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 and the Atwater Station Alternative. It also describes the impacts on agricultural resources that would result from implementation of the Proposed Project and the Atwater Station Alternative and mitigation measures that would reduce significant impacts, where feasible and appropriate. Appendix I, *Supporting Agricultural Resources Information*, contains additional technical information for this section.

Cumulative impacts on agricultural resources, in combination with planned, approved, and reasonably foreseeable projects, are discussed in Chapter 5, *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.

3.2.2.1 Federal

There are no federal regulations related to agricultural resources relevant to this analysis.

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 the 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. Each county's rules for administering their agricultural preserves under the Williamson Act Program are discussed under Impact AG-3 in Section 3.2.4, *Impact Analysis*.

The State of California has the following policies regarding public acquisition of, and locating public improvements on, lands in agricultural preserves and on lands under Williamson Act contracts (California Government Code [Cal. Gov. 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.
- Any agency or entity proposing to locate such an improvement, in considering the relative costs of parcels of land and the development of improvements, 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 law, farmers can receive an additional 35 percent reduction in the land's 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. Stanislaus and Merced Counties do not participate in the FSZ program.

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 FMMP's farmland classifications. 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, 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 for the production of 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 produced crops 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, which are identified by a local advisory committee convened in each county by FMMP, in cooperation with 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 Farmland land under California Environmental Quality Act (CEQA) Section 21060.1. While CEQA does not define Farmland of Local Importance as Important Farmland or require impacts on this farmland type to be analyzed, the analysis in this environmental document considers Farmland of Local Importance to be Important Farmland, consistent with the FMMP categorization. This analysis follows the definition under FMMP in order to provide a more conservative analysis.

California Farmland Conservancy Program Act

The California Farmland Conservancy Program (California Public Resources Code [Cal. Public Res. Code] 10200–10277.) 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.

Sustainable Communities and Climate Protection Act of 2008

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 (RTP) in an effort to reduce sprawling land use patterns and dependence on private vehicles, and thereby reduce 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 (ARB) sets GHG emission reduction targets for 2020 and 2035 for the metropolitan planning organizations (MPO) in the state. The 2020 reduction target for the Stanislaus Council of Governments is a 12 percent reduction in per capita GHG emissions; the 2035 target is a 16 percent reduction. The 2020 reduction target for the Merced County Association of Governments is a 10 percent reduction in per capita GHG emissions; the 2035 target is a 14 percent reduction. Each MPO must then prepare a *sustainable communities strategy* as part of its RTP that meets the GHG emission reduction targets set by ARB. If the RTP cannot meet the targets, then the MPO 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 the 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

The San Joaquin Regional Rail Commission (SJRRC), a state joint powers agency, proposes improvements inside and outside of the Union Pacific Railroad (UPRR) right-of-way (ROW). The

Interstate Commerce Commission Termination Act (ICCTA) affords railroads engaged in interstate commerce considerable flexibility in making necessary improvements and modifications to rail infrastructure, subject to the requirements of the Surface Transportation Board.[1] ICCTA broadly preempts state and local regulation of railroads, and this preemption extends to the construction and operation of rail lines. As such, activities within the UPRR ROW are clearly exempt from local building and zoning codes and other land use ordinances. However, facilities located outside of the UPRR ROW, including proposed stations, the proposed Merced Layover & Maintenance Facility, and the Atwater Station Alternative would be subject to regional and local plans and regulations. Though ICCTA does broadly preempt state and local regulation of railroads, SJRRC intends to obtain local agency permits for construction of facilities that fall outside of the UPRR ROW even though SJRRC has not determined that such permits are legally necessary and such permits may not be required.

Appendix G of this EIR, *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 Proposed Project improvements would be located. Section 15125(d) of the CEQA Guidelines requires an environmental impact report (EIR) to discuss "any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans." These plans were considered during the preparation of this analysis and were reviewed to assess whether the Proposed Project would be consistent with the plans of relevant jurisdictions.[2] The Proposed Project would be generally consistent with the applicable goals, policies, and objectives related to agricultural resources identified in Appendix G.

3.2.3 Environmental Setting

This section describes the environmental setting related to agricultural resources for the Proposed Project. The Atwater Station Alternative would be located in an urban area and would not affect agricultural resources; therefore, this environmental setting description does not discuss this alternative. For the purposes of this analysis, the study area for agricultural resources is defined as follows.

- Direct: The direct study area for agricultural resources includes the environmental footprint.
- Indirect: The indirect study area for agricultural resources includes adjacent parcels that would be affected by the Proposed Project.

Figures 3.2-1 through 3.2-3 depict the Important Farmlands in the environmental footprint.

This section begins with a general discussion of regional agriculture, agricultural productivity by county, farmland conversion and protection by county, and farmland infrastructure and processes. Following this discussion, a detailed description of the agricultural resources in the study area is presented and includes information regarding the occurrence of farmlands and confined animal facilities in the vicinity of the Proposed Project.

[1] ACE operates within a ROW and on tracks owned by the UPRR, which operates interstate freight rail service in the same ROW and on the same tracks.

[2] 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.

