3.11 Cumulative Impacts

3.11.1 Introduction

This chapter provides additional analyses and information required under the California Environmental Quality Act (CEQA) for cumulative impact analysis. The focus of the cumulative analysis is to identify the contribution of the Madera HSR Station Full-Build Project Phase 3 (Project) to significant cumulative impacts and to determine whether that contribution would be considerable.

A cumulative impact analysis is performed using the impact analyses on resources that would result in less than significant impacts with mitigation, less that significant impacts without mitigation, or significant and unavoidable impacts. A cumulative impact analysis does not include those resources where no impact is identified.

3.11.2 CEQA Requirements

CEQA Guidelines define a cumulative impact as two or more individual impacts that, when considered together, are considerable or that compound or increase other significant environmental impacts. The incremental impact of a project may be considerable when viewed in the context of other closely related past, present, and reasonably foreseeable probable future projects.[1] Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time (CEQA Guidelines Section 15355).

CEQA Guidelines Section 15130(b) indicates that an adequate discussion of potential cumulative effects requires consideration of either a list-based approach or a projection-based approach. This Draft EIR uses a combination of a list-based approach and a projection-based/plan-based approach to determine whether significant cumulative impacts would occur.

Under CEQA, the SJJPA is not responsible for mitigating overall cumulative impacts. SJJPA would only be responsible for identifying and implementing feasible mitigation to address the Project's potentially considerable contributions to identified significant cumulative impacts. Thus, the obligation to assess mitigation is limited to the fair share portion of a significant cumulative impact that is due to the Project's considerable contribution.

3.11.3 Approach and Methodology

Section 15130(b) of the CEQA Guidelines states that the discussion of cumulative impacts should include the following.

- Either (1) a list of past, present, and probable future projects producing related or cumulative impacts, or (2) a summary of projections contained in an adopted general plan or similar document, or in an adopted or certified environmental document, that described or evaluated conditions contributing to a cumulative impact.
- A description of the geographic scope of the area affected by the cumulative impact.

[1] Reasonably foreseeable future projects are defined as projects that have been adopted or have otherwise demonstrated likelihood to occur based on documentation from project sponsors.

- A summary of expected environmental effects to be produced by these projects.
- Reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

The Draft EIR uses a hybrid approach, consisting of a combination of the projection-based (plan-based) and list-based approaches, to best identify cumulative impacts.

- **Projection Approach:** This approach discloses regional cumulative impacts related to regional air quality, greenhouse gas (GHG) emissions, energy, public services, utilities and service systems, recreation, safety and security, and transportation.
- **List Approach:** The Project and specific cumulative projects in or adjacent to the Project corridor were examined for the potential to result in cumulatively significant localized impacts. This analysis considers rail projects planned within or along the Project corridor; other regional transportation improvements; and land development projects adjacent to the Project corridor. The cumulative analysis uses this approach to identify localized impacts related to agriculture and forestry resources; aesthetics; air quality and GHG emissions; biological resources; cultural resources; tribal cultural resources; geology, soils, seismicity, and paleontological resources; hazards and hazardous materials; hydrology and water quality; noise and vibration; and transportation.

The cumulative impacts analysis is based on a review of applicable information included in the following sources:

- 2024 California Department of Finance
- 2023 Madera County Economic Forecast
- Madera County General Plan – 2024-2032 Housing Element Update
- California Department of Transportation (Caltrans) District 10 projects list
- Altamont Corridor Express (ACE) Ceres-Merced Station EIR
- 2023 California Freight Mobility Plan
- 2024 California State Rail Plan (CSRP)
- California High-Speed Rail (HSR) Merced to Fresno Final EIR/Environmental Impact Statement
- Southern Alameda County Integrated Rail Analysis (SoCo Rail) Study (including the Phase 1 and Phase 2 Reports)
- Grade crossing data from the Federal Railroad Administration (FRA)

3.11.4 Projections/Regional Growth Characteristics

To estimate overall growth, the cumulative analysis uses multiple land use and population growth projection sources for the jurisdiction that the Project has the potential to affect. **Table 3.11-1** shows the existing and projected population and housing unit growth in Madera County.

Table 3.11-1: Existing and Projected Population and Housing Unit Growth in Madera County

	Total Population			Total Housing Units		
County	2024	2040	2024–2040 Difference (%)	2024	2040	2024–2040 Difference (%)
Madera	159,328	278,011	74.5	48,000	59,600	24.2

Source: (California Department of Finance, 2024; 2023 Madera County Economic Forecast)

3.11.5 Projects Considered

The list approach to cumulative analysis considers rail projects planned within or along the Project corridor; other regional transportation improvements; and land development projects adjacent to the Project corridor. Brief descriptions of these projects are included below.

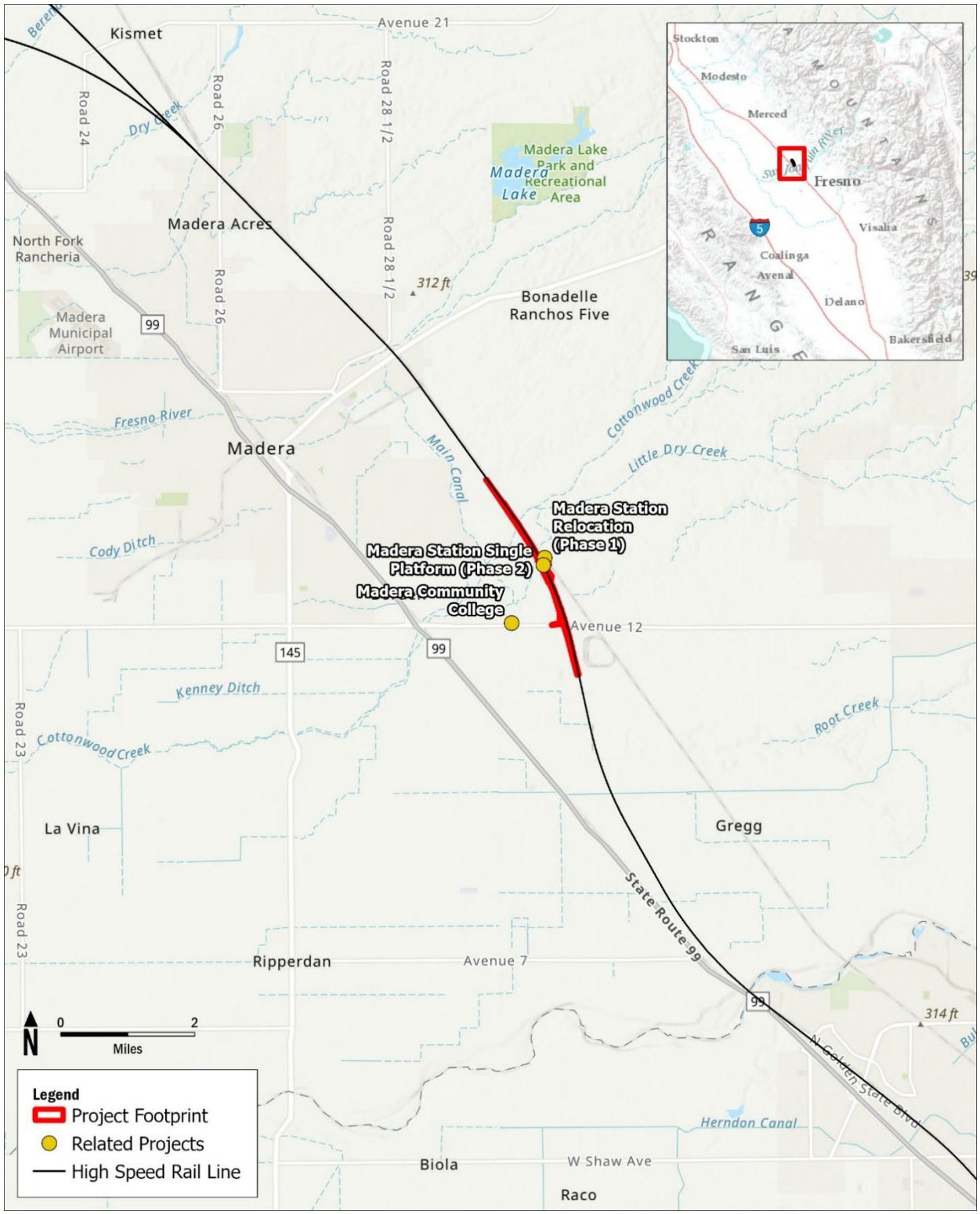
3.11.5.1 Rail Projects Planned within the Project Corridor

The rail projects that would be in development, design or construction during the construction and operations of the Project are shown in **Figure 3.11-1** and include:

Merced to Bakersfield EOS (part of the approved CAHSR Project) – The CHSRA is currently constructing the track, OCS infrastructure, fencing, and a bridge over Cottonwood Creek for the Merced to Bakersfield EOS in the vicinity of the Project Footprint. These construction activities are expected to be complete prior to the construction of the Project.

The reasonably foreseeable projects in the vicinity of the Project Footprint have or would be required to prepare their own environmental documentation which would disclose any potential environmental impacts and mitigation needed.

Figure 3.11-1: Related Projects



Source: (AECOM, 2025)

3.11.5.2 Other Regional Transportation Improvements

Avenue 12 Widening – Madera County has proposed to widen Avenue 12 from two to four lanes between SR-41 to SR-99 and some of this is already occurring as part of the CAHSR Avenue 12 grade separation over the BNSF and CAHSR Project tracks. The balance of the Avenue 12 Widening would likely start construction while Phase I of the Madera HSR Station is in operations and continue in phases.

