

4.1 Introduction

This chapter presents the evaluation of additional environmental impacts required by California Environmental Quality Act (CEQA) that are not covered within the other chapters of this Draft Environmental Impact Report (Draft EIR). In particular, Section 15126 of the CEQA Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. Accordingly, in addition to the environmental analysis provided in Chapter 3, *Environmental Impact Analysis*, of this Draft EIR and in Section 4.2, Impacts Determined to Not Be Significant, this Draft EIR must also identify significant irreversible environmental changes that would result from implementation of the Project.

4.2 Impacts Determined to Not be Significant

4.2.1 Less Than Significant Impacts

4.2.1.1 Aesthetics

Impact AES-1	Construction and operation of the Project would not have a substantial adverse effect on a scenic vista.
Level of Impact	Less than Significant

Impact AES-1

Existing Condition

The Project site is located in an area with flat terrain and is surrounded by agricultural fields. There are no officially designated state or county scenic highways in Madera County; however, there are various roads around the Project Footprint which have views of the agricultural fields: Avenue 12 (oriented east-west), Avenue 13 (oriented east-west), Road 30 ½ (oriented north-south and approximately 0.5 miles west of the Project), and Santa Fe Road (adjacent to the easterly side of the Burlington Northern Santa Fe (BNSF) railroad). Views of the agricultural fields from the roads would not be affected by the Project. Views from the roads towards the nearby existing vistas to the Sierra Nevada Mountain foothills, approximately 18.3 miles west of the Project site, are occasionally visible over the broad plain views on clear days from the adjacent roads. Views of the agricultural fields and distant foothills from the adjacent roads are currently partially obscured by Pacific Gas and Electric (PG&E) transmission lines with towers over 100 feet in height that run northwest-southeast through the agricultural fields directly west of the Project Footprint and protrude into the skyline. There are no public art/signs or visually significant structures preexisting on the Project Footprint nor currently visible from nearby adjacent streets that would be affected visually by the Project.

The nearest known residential use is approximately 880 feet east from the northern end of the Project Footprint. The next closest grouping of residences is located primarily 0.75 miles southwest

1 of the northern end of the Project. Both residential areas are rural and have views of agricultural
2 fields between them and the Project site, which would not be affected by the Project.

3 **Impact Evaluation**

4 Construction staging areas and standard industry equipment (such as excavators, pavers, and dump
5 and concrete trucks) would be employed for Project construction. No equipment would have the
6 height or scale to block any vista and views from surrounding rural residences with potentially
7 sensitive viewers in the vicinity of the Project or from travelers on adjacent roadways. The
8 residences are located primarily 0.75 miles southwest of the northern end of the Project. The closest
9 residence is located 750 feet east of the northerly track improvements. Both residential areas
10 currently have views of agricultural fields between them and the Project Footprint, which would not
11 be affected by the Project.

12 The Project includes a pedestrian bridge over the HSR mainline tracks. The bridge would be
13 primarily viewed by travelers on Avenue 12 traveling in both directions. Although it is a new visual
14 element, the views from Avenue 12 are already interrupted by existing powerlines that run
15 northwest-southeast through the agricultural fields directly west of the Project Footprint and an
16 industrial complex located 0.26 miles east of the intersection of the Project and Avenue 12. Thus, the
17 pedestrian bridge is consistent with these other visual elements and would not have a substantial
18 long-distance impact on a scenic vista. In addition, the proposed station platform may include
19 canopies to protect passengers from the elements, but these elements would not protrude into the
20 skyline or obstruct distant views. These elements would not substantially affect any scenic vista.
21 Therefore, construction impacts related to having a substantial effect on a scenic vista would be less
22 than significant.

23 The Project would require additional right-of-way (ROW) to implement the new infrastructure. The
24 Project would expand upon the overhead contact system (OCS) from approved Phase 2 of the
25 Madera HSR Station, requiring approximately 30-foot-tall poles to be built along the entire length of
26 the station siding track at intervals consistent with the OCS poles being constructed as part of the
27 California High-Speed Rail Authority (CHSRA) Project (approximately 200 to 250 feet). The OCS
28 poles become less visible as distance increases. These poles would also be intermittently spaced,
29 similar in appearance to the existing 100-foot-tall powerlines, and would not obstruct vistas of the
30 Sierra Nevada Mountain foothills. Therefore, Project operation would have a less than significant
31 impact on scenic vistas.

Impact AES-2	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.
Level of Impact	Less than Significant

32 **Impact AES-2**

33 **Existing Condition**

34 The visual character of the Project Footprint and surroundings is composed primarily of agricultural
35 landscape with rows of planted vegetation commonly found in farming practices. There are views of
36 the Sierra Nevada Mountain foothills, which are located approximately 18.3 miles west of the Project

1 Footprint and are occasionally visible over the broad plain views on clear days from the adjacent
2 roads. Buildings located near the southern portions of the Project Footprint exist to support
3 manufacturing and a PG&E substation. These buildings are one to two stories in height and are
4 rectangular in shape. There are no major structures in the northerly portion of the Project area, but
5 existing infrastructure includes Santa Fe Drive (a roadway) and the existing BNSF track with bridges
6 spanning Cottonwood Creek. Overhead PG&E transmission lines and electrical lines also exist and
7 are generally oriented north-south over the agricultural fields and east-west along Avenue 12.

8 The nearest known residential use is approximately 750 feet east of the northerly track
9 improvements. The next closest grouping of residences is located primarily 0.75 miles southwest of
10 the northern end of the Project.

11 **Impact Evaluation**

12 During construction, activities and storage of equipment would result in a temporary alteration of
13 the visual character of the Project Footprint. Clearing and grubbing activities would remove
14 vegetation from current agricultural land use. Although construction activities would introduce
15 equipment and machinery to the Project Footprint and change the visual character, the equipment
16 would not represent a substantial change in the visual environment because the alteration is
17 temporary and limited to the construction period, after which the visual character would return to
18 agricultural use and the developed station footprint.

19 Construction of OCS poles would not significantly obstruct the visual quality and public views of the
20 existing site and surrounding lands because the visibility of the poles decreases with distance.
21 Construction activities would be primarily visible to travelers on Avenue 12 (for a very short
22 duration) and only as they pass through the construction area. Upon completion of the short-term
23 construction phase, all machinery and equipment would be removed from the Project Footprint, and
24 visual changes from construction would cease. Therefore, Project construction would have a less
25 than significant impact on the existing visual character and quality of public views of the site and its
26 surroundings, because these alterations are temporary and do not introduce long-term disruptions
27 to the visual character of the area.