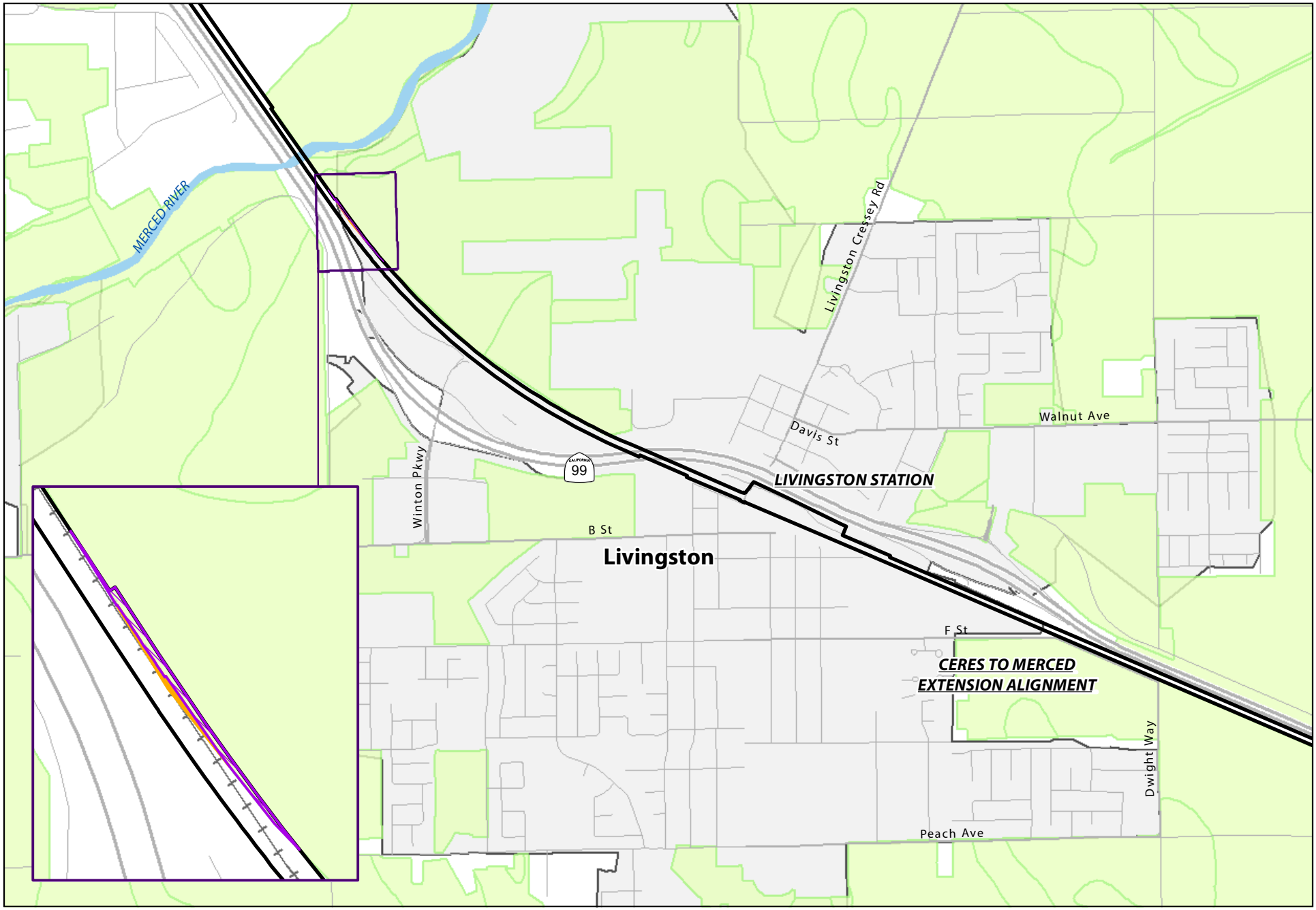

Figure 3.2-1
Important Farmlands
ACE Ceres-Merced Extension Project

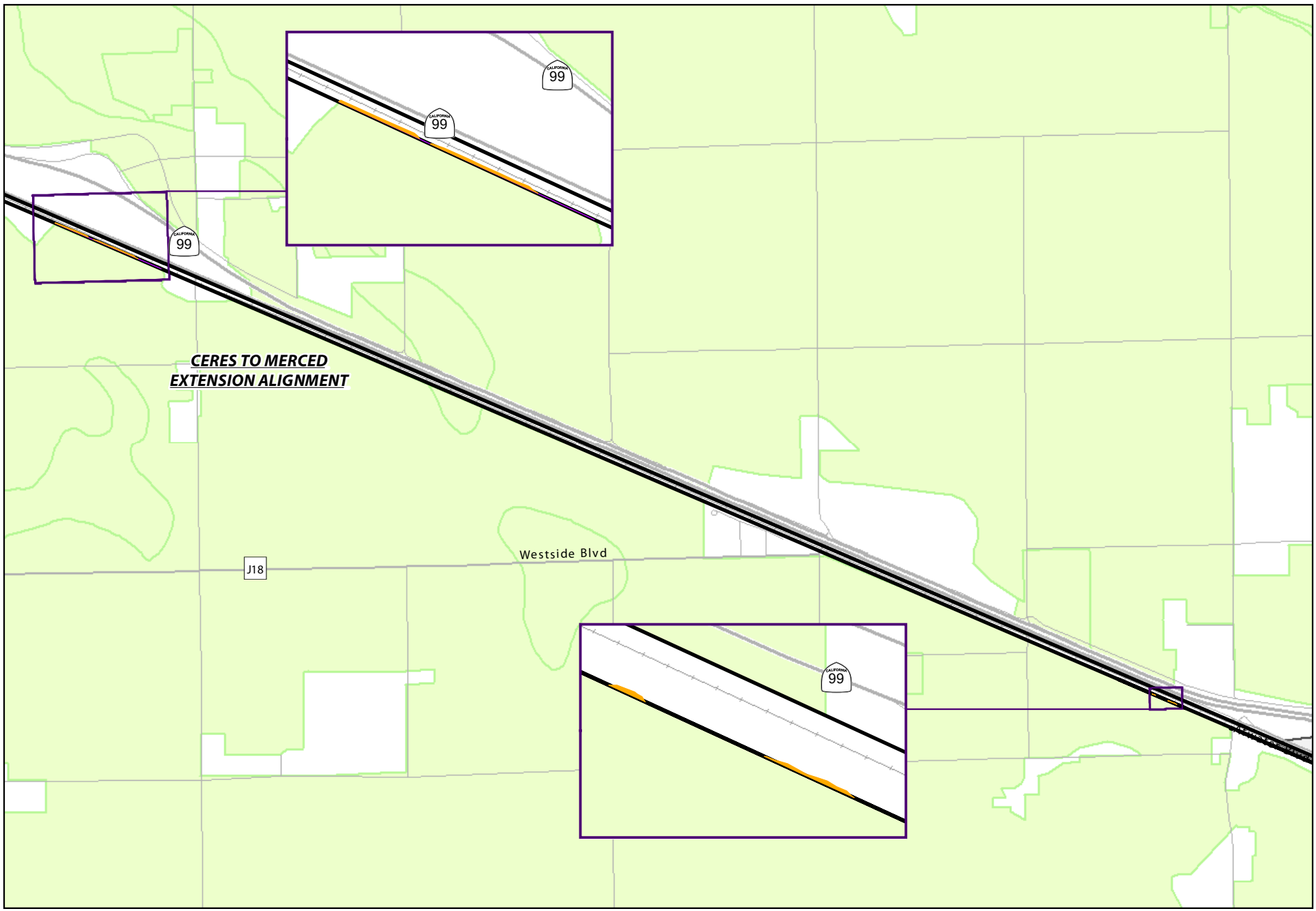

Figure 3.2-2
Important Farmlands
ACE Ceres-Merced Extension Project

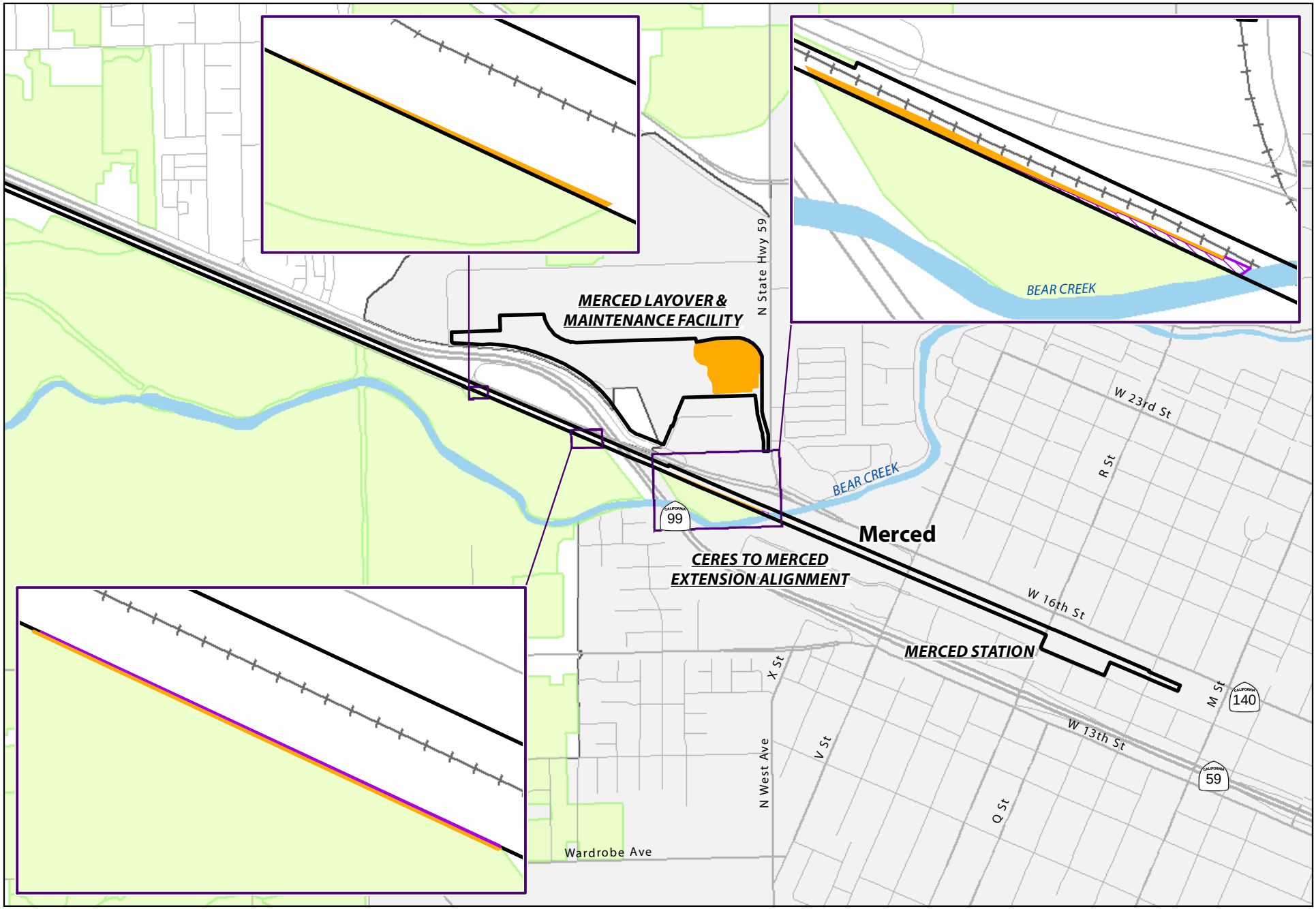

Figure 3.2-3
Important Farmlands
ACE Ceres-Merced Extension Project

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

- Location of Important Farmlands: California Department of Conservation 2020a, 2020b.
- Location of farmlands in protected status under Williamson Act or FSZ: county assessor's offices (County of Stanislaus 2020, County of Merced 2020). The location of farmlands in protected status under Williamson Act or FSZ was identified by verifying with the Stanislaus and Merced County assessor's offices in 2020 that the data available had not been changed. Merced County verified that no lands have been added to the program since 2009 and Stanislaus County identified that the latest data was from 2015 and did not identify any changes to that data.
- Location of land under agricultural conservation easement: California Conservation Easement Database (CCED) (California Conservation Easement Database 2020), National Conservation Easement Database (NCED) (National Conservation Easement Database 2020).
- Location of confined animal facilities and associated wastewater disposal land data: Central Valley Regional Water Quality Control Board (Central Valley Water Board), Confined Animal Facility Program (Central Valley Regional Water Quality Control Board 2018).
- Agricultural productivity based on county farm bureau data: County annual agriculture reports (Merced County Department of Agriculture 2019, Stanislaus County Agricultural Commissioner 2019).
- RTPs/Sustainable Community Strategies (Stanislaus Council of Governments 2018, Merced County Association of Governments 2018)
- Local jurisdiction general plans: (City of Atwater 2000; City of Ceres 2018; City of Livingston 1999; City of Merced 2012; City of Turlock 2012; Merced County 2013a, 2013b; Stanislaus County 2016a, 2016b).
- Agricultural census data: U.S. Census Bureau (U.S. Department of Agriculture 2017).
- Trends in conversion of agricultural land in the Central Valley: FMMP conversion reports and summaries (California Department of Conservation 2016a, 2016b, 2018), General Plan agriculture elements (County of Stanislaus 2016b, County of Merced 2013b); and reports by American Farmland Trust (Freedgood et al. 2020, American Farmland Trust 2007 and 2013).

3.2.3.1 Regional Agriculture

The Proposed Project is located within Stanislaus and Merced Counties. The study area has an agricultural heritage and California, in general, has a history of substantial agricultural productivity. The study area is an important place in producing agricultural products for California, the United States, and for export.

The San Joaquin Valley is the state's largest agricultural area. Many of the state's most agriculturally productive counties, including Stanislaus and Merced Counties, are in the San Joaquin Valley. Agricultural products produced in these three counties include almonds, grapes, tomatoes, several types of stone fruit (such as nectarines and peaches), milk, eggs, and cattle/calves (Merced County Department of Agriculture 2018; Stanislaus County Agricultural Commissioner 2019). Almonds are a key regional crop; 80 percent of the world's almonds come from California, primarily from the San Joaquin Valley (Almond Board of California 2013). Approximately 1.6 million bee colonies pollinate the Central Valley's almonds during the 2- to 4-week pollination period. California currently has approximately 1,500 dairies (California Department of Food and Agriculture 2015), although the