3.11.5.3 Land Development Projects

Madera Transit Station Specific Plan – The Madera Transit Station Specific Plan (MTSSP) builds off the prior 1995 Madera State Community College Specific Plan. The new, updated plan will incorporate transit-oriented development principles, multimodal connectivity, economic development, and sustainable placemaking. The MTSSP covers 3,860 acres of County of Madera land just southeast of the City of Madera and features a vibrant, mixed-use neighborhood centered around the Madera Community College. A major factor considered in the MTSSP is the arrival of HSR service at the new Madera Station, which is expected to transform the area into a regional destination and connection point (MTSSP, 2024).

3.11.6 Cumulative Impacts Analysis

As identified in the Initial Study (Appendix E), and analyzed in Chapter 4, *Other CEQA-Required Analysis* of this Draft EIR, **Table 3.11-2** summarizes the CEQA environmental topics and sub-topics that would not be subject to impacts from the Project because no impacts would occur. Therefore, these resources would not contribute to the cumulative impact and have not been included in the cumulative analysis.

Table 3.11-2: Impacts for which the Project Would Have No Impact and thus would not Contribute to a Cumulative Impact

CEQA Environmental Topic	CEQA Sub-Topic
Aesthetics	Impact AES-4: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings at a state scenic highway.
Forestry	Impact AG-4: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)), timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g)).
	Impact AG-5: Result in the loss of forest land or conversion of forest land to non-forest use.

CEQA Environmental Topic	CEQA Sub-Topic
Geology and Soils	Impact GEO-8: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
Hazards and Hazardous Materials	Impact HAZ-5: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
	Impact HAZ-6: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public-use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.
	Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.
Land Use and Planning	Impact LU-2: Physically divide an established community.
Noise and Vibration	Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public-use airport, would the project expose people residing or working in the project area to excessive noise levels.
Population and Housing	Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.
Public Services	Impact PS-2: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: I. Schools, II. Parks, or III. Other public facilities.
Recreation	Impact REC-1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
	Impact REC-2: Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
Wildfire	Impact WF-2: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

CEQA Environmental Topic	CEQA Sub-Topic
	Impact WF-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
	Impact WF-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes

3.11.7 Impact Summary

3.11.7.1 Aesthetics

Impact AES-1	Construction and operation of the Project would not have a substantial adverse effect on a scenic vista.
Impact AES-2	Construction and operation of the Project would not be in non-urbanized areas, construction and operation of the Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. If the project is in an urbanized area, construction of the project would not conflict with applicable zoning and other regulations governing scenic quality.
Impact AES-3	Construction and operation of the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Construction staging areas and standard industry equipment (such as excavators, pavers, and dump and concrete trucks) would be employed for Project construction. No equipment would have the height or scale to block any vista and views from surrounding rural residences with potentially sensitive viewers in the vicinity of the Project or from travelers on adjacent roadways. The pedestrian bridge is consistent with these other visual elements and would not have a substantial long-distance impact on a scenic vista. In addition, the proposed station platform may include canopies to protect passengers from the elements, but these elements would not protrude into the skyline or obstruct distant views. These elements would not substantially affect any scenic vista. All future developments within Madera County would be subject to design review and the development guidelines in the Madera County General Plan and Municipal Codes to ensure no significant impact on scenic vistas. The Project, in combination with other projects in the vicinity of the Project, would have the net impact of continuing the development and urbanization of the Project area. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact

The Project would expand upon the overhead contact system (OCS) from approved Phase 2 of the Madera HSR Station, requiring approximately 30-foot-tall poles to be built along the entire length of the station siding track at intervals consistent with the OCS poles being constructed as part of the California High-Speed Rail Authority (CHSRA) Project (approximately 200 to 250 feet). These poles would also be intermittently spaced, similar in appearance to the existing 100-foot-tall powerlines,

and would not obstruct vistas of the Sierra Neveda Mountain foothills. Construction of OCS poles would not significantly obstruct the visual quality and public views of the existing site and surrounding lands because the visibility of the poles decreases with distance. Construction activities would be primarily visible to travelers on Avenue 12 (for a very short duration) and only as they pass through the construction area. Upon completion of the short-term construction phase, all machinery and equipment would be removed from the Project Footprint, and visual changes from construction would cease. All development within Madera County would be subject to design review and the development guidelines in the Madera County General Plan and Municipal Codes to ensure aesthetically pleasing design and visual compatibility with adjacent uses. Because of these requirements, it is not anticipated that cumulative development would substantially degrade the existing visual character of Madera County. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

While construction equipment is not a significant source of glare under typical conditions, some localized glare would occur from these surfaces when exposed to direct sunlight or artificial lighting. However, any glare would be temporary and limited to the construction period. Development of other projects in Madera County, which would consist of infill development, roadway and rail improvements, would not contribute a substantial increase in light and glare in Madera County. Given the site's distance from the nearest sensitive receptors and the presence of fields between the receptors and the Project Footprint, Project construction would have a less than significant impact related to creating a new source of substantial light. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

Operation of the HSR trains would not obstruct views or scenic vistas because trains would be stopped at the Madera HSR Station for a short-period to allow passengers to board and deboard. Additionally, existing freight trains for BNSF service operate adjacent to the Project Footprint; therefore, the Project is consistent with existing conditions. The westside track, station platform, station building, and pedestrian bridge is consistent would not have a substantial long-distance impact on a scenic vista during operations. In addition, the proposed station platform would include canopies to protect passengers from environmental elements; however, the canopies would not protrude into the skyline or obstruct distant views, and would not substantially affect any scenic vista. All future developments within Madera County would be subject to design review and the development guidelines in the Madera County General Plan and Municipal Codes to ensure no significant impact on scenic vistas.

Operation of the Project would be supported by the OCS. The OCS poles would become less visible as distance increases. These poles would also be intermittently spaced, similar in appearance to the existing 100-foot-tall powerlines, and would not obstruct vistas of the Sierra Neveda Mountain foothills. Therefore, Project would have a less than significant impact on scenic vistas. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.2 Agriculture

Impact AG-1	Construction or operation of the Project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
Impact AG-2	Construction or operation of the Project would potentially conflict with existing zoning for agricultural use, or a Willamson Act contract.
Impact AG-3	Construction or operation of the Project would involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.
Level of Cumulative Impact	Construction and Operation **Cumulatively Considerable for Conversion of Agricultural Land (Construction)** **Not Cumulatively Considerable and Less Than Significant Impact (Operation)**

Project Construction

This cumulative impact analysis considers development of the Project, in conjunction with other development within the vicinity of the Project Footprint in Madera County as summarized in Section 3.11.5. Development of cumulative projects would be required to conform to the requirements of the Madera County regulations and would be subject to development review. Construction of the Project would require the temporary and permanent use of agricultural land. Land that has been identified for temporary use during construction would be leased from the landowner (through a temporary conservation easement) and temporarily removed from agricultural use for the duration of construction. Portions of some agricultural parcels would be permanently converted to non-agricultural use for construction of Project elements, including the station platform, west side track, culverts, bridges over Cottonwood Creek, the pedestrian bridge at the station, and Avenue 12 Grade Separation. The total conversion of Important Farmland would be small in the context of Madera County's entire agricultural land base and would not cause a substantial reduction in the County's total agricultural production. Nevertheless, the conversion of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland is considered a significant impact under CEQA. Mitigation Measure (MM) AG-1, MM AG-2, and MM AG-3 would reduce impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, by restoring Important Farmland temporarily used to agricultural use; however, impacts would not be reduced to a less than significant level. Other projects such as the High-Speed Rail Project, the Madera MTSSP will result in additional permanent loss of Important Farmland of areas much larger than that affected by the Project. While agricultural conservation easements are feasible mitigation, they are not considered sufficient to reduce the loss of Important Farmland to a less than significant level. Thus, there would be cumulatively significant losses of Important Farmland. The Project would make a considerable contribution and the cumulative impact would be significant and unavoidable.

Project Operations

Operation of the Project would not require additional land outside of the Project Footprint. Therefore, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), to non-agricultural use, affect parcels under a Williamson Act contract, or conflict with agricultural zoning. Development of the Project in combination with other development in the immediately surrounding area does not have the potential convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), to non-agricultural use, affect parcels under a Williamson Act contract, or conflict with agricultural zoning. No operational impacts would occur; therefore, the Project's contribution is not cumulatively considerable.

3.11.7.3 Air Quality and Greenhouse Gas Emission

Impact AQ-1	Construction and operation of the Project would not conflict with or obstruct implementation of the applicable air quality plan.
Impact AQ-2	Construction and operation of the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard.
Impact AQ-3	Construction or operation of the Project would not expose sensitive receptors to health risks from increased exposure to substantial criteria pollutant concentrations.
Impact AQ-4	Construction or operation of the Project would not result in other emissions (such as those emissions leading to odors) adversely affecting a substantial number of people.
Impact AQ-5	Construction and operation of the Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
Impact AQ-6	Construction and operation of the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Air Quality

SJVAPCD's cumulative thresholds are based on the New Source Review offset requirements for stationary sources. SJVAPCD has determined that use of SJVAPCD Rule 2201 offset thresholds (New Source Review) as thresholds of significance for criteria pollutants is an appropriate and effective means of promoting consistency in significance determinations in the environmental review process and is applicable to both stationary and non-stationary emissions sources. SJVAPCD's attainment plans demonstrate that project-specific emissions below their thresholds would have a less than significant impact on air quality (SJVAPCD 2015).

In addition to their cumulative thresholds, SJVAPCD has established a 100-pound-per-day screening criterion to help determine whether increased emissions from a project would cause or contribute to a violation of the CAAQS or NAAQS. Projects with emissions below the screening criteria would

not be in violation of the CAAQS or NAAQS. Projects with emissions above the screening criteria would require an ambient air quality analysis to confirm this conclusion (SJVAPCD 2015).