28 The existing visual character is primarily agricultural, but train operations already exist in the area
29 along the BNSF ROW used by the existing San Joaquins service, as well as the HSR corridor under
30 construction. Project elements such as the station building expansion, construction of the proposed
31 station platform on the western side of the site, and the pedestrian bridge would not be in direct
32 view of sensitive viewers. Both residential areas are rural and have views of agricultural fields
33 between them and the Project Footprint, which would not be affected by the Project.

34 Furthermore, the design of the proposed facilities would be consistent with other elements of
35 previously approved HSR improvements. This consistency minimizes potential visual impacts while
36 integrating the new facilities into the existing and planned landscape. Therefore, Project
37 construction and operation would have a less than significant impact on the existing visual character
38 and quality of public views of the site and its surroundings.
39

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 Impact	Less than Significant

1 **Impact AES-3**

2 **Existing Condition**

3 The Project Footprint and its vicinity are primarily characterized by agricultural uses north of
4 Avenue 12 with minimal sources of nighttime lighting. However, the southern portion of the Project
5 Footprint is adjacent to an industrial use, a PG&E substation, and vehicle headlights on Avenue 12,
6 which contribute lighting to the nighttime light environment. At the time of Project construction, it
7 should be noted that elements of Phase 1 and Phase 2 of the Madera HSR Station would be under
8 construction or completed and would include nighttime lighting.

9 The nearest known residential use is approximately 750 feet east of the northerly track
10 improvements. The next closest grouping of residences is located primarily 0.75 miles southwest of
11 the northern end of the Project. Both residential areas are rural and have no street lighting.

12 Street lighting is not typically present along roadways in the vicinity of the Project, except adjacent
13 to Madera Community College. There is security lighting at the buildings located on Avenue 12. The
14 Pacific Ethanol manufacturing buildings and the PG&E substation have lights on the walls of their
15 structures that shine downward.

16 **Impact Evaluation**

17 During construction, lighting would be used for safety and construction activity visibility throughout
18 the site. During operation, safety lighting would be included in the station, platforms, and associated
19 facilities such as parking and walkways. Accordingly, the Madera HSR Station and its ancillary
20 facilities, such as the parking lot and access road, would be sources of nighttime lighting. All outdoor
21 lighting would incorporate positioning and shielding, which minimize light spilling off-site and light
22 observed from off-site areas, as well as light associated with the halo effect and sky glow. Lighting
23 would be installed at the lowest allowable height and designed to cast low-angle illumination, which
24 would minimize the light spill and backscatter to the night sky. Lighting would also be installed at
25 the lowest allowable illumination level, while still retaining visibility.

26 Given the site's distance from the nearest sensitive receptors and the presence of fields between the
27 receptors and the Project Footprint, Project construction and operation would have a less than
28 significant impact related to creating a new source of substantial light.

29 Glare refers to the intense and potentially blinding reflection of light from a surface, which can
30 impair visibility or disrupt the visual quality of an area. During construction, potential sources of
31 glare may include reflective surfaces on construction equipment, such as polished metal or vehicle
32 windshields, and temporary lighting. While construction equipment is not a significant source of
33 glare under typical conditions, some localized glare would occur from these surfaces when exposed
34 to direct sunlight or artificial lighting. However, any glare would be temporary and limited to the
35 construction period. Given the temporary nature of construction and operational activities, the
36 presence of equipment, and the minimal likelihood of sustained glare, and impacts would be less
37 than significant.

4.2.1.2 Air Quality and Greenhouse Gas Emissions

Impact AQ-3a	Construction or operation of the Project would not expose sensitive receptors to health risks from increased exposure to substantial criteria pollutant concentrations.
Level of Impact	Less than Significant

Impact AQ-3

Existing Condition

In December 2018, the California Supreme Court issued its decision in *Sierra Club v. County of Fresno* (226 California App. 4th 704) (hereafter referred to as the *Friant Ranch decision*). The case reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Friant Ranch development. The Friant Ranch project is a 942-acre master-plan development in unincorporated Fresno County in the SJVAB. The court found that the air quality analysis was inadequate because it failed to provide enough detail “for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time.” The court’s decision clarifies that environmental documents must connect a project’s air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

As discussed in Section , *Pollutants of Concern*, all pollutants that would be generated or affected by the Project are associated with some form of health risk (e.g., asthma). The primary pollutants of concern associated with the Project are criteria pollutants (ozone precursors, CO, PM, and SO₂), TACs (DPM and asbestos), and *C. immitis* fungus spores. Thresholds of significance and analysis considerations for each pollutant are identified in the following subsections.

Criteria Pollutants

The Project would expose receptors to substantial criteria pollutant concentrations if any of the thresholds summarized in **Table 3.2-8** of Chapter 3.2, *Air Quality*, are exceeded. As discussed previously, SJVAPCD developed the thresholds in consideration of existing air quality concentrations and attainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants.

In addition to its mass emission thresholds, SJVAPCD considers localized CO emissions from mobile sources to result in significant impacts if concentrations exceed the CAAQS, which are shown in **Table 3.2-1** of Chapter 3.2, *Air Quality*.

Diesel Particulate Matter¹

SJVAPCD defines a significant impact resulting from receptor exposure to DPM emissions as: (1) a probability exceeding 20 in 1 million of contracting cancer for the maximum exposed individual; and

¹ The air quality management districts in the expanded area have also adopted health risk thresholds for receptor exposure to DPM. However, as noted above, the Project does not include any new emission sources outside of the SJVAB and would regionally reduce mobile source emissions throughout the San Francisco Bay Area Air Basin and Sacramento Valley Air Basin. Increases in localized vehicle trips to passenger rail stations would be predominately light-duty—and therefore gasoline- or electric-powered—and not a substantial source of DPM.

1 (2) the ground-level concentrations of noncarcinogenic TACs resulting in a hazard index greater
2 than 1 for the maximum exposed individual (SJVAPCD 2015). SJVAPCD does not have separate
3 cumulative health risk thresholds. If the Project assessment demonstrates that potential health
4 impacts are less than significant, the Project would likewise have a less than cumulatively significant
5 impact (Siong pers. comm.).