trend has been toward fewer and smaller dairies over the past several years (California Department of Food and Agriculture 2019). More than 400 of these dairies are in Stanislaus and Merced Counties.

According to FMMP data, more than 1,600,000 acres of Important Farmland as defined by FMMP are in Stanislaus and Merced Counties combined (California Department of Conservation 2020a, 2020b).[3] In addition, approximately 1,500,000 acres of Grazing Land and 40,000 acres of Confined Animal Agriculture are within the two counties.[4] FMMP defines Grazing Land as land that has existing vegetation suitable for the grazing of livestock (California Department of Conservation 2019); it does not qualify as Important Farmland. In both counties, common practice is to fence grazing areas to prevent livestock from crossing major transportation corridors. Confined Animal Agriculture also does not qualify as Important Farmland, although some counties include animal facilities within the definition of Farmland of Local Importance.

There is a long-standing trend of conversion of agricultural land to nonagricultural purposes across California, including in the Central Valley (Freedgood et al. 2020; American Farmland Trust 2013, 2007). Conservation of agricultural land to prevent conversion to nonagricultural uses is a priority for many Central Valley counties. For example, both Stanislaus County and Merced County use agricultural mitigation required by local ordinance, Williamson Act contracts (and Farmland Security Zone contracts in Stanislaus County), and farmland conservation programs managed by noncounty agencies that acquire and hold conservation easements (County of Stanislaus 2016b, County of Merced 2013b).

The following sections discuss agricultural resources and productivity, preservation of agricultural resources, and farm infrastructure and processes by county.

Stanislaus County

Agricultural Resources

Stanislaus County is substantially agricultural but is in many areas undergoing rapid urbanization (California Department of Conservation 2016a, County of Stanislaus 2016b, Freedgood et al. 2020, American Farmland Trust 2013). Table 3.2-1 presents the Important Farmland and Grazing Land acreage in the county for 1996, 2006, and 2016, showing the overall change in agricultural lands in the county over this period.

Table 3.2-1. Stanislaus County—Important Farmland and Grazing Land (acres)[a]

Type of Agricultural Land	1996	2006	2016	2018
Prime Farmland	170,048	256,605	249,967	250,420
Farmland of Statewide Importance	27,832	29,925	33,172	33,042
Unique Farmland	49,042	75,444	116,210	121,930
Farmland of Local Importance	38,140	33,706	26,029	23,058

[3] FMMP defines Important Farmland as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance.

[4] Confined Animal Agriculture is not recognized as a separate category in all counties; some counties consider confined animal agriculture as falling within an Important Farmland or other category.

Type of Agricultural Land	1996	2006	2016	2018
Total Important Farmland	**285,062**	**395,680**	**425,378**	**428,450**
Grazing Land	116,640	441,436	404,405	400,541

Sources: California Department of Conservation 2018.
[a] Data from the most recently available year is from 2018.

Near the study area in Stanislaus County, the land is dominated by Important Farmland outside the urban centers of Ceres, Keyes, and Turlock. Much of the Important Farmland in the county is Prime Farmland. Pockets of Unique Farmland also occur in the county (California Department of Conservation 2018).