Construction emissions would exceed SJVAPCD's annual thresholds and daily screening criteria for total PM_{10} but not for any other pollutant. The primary cause is the emission of PM_{10} fugitive dust, resulting from vehicles traveling within the Project Footprint on unpaved roads. Earth-moving, grading, and demolition activities also contribute fugitive PM_{10} but to a lesser extent than unpaved road vehicle travel. Because PM_{10} emissions during construction would exceed SJVAPCD's thresholds, the Project would potentially contribute to regional pollution in the SJVAB. Therefore, a potentially significant impact would occur. Although the Project would violate air quality standards or result in a cumulatively considerable net increase in ozone (oxides of nitrogen [NOx], as an ozone precursor), particulate matter (PM) sized 10 microns or less in diameter [PM_{10}], and PM sized 2.5 microns or less in diameter [$PM_{2.5}$], implementation of MM AQ-1, Apply Dust Suppressants to Unpaved Roads, would require use of dust suppressants on unpaved roads. With implementation of MM AQ-1, the Project would reduce the generation of fugitive dust when vehicles travel over unpaved surfaces and would not exceed SJVAPCD's annual thresholds or daily screening criteria for any pollutant. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

This cumulative impact analysis considers development of the Project, in conjunction with other development within the vicinity of the Project Footprint in Madera County as summarized in Section 3.11.5. The relevant geographic area is Madera County, as represented by full implementation of the General Plan, and related projects projected to be built including residential, commercial developments, roadway and rail improvements. Odors resulting from the construction of these projects are not likely to affect a substantial number of people, as construction activities do not usually emit offensive odors. Although construction activities occurring in association with the Project could generate airborne odors associated with the operation of construction vehicles (e.g., diesel exhaust) and the application of interior and exterior architectural coatings, these emissions would only occur during daytime hours, would generally be restricted to the immediate vicinity of the construction site and activity, and would not affect a substantial number of people. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Greenhouse Gas Emissions

SJVAPCD's CEQA Guidelines do not identify a GHG emissions threshold for construction-related emissions. The guidelines include thresholds to evaluate operational emissions, but these thresholds are only applicable to land use development and stationary source projects. The Project is a transportation project that does not fit into the land use development or stationary source project categories. Accordingly, there are no adopted quantitative GHG thresholds relevant to the Project. Therefore, direct and indirect GHG emissions from the improvements are discussed with respect to larger statewide GHG emission reduction goals, and a significant impact would occur if emissions would obstruct attainment of the targets outlined SB 32 or AB 1279. The analysis took into account the potential for the Project to contribute to the cumulative impact of global climate change, which includes consideration of the other development within the vicinity of the Project Footprint in Madera County as summarized in Section 3.11.5. The Specific Plan identifies a transit station that could include rail service within its planning boundaries adjacent to the BNSF Corridor, and the Project is consistent with the Specific Plan's planning. Construction of the Project has the potential to create short-term GHG impacts through use of heavy-duty construction equipment, worker

vehicle trips, truck-hauling trips, and locomotive trips. However, construction of the Project would not exceed SJVAPCD's regional thresholds with implementation of MM AQ-1 and, therefore, would not contribute a significant level of air pollution that could degrade regional air quality within the SJVAB. Therefore, the Project would not have a cumulatively considerable contribution to significant cumulative impact.

Project Operations

Air Quality

Project operations have the potential to create long-term regional air quality impacts in the SJVAB through station and facility operations. Project operations would increase passenger rail ridership throughout the SJVAB and northern California. This increased ridership will reduce driving, contributing to emissions reductions. The emission reductions achieved through operation of the Project and the other developments within the vicinity of the Project Footprint in Madera County as summarized in Section 3.11.5, would reduce criteria pollutant emissions across the SJVAB and facilitate attainment of state, regional, and local GHG reduction goals. Thus, the Project is consistent with the trajectory of statewide climate change planning to achieve carbon neutrality by 2045. There may be minor sources of emissions associated with station operations, such as occasional application of coatings to walls and other surfaces, or use of an emergency generator during power outages; however, those sources would be substantially smaller than the avoided emissions from reduced on-road vehicle trips. However, the Project would result in reductions of criteria pollutant emissions, resulting in no significant impact. Thus, the Project would not have a significant contribution to a significant cumulative impact.

Greenhouse Gas Emissions

Project operations have the potential to create long-term GHG impacts through renewable electric energy to power the trains and station operations. However, Project operations would increase passenger rail ridership throughout the SJVAB and northern California. This increased ridership will reduce driving, contributing to emissions reductions. The Project would result in in some GHG emissions because trains servicing the station and the station itself would be powered by electricity. Additionally, localized increases in GHG emissions caused by automobile travel to and from the Project and Specific Plan areas are anticipated. However, electricity used to power the trains and station will be sourced from renewable sources. After sufficient time of operation such that the negative GHG emissions equal the quantity of construction GHG emissions, the Project in combination with the other developments within the vicinity of the Project Footprint in Madera County as summarized in Section 3.11.5, would result in increased HSR ridership and transit-oriented development (TOD) opportunities that would result in an overall reduction in emissions. These reductions would be an environmental benefit and would play a critical role in meeting statewide GHG reduction goals outlined in AB 1279. Therefore, the Project would not have a significant contribution to a significant impact cumulative impact.

The Project would meet all the requirements needed for expanded HSR service levels (above the EOS) associated with Phase 1 HSR service (San Francisco to Los Angeles). The Project would provide mobility enhancements for rail and transit transportation access by providing an improved mode of state-wide transportation. Additionally, the Project would reduce vehicle miles travelled (VMT), and promote increased transit use and support transit-oriented development (TOD) opportunities,

consistent with the MTSSP. Reduction of VMT would contribute to the reduction GHG emissions, which also support SJVAB, state, regional, and local GHG reduction goals.

3.11.7.4 Biological Resources

Impact BIO-1	Construction and operation of the Project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
Impact BIO-2	Construction and operation of the Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
Impact BIO-3	Construction and operation of the Project would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
Impact BIO-4	Construction and operation of the Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
Impact BIO-5	Construction and operation of the Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
Impact BIO-6	Construction and operation of the Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Construction of the Project would result in permanent and temporary impacts on land cover potentially suitable as habitat for special-status plant and wildlife species, including state and federally listed species. All aspects of construction have the potential to cause impacts, either from direct removal of habitat or individuals, or from indirect impacts such as introduction of nonnative invasive species or changes in hydrology. There are 15 special-status species (four plants and 11 animals) with moderate to high potential to occur in the Project Footprint.

If special status-plants are present in non-surveyed areas, construction of the Project could result in the permanent and temporary loss of special-status plant species. Construction-related grading and excavation could destroy potentially occurring special-status plant species in the annual grassland and seasonal wetland habitats. These potential impacts would result in a significant impact. With the implementation of MM BIO-1 through MM BIO-3 as described in Chapter 3.3, potential impacts to special-status plant species would be reduced to less than significant during Project construction.

Construction activities would result in the loss of Crotch's bumble bee habitat in the annual grassland. Additional direct effects would include the potential for injury and mortality of larvae and

migrating adults. Indirect impacts could occur through the removal of nectar plants, which would reduce food sources for the species. The direct and indirect impacts associated with construction would be potentially significant. With implementation of MM BIO-2, MM BIO-3, and MM BIO-4 as described in Chapter 3.3, potential impacts would be reduced to less than significant during Project construction.

The seasonal wetlands in, and in the vicinity of, the Project Footprint provide suitable habitat for vernal pool fairy shrimp. Grading and excavation have the potential to change the supporting surface and subsurface hydrology such that aquatic habitat potentially becomes drier over time and does not provide suitable hydrology to support the life cycles of these species on the remaining 0.12 acres of seasonal wetlands proposed to remain in the Project Footprint and other potentially suitable aquatic habitat within 250 feet of the Project Footprint. With implementation of MM BIO-2, MM BIO-3, and MM BIO-5 as described in Chapter 3.3, potential impacts would be reduced to less than significant during Project construction.

The Project would remove approximately 59.19 acres of annual grassland, which provides foraging habitat for Swainson's hawk. Because there are no known occurrences of nesting Swainson's hawk within 10 miles of the Project Footprint in the last 5 years, impacts to Swainson's hawk foraging habitat are not anticipated. However, if habitats are encountered during construction activities, the direct and indirect impacts associated with construction on Swainson's hawk nesting would be potentially significant. With implementation of MM BIO-2, MM BIO-3, MM BIO-6, and MM BIO-7 as described in Chapter 3.3, impacts would be reduced to less than significant during Project construction by minimizing impacts and disturbance to nests found within 0.5 miles of the Project by a qualified biologist.

Construction activities could expose burrowing owl to dust if present in or adjacent to work areas, and the discharge of construction-related fluids could also affect the species and its habitat. Impacts on burrowing owl would be potentially significant. With implementation of MM BIO-2, MM BIO-3, and MM BIO-8 as described in Chapter 3.3, potential impacts would be reduced to less than significant during Project construction.

Construction activities may result in mortality, injury, or displacement of eggs, juvenile, and adult western pond turtle, if present in the construction footprint. Trenches or excavation pits left open overnight could also entrap the species. Construction activities could also have the potential to result in degradation of aquatic and upland habitat from leaking or accidental spills of chemical or petroleum-based products associated with equipment and vehicles used during construction. These direct and indirect impacts on western pond turtle would be potentially significant. With implementation of MM BIO-2, MM BIO-3, and MM BIO-9 as described in Chapter 3.3, potential impacts would be reduced to less than significant during Project construction.

Indirect impacts associated with grading could result in a permanent change and significant impact to the hydrology of nearby wetlands, causing a reduction in the size of the supporting watershed and the potential to alter the subsurface hydrology, subsequently reducing the habitat's ability to support suitable breeding. SJPPA assumes presence of California tiger salamander and western spadefoot in the seasonal wetlands and annual grassland. With implementation of MM BIO-2, MM BIO-3, and MM BIO-10 as described in Chapter 3.3, potential impacts would be reduced to less than significant during Project construction.

The annual grassland in the Project Footprint provides suitable habitat for the Northern California legless lizard, California glossy snake, and coast horned lizard. Potential direct effects on individuals

include mortality and injury. With implementation of MM BIO-2, MM BIO-3, and MM BIO-11 as described in Chapter 3.3, potential impacts would be reduced to less than significant during Project construction.