6 Asbestos

7 There are no quantitative thresholds related to receptor exposure to asbestos. The Project is not in
8 an area known to contain naturally occurring asbestos (California Department of Conservation
9 2000). Thus, the potential for the Project to expose receptors to asbestos is through demolition
10 activities during construction. SJVAPCD requires the demolition or renovation of asbestos-
11 containing building materials to comply with the limitations of the *National Emissions Standards for*
12 *Hazardous Air Pollutants* regulations as listed in the Code of Federal Regulations where all
13 construction activities will occur (SJVAPCD 2015). Failure to comply with *National Emissions*
14 *Standards for Hazardous Air Pollutants* would result in a significant impact.

15 Fungal Spores (Valley Fever)

16 There are no quantitative thresholds related to receptor exposure to *C. immitis*. The potential for the
17 Project to expose receptors to Valley fever is highest during earth-moving activities that generate
18 fugitive dust. Accordingly, uncontrolled construction dust emissions in SJVAPCD could result in
19 increased health impacts from exposure of receptors to *C. immitis* spores and would constitute a
20 significant impact.

21 **Impact Evaluation**

22 Criteria Pollutants

23 All criteria pollutants and precursors can adversely affect human health at certain concentrations
24 (**Table 3.2-2** of Chapter 3.2, *Air Quality*). Ozone precursors (ROG and NO_x) and PM are considered
25 regional pollutants because they affect air quality on a regional scale. Localized pollutants are
26 deposited and potentially affect populations near the emission source. Because these pollutants
27 dissipate with distance, emissions from individual projects can result in direct and material health
28 impacts on adjacent sensitive receptors. The localized criteria pollutants of concern that would be
29 generated by the Project are CO and PM.² Estimated criteria pollutants from construction in **Tables**
30 **3.2-9** and **3.2-10** of Chapter 3.2, *Air Quality*.

31 *Regional Pollutants*

32 Some individuals exposed to high concentrations of ozone or PM may experience certain health
33 effects, including increased incidence of cardiovascular and respiratory ailments. As discussed
34 under Impact AQ-2a, construction of the Project would generate short-term ozone precursor and PM
35 emissions. However, as shown in **Table 3.2-10** of Chapter 3.2, *Air Quality*, emissions would not
36 exceed SJVAPCD's regional thresholds or daily screening criteria with implementation of MM AQ-1.
37 SJVAPCD's regional thresholds are derived from regionally specific modeling that demonstrates that
38 the air basin can accommodate emissions below the threshold levels without attainment of the
39 NAAQS or CAAQS being affected, as required by the local air quality plans. The NAAQS and CAAQS

² PM is both a regional and local pollutant.

1 are set to protect public health and the environment within an adequate margin of safety.
2 Accordingly, projects that do not exceed SJVAPCD's thresholds would not adversely affect regional
3 air quality or exceed the NAAQS or CAAQS. Construction of the Project would not exceed SJVAPCD's
4 regional thresholds with mitigation and, therefore, would not contribute a significant level of air
5 pollution that could degrade regional air quality within the SJVAB. Therefore, the Project would
6 result in a less than significant impact.

7 Operation of the Project would achieve a reduction of all criteria pollutant and precursor emissions.
8 These reductions will support regional air quality goals throughout northern California and
9 contribute to improvements in overall ambient air quality. Therefore, the Project would result in a
10 less than significant impact.

11 *Localized Particulate Matter*

12 Exposure to localized PM at certain concentrations can irritate the respiratory system, especially for
13 people who are naturally sensitive or susceptible to breathing problems. The primary sources of
14 localized PM (fugitive dust) during Project construction are vehicle travel over unpaved surfaces,
15 earthmoving, and grading. The amount of dust generated by a Project during construction is highly
16 variable and dependent on the size of the disturbed area at any given time, soil conditions, and
17 meteorological conditions. Fugitive dust emissions from Project construction activities would be
18 spread throughout the entire Project, as opposed to being concentrated at a single location. Despite
19 the variability in emissions, numerous control measures can be reasonably implemented to reduce
20 construction fugitive-dust emissions. Localized dust emissions generated by construction of the
21 Project would be substantially reduced at the nearest receptor location with compliance with
22 SJVAPCD's Regulation VIII. As discussed above for Impact AQ-2a, an additional measure to reduce
23 fugitive dust, use of dust suppressants, would be needed to achieve a less than significant impact for
24 regional air quality. Compliance with Regulation VIII and use of dust suppressants would result in
25 construction of the Project not exposing sensitive receptors to substantial localized PM
26 concentrations. Therefore, the Project would result in a less than significant impact.

27 Increased passenger rail ridership achieved by operation of the Project will avoid vehicle trips and
28 VMT on roadways throughout northern California. Vehicle travel over paved and unpaved roads can
29 resuspend PM, elevating near roadway pollutant concentrations. Thus, the VMT avoided by
30 operation of the Project will contribute to reductions in localized PM on roadways. Therefore, the
31 Project would result in a less than significant impact.

32 *Localized Carbon Monoxide*

33 Continuous engine exhaust may elevate localized CO concentrations. Certain people exposed to CO
34 hot spots may have a greater likelihood of developing health effects such as fatigue, headaches,
35 confusion, dizziness, and chest pain. CO hot spots are typically observed at heavily congested
36 roadway intersections where a substantial number of gasoline-powered vehicles idle for prolonged
37 durations throughout the day. Construction sites are less likely to result in localized CO hot spots
38 due to the nature of construction activities, which normally utilize diesel-powered equipment for
39 intermittent or short durations. Locomotives that would operate once the Project is operational
40 would be powered by electricity and, thus, not contribute to CO hot spots.

41 With respect to Project operations, the potential for CO hot spots associated with changes in vehicle
42 traffic is considered. The Project would attract additional motor vehicles to the proposed Madera
43 HSR Station; however, SJVAPCD has noted that CO concentrations are usually associated with

1 roadways and intersections that are congested with heavy traffic volumes (SJVAPCD 2015). Avenue
2 12, which is the roadway that would lead to the station parking lot entrance, is a rural road with
3 relatively low traffic volumes. A roadway with these characteristics, even with the addition of
4 vehicle traffic traveling to and from the station, is unlikely to have the conditions that would be
5 necessary to create a CO hot spot. Because there is no indication that Avenue 12 near the potential
6 station parking lot entrance would suffer from congested conditions once the Project is built, it is
7 reasonable to conclude that the Project would not create a CO hot spot.