Agricultural Productivity

In 2017, 3,621 farms occupied 722,546 acres in Stanislaus County, with an average farm size of 200 acres and a median size of 21 acres (U.S. Department of Agriculture 2017). Approximately 56 percent of farmland was devoted to crops and approximately 34 percent was orchard. Other uses, including animal husbandry, accounted for approximately 10 percent of total farmland. According to the *2018 Stanislaus County Agricultural Report*, in order of sales value, the most important agricultural commodities in Stanislaus County in 2018 were almonds, milk, chicken, cattle and calves, nursery fruit and nut trees and vines, silage (all), walnuts, almond pollination (bees), turkeys, and peaches (Stanislaus County Agricultural Commissioner 2019). The land use development policies of the county and its cities encourage new development within the cities rather than on unincorporated agricultural lands. Although the overall amount of agricultural land has increased (Table 3.2-1), conversion still occurs within and adjacent to the county's urbanized areas.

Agricultural Preservation

As discussed in Section 3.2.2.2, *State*, the Williamson Act provides a mechanism to keep 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 Stanislaus County.

Table 3.2-2. Stanislaus County—Land under Williamson Act and Farmland Security Zone Contracts (acres)[a]

Type of Contract	Renewal	Non-renewal
Williamson Act	649,472	2,969
Farmland Security Zone[b]	n/a	n/a
Total	**649,472**	**2,969**

Source: County of Stanislaus 2020.
[a] Data from the most recently available year is from 2015.
[b] Stanislaus County does not participate in the Farmland Security Zone Program.

In addition, agricultural conservation easements are lands that have been dedicated to agricultural use under the California Farmland Conservancy Program Act (Cal. Public Res. Code §§ 10200–10277). The term *agricultural conservation easement* means an interest in land, less than fee simple, that represents the right to prevent the development or improvement of the land for any purpose other than agricultural production. The easement is granted for the California Farmland Conservancy Program by the owner of a fee simple interest in land to a local government, nonprofit organization, resource conservation district, or a regional park or open-space district or regional

park or open-space authority that has the conservation of farmland among its stated purposes or as expressed in the entity's locally adopted policies.[5] It is granted in perpetuity and runs with the land.

No agricultural conservation easements exist in the study area in Stanislaus County (California Conservation Easement Database 2020; National Conservation Easement Database 2020).

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. Many of the croplands in the study area rely on irrigation canals present 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, manure containment, and application of the waste at an appropriate agronomic rate and under permit from the Central Valley Water 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 schedule agricultural management and operations to help maximize yields. For example, farmers apply chemicals to extend blooms of bee-pollinated trees to increase the 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 137, Agricultural Aircraft Operations, and the California Code of Regulations (Cal. Code Regs.), Division 6, Pesticides and Pest Control Operations, aircraft apply some pesticides when the wind speed and direction are favorable to avoid dispersing chemicals beyond the target area.

Merced County

Agricultural Resources

Merced County is substantially agricultural but, in many areas, is undergoing rapid urbanization (California Department of Agriculture 2016b, County of Merced 2013b, Freedgood et al. 2020, American Farmland Trust 2013). Important Farmland and Grazing Land acreage in 1996, 2006, and 2016 is presented in Table 3.2-3, showing the overall change in agricultural lands in the county over this period.

[5] A fee simple interest in land is a permanent and absolute tenure in an estate of land with freedom to possess it, to use it, and dispose of it at will.

Table 3.2-3. Merced County—Important Farmland and Grazing Land (acres) [a]

Type of Agricultural Land	1996	2006	2016
Prime Farmland	288,415	272,095	269,243
Farmland of Statewide Importance	159,788	153,249	154,209
Unique Farmland	93,580	104,418	115,235
Farmland of Local Importance	51,241	59,851	61,671
Total Important Farmland	**593,024**	**589,613**	**600,358**
Grazing Land	583,709	569,829	552,632

Source: California Department of Conservation 2016a

[a] Data from the most recently available year is from 2016.

Near the study area in Merced County, the land is dominated by Important Farmland outside the urban centers of Delhi, Livingston, Atwater, and Merced. The eastern and western parts of the county are natural vegetation. In the agricultural center of the county, Farmland of Statewide Importance is predominant in the north around Delhi and Livingston; Prime Farmland is predominant around Atwater; and Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance all occur around Merced (California Department of Conservation 2016a).

Agricultural Productivity

In 2017, 2,337 farms occupied 946,386 acres in Merced County, with an average farm size of 405 acres and a median size of 40 acres (U.S. Department of Agriculture 2017). Approximately 57 percent of farmland was devoted to crops and 19 percent to orchards. Other uses, including animal husbandry, accounted for approximately 24 percent of total farmland. According to the *Merced County 2018 Report on Agriculture*, in order of sales value, the most important agricultural commodities in Merced County in 2016 were milk, almonds, cattle and calves, sweet potatoes, tomatoes, silage (corn), hay, eggs and chicken, turkeys, and all nursery products. (Merced County Department of Agriculture 2019).

Agricultural Preservation

As discussed in Section 3.2.2, 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 contracts in Merced County.

Table 3.2-4. Merced County—Land under Williamson Act and Farmland Security Zone Contracts (acres)[a, b]

Type of Contract	Renewal	Non-renewal
Williamson Act	443,067	1,765
Farmland Security Zone	n/a	n/a
Total	**443,067**	**1,765**

Source: County of Merced 2020.

n/a = not applicable

[a] Merced County does not participate in the Farmland Security Zone Program.

[b] Data from the most recently available year is from 2009.

As discussed in Section 3.2.2.2, *State*, under *California Farmland Conservancy Program Act*, agricultural conservation easements are lands that have been dedicated to agricultural use.

One agricultural conservation easement overlaps with the study area in Merced County: Humboldt Ranch (California Conservation Easement Database 2020; National Conservation Easement Database 2020). The easement is held by the Central Valley Farmland Trust. Other agricultural conservation easements near the study area (less than 0.5 mile) in Merced County are located within Cole Farm, Flora/Graser Farm, and Cochrane Farm, and are also held by the Central Valley Farmland Trust.

Farm Infrastructure and Processes

The same farm infrastructure and processes described for Stanislaus County are also applicable to Merced County.

3.2.3.2 Agriculture in the Environmental Footprint

The Proposed Project is located in Stanislaus and Merced Counties in an area that has historically strong agricultural roots. The Proposed Project passes through Urban and Built-Up Land around Keyes, Turlock, Delhi, Livingston, Atwater, and Merced, but between these urban centers, the Proposed Project passes through agricultural lands.

As shown in Figures 3.2-1 through 3.2-3, portions of the Proposed Project environmental footprint (Ceres to Merced Extension Alignment and the Merced Layover & Maintenance Facility) are located in areas identified as Important Farmlands. Portions of the Ceres to Merced Extension Alignment would be located on land mapped as Williamson Act land and adjacent to an agricultural easement (Humboldt Ranch); however, please refer to Impact AG-2, which explains why the Proposed Project would not affect these agricultural lands. In addition, there are seven parcels containing permitted confined animal facilities located within 2,500 feet of the Ceres to Merced Extension Alignment.

3.2.4 Impact Analysis

This section describes the environmental impacts of the Proposed Project and the Atwater Station Alternative on agricultural resources. This section also describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant. Measures to mitigate significant impacts are provided, where appropriate.

3.2.4.1 Methods for Analysis

Methods

The methods used to evaluate impacts on agricultural resources are described below.