Construction activities could result in the injury, mortality, and disruption of foraging, breeding, and dispersal of American badgers. These effects could result from Project grading, excavation, use of construction-related vehicles, and exposure of badgers to construction-related fluids, such as fuels, oils, and cement, which would result in a significant impact. With implementation of MM BIO-2, MM BIO-3, and MM BIO-12 as described in Chapter 3.3, potential impacts would be reduced to less than significant during Project construction.

Non-special-status migratory and passerine birds and raptors have the potential to nest and forage on the ground, in the trees, and under the bridges in the Project Footprint. If active nests are present on the ground, in the trees, and under the bridges, construction activities associated with clearing and grubbing, and noise and vibration to destroy active nests or result in nest abandonment. The nests and eggs of any bird are protected from take pursuant to CFGC Section 3503. Impacts on active nests would be significant. With implementation of MM BIO-2, MM BIO-3, and MM BIO-13 as described in Chapter 3.3, potential impacts would be reduced to less than significant during Project construction.

As development in Madera County continues, sensitive wildlife species native to the region and their habitat, including those species identified by state and federal resource agencies as Species of Concern, Fully Protected, or Sensitive, could be lost through conversion of existing open space to urban development. Assuming that other development within the vicinity of the Project Footprint in Madera County as summarized in Section 3.11.5, complies with the laws established to protect special status plant and animal species, cumulative impacts would be considered less than significant. Construction of future projects may result in a substantial adverse effect on state or federally protected wetlands; however, these planned projects would be subject to separate environmental review and, in an effort to reduce project-related effects, would be required to comply with existing regulations related to biological resources. Implementation of MM BIO-1 through MM BIO-13 identified in Chapter 3.3, requires restriction on construction activities if habitats are found, which would minimize or avoid Project impacts to special status plant and animal species, and impacts would be less than significant. Therefore, with implementation of MM BIO-1 through MM BIO-13, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

No direct impacts to wildlife corridors would occur, but indirect effects could occur from construction activities such as noise, lighting, and motion. Construction activities would likely temporarily disturb or displace local wildlife, but normal movement of wildlife would be expected to occur once construction activities are complete. Some wildlife, including birds or nocturnal species, are likely to still use the habitats opportunistically during construction. These impacts would be temporary, and minor given that the Project is not in a major movement corridor and, therefore, impacts would be less than significant. Assuming that other development within the vicinity of the Project Footprint in Madera County as summarized in Section 3.11.5, complies with the Migratory Bird Treaty Act (MBTA) or California Department of Fish and Wildlife (CDFW) code requirements, cumulative impacts to wildlife species or corridors would be considered less than significant. The Project would not have a cumulatively considerable contribution to a significant cumulative impact.

The Project would not conflict with any known local policies or ordinances described in Section 3.3, and would be consistent with provisions in the Madera County General Plan for protecting biological resources. Assuming that other development within the vicinity of the Project Footprint in Madera County as summarized in Section 3.11.5, complies with provisions in the Madera County General Plan for protecting biological resources, no cumulative impacts would occur related to conflicts with a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved plans.

Project Operations

Impacts to sensitive or special status habitat or species are not anticipated to occur within the Project Footprint given the ongoing disturbances within the areas of the Project components. Operation of the Project would not result in any discharge of fill or waste material within any delineated jurisdictional aquatic resources. Commonly utilized corridors for wildlife movement are anticipated within the Project Footprint; however, wildlife crossings would be provided as part of the Project and would not result in impacts to wildlife movement. Further, operation of the Project is not anticipated to impact or disturb nesting migratory species covered under MBTA or CDFW code. Operational activities associated with the Project would not result in any potential conflicts with local policies that protect biological resources. The Project Footprint does not contain trees that fall under the definition of a heritage tree and there are no protected trees within the Project Footprint. It is unlikely that existing mature trees on site would be removed at the time of operation. Assuming that other development within the vicinity of the Project Footprint in Madera County as summarized in Section 3.11.5, complies with provisions in the Madera County General Plan for protecting biological resources, with adherence to existing regulations, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.5 Cultural Resources

Impact CUL-1	Construction and operation of the Project would not cause a substantial adverse change in the significance of a historical resource pursuant to PRC Section 15064.5.
Impact CUL-2	Construction and operation of the Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to PRC Section 15064.5.
Impact CUL-3	Construction and operation of the Project would not disturb any human remains, including those interred outside of dedicated cemeteries.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Historical Resources

No built resources that are eligible for listing in the California Register or the National Register have been identified in or adjacent to the Project Footprint. Therefore, construction of the Project would not be cumulatively considerable, and the Project would not contribute to the loss of built resources within the cumulative study area. Therefore, the Project, in conjunction with the other projects described in Section 3.11.5 would not be cumulatively considerable.

Archaeological Resources and Human Remains

Construction of the Project would not impact any known archaeological resources, and the likelihood of uncovering previously unknown archaeological resources during construction would be reduced with implementation of MM CUL-1 and MM CUL-2. Future projects as described in Section 3.11.5, would be required to implement mitigation specific to those projects to reduce impacts to archaeological resources. With implementation of MM CUL-1 and MM CUL-2, construction of the Project would not contribute to the loss of archaeological resources. Therefore, the Project would not be cumulative considerable.

Projects, in addition to the other projects described in Section 3.11.5, would be required to comply with the provisions of California Health and Safety Code Section 7050.5, as well as California Public Resources Code Section 5097 et seq.; which requires to treat human remains that may be discovered during construction in accordance with required practices. Additionally, with implementation of MM CUL-3, the Project would not be cumulative considerable.

Project Operations

Historic Resources, Archaeological Resources and Human Remains

No historical resources or archaeological resources were identified in or directly adjacent to the Project Footprint. Additionally, there is a low potential for the disturbance of human remains as a result of the Project. Operation of the Project would not involve ground-disturbing activities that would potentially impact historical resources, archaeological resources, or human remains. Therefore, the Project would not contribute to cumulative historic or archaeological resources, and human remain impacts, and the cumulative impact would be less than significant.

3.11.7.6 Energy

Impact EN-1	Construction and operation of the Project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.
Impact EN-2	Construction and operation of the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Project construction requires the use of energy resources including gasoline and diesel fuel for construction equipment and vehicles. This use is necessary for the construction and is not wasteful, inefficient or unnecessary. The Project would expand upon the OCS from approved Phase 2 of the Madera HSR Station, requiring approximately 30-foot-tall poles to be built along the entire length of the station siding track at intervals consistent with the OCS poles being constructed as part of the CHSRA Project (approximately 200 to 250 feet). These poles would also be intermittently spaced, similar in appearance to the existing 100-foot-tall powerlines. The Project and related projects are required to comply with various federal and State government legislation to improve energy efficiency in buildings, equipment, and appliances and reduce VMT. Therefore, the Project would not be cumulative considerable.

The Project would increase ridership, reduce traditional transportation fuel consumption associated with personal automobile vehicle-trips, and support the use of renewable energy for electric power for HSR train service, and would not conflict with State or local plans for renewable energy or energy efficiency. Therefore, Project construction would have a less than significant impact related to conflict with or obstruction of a state or local plan for renewable energy or energy efficiency. Fuel, electricity, and natural gas demand associated with Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. The Project would be consistent with all applicable plans and policies, and would not conflict with or obstruct a state of local plan for renewable energy or energy efficiency. Therefore, the Project would not be cumulative considerable.

Project Operations

The CHSRA intends to utilize renewable electric energy for operations of the trains. If this proposed sustainability goal is not available for the initial operation of the trains, the Project would be connected to the overall power structure and supply for the entire HSR project. Operational energy for other elements of the Project such as safety lighting, building lighting, and other similar uses is anticipated to be negligible. As a result, the Project is anticipated to result in less than significant impacts related to Project energy requirements or energy use inefficiencies, or result in a wasteful or inefficient use of energy. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.7 Geology and Soils

Impact GEO-1	Construction and operation of the Project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
Impact GEO-2	Construction and operation of the Project would not create substantial risks to life or property relative to being located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994).
Impact GEO-3	Construction and operation of the Project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature.
Impact GEO-4:	Construction and operation of the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking and/or seismic-related ground failure, including liquefaction.
Impact GEO-5:	Construction and operation of the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.
Impact GEO-6:	Construction and operation of the Project would not result in substantial soil erosion or the loss of topsoil.
Impact GEO-7:	Construction and operation of the Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact (Geology and Soils – Construction)** **Cumulatively Considerable for Unknown Paleontological Resources (Construction)** **Not Cumulatively Considerable and Less Than Significant Impact (Operation)**

Project Construction

Geologic and Soil Conditions

The geographic context for analysis of impacts on development from unstable soil conditions including landslides, subsidence, or collapse generally is site-specific. In order to reduce potential impacts resulting from soil conditions that could cause the Project Footprint to be susceptible to landslide, lateral spreading, subsidence, liquefaction, or collapse, MM GEO-1 would be implemented to ensure a geotechnical report is prepared in accordance with California Building Code (CBC) (CCR Title 24). Impacts associated with potential geologic hazards related to ground-shaking, seismic-related ground failure would occur at individual building sites. These impacts are site-specific, and impacts would not be compounded by additional development. The Project and other developments would be required to be designed in accordance with appropriate geotechnical and seismic guidelines and recommendations, consistent with the requirements of the Madera County and the State of California. Implementation of MM GEO-1 and adherence to all applicable regulations would reduce impacts associated with potential landslide, lateral spreading, subsidence, liquefaction, or collapse. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