8 For the reasons discussed above, the Project would not contribute to CO hot spots or expose
9 receptors to CO concentrations in exceedance of the CAAQS or NAAQS. Therefore, the Project would
10 result in a less than significant impact.

11 Diesel Particulate Matter

12 DPM is a TAC generated by diesel-fueled equipment, vehicles, and trains. Exposure to DPM can
13 increase the risk of developing some cancers. Equipment, vehicles, and trains used during
14 construction of the Project would generate DPM, potentially resulting in the exposure of nearby
15 existing sensitive receptors to increased health risks.

16 Diesel combustion sources during construction would include equipment and vehicle use over the 2-
17 year construction duration. As such, Project construction could potentially expose receptors within
18 1,000 feet of the site to health risks. The nearest sensitive receptor from where construction would
19 occur is an individual residence, located approximately 880 feet from the northern extent of the
20 Project alignment. Although this receptor is within 1,000 feet of where construction would occur,
21 the duration of construction within 1,000 feet would be relatively limited. The Project is linear in
22 nature and is approximately 14,600 feet long, and construction would progress along the alignment
23 such that, except near the station, construction would not occur for a prolonged period in a single
24 location. The individual residence is 880 feet from the alignment at the nearest but over 6,000 feet
25 from the future station location; therefore, it would not be affected by the more involved and longer
26 construction activities at the station. Even when construction is 880 feet from the residence, DPM
27 concentrations would disperse dramatically over that distance. Further, if the Project's length is
28 14,600 feet and the duration of construction is approximately 24 months, an approximate rate of
29 608 feet of construction per month can be calculated.³ At this rate of construction, the residence
30 would likely be within 1,000 feet of construction activity for 2 to 3 months, and this duration of
31 exposure to DPM would be substantially below the 30-year (i.e., 360-month) exposure period
32 typically associated with chronic cancer health risks. Because of the worst-case distance to the
33 nearest receptor of 880 feet and the limited duration that this distance would apply, the Project
34 would not result in significant health risks or expose sensitive receptors to substantial pollutant
35 concentrations. Therefore, the Project would result in a less than significant impact.

36 The operation of the Project involves the use of electrically powered trainsets, and there would not
37 be any appreciable source of DPM during Project operations. The Project would result in a less than
38 significant impact.

³ This rate is conservative, because it assumes that construction progress would have a non-changing rate for the entire alignment. However, construction at the station would progress at a slower rate than the rest of the alignment. Thus, at the northern extent of the Project alignment that is near the residence, construction may occur at a faster rate than 608 feet per month, which would result in a shorter exposure duration at that residence.

1 Asbestos

2 Demolition of existing structures results in fugitive dust and other particulates that may disperse to
3 adjacent sensitive receptor locations. Asbestos-containing materials (ACMs) were commonly used as
4 fireproofing and insulating agents prior to the 1970s. The United States Consumer Product Safety
5 Commission banned use of most ACM in 1977 due to its link to mesothelioma. However, structures
6 constructed prior to 1977 that would be demolished by the Project may have used ACM and could
7 expose receptors to asbestos, which may become airborne with other particulates during demolition
8 of the structures.

9 The Project would require a limited amount of demolition, which is expected to occur for
10 approximately 12 days. If ACM were present in the existing structures that would be demolished,
11 demolition activities could expose receptors to increased risk from airborne asbestos. The National
12 Emission Standards for Hazardous Air Pollutants (NESHAP) asbestos regulations for demolition and
13 renovation are outlined in SJVAPCD Regulations III and VIII. Compliance with the NESHAP asbestos
14 regulations would be mandatory in the event ACM is found in any of the existing structures.
15 Therefore, the impact of exposure of sensitive receptors to increased asbestos during construction
16 or operations would be less than significant.

17 Fungal Spores (Valley Fever)

18 Disturbance of soil containing *C. immitis* could expose the receptors adjacent to the construction site
19 to spores known to cause Valley fever. Areas endemic to *C. immitis* are generally arid to semiarid
20 with low annual rainfall; as such, soil containing the fungus is commonly found in southern
21 California and throughout the Central Valley. Based on Valley fever cases from the California
22 Department of Public Health for 2023, over 50 percent of Valley fever cases have been in people who
23 live in the SJVAB (California Department of Public Health, 2024). Madera County had the 8th highest
24 incidence rate of Valley fever of all counties in the state, based on the 2023 data (California
25 Department of Public Health, 2024).

26 The presence of *C. immitis* in the Project area does not guarantee that construction activities would
27 result in increased incidence of Valley fever. Propagation of *C. immitis* is dependent on climatic
28 conditions, with the potential for growth and surface exposure highest following early seasonal
29 rains and long dry spells. *C. immitis* spores can be released when filaments are disturbed by earth-
30 moving activities, although receptors must be exposed to and inhale the spores to be at increased
31 risk of developing Valley fever. Moreover, exposure to *C. immitis* does not guarantee that an
32 individual will become ill—approximately 60 percent of people exposed to the fungal spores are
33 asymptomatic and show no signs of an infection (USGS, 2000).

34 All Project construction activities are located in Madera County. As noted above, *C. immitis* is
35 endemic to the San Joaquin Valley and has been found in Madera County. Earth-moving activities for
36 the Project may release *C. immitis* spores if filaments are present and other soil chemistry and
37 climatic conditions are conducive to spore development. Therefore, receptors adjacent to the
38 construction area may be exposed to increased risk of inhaling *C. immitis* spores and subsequent
39 development of Valley fever. However, the presence of *C. immitis* in the Project area does not
40 guarantee that construction activities would result in increased incidence of Valley fever. Dust
41 control measures are the primary defense against Valley fever infection (USGS, 2000). Fugitive dust
42 controls required by compliance with SJVAPCD Regulation VIII would avoid dusty conditions and
43 reduce the risk of contracting Valley fever through routine watering and other controls.