- Temporary and permanent impacts, related to temporary use and conversion of Important Farmland during construction and operations, were evaluated quantitatively.
- Impacts on agricultural lands protected through land protection mechanisms (Williamson Act Lands) were analyzed quantitatively.
- Noise and vibration impacts and impacts on capital improvements at confined animal facilities were evaluated through a mixed quantitative and qualitative approach. The Central Valley Water Board provided partial data for permitted wastewater disposal lands for confined animal

facilities in its jurisdiction. The dataset, however, was still in development at the time of this document's writing and was thus incomplete. Accordingly, project analysts relied on interpretation of color aerial photos to identify confined animal facilities as well as wastewater disposal lands. Specifically, analysts assumed that where there are discrete parcels that are dark green in color (indicating the application of high nitrogen fertilizer such as cattle wastes) adjoining an identified confined animal facility, those dark green parcels are wastewater disposal lands. Because this determination is based on an assumption, the method is an approximation.

- Impacts associated with the potential conversion of agricultural to nonagricultural use due to parcel severance were analyzed quantitatively to identify remnant parcels of Important Farmland that were potentially unviable for continued agricultural use. Potentially unviable remnant parcels were defined as those remnants less than 20 acres. In addition, these potentially unviable remnant parcels were analyzed qualitatively to determine whether they were actually viable for continued agricultural use because of adjacency to other Important Farmland parcels or whether they do not qualify as unviable remnants because either (1) the existing parcels are within the UPRR ROW and not used for agricultural productivity or (2) the existing parcels are already smaller than 20 acres.
- Impacts on utilities, utility access roads to agricultural fields, power supply infrastructure, and irrigation distribution canals supporting agricultural uses were analyzed qualitatively.

Principle Sources

Principle sources consulted for the impact analysis are listed below.

- Analysis of Important Farmland temporary use and permanent conversion used FMMP 2020 County GIS data (to identify Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance) (California Department of Conservation 2020a, 2020b).[6]
- Analysis of impacts on lands protected under Williamson Act and FSZ contracts used data provided from County assessor's records (Willmon pers. comm.).
- Analysis of impacts on lands protected under agricultural conservation easement, including California Farmland Conservancy Program easements and California Conservancy Program easements, used data provided by CCED (2020).
- Analysis of impacts related to confined animal facility and wastewater disposal lands used data from the Central Valley Water Board (Central Valley Regional Water Quality Control Board 2018).
- Analysis of partial parcel acquisitions used Geographic information system (GIS) aerial maps, assessor's parcel maps, and ROW data.

Important Farmland Mapped Within the UPRR ROW

The environmental footprint for the Ceres to Merced Extension Alignment is located within the UPRR ROW. Although agricultural activities would not be expected to occur within the UPRR ROW,

[6] The GIS data for Important Farmland was downloaded in 2020 based on the most recent available data. The Important Farmland data for Stanislaus County was compiled in 2018 and the Important Farmland data for Merced County was compiled in 2016.

the mapping of Important Farmland from the California Department of Conservation includes areas mapped as Important Farmland within the UPRR ROW. The following methodology was used to assess the impacts on Important Farmland from the Ceres to Merced Extension Alignment:

- ICF environmental staff identified the areas mapped as Important Farmland by the California Department of Conservation that overlapped with the environmental footprint of the Ceres to Merced Extension Alignment.
- Using aerial imagery, ICF environmental staff evaluated the areas mapped as Important Farmland to identify the following areas:
  - *Areas mapped as Important Farmland within the environmental footprint that are actually areas with existing UPRR railroad tracks and ballast*. Because these areas would not meet the definition of Important Farmland (see Section 3.2.2.2), this analysis excluded these areas when calculating impacts to Important Farmlands.
  - *Areas mapped as Important Farmland within the environmental footprint that are located next to areas where two railroad tracks currently exist*. In these areas, construction would be limited to work within the existing tracks and ballast. As identified above, areas with existing tracks and ballast would not meet the definition of Important Farmland. As such, areas mapped as Important Farmland within the environmental footprint that are located next to areas where two railroad tracks currently exist, would not impact Important Farmland. As such, this analysis excluded these areas when calculating impacts to Important Farmlands.
  - *Other areas not meeting the definition of Important Farmland.* ICF environmental staff reviewed aerial imagery, including historical aerial imagery for the remaining areas mapped as Important Farmland within the environmental footprint. Based on this review, several of these areas have not been used for production of irrigated crops in recent years and are characteristic of railroad shoulders or roadway shoulders. These areas would not meet the definition of Important Farmland. As such, this analysis excluded any of these areas that did not meet the definition of Important Farmland when calculating impacts to Important Farmlands.

3.2.4.2 Thresholds of Significance

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

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

- Convert Important Farmland, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to nonagricultural use.
- Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract.

- Convert farmland to nonagricultural use as a result of noise and vibration impacts on confined farm animals.[7]
- Create unviable remnant or severed farmland parcels.[8]
- Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.

3.2.4.3 Impacts and Mitigation Measures

Impact AG-1	Construction and operation of the Proposed Project could convert Important Farmlands to nonagricultural use.
Level of Impact	**Potentially significant impact** Proposed Project Ceres to Merced Extension Alignment Merced Layover & Maintenance Facility **No impact** Proposed Project Turlock Station Livingston Station Merced Station Alternative Analyzed at an Equal Level of Detail Atwater Station Alternative
Mitigation Measures	AG-1.1: Avoid Important Farmlands and Restore Important Farmlands used for temporary staging areas AG-1.2: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance)
Level of Impact After Mitigation	**Significant and unavoidable impact**

[7] The discussion of impacts related to conversion of farmland as a result of noise and vibration impacts has been included in this section as an individual topic area. Noise and vibration at excessive levels can result in loss of productivity amongst confined animals (e.g., feedlot, dairy). Animals can become startled or frightened, or simply annoyed, by the noise and vibration associated with passing trains.

[8] The discussion of impacts related to creation of remnant parcels/severed parcels has been included in this section as an individual topic area. The acquisition of ROWs can reduce the size of or split existing parcels of land. This can indirectly result in the permanent conversion of the remnant parcels from agricultural use when the remnant parcels are too small by themselves to farm economically and area located where they cannot be readily accessed by an adjacent farmer. The latter precludes an adjacent farmer from purchasing or leasing the remnant as an addition to their existing agricultural operation.

Impact Characterization

Construction of the Proposed Project would require the temporary use of Important Farmlands. Land that has been identified for temporary use would be leased from the landowner (through a temporary conservation easement) and temporarily removed from agricultural use for the duration of construction. In addition, permanent conversion of Important Farmlands to nonagricultural use would potentially occur where the Proposed Project is located on Important Farmlands currently being used for agricultural purposes. Both temporary use of agricultural lands and permanent conversion of agricultural land to nonagricultural uses would result in no impact for some Proposed Project facilities and a potentially significant impact for other Proposed Project facilities.

Impact Details and Conclusions

Proposed Project

Turlock Station, Livingston Station, and Merced Station

The Turlock Station, Livingston Station, and Merced Station are not located on lands identified as Important Farmlands and no Important Farmland would be used for construction or permanently converted to nonagricultural uses. Thus, no impact would result from the Turlock Station, Livingston Station, and Merced Station.

Ceres to Merced Extension Alignment

As described in Section 3.2.4.1, *Methods for Analysis*, there are areas mapped as Important Farmland within the environmental footprint of the Ceres to Merced Extension Alignment, but some of these lands are actually used for railroad purposes and/or have not been used as farmland in recent years and thus would not meet the definition of Important Farmland. Nonetheless, there are certain areas located within the environmental footprint of the Ceres to Merced Extension Alignment that are being used for agricultural purposes (see Tables 1 and 4 of Appendix I). To be conservative, this EIR considers the potential impacts on agricultural resources to these areas.