The Project Footprint is on relatively flat land in the San Joaquin sandy loam soil unit. San Joaquin Valley soils are characterized by moderate drainage, slow water movement, very low water availability to a depth of 2.1 inches, and high shrink-swell potential. These impacts are site-specific, and impacts would not be compounded by additional development. Development of other projects in the vicinity of the Project Footprint could also expose soil surfaces, and further alter soil conditions. To minimize the potential for significant cumulative impacts that could cause erosion, the Project and other projects in the adjacent area are required to be developed in conformance with the provisions of applicable federal, state, Madera County laws and ordinances. The Project would be designed in accordance with appropriate geotechnical and seismic guidelines and recommendations, consistent with the requirements of the Madera County. With adherence to existing regulations and implementation of MM-GEO-1, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

The Project would comply with the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit during construction. Under the NPDES, a Storm Water Pollution Prevention Plan (SWPPP) would be prepared and would identify potential sources of erosion or sedimentation. The Project would include physical barriers to erosion, potentially including the use of sandbags (to slow runoff and allow sediments to settle) and silt fences (to capture sediment), covering stockpiles to prevent erosion, providing retention basins, conducting street sweeping. All such measures would be detailed in an erosion control plan that would be developed and approved by Madera County prior to issuance of any grading permits and subsequent initiation of construction. Moreover, the flat terrain and stable soil conditions of the Project Footprint inherently reduce the potential for significant erosion or topsoil loss. Development of other projects in the vicinity of the Project Footprint could also expose soil surfaces, and further alter soil conditions. To minimize the potential for significant cumulative impacts that could cause erosion, the Project and other projects in the adjacent area are required to be developed in conformance with the provisions of applicable federal, state, Madera County laws and ordinances. The Project's compliance with existing regulatory requirements and incorporation of standard design elements, such as stormwater drainage, would prevent significant erosion or loss of topsoil during construction. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Sanitary waste would be generated by the restroom and storage room facilities that would be constructed (as part of the approved Madera Station Relocation Project). The Project consists of additional platform, track, parking/access, and related improvements and does not include uses that would increase the demand for the planned on-site wastewater treatment system (OWTS). OWTS would be constructed in accordance with the Local Agency Management Program for Madera County and would likely use a septic tank connected to either seepage pits or leach lines, depending on the site location. The OWTS would be designed and constructed based on soil testing and located within the Project Footprint to facilitate proper infiltration and treatment of waste. This would ensure proper percolation of wastewater and provide appropriate groundwater protection. Development of other projects in the vicinity of the Project Footprint would be required to be in conformance with the provisions of Madera County laws and ordinances. With the implementation of Best Management Practices (BMPs), as well as compliance with building regulations and site-specific recommendations to address on-site soil conditions, the severity of construction and operational impacts on soils incapable of supporting the use of septic tanks would be less than significant. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Paleontological Resources

As development occurs within the Project Footprint and in the surrounding areas, it is possible that damage to unknown paleontological resources could occur. However, as other projects within the vicinity of the Project Footprint are generally subject to environmental review under CEQA, these projects are required to incorporate appropriate mitigation measures to avoid or minimize impacts on paleontological resources. The Project would implement MM GEO-2, GEO-3, and GEO-4. These mitigation measures would reduce the potential impacts to unknown paleontological resources by ensuring a qualified paleontologist would oversee surveying, monitoring, salvage, identification, cataloguing, curation, and provision for repository storage, and reporting. Although mitigation would be implemented during construction activities, impacts to scientifically significant, nonrenewable paleontological resources would remain. MM GEO-2, GEO-3, and GEO-4 would be implemented to lessen the significant impacts; therefore, the impact associated with Project construction would be less than significant. Considered cumulatively with other projects in the region, and with implementation of MM GEO-2, GEO-3, and GEO-4, the Project would not make a considerable contribution, and the cumulative impact would be less than significant.

Project Operations

Using unsuitable materials for fill and/or foundation support for the Project components would have the potential to create future heaving, subsidence, spreading, or collapse problems leading to building settlement and/or utility line and pavement disruption. However, suitable materials for fill and/or foundation support would be provided in accordance with regional and CBC standards. Therefore, impacts associated with the exposure of people or structures to hazards associated with unstable geologic units or soils would be less than significant during operations.

The soils underlying the Project Footprint generally consist of sandy loam soil unit and Alamo clay. The expansive soil potential is considered high for the Project Footprint. The Project components would be designed in accordance with all standard requirements for improvements on expansive soil, reducing the potential effects from and resulting impacts due to expansive soil. With adherence to existing regulation, impacts related to expansive soils would be less than significant.

Operational activities associated with the Project would not involve ground disturbance in geologic units sensitive to paleontological resources. The Project would not impact scientifically significant paleontological resources, and no impact would occur during operations. Therefore, the Project would not contribute to cumulative historic or archaeological resources, and human remain impacts, and the cumulative impact would be less than significant.

3.11.7.8 Hazards and Hazardous Materials

Impact HAZ-1	Construction and operation of the Project would not create a significant hazard to the public or the environment reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
Impact HAZ-2:	Construction and operation of the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
Impact HAZ-3:	Construction and operation of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
Impact HAZ-4:	Construction and operation of the Project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Cumulative projects in Madera County could result in construction and operational activities that could potentially involve the release of hazardous materials into the environment. In particular, cumulative development could occur on properties listed on hazardous materials sites or properties previously used for oil production activities, and/or the demolition of existing structures, which may contain hazardous materials. However, the individual workers potentially affected would vary from project to project. For example, if demolition of existing buildings is required, short-term increases in hazardous materials generation due to the potential presence of lead-based paints and asbestos-containing materials could occur. However, as with the Project, related projects would be required to comply with applicable federal, state, and local regulations. Adherence to applicable regulations and guidelines pertaining to abatement of, and protection from, exposure to oil, pesticides, asbestos, lead, and other hazardous materials would ensure that cumulative impacts from those activities would be less than significant. Site-specific investigations would be conducted at sites where contaminated soil could occur to minimize the exposure of workers to hazardous substances.

Compliance with existing regulations and implementation of MM-HAZ-1 would ensure that construction workers and the general public would not be exposed to any unusual or excessive risks related to hazardous materials. Site-specific investigations would be conducted at sites where contaminated soil could occur to minimize the exposure of workers to hazardous substances. Additionally, the Project would be required to comply with applicable statutes and regulations, to ensure that the Project would not result of the accidental release of hazardous materials. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Construction activities associated with the Project would involve the routine transport, use, and disposal of hazardous materials (e.g., fuels, greases, solvents, paints, and lubricants). If improperly handled, used, or spilled, these materials would pose a significant threat to human health and safety or the environment. Development of the other projects described in Section 3.11.5 could occur on properties listed on hazardous materials sites or properties previously used for oil production

activities, and/or the demolition of existing structures, which may contain hazardous materials. However, the individual workers potentially affected would vary from project to project. Workers who handle hazardous materials are required to adhere to Occupational Safety and Health Administration and California Division of Occupation Safety and Health requirements. During construction, hazardous materials must be transported in accordance with the RCRA and USDOT regulations, stored in accordance with the Unified Program enforced by local Certified Unified Program Agencies (CUPAs; County of Madera 2023) and disposed of in accordance with the RCRA and the CCR at a facility permitted to accept the waste. Adherence to federal and state regulations would reduce the risk of exposure to hazardous materials that would be used, transported, or disposed of during construction. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project construction would result in limited and temporary road closures and potentially cause increased traffic congestion in areas where emergency vehicles may need to operate. The Project includes safety and emergency elements for operators and passengers including having emergency vehicle access in the event of an emergency. The Project would also include standard features such as clear and visible signage, and communication systems compatible with local emergency response agencies. These features ensure that the Project is in compliance with the LHMP and the MCOAEOP during operations. Construction associated with the related projects and other future development in Madera County, and the surrounding area would not interfere with adopted emergency response or evacuation plans. It is anticipated that future development projects would be required to implement measures necessary to mitigate potential impacts. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

The Project is not located in an area that is on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. A search of the Hazardous Waste and Substances Sites (Cortese) List on the DTSC website found a leaking underground storage tank site at 11272 Road 32, approximately 0.74 miles to the east of the southernmost portion of the Project alignment. This site is the former MacGillis and Gibbs site that was used as a wood pole treatment facility and used solutions containing arsenic, chromium, copper, and pentachlorophenol to treat wood. The site is under a DTSC cleanup program. Due to the distance from the Project Footprint, the flat site gradient, the depth to groundwater, and the nature of the Project improvements, neither the proposed improvements nor operation of the Project would affect the MacGillis and Gibbs site, and there are no construction or operational impacts from the Project. It is anticipated that future development would comply with applicable laws and regulations pertaining to hazardous wastes, and that risks associated with identified hazardous materials sites would be eliminated or reduced through proper handling, disposal practices, and/or clean-up procedures. Given that the Project is not located in an area that is on a Cortese List of hazardous materials sites, construction impacts are less than significant. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

With implementation of the Project, hazardous materials could be stored within the Project Footprint, but the materials would generally be in the form of routinely used common chemicals. Therefore, the probability of a major hazardous materials incident would be remote. Minor incidents would be more likely, but the consequences of such accidents would likely not be severe due to the types of common chemicals anticipated to be used at the Project Footprint, and the impact would be less than significant. It is anticipated that future development (including TOD proposed by the City

of Madera or Madera County) would comply with applicable laws and regulations pertaining to hazardous wastes, and that risks associated with identified hazardous materials sites would be eliminated or reduced through proper handling, disposal practices, and/or clean-up procedures. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.9 Hydrology and Water Quality