44 Additionally, the use of dust suppressants, which is required by MM AQ-1, would minimize dust

1 generation from unpaved roads in the Project area. Therefore, the impact of exposure of sensitive
2 receptors to increased Valley fever risk during construction would be less than significant.
3

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.
Level of Impact	Less than Significant

4 **Impact AQ-4**

5 **Existing Condition**

6 Receptors would be exposed to significant odors if the Project would result in objectionable odor
7 emissions that affect a substantial number of people. There are no quantitative thresholds that
8 specifically define receptor exposure to objectionable odors. SJVAPCD's CEQA Guidelines include
9 recommended odor screening distances for common land use types that typically generate odors.
10 SJVAPCD's CEQA Guidelines further define a significant odor impact as more than one confirmed
11 complaint per year averaged over 3 years, or three unconfirmed complaints per year averaged over
12 3 years (SJVAPCD, 2015).

13 **Impact Evaluation**

14 The generation and severity of odors is dependent on a number of factors, including the nature,
15 frequency, and intensity of the source; wind direction; and location of the receptor(s). Odors rarely
16 cause physical harm but can cause discomfort, leading to complaints to regulatory agencies. Land
17 uses associated with odor complaints typically include agricultural uses, wastewater treatment
18 plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and
19 fiberglass molding facilities (CARB, 2005).

20 Sources of odor during construction include diesel exhaust from construction equipment and
21 asphalt paving. All odors would be localized, generally confined to the immediate area surrounding
22 the construction site and would cease once construction activities have been completed.
23 Construction of the Project would utilize typical construction techniques. The equipment odors
24 would be typical of most construction sites, temporary in nature, and localized to the vicinity of the
25 construction work area. The construction odors would cease once construction activities have been
26 completed. SJVAPCD has adopted rules that limit the amount of ROG emissions from cutback asphalt
27 (as described in Section 3.2.2.3, *Regional and Local*). Accordingly, potential odors generated during
28 asphalt paving would be addressed through mandatory compliance with air district rules. The
29 Project would result in a less than significant impact.

30 The operations associated with the Project would not include any uses identified by CARB as being
31 associated with odors. Future trains serving the station will be electrically powered and, thus, will
32 not result in odors from diesel fuel combustion. Electric passenger rail operation is not considered a
33 significant odor-generating source. The Project would result in a less than significant impact.
34

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.
Level of Impact	Less than Significant

1 **Impact AQ-5**

2 **Existing Condition**

3 Rising atmospheric concentrations of GHGs in excess of natural levels results in increasing global
4 surface temperatures—a process commonly referred to as global warming. The principal
5 anthropogenic (human-made) GHGs contributing to global warming are CO₂, CH₄, Nitrous oxide
6 (N₂O), and fluorinated compounds, including sulfur hexafluoride, hydrofluorocarbons (HFCs), and
7 perfluorocarbons. Water vapor, the most abundant GHG, is not included in this list because its
8 natural concentrations and fluctuations far outweigh its anthropogenic sources.

9 The primary GHGs of concern associated with the Project are CO₂, CH₄, N₂O, and HFCs. The following
10 sections discuss principal characteristics of these pollutants. Sulfur hexafluoride and
11 perfluorocarbons are not discussed because these gases are primarily generated by industrial and
12 manufacturing processes, which are not part of the Project.

13 Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify
14 reporting and analysis. The most accepted method to compare GHG emissions is the global warming
15 potential (GWP) methodology defined in Intergovernmental Panel on Climate Change (IPCC)
16 reference documents. IPCC defines the GWP of various GHG emissions on a normalized scale that
17 recasts all GHG emissions in terms of carbon dioxide equivalent (CO₂e), which compares the mass of
18 the gas in question to the same mass of CO₂ (CO₂ has a GWP of 1 by definition).

19 **Table 4.2-1** lists the GWP of CO₂, CH₄, N₂O, and HFCs and their lifetimes in the atmosphere. The
20 GWPs are from the IPCC’s fourth assessment report, consistent with statewide GHG emissions
21 reporting protocol (CARB, 2024f).

22 **Table 4.2-1: Lifetimes and Global Warming Potentials of Key Greenhouse Gases**

Greenhouse Gas	Global Warming Potential (100 years)	Lifetime (years)
Carbon Dioxide (CO ₂)	1	-
Methane (CH ₄)	25	12
Nitrous Oxide (N ₂ O)	298	114
Hydrofluorocarbons (HFCs)	124–14,800	1–270

Source: (CARB, 2024f)

23 All GWPs used for CARB’s GHG inventory, and to assess attainment of the state’s GHG reduction
24 targets, are considered over a 100-year timeframe (as shown in **Table 4.2-1**). However, CARB
25 recognizes the importance of short-lived climate pollutants (SLCP) and reducing these emissions to
26 achieve the state’s overall climate change goals. SLCPs have atmospheric lifetimes on the order of a
27 few days to a few decades, and their relative climate-forcing impacts, when measured in terms of
28 how they heat the atmosphere, can be tens, hundreds, or even thousands of times greater than CO₂
29 (CARB, 2017). Recognizing their short-term lifespan and warming impact, SLCPs are measured in
30 terms of CO₂e using a 20-year time period. The use of GWPs with a time horizon of 20 years better

1 captures the importance of the SLCPs and gives a better perspective on the speed at which SLCP
2 emissions controls will affect the atmosphere relative to CO₂ emissions controls. The SLCP
3 Reduction Strategy addresses the three primary SLCPs—CH₄, HFC gases, and anthropogenic black
4 carbon. CH₄ has a lifetime of 12 years and a 20-year GWP of 72. HFC gases have lifetimes of 1.4 to 52
5 years and 20-year GWPs of 437 to 6,350. Anthropogenic black carbon has a lifetime of a few days to
6 weeks and a 20-year GWP of 3,200 (CARB, 2017).

7 Carbon Dioxide

8 CO₂ accounts for more than 80 percent of all GHG emissions emitted in California (CARB, 2024g).
9 CO₂ enters the atmosphere through fossil fuels (oil, natural gas, and coal) combustion, solid waste
10 decomposition, plant and animal respiration, and chemical reactions (e.g., manufacture of cement).
11 CO₂ is also removed from the atmosphere (or *sequestered*) when it is absorbed by plants as part of
12 the biological carbon cycle.