Table 3.2-5 identifies the acreage and type of Important Farmland that would be temporarily removed from agricultural use for the duration of construction of the Ceres to Merced Extension Alignment. As shown in Table 3.2-5, construction of the Ceres to Merced Extension Alignment would require the temporary use of Important Farmland. If temporary staging areas are not immediately restored to former agricultural use (preconstruction condition) after construction, disruption in agricultural use may become permanent. Important Farmlands that are temporarily converted to nonagricultural uses through construction would be degraded for agricultural purposes and would be vulnerable to permanent conversion to nonagricultural uses, which is a potentially significant impact.

Table 3.2-5 also identifies the acreage and type of Important Farmland that would be permanently converted to nonagricultural use by the Ceres to Merced Extension Alignment. The numbers provided in Table 3.2-5 are a conservative estimate based on the review of aerial imagery to confirm that areas that would be permanently affected by the Proposed Project would meet the definition of Important Farmlands. Where mitigation may be identified for certain impacts requiring compensatory mitigation, the calculation will be based on subsequent estimates of actual impacts based on subsequent final design and may be less than estimated herein. Based on the analysis in

this EIR, the permanent conversion of Important Farmlands to nonagricultural use is a potentially significant impact.

Table 3.2-5. Important Farmland Temporarily Used During Construction and Potentially Permanently Converted to Nonagricultural Use by the Ceres to Merced Extension Alignment

	Important Farmland (acres)				
Impact Type	**Prime Farmland**	**Farmland of Statewide Importance**	**Unique Farmland**	**Farmland of Local Importance**	**Total**
Temporary	0.01	0.44	--	0.43	**0.9**
Permanent	0.32	0.10	--	0.57	**1.0**

Merced Layover & Maintenance Facility

Table 3.2-6 identifies the acreage and type of Important Farmland that would be permanently converted to nonagricultural use by the Merced Layover & Maintenance Facility. Appendix I provides the list of parcels containing Important Farmland that could potentially be affected permanently by the Merced Layover & Maintenance Facility. The impact from the Merced Layover & Maintenance Facility would be limited to the permanent impact in Table 3.2-6. There would be no temporary impacts associated with the Merced Layover & Maintenance Facility. The permanent conversion of Important Farmlands to nonagricultural use is a potentially significant impact.

Table 3.2-6. Important Farmland Potentially Permanently Converted to Nonagricultural Use by the Merced Layover & Maintenance Facility

	Important Farmland (acres)				
Impact Type	**Prime Farmland**	**Farmland of Statewide Importance**	**Unique Farmland**	**Farmland of Local Importance**	**Total**
Permanent	--	--	--	11.1	**11.1**

Atwater Station Alternative

The Atwater Station Alternative is not located on lands identified as Important Farmlands. Accordingly, no Important Farmland would be temporarily used for construction or permanently converted to nonagricultural uses. No impact would result from the Atwater Station Alternative. In addition, there is no difference between the proposed Livingston Station and the Atwater Station Alternative in terms of temporary use or permanent conversion of Important Farmland (both would result in no impact).

Mitigation Measures

Mitigation Measure AG-1.1 would apply to the Ceres to Merced Extension Alignment. Mitigation Measure AG-1.2 would apply to the Ceres to Merced Extension Alignment and Merced Layover & Maintenance Facility.

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

Prior to any ground-disturbing activities, a qualified agricultural resources specialist will perform a field survey and evaluate that the areas identified in Table 1 of Appendix I, and confirm whether these areas would meet the definition of Important Farmland.

To the extent practical, SJRRC and its contractor(s) will avoid staging in areas that are actively being used for agricultural purposes. If areas with active agricultural uses cannot be avoided, then the following would be implemented. Prior to any ground-disturbing activities at the site of a temporary construction staging area located on Important Farmland, the contractor will prepare a restoration plan addressing specific actions, sequence of implementation, parties responsible for implementation and successful achievement of restoration for temporary impacts. Actions will include removing and stockpiling the top 18 inches of soil for replacement onsite during restoration activities. Before beginning construction use of sites on Important Farmland, the contractor will submit the restoration plan to the SJRRC for review and obtain approval and, if applicable, obtain landowner approval. The restoration plan will include time-stamped photo-documentation of the preconstruction conditions of all temporary staging areas.

All construction access, mobilization, material laydown, and staging areas on Important Farmlands will be returned to a condition equal to the preconstruction staging condition. This requirement is included in the design-build construction contract requirements.

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

Prior to any ground-disturbing activities, a qualified agricultural resources specialist will perform a field survey and evaluate that the areas identified in Table 4 of Appendix I, and confirm whether these areas would meet the definition of Important Farmland.

SJRRC will enter into an agreement with the Department of Conservation and its California Farmland Conservancy Program to implement agricultural land mitigation. SJRRC will fund the California Farmland Conservancy Program's work to identify suitable agricultural land for mitigation of impacts and to 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 as 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.

SJRRC will document implementation of Mitigation Measure AG-1.2 through issuance of a compliance memorandum.

Significance with Application of Mitigation

Implementation of Mitigation Measures AG-1.1 and AG-1.2 would reduce impacts from temporary use or permanent conversion of Important Farmlands due to the Ceres to Merced Extension Alignment and Merced Layover & Maintenance Facility. Mitigation Measure AG-1.1 requires that Important Farmlands subject to temporary use during construction be avoided to the extent practical and if avoidance is not possible, to be restored to agricultural use after construction. For temporarily occupied lands, disruption of agricultural use would last only from the time land is leased from the landowner until restoration is complete. Mitigation Measure AG-1.2 would ensure that the overall permanent conversion of Important Farmlands to a nonagricultural use is minimized by requiring the preservation of Important Farmlands within the same agricultural regions as the impacts occur, in an amount commensurate with the quantity and quality of the converted farmlands.

Mitigation Measure AG-1.2 would reduce impacts from permanent conversion of Important Farmland as a result of direct use of the land 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.

Impact AG-2	Construction and operation of the Proposed Project would not conflict with a Williamson Act contract or other agricultural lands protection mechanism.
Level of Impact	**Less than significant impact**

Impact Characterization and Significance Conclusions

Proposed Project

Turlock Station, Livingston Station, Merced Layover & Maintenance Facility, and Merced Station

The Turlock Station, Livingston Station, Merced Layover & Maintenance Facility, and Merced Station are not located on parcels under Williamson Act contract. In addition, these proposed facilities are not located on parcels under agricultural conservation easement contract. No impact would occur from these proposed facilities.

Ceres to Merced Extension Alignment

There are six areas that are mapped as Williamson Act lands that are located within the footprint of the Ceres to Merced Extension Alignment. Based on review of aerial imagery, it was determined that these six mapped areas were (1) not being used for agricultural purposes and were characteristic of the shoulder of an active railroad track and/or (2) were located in areas where two railroad tracks currently exist and where construction would be limited to the existing tracks and ballast. As such, the Ceres to Merced Extension Alignment would not conflict with a Williamson Act contract and the impact would be less than significant. Please refer to Appendix I, which includes a list of these parcels.

In addition, a portion of the Ceres to Merced Extension Alignment is located on an area mapped as the Humboldt Ranch agricultural conservation easement. For the stretch of the Ceres to Merced Extension Alignment located next to the Humboldt Ranch agricultural conservation easement, two railroad tracks currently exist within the UPRR ROW. In these areas, construction would be limited to work within the existing tracks and ballast. As such, the Proposed Project would result in no impact on any agricultural uses associated with the Humboldt Ranch agricultural conservation easement.