Impact HYD-1	Construction and operation of the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: I. result in substantial erosion or siltation on-site or off-site.
Impact HYD-2	II. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site.
Impact HYD-3	Construction and operation of the Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality.
Impact HYD-4	Construction and operation of the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.
Impact HYD-5	Construction and operation of the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: III. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; IV. or impede or redirect flood flows.
Impact HYD-6	Construction and operation of the Project would not risk release of pollutants due to Project inundation in flood hazard, tsunami, or seiche zones.
Impact HYD-7	Construction and operation of the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Cumulative development within Madera County could potentially increase the amount of impervious surfaces that could cause or contribute to storm drain system capacity exceedance, alter the existing storm drain system, and require the construction of new or expanded facilities. As undeveloped land has been converted to urban uses, this conversion has resulted in additional stormwater flows that have exceeded system capacity. In addition, aging infrastructure also reduces capacity and the ability of the system to convey flows without causing street flooding. New development within Madera County would be subject to the environmental review process that would analyze potential impacts associated with stormwater runoff to the storm drain system, as well as compliance with current state and local environmental regulations, such as the Construction

General Permit and Clean Water Act Section 404 permit process. Cumulative growth could increase flood flows as more impervious surfaces are created within the watershed. Alterations in area drainage patterns could also alter flood conveyance capacity of existing drainages. This alteration could create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of contaminated runoff. All major development within Madera County would be subject to environmental review, the NPDES Program permits, as well as local Municipal Codes and plans. The Project would not result in significant increase surface runoff that would impact existing drainage capacity, and would be required to obtain necessary approvals from Madera County to ensure that allowable capacity flow to the affected storm drains is not exceeded or result in substantial surface runoff which would result in erosion or siltation, and flooding on-site or off-site. Therefore, compliance with applicable federal, state, and local regulations, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

During Project construction, indirect impacts may result from grading and stockpiling soil upslope of the seasonal wetlands and vernal pool identified in the Project Footprint, leading to sediment transfer into the water column. To minimize the potential for water quality impacts, and in compliance with the General Construction Permit, the Project would implement a SWPPP. The SWPPP would identify the aforementioned sources of sediment and pollutants that would affect the quality of stormwater discharges. To minimize the effects, the SWPPP would include BMPs to reduce or eliminate sediment and other pollutants in stormwater discharges. More specifically, BMPs would address source control, pollutant control, and treatment control that would comply with standard Madera County construction BMPs. All projects within Madera County would be subject to the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, the Construction General Permit and the Municipal Stormwater Permit. Therefore, compliance with applicable federal, state, and local regulations, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project construction would introduce temporary impervious surfaces including equipment and materials that would be stored on-site. Construction and storage of materials, however, would have minimal effects on the percolation of precipitation and overall recharge of the aquifer. The Project does not include uses such as residential, commercial, or industrial uses that would result in a substantial increase in demand for water, including groundwater. Future construction activities for the other projects considered would be required to comply with regulatory requirements. Therefore, construction impacts related to groundwater would be less than significant, and the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Portions of the Project's track improvements would fall within FEMA-designated Flood Zones AO and AE. Operations of the Project include regular maintenance of and upgrades to track and station facilities. Accidental release of hydrocarbons onto the guideway, related to the routine maintenance of the HSR train, may result in additional pollutants released in an inundation. Cumulative growth and development could result in the introduction of new development within flood hazard areas. Madera County has regulations and requirements for potential development within flood hazard areas. It is anticipated that applicable state and local regulations would prevent the placement of housing and structures in 100-year flood hazard areas unless flood control improvements are made to reduce the risk from 100-year floods. In addition, it is anticipated that applicable policies related to flooding from the Madera County General Plan would ensure that Project and other project developments would be protected against potential flood hazards. Compliance with federal and

state regulatory framework is mandatory. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project construction would not conflict with or obstruct implementation of water quality control plans or sustainable groundwater management plans set forth by the state and regional authorities. The Project, and other projects considered would abide by water quality regulations promulgated by the state and regional authorities, through compliance with the CWA's NPDES General Construction Permitting Process and applicable CVRWQCB regulations. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

The Project and other projects considered would introduce new impervious surfaces because impermeable surfaces from the concrete station platform, parking lot, and bridges would replace permeable surfaces. Any increase in impervious surface area could increase storm water runoff rates, which could result in increased erosion potential and pollutant discharge (e.g., sediment/siltation) to surface receiving waters, and flooding potential. In compliance with the Madera County SWRP, Project design features would be implemented to maintain existing drainage patterns, promote infiltration, reduce runoff volumes/amounts, and minimize pollutant discharge to receiving waters. The storm water system would be designed to meet the proposed flow capacity and would slow (detain or retain) storm water, which would reduce the runoff volume discharged and decrease the peak runoff discharge velocity for design storms, thereby minimizing the potential for increased runoff rates/amounts and erosion/siltation on-site or off-site. Project design features would offset any increases in flow and changes to drainage patterns post-construction. Operation of the Project or other projects considered would not alter the course of any streams or rivers. In addition, existing drainage culverts would be extended to accommodate the Project improvements where applicable, and existing drainage patterns would be maintained as much as possible. Bridge designs would maintain existing hydraulic capacity to prevent channel erosion and siltation.

With adherence to existing laws and regulations and proper implementation of storm water compliance requirements, potential impacts related to substantial erosion or siltation, and flooding would be less than significant during operations. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.10 Land Use and Planning

Impact LU-1	Construction and operation of the Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

The Project and other projects considered would be consistent with the goals and policies identified in the Madera County General Plan. Moreover, the Project and other projects considered enhances land use compatibility by fostering transit-oriented development (TOD) and reducing the reliance on personal vehicles. The Project and other projects considered supports Madera County's goals of

improving transportation networks, encouraging economic development, and maintaining a sustainable urban footprint. Therefore, impacts associated with construction of the Project would be less than significant. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

The Project and other projects considered would be located on land zoned for public open space and industrial use (County of Madera 2015). These land uses allow for infrastructure development and are aligned with the station's intended function to enhance regional transit services. By utilizing areas already designated for public and industrial purposes, the Project minimizes land use conflicts and preserves land critical to the county's long-term planning vision. The Madera County General Plan emphasizes balancing urban development with environmental and agricultural preservation, and the Project's location supports this balance. Public open space zoning in the area accommodates essential public infrastructure, such as transportation facilities, while industrial zoning allows for compatible uses that support regional economic and logistical activities. This strategic siting ensures that the station expansion will not interfere with existing agricultural operations or residential communities, aligning with General Plan policies promoting efficient land use and orderly growth. Operation of the Project would not divide an established community since no residential land uses are within or adjacent to the Project Footprint, and the Project would operate within a railroad corridor. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.11 Mineral Resources

Impact MIN-1	Construction and operation of the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
Impact MIN-2	Construction and operation of the Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

The Project Footprint and areas for other project considered are designated with sand and gravel resources are within the floodplains of the San Joaquin and Kings rivers (DOC 2022). Instream resources in the two rivers generally contain very small amounts of aggregate with far less than 1% of the reserves. No resources underlying designated lands within the Fresno P-C Region have been lost due to urbanization and other irreversible land uses since designation in 1988. Because of the existing use of the Project Footprint primarily for agricultural production, the long and linear shape of the site, and the existing and planned land uses surrounding the site, it would not be feasible to use the Project Footprint for production of mineral resources. Furthermore, Project construction would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, and impacts would be less than significant. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

The Project Footprint and areas for other projects considered are not on or in the vicinity of valuable mineral resources. The Madera County General Plan's Agricultural and Natural Resources Element notes that the mineral resources in the county include aggregate (sand, gravel, and crushed stone), asbestos, copper, gold, iron, and silver. The Project Footprint is located in an MRZ-3 (DOC 1998). The General Plan does not place any land use restrictions for areas designated as MRZ-3 (County of Merced 2013). Therefore, the Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan, and impacts would be less than significant. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

The Project and other projects considered would not disturb additional areas of land outside of the Project Footprint. Operation of the Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan, because the Project would operate on land that is already disturbed. Thus, Project operation would not result in additional impacts to mineral resources. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.12 Noise and Vibration

Impact NOI-1	Construction and operation of the Project would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
Impact NOI-2:	Construction and operation of the Project would not result in the generation of excessive groundborne vibration or groundborne noise levels.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Cumulative noise assessment considers development of the Project in combination with ambient growth and other development projects within the vicinity of the Project Footprint. As noise is a localized phenomenon, and drastically reduces in magnitude as distance from the source increases, only projects and ambient growth in the nearby area could combine with the Project to result in cumulative noise impacts. Development of the Project in combination with future development would result in an increase in construction-related and traffic-related noise. However, in order to achieve a substantial cumulative increase in construction noise levels, more than one source emitting high levels of construction noise would need to be in close proximity to the Project construction. As described in Section 3.11.5, regional and local projects located within the vicinity of the Project Footprint would be constructed and operational before Project construction begins. Therefore, a substantial cumulative increase in construction noise levels is not anticipated. Thus, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Development of the Project in combination with the related projects would result in an increase in construction-related and traffic-related vibration impacts. Construction vibration is localized in nature and decreases substantially with distance. Consequently, in order to achieve a substantial cumulative increase in construction vibration levels, more than one source emitting high levels of

construction vibration would need to be in close proximity to the Project construction. Thus, construction vibration levels and resulting ground-borne noise levels from the Project would not be cumulatively considerable, and cumulative vibration impacts associated with construction activities would be less than significant. Cumulative off-site vibration impacts would also occur primarily as a result of increased traffic on local roadways due to the Project and future development within the proposed Project area. The Project is not expected to significantly increase off-site vibration levels and result in ground-borne noise levels. Therefore, Project would not have a cumulatively considerable contribution to a significant cumulative.