13 Methane

14 CH₄, the main component of natural gas, is the second most abundant GHG and has a GWP of 25
15 (CARB, 2024g). Sources of anthropogenic emissions of CH₄ include growing rice, raising cattle, using
16 natural gas, landfill outgassing, and mining coal. Certain land uses also function as both a source and
17 sink for CH₄. For example, wetlands are a terrestrial source of CH₄, whereas undisturbed, aerobic
18 soils act as a CH₄ sink (i.e., they remove CH₄ from the atmosphere).

19 Nitrous Oxide

20 Anthropogenic sources of N₂O include agricultural processes (e.g., fertilizer application), nylon
21 production, fuel-fired power plants, nitric acid production, and vehicle emissions. N₂O is also used in
22 rocket engines, racecars, and as an aerosol spray propellant. Natural processes, such as nitrification
23 and denitrification, can also produce N₂O, which can be released to the atmosphere by diffusion.

24 Hydrofluorocarbons

25 HFCs are human-made chemicals used in commercial, industrial, and consumer products and have
26 high GWPs. HFCs are generally used as substitutes for ozone-depleting substances in automobile air
27 conditioners and refrigerants.

28 **Impact Evaluation**

29 Construction of the Project has the potential to create short-term GHG impacts through use of heavy-
30 duty construction equipment, worker vehicle trips, truck-hauling trips, and locomotive trips. The
31 emissions modeling reflects conservative assumptions based on the best available information

1 currently known for the total amount, duration, and intensity of construction activity. **Table 4.2-2**
2 summarizes estimated construction emissions in the SJVAB in metric tons per year.

3 **Table 4.2-2: Estimated Greenhouse Gas Emissions from Construction of the Project**

Year	Carbon Dioxide (CO ₂)	Methane (CH ₄)	Nitrous Oxide (N ₂ O)	Carbon Dioxide Equivalent (CO ₂ e)
2033	246	<1	<1	250
2034	569	<1	<1	578
2035	426	<1	<1	431
Total Project	1,241	<1	<1	1,259

4 Note: Emissions are measured in metric tons.

5 The analysis presented in **Table 4.2-2** accounts for all emissions directly and indirectly generated
6 by construction activities for which SJJPA has practical control and program responsibility.

7 Project operations have the potential to create long-term GHG impacts through electricity to power
8 the trains and station operations. However, Project operations would increase passenger rail
9 ridership throughout the SJVAB and northern California. This increased ridership will reduce
10 driving, contributing to emissions reductions.

11 Operation of the Project would reduce GHG emissions because the service improvements achieved
12 by the Project will increase passenger rail ridership. Thus, the Project will achieve avoided VMT and
13 automobile trips and plane flights due to an increase in passenger ridership, resulting in an overall
14 emission reduction. Although this effect is not quantified, operations of the Project would result in a
15 continual net reduction resulting from avoided automobile trips and plane flights. The Project would
16 result in in some GHG emissions because trains servicing the station and the station itself would be
17 powered by electricity. However, electricity used to power the trains and station will be sourced
18 from renewable sources

19 Emission reductions on a per-vehicle-mile basis from avoided automobile VMT would decline with
20 time, because automobiles will be progressively cleaner due to engine improvements, vehicle
21 modernization, and turnover to alternative-fueled vehicles. Regardless, GHG benefits achieved by
22 operation of the Project would offset the short-term construction emissions. After sufficient time of
23 operation such that the negative GHG emissions equal the quantity of construction GHG emissions,
24 the Project would result in an overall reduction in emissions. These reductions would be an
25 environmental benefit and would play a critical role in meeting statewide GHG reduction goals
26 outlined in AB 1279. Therefore, the Project would result in a less than significant impact.

27 **Impact AQ-6**

28

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 Impact	Less than Significant

1 **Existing Condition**

2 The process known as the greenhouse effect keeps the atmosphere near Earth’s surface warm
 3 enough for the successful habitation of humans and other life forms. The greenhouse effect is
 4 created by sunlight that passes through the atmosphere. Some of the sunlight striking Earth is
 5 absorbed and converted to heat, which warms the surface. The surface emits a portion of this heat as
 6 infrared radiation, some of which is re-emitted back toward the surface by GHGs in the atmosphere,
 7 and some of which results in warming of the atmosphere. Human activities that generate GHGs
 8 increase the amount of infrared radiation absorbed by the atmosphere, thus enhancing the
 9 greenhouse effect, and amplifying the warming of Earth.

10 Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of
 11 GHGs in the atmosphere since the Industrial Revolution (IPCC, 2018a). The rising atmospheric
 12 concentrations of GHGs in excess of natural levels result in increasing global surface temperatures.
 13 Higher global surface temperatures, in turn, result in changes to Earth’s climate system, including
 14 increased ocean temperature and acidity, reduced sea ice, variable precipitation, and increased
 15 frequency and intensity of extreme weather events (IPCC, 2018a).

16 The IPCC was established by the World Meteorological Organization and United Nations
 17 Environment Programme to assess scientific, technical, and socioeconomic information relevant to
 18 understanding climate change, its potential impacts, and options for adaptation and mitigation. The
 19 IPCC estimates that human-induced warming reached approximately 1 degree Celsius above
 20 preindustrial levels in 2017, increasing at 0.2 degrees Celsius per decade (IPCC, 2018a). Global
 21 warming is more likely than not to reach (or exceed) 1.5 degrees Celsius in the near term (2021 to
 22 2040). Estimates for longer-term warming range from 1.4 degrees Celsius to 4.4 degrees Celsius,
 23 depending on the emissions scenario (IPCC, 2023). Large increases in global temperatures could
 24 have substantial significant impacts on the natural and human environments worldwide.

25 Like criteria pollutant inventories, a GHG inventory is a quantification of all GHG emissions and sinks
 26 in a selected physical and/or economic boundary. GHG inventories can be performed on a large
 27 scale (i.e., for global and national entities) or on a small scale (i.e., for a building or person). Although
 28 many processes are difficult to evaluate, several agencies have developed tools to quantify
 29 emissions from certain sources. **Table 4.2-3** outlines the most recent global, national, and state GHG
 30 inventories.