In summary, the Proposed Project would have a less-than-significant impact on land under Williamson Act contract and no impact on land under agricultural conservation easement contract.

Atwater Station Alternative

The Atwater Station Alternative is not located on lands under Williamson Act or agricultural conservation easement contract. Accordingly, there would be no risk of affecting a contract established to preserve agricultural land. There would be no impact due to the Atwater Station Alternative. In addition, there would be no difference in impact between the proposed Livingston Station and the Atwater Station Alternative (both would result in no impact).

Impact AG-3	Construction and operation of the Proposed Project would not result in conversion of farmland through noise and vibration impacts on confined farm animals.
Level of Impact	**Less than significant impact** Proposed Project Ceres to Merced Extension Alignment **No impact** Proposed Project Turlock Station Livingston Station Merced Station Alternative Analyzed at an Equal Level of Detail Atwater Station Alternative

Impact Characterization

Construction of the Proposed Project would generate noise and vibration from use of construction equipment and vehicles. Confined animals that are unable to walk away from the noise source would experience increased exposure to noise. Operation of the Proposed Project would also increase noise exposure through increased frequency of trains passing by confined animal facilities.

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. Noises greater than threshold have provoked retreat, freezing, or strong startle response. Thresholds for discomfort for cattle has been noted at 90 to 100 dB, with physical damage to the ear occurring at 110 dB (Broucek 2014). Since background levels can range as high as 90 dB and the threshold for discomfort is 90 dB, if the Proposed Project would result in construction noise or new train operational noise levels greater

than 90 dB in areas that do not already experience train operations today, a significant impact is considered possible.

Impact Details and Conclusions

Proposed Project

Turlock Station, Livingston Station, Merced Layover & Maintenance Facility, and Merced Station

The Turlock Station, Livingston Station, Merced Layover & Maintenance Facility, and Merced Station are not located on lands that contain confined animal facilities; therefore, no confined animal facilities would be affected by construction or operations. No impact would occur from these proposed facilities.

Ceres to Merced Extension Alignment

There are seven parcels containing permitted confined animal facilities located within 2,500 feet of the Ceres to Merced Extension Alignment. As shown in Table 3.2-7, construction noise is not expected to exceed 90 dB at any of the animal holding facilities adjacent to the Ceres to Merced Extension Alignment. Operational noise is expected to be less than 70 dB at any of the animal holding facilities adjacent to the proposed UPRR ROW in this segment. Both construction and operational noise are below levels likely to cause substantial disruption to animals at these facilities.

Table 3.2-7. Confined Animal Facilities with Animal Holding Areas within 2,500 Feet of the Ceres to Merced Extension Alignment

Proposed Project	Facility Location	Distance from Track Centerline[a]	Approximate Noise Level at Holding Area[b, c]
Ceres to Merced Extension Alignment	North Washington Road, west of Fresno Subdivision (northwest of Turlock)	75 feet	Construction: <82 dB Operations: <68 dB
	Merced Avenue, west of Fresno Subdivision (southeast of Turlock)	1,500 feet	Construction: <60 dB Operations: <60 dB
	Collier Road, east of Fresno Subdivision (southeast of Delhi)	1,300 feet	Construction: <60 dB Operations: <60 dB
	Peach Avenue, west of Fresno Subdivision (southeast of Livingston)	120 feet	Construction: <76 dB Operations: <64 dB
	Gurr Road, east of Fresno Subdivision (southeast of Atwater)	540 feet	Construction: <64 dB Operations: <60 dB
	Franklin Road, west of Fresno Subdivision (northwest of Atwater)	155 feet	Construction: <76 dB Operations: <62 dB
	Griffith road, 1,000 feet west of Fresno Subdivision (Turlock)	850 feet	Construction: <61 dB Operations: <60 dB

[a] Some of these facilities utilize agricultural fields for disposal of animal waste that may be closer to the Proposed Project; impacts on such disposal fields is discussed under Impact AG-5.

[b] No pile driving would be necessary within close proximity to any of the confined facilities found near the Proposed Project construction location.

[c] Operational noise based on noise intervals in Section 3.12, *Noise and Vibration*.

Since the animal holding areas associated with confined animal facilities in proximity to the Ceres to Merced Extension Alignment are not in an area in which construction or operational noise would be expected to substantially alter confined animal health or behavior, impacts would be less than significant. Thus, the Ceres to Merced Extension Alignment would have a less-than-significant impact on confined animal facilities due to construction and operations noise.

Atwater Station Alternative

The Atwater Station Alternative is not located on or near lands that contain confined animal facilities; therefore, no confined animal facilities would be affected by project construction or operations. There would be no impact due to the Atwater Station Alternative. In addition, there would be no difference in impact between the proposed Livingston Station and the Atwater Station Alternative (both would result in no impact).

Impact AG-4	Construction of the Proposed Project would not create unviable remnant or severed parcels of Important Farmland.
Level of Impact	**Less than significant impact** Proposed Project Ceres to Merced Extension Alignment **No impact** Proposed Project Turlock Station Livingston Station Merced Layover & Maintenance Facility Merced Station Alternative Analyzed at an Equal Level of Detail Atwater Station Alternative

Impact Characterization

Implementation of the Proposed Project could result in the creation of remnant parcels on Important Farmland due to severance from the original parcel. Some parcels could be severed from a larger parcel if the improvement bisects the parcel, and some parcels could be severed if roadway access would be restricted or eliminated, making them inaccessible to farm equipment. As discussed in Section 3.2.4.1, *Methods for Analysis*, remnant parcels smaller than 20 acres have the potential to be unfarmable because of lack of access, size, shape, location, or other hardship.

Impact Details and Conclusions

Proposed Project

Turlock Station, Livingston Station, Merced Layover & Maintenance Facility, and Merced Station

The Turlock Station, Livingston Station, and Merced Station are not located on lands identified as Important Farmlands, and no remnant parcels of Important Farmland would be created. No impact would occur from these proposed facilities. The Merced Layover & Maintenance Facility is located

on Important Farmland. However, it would not result in the creation of remnant parcels of Important Farmland. No impact would occur from this proposed facility.

Ceres to Merced Extension Alignment

Table 3.2-8 presents the total acreage of remnant parcels smaller than 20 acres created by the Ceres to Merced Extension Alignment.

Table 3.2-8. Potential Important Farmland Parcel Severance (< 20 acres) as a Result of Construction of the Ceres to Merced Extension Alignment

	Severed Parcels		
Proposed Facility	**Acres**	**No. of Parcels**	**Create unviable parcels?**
Ceres to Merced Extension Alignment	104.2	27	No, (1) some remnant parcels are adjacent to larger farmable parcels; (2) some remnant parcels are in the UPRR ROW and not being used for agricultural purposes; and/or (3) all of the existing parcels are already smaller than 20 acres

As shown in Table 3.2-8, the Ceres to Merced Extension Alignment could result in the creation of remnant parcels of Important Farmland. The Ceres to Merced Extension Alignment could result in three different type of impacts. First, remnant parcels created by the Ceres to Merced Extension Alignment would be adjacent to larger farmable parcels and could still be viably farmed. Because the remnant parcels could still be viably farmed, this impact would be less than significant. Second, remnant parcels created by the Ceres to Merced Extension Alignment are located within the existing UPRR ROW and are currently being used for railroad operation and not for agricultural use. Impacts on these agricultural parcels would not affect the agricultural viability of a parcel because the parcel is not being used for agricultural purposes, and this impact would be less than significant. Third, some parcels that have been identified as being severed by the Ceres to Merced Extension Alignment are already smaller than 20 acres. Additional impacts on these parcels would not create unviable remnant parcels because they are already considered unviable, and this impact would be less than significant. Thus, overall, the Ceres to Merced Extension Alignment is not expected to result in additional loss of Important Farmland due to the severing of parcels and impacts would be less than significant.