Project Operations

Permanent noise sources during operations would include HSR train operations and station platform waning horns and announcements. There is one sensitive receptors located northeast the Project Footprint; therefore, minimal noise impacts would during operations of the proposed station and track alignment under existing and future conditions. However, the distance from the Project site exceeds the FRA noise threshold for residential impacts. Cumulative off-site noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed Project and future development within the Project Footprint. Therefore, cumulative off-site noise impacts have been assessed based on the contribution of the proposed Project traffic volumes on the roadways in the proposed Project vicinity. The Project is not expected to significantly increase off-site noise levels. Thus, off-site noise impacts from the Project would not combine with future development to become cumulatively considerable, and cumulative noise impacts would be less than significant. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.13 Population and Housing

Impact POP-1	Construction and operation of the Project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Development of the Project Footprint and other projects considered surrounding area is guided by the Madera County General Plan, Madera County Zoning Ordinance, and the MTSSP. Construction of the Project is anticipated to last approximately 2 to 3 years and, given the semi-rural setting, would have the potential to temporarily induce local population growth through the employment of workers during the construction period, if local workers are not available or if enough labor exists to meet demand. The source of the construction labor force for the Project and other projects considered is anticipated to be from the existing local workforce in nearby urban centers including the cities of Madera and Fresno. Therefore, it is not anticipated that construction of the Project would cause substantial population growth or a substantial increase in housing demand in the vicinity of the Project or region as a whole. The Project and other projects considered would not result in displacement that would require construction of replacement housing elsewhere, and would not include new housing or businesses that would directly result in population growth. An

increase in transit service in the region may allow for increased development around the Madera HSR Station; however, such development is anticipated in the local jurisdictions' general plans and would be contingent upon local city zoning regulations and approvals. Therefore, development around station areas would not occur in an uncontrolled manner. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

Operation of the Project would not result in substantial changes to existing populations in or near the Project Footprint. The Project would not include development of new housing or businesses that would directly induce population growth. However, operation of the Project would indirectly affect growth and development in or near the Project Footprint by enhancing transit connections that would make the area near or within the Project Footprint a more desirable location for residences and businesses, encouraging growth and economic development in the surrounding communities. Additionally, the MTSSP will include TOD that supports the population growth projections in this area of Madera County once HSR is operational. Any potential anticipated population and household growth forecasts for the Project Footprint would be consistent with Madera County's growth projections. Moreover, state and regional planning programs and policies encourage and incentivize development near transit stations. Madera County's transportation goals include providing safe, accessible, reliable, and efficient public transit services in both urban and rural areas of Madera County, which would facilitate development around the Madera HSR Station. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.14 Public Services

Impact PS-1	Construction and operation of the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: I. Fire protection, or II. Police protection.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Construction of the Project and other projects considered would involve hiring a temporary workforce. Given the proximity, most of these workers are anticipated to be hired locally from existing residents in the cities of Madera and Fresno, in surrounding communities, and in other unincorporated areas of Madera County. These workers would be served by existing fire services in the communities in which they reside, and the Project and other projects would not cause a substantial permanent increase in the residential or working population, or otherwise result in a substantial increase in demand for fire services. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

The Project and other projects considered is not in the City of Madera but is in the city's Sphere of Influence, and the city police department would respond to the Project Footprint if mutual aid is

requested, although such a request would be rare. It is anticipated that many users of the Project and other projects considered would be from the local area and already using existing law enforcement services and facilities. The Project would not result in a substantial increase in permanent residents that would increase demand for law enforcement services or create the need for new facilities. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

Operation of the Project and other projects considered would result in new passengers using the new facilities who would be temporarily located in the Project Footprint and transiting via the Project for access to/from HSR and other connecting transportation. It is anticipated that many users of the Project and other projects considered would be from the local area and already using existing fire and police protection services and facilities. The Madera County Sheriff's Department is anticipated to have sufficient resources to meet potential increases in demand for law enforcement services. Therefore, the Project would not result in a substantial increase in permanent residents that would increase demand for fire and police services or create the need for new facilities; operation of which would result in impacts to the environment. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.15 Transportation

Impact TR-1	Construction and operation of the Project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
Impact TR-2	Construction and operation of the Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
Impact TR-3	Construction and operation of the Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
Impact TR-4	Construction and operation of the Project would not result in inadequate emergency access.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Similar to the Project, the related projects would be individually responsible for complying with relevant plan, programs, ordinances, and policies addressing the circulation system. Thus, implementation of the Project, together with the related projects, would not create inconsistencies with related plans or policies regarding transit, bicycle, and pedestrian facilities, as the Project would be subject to review by multiple agencies throughout its duration. The related projects primarily propose regional rail projects, and specific plans that would enhance transit-oriented development principles and multimodal connectivity, reducing dependence on automobiles and encouraging more active travel modes. Similar to the Project, the related projects would be individually responsible for complying with relevant plan, programs, ordinances, and policies addressing the circulation system. Thus, implementation of the Project, together with the related projects, would not create inconsistencies with related plans or policies regarding transit, bicycle,

and pedestrian facilities, as the proposed Project would be subject to review by multiple agencies throughout its duration. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

The Project is a transportation project (specifically, a transit project), and would reduce VMT by inducing a mode shift from personal (household) automobiles to public transit, including for long-distance commute and intercity trips. More specifically, the Project is anticipated to result in a localized increase in VMT from riders traveling to and from the proposed station, but this localized increase would be outweighed by a reduction in overall VMT in Madera County and the Central Valley, as well as to more distant areas of the state, particularly as HSR service expands beyond the EOS into northern and southern California. Based on the 2024 State CEQA Guidelines, transportation projects that reduce or have no impact on VMT would be in alignment with the RTP/SCS, and therefore would also have no cumulative VMT impact. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

The design, construction, and operation of the Project would comply with applicable standards from the FRA and/or CPUC. Similarly, design, construction, and operation of site access improvements, including new roadways or modifications to existing roadways, would adhere to applicable standards such as the California Manual on Uniform Traffic Control Devices and local design guidelines and specifications. Design approval for specific Project components would be sought from the appropriate agencies as part of the detailed design and subsequent stages of the Project. All of the related projects would be individually responsible for complying with local and regional design requirements addressing potential safety conflicts. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Emergency vehicle access for the area is currently provided primarily by Avenue 12, which is a major east-west arterial roadway providing direct access to and from State Route (SR) 99. Initial construction of the four-lane station access road will commence with the already-approved Phase 2 improvements, providing a complete access road to connect into the Avenue 12 grade separation completed by the CHSRA. The access road would provide emergency access for the entire station site. Design, construction, and operation of Project elements would comply with applicable standards from Caltrans and local agencies (for changes to the roadway network or roadway facilities) and from the FRA and/or CPUC (for the Project's rail elements), including provisions for emergency access. Related projects would implement Traffic Management Plans to ensure adequate emergency access is maintained in and around the related project sites throughout all construction activities. Coordination of these plans would ensure construction activities of the concurrent related projects and associated hauling activities are managed in collaboration with one another and the Project. Furthermore, since modification to emergency access and circulation plans is largely confined to a project site and the immediate surrounding area, a combination of impacts with other related projects that could potentially lead to cumulative impacts is not expected. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

The design and operation of the Project, as well as the project considered, would comply with applicable standards from the FRA and/or California Public Utilities Commission, such as regulatory requirements for railroad safety plans, maintenance and repair of signal and train control systems, and other aspects of Project design and operation. Similarly, design and operation of site access improvements, including new roadways or modifications to existing roadways, the pedestrian

bridge, and surface parking lot would adhere to applicable standards such as the California Manual on Uniform Traffic Control Devices and local design guidelines and specifications to support vehicle and pedestrian safety near train operations. Design approval for specific Project components would be sought from the appropriate agencies as part of detailed design and subsequent stages of the Project. SJJPA has been coordinating with CHSRA throughout the early planning and design process of the Project and would continue to do so during subsequent stages of the Project to ensure that the operation of relevant Project elements within or adjacent to the CHSRA project alignment satisfies appropriate design guidelines and specifications. Therefore, the Project would not a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.16 Tribal Cultural Resources

Impact TCR-1	Construction and operation of the Project would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: I. Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k). II. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Code Section 5024.1, the lead agency must consider the significance of the resource to a California Native American tribe.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

Development in Madera County would require grading and excavation that could potentially affect tribal cultural resources. The cumulative impact of these activities would contribute to the continued loss of subsurface cultural resources if these resources are not protected upon discovery. If subsurface cultural resources are protected upon discovery as required by law, impacts to those resources would be less than significant. MM CUL-1, MM CUL-2, and MM CUL-3 would be implemented and enforced throughout construction reduce potential impacts to unknown historic or archaeological deposits by requiring staff to complete a Cultural Resource Awareness Training, stop-work if a tribal cultural resource is encountered, and ensure a Native American-designated representative would be consulted throughout Project construction. The contribution of potential impacts from the Project to the cumulative destruction of tribal cultural resources would be less than significant. Therefore, the Project, in combination with other past, present, and reasonably probable future projects, would not a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

Operation of the Project would occur within the boundary of the Project Footprint. Operation activities associated with the Project would not involve ground-disturbing activities that would potentially affect tribal cultural resources. Therefore, the Project would not a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.17 Utilities and Service Systems

Impact UTL-1	Construction and operation of the Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities; the construction or relocation of which could cause significant environmental effects.
Impact UTL-2	Construction and operation of the Project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
Impact UTL-3	Construction and operation of the Project would result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.
Impact UTL-4	Construction and operation of the Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
Impact UTL-5	Construction and operation of the Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

The Project would not result in the construction of any uses that would result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, natural gas, or telecommunications facilities outside of any area already proposed to be disturbed as part of construction. Conformance to other requirements would further reduce impacts related to stormwater runoff in the Project Footprint. Madera County Ordinance 680, for example, outlines control measures related to stormwater and storm sewer systems, illicit discharge and connections, and construction site stormwater runoff and landscaping. Implementing standard construction practices such as BATs, BCTs, and BMPs would also help reduce potential impacts related to stormwater drainage systems. New electrical utility lines would be installed to electrify lighting within the expanded parking lot area and pedestrian bridge, and the Project would expand upon the OCS from approved Phase 2 of the Madera HSR Station, requiring approximately 30-foot-tall poles to be built along the entire length of the station siding track at intervals consistent with the OCS poles being constructed as part of the CHSRA Project (approximately 200 to 250 feet). Additionally, Poles 003 and 004 from the BGTLRP would need to be relocated slightly to the west. Services for electrical needs would be extended from existing lines into the Project Footprint as needed. Future projects

could contribute to the overall regional water demand. Implementation of the proposed Project would not substantially increase water usage at the proposed Project Footprint.