31 **Table 4.2-3: Global, National, and State Greenhouse Gas Emissions Inventories**

Year and Area	Carbon Dioxide Equivalent (metric tons)
2023 Global	53,000,000,000
2022 United States	6,343,000,000
2022 California	371,100,000

Source: (IPCC, 2018b; EPA, 2024i; CARB, 2024c; JRC, 2024)

1 **Impact Evaluation**

2 AB 1279 outlines the state’s GHG reduction goal of achieving net-zero GHG emissions no later than
 3 2045, which means a balance is reached between the GHGs emitted and removed from the
 4 atmosphere. CARB adopted the 2022 Scoping Plan as a framework for achieving AB 1279. The plan
 5 outlines a series of technologically feasible, cost-effective, and equity-focused measures to reduce
 6 statewide GHG emissions. Many of these actions build on programs of previous scoping plans,
 7 including the 2017 Scoping Plan, which CARB adopted to achieve its 2030 GHG reduction target,
 8 pursuant to SB 32. Principal among these actions is reducing reliance on automobiles by providing
 9 sustainable and convenient public transit.

10 Local metropolitan planning organizations, including MCTC, have developed transportation plans
 11 with policies and goals that are relevant to transportation and rail projects. MCTC identifies the
 12 provision of reliable passenger rail service as key goal of their 2022 RTP/SCS. These state, regional,
 13 and local plans share the common goals of reducing automobile VMT, expanding public transit, and
 14 decarbonizing the transportation sector. Consistency with these goals is evaluated in this impact.

15 The Project would increase passenger rail ridership and reduce plane flights and automobile VMT
 16 and trips throughout California, directly supporting state and local alternative transportation and
 17 VMT reduction goals. These Project benefits would also support implementation of MCTC’s 2022
 18 RTP/SCS, in which the Project is cited as a “success story” (MCTC, 2022). The Project, by
 19 constructing a new station that will connect the County to the future high-speed rail network, also
 20 supports strategy 6.6 in MCTC’s RTP/SCS, which is “provide frequent access to interregional bus and
 21 commuter rail services” (MCTC, 2022). Ultimately, the emission reductions achieved through
 22 operation of the Project would facilitate attainment of state, regional, and local GHG reduction goals,
 23 and the Project is thus consistent with the trajectory of statewide climate change planning to
 24 achieve carbon neutrality by 2045. Therefore, the Project would result in a less than significant
 25 impact.

26 **4.2.1.3 Biological Resources**

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 Impact	Less than Significant

28 **Impact BIO-6**

29 **Existing Condition**

30 Conservation plans, within the county include the Madera County General Plan, and the
 31 Madera/Chowchilla Resource Conservation District’s (MCRCD’s) Strategic Plan (MCRCD n.d.).
 32 MCRCD is a Resource Conservation Districts established by Public Resources Code Division 9 (DOC
 33 n.d.). The MCRCD provides support for conservation and also acts as a facilitator of education,
 34 technical assistance, and collaboration. The MCRCD Strategic Plan aims to protect soil, habitat, and
 35 other biological resources. The MCRCD Strategic Plan includes goals and policies such as improving
 36 and promoting wildlife habitat on private and public lands (MCRCD n.d.).

- 1 The Madera County General Plan contains key policies focused on conservation (County of Madera
2 1995), which include the following:
- 3 • Policy 5.D.2: Requires new developments to mitigate wetland loss through avoidance,
4 minimization, or compensation and supports mitigation banking programs for impacts on
5 rare, threatened, or endangered species and their habitats.
 - 6 • Policy 5.D.7: Encourages the restoration of wetland and riparian plant communities for
7 recreation, groundwater recharge, and wildlife habitats.
 - 8 • Policy 5.D.8: Supports the San Joaquin River Parkway Plan, which includes preserving and
9 restoring native vegetation for continuous riparian and upland wildlife habitats.
 - 10 • Policy 5.E.4: Promotes developing a formal habitat conservation plan in consultation with
11 federal and state agencies, aimed at protecting habitats for rare, threatened, or endangered
12 species.
 - 13 • Policy 5.H.1: Supports preserving and enhancing natural landscapes, including wetlands,
14 riparian corridors, and woodlands, as open space.
 - 15 • Policy 5.H.2: Requires new developments to preserve natural resources, such as streams,
16 wetlands, wildlife corridors, and other areas of ecological significance, as open space.
 - 17 • Policy 5.H.3: Emphasizes interconnected natural areas to protect biodiversity, facilitate
18 wildlife movement, and sustain ecosystems.

19 **Impact Evaluation**

20 The Project Footprint primarily consists of agricultural and disturbed lands, as explained in Section
21 3.3 *Biological Resource* of the Project Draft EIR, the project would affect some sensitive habitats
22 (such as seasonal wetland and Cottonwood Creek) and there is some potential for certain special-
23 status species to occur within certain habitats affected by the project. As explained in Section 3.3, the
24 project includes mitigation to minimize and mitigate for affects to sensitive habitats and special-
25 status species. With mitigation, the Project would not conflict with the MCRCDD Strategic Plan. In
26 addition, the Project would not conflict with the conservation-related policies of the Madera County
27 General Plan. With adherence with existing regulations and the proposed mitigation, the Project
28 would not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation
29 Plan, or other approved local, regional, or state habitat conservation plan and, therefore, would have
30 less than significant impact.

31 **4.2.1.4 Energy**
32

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.
Level of Impact	Less than Significant

33 **Impact EN-1**

34 **Existing Condition**

35 Appendix F of the CEQA Guidelines requires consideration of the potentially-significant energy
36 implications of a project. CEQA requires mitigation measures to reduce “wasteful, inefficient, and
37 unnecessary” energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to
38 Appendix F of the CEQA Guidelines, the means to achieve the goal of conserving energy include

1 decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing
 2 reliance on renewable energy sources. In particular, the Project would be considered “wasteful,
 3 inefficient, and unnecessary” if it were to violate state and federal energy standards and/or result in
 4 significant adverse impacts related to Project energy requirements, energy inefficiencies, or energy
 5 intensiveness of materials; cause significant impacts on local and regional energy supplies or
 6 generate requirements for additional capacity; fail to comply with existing energy standards; or
 7 otherwise result in significant adverse impacts on energy resources, or conflict or create an
 8 inconsistency with an applicable plan, policy, or regulation.