Appendix I provides a list of parcels showing property-specific permanent impacts, including severed parcels. Because the impacts were found to be less than significant, these parcels were not identified in the figures prepared for this Agricultural Resources section.

Atwater Station Alternative

The Atwater Station Alternative is not located on lands identified as Important Farmlands. Accordingly, the Atwater Station Alternative would not result in remnant or severed parcels of Important Farmland. No impact would result from the Atwater Station Alternative. In addition, there would be no difference in impact between the proposed Livingston Station and the Atwater Station Alternative (both would result in no impact).

Impact AG-5	Construction and operation of the Proposed Project could involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to nonagricultural use.
Level of Impact	**Potentially significant impact** Proposed Project Ceres to Merced Extension Alignment **No impact** Proposed Project Turlock Station Livingston Station Merced Station Merced Layover & Maintenance Facility Alternative Analyzed at an Equal Level of Detail Atwater Station Alternative
Mitigation Measure	AG-5.1: Relocate irrigation facilities AG-5.2: Coordinate with utility providers
Level of Significance After Mitigation	**Less than significant impact**

Impact Characterization

Construction of the Proposed Project may temporarily disrupt utilities, utility access roads, and power supply infrastructure supporting existing agricultural uses if utilities must be relocated to accommodate construction activities. Further, construction of the Proposed Project may disrupt access to irrigation infrastructure supporting existing agricultural uses.

Impact Details and Conclusions

Proposed Project

Turlock Station, Livingston Station, and Merced Station

The Turlock Station, Livingston Station, and Merced Station are not located on lands identified as Important Farmlands and have no potential to disrupt agricultural infrastructure. In addition, no confined animal facilities are located at the Turlock Station, Livingston Station, and Merced Station. No impact would result from these proposed facilities.

Ceres to Merced Extension Alignment

The Ceres to Merced Extension Alignment is located on lands identified as Important Farmland. The acreage of Important Farmland is provided above in Table 3.2-5. Therefore, there is potential for these improvements to disrupt agricultural infrastructure onsite.

In addition, construction of the Ceres to Merced Extension Alignment could displace or sever confined animal facilities, resulting in displacement of capital improvements in confined animal facilities such as wastewater treatment ponds, milking facilities, feedlots, and associated conversion

of the land on which they are located; or in conversion of wastewater disposal croplands. Confined animal agriculture facilities consist of two types of lands: confined animal facilities where the confined animals are housed and fed and their wastewater processed, and the wastewater disposal croplands where wastewater is disposed of. Both types of facilities must be permitted by the Central Valley Water 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 offsite waste disposal or reduce their herd sizes. Financial hardship as a result 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.

There are seven parcels containing permitted confined animal facilities located within 2,500 feet of the Ceres to Merced Extension Alignment. Table 3.2-9 identifies confined animal facilities potentially affected by the Ceres to Merced Extension Alignment. At the facility southeast of Delhi, the potential encroachment area is 0.04 acre of a field potentially used for wastewater disposal of the total 155-acre field. The encroachment area does not contain noticeable capital improvements for the facility.

Table 3.2-9. Ceres to Merced Extension Alignment—Confined Animal Facilities Potentially Affected

Proposed Project	Facility Location	Distance from Track Centerline (feet)	Effect of Proposed Project on Facility
Ceres to Merced Extension Alignment	North Washington Road, west of Fresno Subdivision (northwest of Turlock)	75	No encroachment; Ceres to Merced Extension Alignment is on opposite side of Fresno Subdivision
	Merced Avenue, west of Fresno Subdivision (southeast of Turlock)	1,500	No encroachment; Ceres to Merced Extension Alignment is on opposite site of SR 99
	Collier Road, east of Fresno Subdivision (southeast of Delhi)	1,300	Possible 0.04-acre encroachment in fields used for wastewater treatment (out of 155 acres)
	Peach Avenue, west of Fresno Subdivision (southeast of Livingston)	120	No encroachment; Ceres to Merced Extension Alignment is on opposite side of Fresno Subdivision from Peach Avenue
	Gurr Road, east of Fresno Subdivision (southeast of Atwater)	540	No encroachment; Ceres to Merced Extension Alignment is on opposite side of SR 99
	Franklin Road, west of Fresno Subdivision (northwest of Atwater)	155	No encroachment; Ceres to Merced Extension Alignment is on opposite side of Fresno Subdivision
	Griffith road, 1,000 feet west of Fresno Subdivision (Turlock)	850	No encroachment; Ceres to Merced Extension Alignment is on opposite side of Fresno Subdivision

SR = State Route.

[a] No pile driving would be necessary within close proximity to any of the confined facilities found near the Proposed Project construction location.

Given the amount of acreage available at these facilities, the loss of only 0.04 acre and no loss of capital improvements is not expected to substantially affect the viability of the facilities, and the impact on these facilities would be less than significant.

Merced Layover & Maintenance Facility

A portion of the Merced Layover & Maintenance Facility is located on lands identified as Important Farmland (Farmland of Local Importance). This land appears to have been used to produce hay in recent years, does not appear to be irrigated, and is not used as confined animal facility. This land would be converted due to the Proposed Project and this impact is already covered under Impact AG-1 above. As such, there are no additional impacts beyond those disclosed in Impact AG-1 above.

Atwater Station Alternative

The Atwater Station Alternative is not located on lands identified as Important Farmlands and have no potential to disrupt agricultural infrastructure. In addition, no animal facilities are located at the Atwater Station Alternative and would therefore not affect confined animal facilities. No impact would result from the Atwater Station Alternative. There would be no difference in impact between the proposed Livingston Station and the Atwater Station Alternative (both would result in no impact).

Mitigation Measures

Mitigation Measures AG-5.1 and AG-5.2 would apply to the Ceres to Merced Extension Alignment for impacts related to disruption of irrigation facilities or utilities supporting existing agricultural uses.

Mitigation Measure AG-5.1: Relocate irrigation facilities

Where relocating an irrigation facility is necessary, the contractor will verify the new facility is operational prior to disconnecting the original facility, where feasible. Irrigation facility relocation preferences are included in the design-build contract and reduce unnecessary impacts on continued operation of irrigation facilities. The contractor will document all relocations in a memorandum for SJRRC review and approval.

Mitigation Measure AG-5.2: Coordinate with utility providers

Prior to construction, the contractor will prepare a technical memorandum documenting how construction activities will be coordinated with service providers to minimize or avoid interruptions. The technical memorandum will be provided to SJRRC for review and approval.

Significance with Application of Mitigation

Mitigation Measure AG-5.1 would require new irrigation facilities be installed and fully operational before existing facilities are disconnected, avoiding temporary disruption to agricultural operations. Mitigation Measure AG-5.2 would require construction activities be coordinated with service providers to minimize or avoid service interruptions to agricultural operations. With implementation of these mitigation measures, impacts on farmland due to disruption of irrigation facilities or utilities associated with the Proposed Project (due to the Ceres to Merced Extension Alignment) would be less than significant.

3.2.4.4 Overall Comparison of the Proposed Livingston Station and Atwater Station Alternative

Overall, there would be no difference in impacts to agricultural resources between implementation of the Atwater Station Alternative or the proposed Livingston Station (neither would impact agricultural resources).