of detail (Southfront Road Station Alternative, Stone Cut Alignment Alternative, West Tracy OMF Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternatives 1, and Downtown Tracy Station Parking Alternative 2) or the proposed stations, alignments, and OMF (Greenville Station, Altamont Alignment, Mountain House Station, and Downtown Tracy Station). Thus, these alternatives would have the same no impact during construction or operations as the Proposed Project.

Impact AG-3c: Construction and operation of the Proposed Project would not result in conversion of Farmland to nonagricultural use through temporary or permanent noise and vibration impacts on confined farm animals.

Level of Impact	<p>Less than Significant <u>Proposed Project</u> Tracy to Lathrop Alignment Variant 1, Single Track Tracy to Lathrop Alignment Variant 2, Double Track</p> <p>No impact <u>Proposed Project</u> 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 Interim OMF Mountain House Station Tracy OMF Downtown Tracy Station River Islands Station North Lathrop Station</p> <p><u>Alternatives Analyzed at an Equal Level of Detail</u> Southfront Road Station Alternative Stone Cut Alignment Alternative West Tracy OMF Alternative Mountain House Station Alternative Downtown Tracy Station Parking Alternative 1 Downtown Tracy Station Parking Alternative 2</p>
Mitigation Measures	None required

Impact Characterization

Construction would generate noise and vibration from construction equipment and vehicles. Operation would also increase noise exposure through increased frequency of trains passing by confined animal facilities. Confined animals that are unable to walk away from the noise source would experience increased exposure to noise. Noise and vibration can affect farm animal behavior and productivity and induce behavioral changes. Background levels in cattle barns range from 61 to 90 decibels (dB). The noise threshold expected to cause a behavioral response by cattle is 85 to 90 dB (Broucek 2014). Noises greater than threshold have provoked retreat, freezing, or strong startle response. In addition, noise in this range and greater has been observed to change hormone levels, reduce milk yield, and reduce feeding. Thresholds for discomfort for cattle has been noted at 90 to 100 dB, with physical damage to the ear occurring at 110 dB. Because background levels can range as high as 90 dB and the threshold for discomfort is 90 dB, if construction noise or new train operational noise levels are greater than 90 dB in areas that do not already experience train operations today, then a significant impact is considered possible. Table 3.2-11 identifies the approximate noise level (during construction and operation) at holding areas for confined animal facilities within 2,500 feet of the Proposed Project.

Impact Detail and Conclusions

Proposed Project

Construction

If noise levels are 90 dB or greater at the site where the animals are confined, the noise could stress the animals, resulting in changed hormone levels, reductions in milk yield, and reductions in feeding, all of which could lead to reduced productivity.

The following proposed alignments, stations, and OMFs would not be located near confined animal agriculture facilities: Tri-Valley Alignment; Dublin/Pleasanton Station; Isabel Station; Greenville Station; Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Interim OMF; Mountain House Station; Tracy OMF; Downtown Tracy Station; River Islands Station; and North Lathrop Station. Thus, these proposed alignments, stations, and OMFs would not result in a noise level of 90 dB at the site where animals are confined. There would be no impact due to construction of these proposed alignments, stations, and OMFs. No mitigation is required.

As shown in Table 3.2-11, the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track are close to four confined animal agriculture facilities. Of these four facilities, two have animal holding areas that would be within 50 feet of the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track. Construction of the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track would generate noise and vibration from construction equipment and vehicles. However, none of the holding areas is close enough to construction to result in a noise level of 90 dB at the site where animals are confined. Construction noise would therefore be below levels that would be likely to cause substantial disruption to animals at these facilities. The impact would be less than significant. No mitigation is required.

Operation and Maintenance

Operation of the Proposed Project would involve train operation. Maintenance of the Proposed Project would include track maintenance, station maintenance, and fleet maintenance. Of these activities, train operation and track and station maintenance have the potential to affect confined animal agriculture. Project operation and maintenance would generate noise from train operations and maintenance. If noise levels are 90 dB or greater at the site where animals are confined, the noise could stress the animals, resulting in changed hormone levels, reductions in milk yield, and reductions in feeding, all of which could lead to reduced productivity.

The following proposed alignments, stations, and OMFs would not be located near confined animal agriculture facilities: Tri-Valley Alignment; Dublin/Pleasanton Station; Isabel Station; Greenville Station; Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track); Interim OMF; Mountain House Station; Tracy OMF; Downtown Tracy Station; River Islands Station; and North Lathrop Station. Thus, these proposed alignments, stations, and OMFs would not result in an operational noise level of 90 dB at the site where animals are confined. There would be no impact due to operation of these proposed alignments, stations, and OMFs. No mitigation is required.

As shown in Table 3.2-11, the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track are close to four confined animal agriculture facilities. Of these four facilities, two have animal holding areas that would be within 50 feet of the proposed alignment. However, none of the holding areas is close enough for operation of the proposed alignment to result in a noise level of 90 dB at a site where animals are confined. This is true for operation of all technology variants (DMU, HBMU, BEMU, and DLH). Operational noise would therefore be below levels that would be likely to cause substantial disruption to animals at these facilities. The impact is less than significant, and no mitigation is required.

Alternatives Analyzed at Equal Level of Detail

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 Alternatives 2 would not be located near confined animal agriculture facilities. Thus, these alternatives would not result in a noise level of 90 dB at the site where animals are confined during construction or operation. There would be no impact due to construction or operation of these alternatives, and no mitigation is required. Thus, the alternatives would have the same no impact during construction or operations as the Proposed Project.