Future development is required to adhere to the state and local water regulations and policies. Development of other projects considered could increase the need for wastewater treatment facilities and/or require relocation. This increase in wastewater treatment facilities would comply with wastewater related federal, local, and state requirements. Implementation of the Project would not substantially increase wastewater treatment needs at the proposed Project Footprint. Development of cumulative projects would comply with stormwater-related federal, local, and state regulations and policies. The existing stormwater drains are adequate to accommodate additional stormwater flows from the implementation of the proposed Project and other projects considered. If new stormwater drainage facilities and/or relocation are required, then they would be required to adhere to existing regulations. Telecommunication facilities are present within the geographic area surrounding the proposed Project Footprint and would be available to future developments. With regard to natural gas, development in the geographic area surrounding the proposed Project Footprint would result in continued use of this resource. The area surrounding the proposed Project Footprint is currently served by existing infrastructure that the proposed Project would also use.

It is anticipated that sufficient water supplies would be available to serve the Project and future developments during normal, dry, and multiple dry years. As such, construction impacts related to sufficient water supplies available to serve the Project and future developments would be less than significant. Solid waste collected in the Project Footprint and other projects considered would be sent to Fairmead Landfill. There is adequate capacity at the landfill to dispose of solid waste from Project construction. The Project would also be required to divert (recycle) 50% of the solid waste generated by both construction and operation to comply with the 50% solid waste diversion rate mandated by the California Integrated Waste Management Act of 1989 (AB 939). Construction the Project and other projects considered would meet the requirements of applicable federal, state, and local management and reduction statutes and regulations related to solid waste, and this compliance would be accomplished by implementing BATs, BCTs, and BMPs, as well as applying for all the required water and disposal permits from the city and county for construction permits. Therefore, the Project, in combination with other past, present, and reasonably probable future projects, would not a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

Operation of the Project and other projects considered would result in new utilities and service systems for the OCS and lighting for the station platform, surface parking lot, and station building. Services for electrical needs would be extended from existing lines into the Project Footprint as needed. Future projects could contribute to the overall regional water demand. Implementation of the proposed Project would not substantially increase water usage at the proposed Project Footprint. Future development is required to adhere to the state and local water regulations and policies. Development of other projects considered could increase the need for wastewater treatment facilities and/or require relocation. This increase in wastewater treatment facilities would comply with wastewater related federal, local, and state requirements. Implementation of the Project would not substantially increase wastewater treatment needs at the proposed Project Footprint. Development of cumulative projects would comply with stormwater-related federal, local, and state regulations and policies. The existing stormwater drains are adequate to accommodate additional stormwater flows from the implementation of the proposed Project and other projects considered. If new stormwater drainage facilities and/or relocation are required, then they would

be required to adhere to existing regulations. Telecommunication facilities are present within the geographic area surrounding the proposed Project Footprint and would be available to future developments. The Project and other projects considered would meet the requirements of applicable federal, state, and local management and reduction statutes and regulations related to solid waste. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.7.18 Wildfire

Impact WF-1	Construction and operation of the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.
Level of Cumulative Impact	Construction and Operation **Not Cumulatively Considerable and Less Than Significant Impact**

Project Construction

The Project Footprint and other projects considered are not in an area that would be at substantial risk from wildfire. The Project Footprint is in an agricultural area of Madera County, is not adjacent to wildlands, and does not contain dense brush or other vegetation that would be prone to wildfire. As such, the risk of wildfire and threat to structures and facilities that would be built as part of the Project are minimal. Furthermore, the Project consists of station and station access improvements to facilitate expanded HSR service and does not include features that would substantially impair an adopted emergency response plan or emergency evacuation plan. Other projects considered include transportation enhancements to support HSR operations and infill development to support the anticipated population growth projected for Madera County. Access to and from the Project Footprint for fire and other emergency access would be maintained and provided by existing roadways and already-approved roadway improvements included under Phase 1 and Phase 2 of the Madera HSR Station. Design, construction, and operation of Project elements and other projects considered would comply with applicable standards from Caltrans and local agencies (for changes to the roadway network or roadway facilities) and from the FRA and/or CPUC (for the Project's rail elements), including provisions for emergency access. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

Project Operations

The Project Footprint and other projects considered are not in an area that would be at substantial risk from wildfire. Access to and from the Project Footprint for fire and other emergency access would be maintained and provided by Avenue 12 and the station access road as approved under Phase 1 and Phase 2 of the Madera HSR Station. Design, construction, and operation of Project elements and other projects considered would comply with applicable standards from Caltrans and local agencies (for changes to the roadway network or roadway facilities) and from the FRA and/or CPUC (for the Project's rail elements), including provisions for emergency access. The Project Footprint and other projects considered are not in an area that would be at substantial risk from wildfire. The Project Footprint is in an agricultural area of Madera County, is not adjacent to wildlands, and does not contain dense brush or other vegetation that would be prone to wildfire. As such, operation of the trains, station and building facilities would not contribute to wildfire risk. Therefore, the Project would not have a cumulatively considerable contribution to a significant cumulative impact.

3.11.8 Cumulative Impact Summary

Of all the environmental topics analyzed in this Draft EIR, two would result in the Project's contribution to a considerable cumulative impacts as summarized in Table 3.11-3. However, the Project, in combination with other related projects, would accommodate the projected growth anticipated for Madera County. The Project includes additional improvements to the proposed Madera HSR Station that would meet all the requirements needed for expanded HSR service levels (above the EOS) associated with Phase 1 HSR service (San Francisco to Los Angeles). The Project would provide economic, mobility, and safety benefits for Madera County. The Project would provide mobility enhancements for rail and transit transportation access by providing an improved mode of state-wide transportation. Additionally, the Project would reduce VMT, and promote increased transit use and support TOD opportunities, consistent with the MTSSP. Reduction of VMT would contribute to the reduction GHG emissions, which also support SJVAB, state, regional, and local GHG reduction goals. The CHSRA intends to utilize renewable electric energy for operations of the trains. If this proposed sustainability goal is not available for the initial operation of the trains, the Project would be connected to the overall power structure and supply for the entire HSR Project. The Project, in combination with other projects in the vicinity of the Project, would support the TOD and urbanization planned for this area within Madera County.

Table 3.11-3. Summary of Cumulative Impact Analysis

Impact	Significance of Cumulative Impact (Project + Cumulative Projects)	Is the Project's Contribution Considerable?
Impact AES-1, AES-2, and AES-3 : Construction and operation of the Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant impact on aesthetics.	Less than Significant	No
Impacts AG-1, AG-2, and AG-3: Construction and operation of the Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant impact on agriculture.	Construction: Significant (Conversion of Important Farmland); Operation: Less than Significant	Construction: Yes (Conversion of Important Farmland) Operation: No
Impacts AQ-1, AQ-2, AQ-3, AQ-4, AQ-5, AQ-6: Construction and operation of the Project would not contribute considerably to a significant cumulative impact on air quality or GHG emissions.	Less than Significant	No
Impacts BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, and BIO-6: Construction and operation of the Project would not contribute considerably to a significant cumulative impact on sensitive biological resources.	Less than Significant	No
Impacts CUL-1, CUL-2, and CUL-3: Construction and operation of the Project would not contribute considerably to a significant cumulative impact on cultural resources.	Less than Significant	No
Impacts ENG-1 and ENG-2: Construction and operation of the Project would not contribute considerably to a significant cumulative impact on energy.	Less than Significant	No

Impact	Significance of Cumulative Impact (Project + Cumulative Projects)	Is the Project's Contribution Considerable?
Impacts GEO-1, GEO-2, GEO-3, GEO-4, GEO-5, GEO-6, and GEO-7: Construction and operation of the Project would not contribute considerably to a significant cumulative impact on geology, soils, and unique paleontological/geologic resources.	Construction: Significant (Unknown Paleontological Resources); Less than Significant (Geology and Soils) Operation: Less than Significant	Construction: Yes (Unknown Paleontological Resources); No (Geology and Soils) Operation: No
Impact HAZ-1, HAZ-2, HAZ-3, and HAZ-4: Construction and operation of the Project would not contribute considerably to a significant cumulative impact from hazards and hazardous materials.	Less than Significant	No
Impacts HYD-1, HYD-2, HYD-3, HYD-4, HYD-5, HYD-6 and , HYD-7: Construction and operation of the Project would not contribute considerably to a significant cumulative impact on hydrology and water quality.	Less than Significant	No
Impact LUP-1: Construction of the Project would contribute considerably to a significant cumulative impact on land use and planning.	Less than Significant	No
Impact MIN-1 and MIN-2: Construction of the Project would contribute considerably to a significant cumulative impact on mineral resources.	Less than Significant	No
Impact NOI-1 and NOI-2: Construction of the Project would contribute considerably to a significant cumulative impact on noise and vibration.	Less than Significant	No
Impact POP-1: Construction of the Project would contribute considerably to a significant cumulative impact on population and housing.	Less than Significant	No
Impact PS-1: Construction of the Project would contribute considerably to a significant cumulative impact on public services.	Less than Significant	No
Impact TR-1, TR-2, TR-3, and TR-4: Construction and operation of the Project would not contribute considerably to a significant cumulative impact on transportation.	Less than Significant	No
Impacts TCR-1, and TCR-2: Construction and operation of the Project would not contribute considerably to a significant cumulative impact on tribal cultural resources.	Less than Significant	No
Impact UTL-1, ULT-2, ULT-3, ULT-4, and ULT-5: Construction of the Project would contribute considerably to a significant cumulative impact on utilities and service systems.	Less than Significant	No
Impact WF-1: Construction of the Project would contribute considerably to a significant cumulative impact on wildfire.	Less than Significant	No

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