9 **Impact Evaluation**

10 Project construction requires the use of energy resources including gasoline and diesel fuel for
 11 construction equipment and vehicles. This use is necessary for the construction and is not wasteful,
 12 inefficient or unnecessary. The CHSRA intends to utilize renewable energy for operations of the
 13 trains. If this proposed sustainability goal is not available for the initial operation of the trains, the
 14 Project would be connected to the overall power structure and supply for the entire HSR project.
 15 Operational energy for other elements of the Project such as safety lighting, building lighting, and
 16 other similar uses is anticipated to be negligible.

17 As a result, the Project is anticipated to result in less than significant impacts related to Project
 18 energy requirements or energy use inefficiencies, or result in a wasteful or inefficient use of energy.
 19

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 Impact	Less than Significant

20 **Impact EN-2**

21 **Existing Condition**

22 CARB recently adopted the 2022 CARB scoping plan, which sets forth a sector-by-sector roadmap
 23 for California to achieve carbon neutrality by 2045 or earlier and outlines a technologically feasible,
 24 cost-effective, and equity-focused path to achieve the state’s climate target. The 2022 Scoping Plan
 25 for Achieving Carbon Neutrality (2022 scoping plan) recognizes three previous scoping plans. The
 26 2022 scoping plan expands the focus with additional goals for carbon neutrality through the
 27 continued reduction of fossil fuel use and discusses sustainable options for walking, bicycling, and
 28 public transit to reduce reliance on vehicle use. The 2022 scoping plan also recognizes that the
 29 targets set forth in the 2017 scoping plan for 2030 are now interim but important along the critical
 30 path to the broader goal of deep decarbonization by 2045 (CARB 2022).

31 Accordingly, the 2017 scoping plan remains valid, as it defines a path with tools to reach reduction
 32 goals that are still in use and would remain in use. The 2017 scoping plan identified that the
 33 transportation sustainability sector is a key area for strategies to reduce fossil fuel consumption.
 34 CARB called for encouraging public transit use and increasing public transportation opportunities in
 35 efforts to decrease fossil fuel demand from light-duty combustion vehicles (CARB 2017).

1 **Impact Evaluation**

2 The Project supports these efforts, as it supports the uses that have been previously planned and
 3 approved as part of the Madera Station Relocation Project, including the Phase 1 elements and
 4 previously-approved HSR improvements in Phase 2 of the Madera HSR Station. These projects were
 5 developed with the intent and anticipation to increase ridership and reduce VMT by inducing a
 6 mode shift from personal automobiles to public transit. These efforts are consistent with Policy 4
 7 (“To Transform to a Clean and Energy Efficient Transportation System”) of the 2018 California State
 8 Rail Plan. Accordingly, the Project is consistent with both these plans, as it would reduce VMT in the
 9 region (California Department of Transportation [Caltrans] 2018). Therefore, the Project would be
 10 consistent with the energy conservation measures and strategies identified in the 2017 scoping plan
 11 and 2018 California State Rail Plan.

12 Additionally, the Madera County Transportation Commission (MCTC) 2022 Regional Transportation
 13 Plan/Sustainable Communities Strategy (RTP/SCS) includes goals and strategies to improve
 14 regional transportation system efficiency and optimize public transportation in efforts to encourage
 15 public transit use and reduce vehicle-trips and VMT (MCTC 2022). The Project would be consistent
 16 with the energy conservation strategies of the 2022 RTP/SCS, as the Project is a means to increase
 17 ridership levels by facilitating expanded HSR service at the station, allowing for greater ridership
 18 potential and transit connectivity.

19 The Project would increase ridership, reduce traditional transportation fuel consumption associated
 20 with personal automobile vehicle-trips, and support the use of renewable energy for electric power
 21 for HSR train service, and would not conflict with State or local plans for renewable energy or
 22 energy efficiency. Therefore, Project construction and operation would have a less than significant
 23 impact related to conflict with or obstruction of a state or local plan for renewable energy or energy
 24 efficiency. The Project would likely have beneficial impacts related to energy conservation.

25 **4.2.1.5 Geology, Seismicity, and Soils**

26

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.
Level of Impact	Less than Significant

27 **Impact GEO-4**

28 **Existing Condition**

29 The Project site is located within the Great Valley geologic province of California and bordered by
 30 the Sierra Nevada geologic province to the east and the Coastal Ranges geologic province to the
 31 west. The three geologic provinces each have distinct characteristics that influence seismic activity
 32 in the region. The Great Valley, where the Project is located, is a large, alluvial plain primarily
 33 composed of thick sedimentary deposits (California Geological Survey [CGS] 2002). This region is
 34 characterized by relatively low tectonic activity and is bordered by mountain ranges to the east and
 35 west. To the east, the Sierra Nevada geologic province is a region of metamorphic bedrock and a
 36 variety of geologic features. This area is considered relatively tectonically stable, with minimal

1 seismic activity along its faults. However, some faults in the Sierra Nevada, such as the eastern Sierra
 2 faults near the Sierra Nevada frontal fault zone, are capable of producing moderate to strong seismic
 3 shaking (United States Geological Survey [USGS] 1996). To the west, the Coastal Ranges geologic
 4 province is an area of more frequent seismic activity, primarily due to the presence of the San
 5 Andreas Fault system and related fault networks (USGS 2016). The tectonic boundary between the
 6 Pacific and North American plates contributes to the region's active seismicity. Ground shaking from
 7 faults in the Coastal Ranges may travel towards the Great Valley and potentially impact the project
 8 area, though the intensity diminishes with distance.

9 The nearest faults to the Project Footprint are the Clovis Fault located approximately 22 miles to the
 10 southeast of the Project Footprint. The Clovis Fault is considered potentially active fault with no
 11 recent evidence of surface displacement. It is estimated to have a fault length of approximately 1.5
 12 miles, which would not produce a large earthquake of magnitude 6 or greater. The Clovis Fault
 13 shows no recognized displacement in the Quaternary Period, which means it has not moved
 14 significantly in the last 1.6 million years. Due to its inactivity, the Clovis Fault is not considered a
 15 significant earthquake threat. If an earthquake were to occur on the Clovis Fault, it would likely be a
 16 very small tremor with minimal impact. There are also two unnamed pre-Quaternary faults to the
 17 southwest of the Project Footprint. The closest of the two is located approximately 16.2 miles from
 18 the Project Footprint, and the second is located approximately 18.3 miles from the Project Footprint.
 19 Although the Project Footprint would experience ground shaking from activity on these faults,
 20 movements on larger regional faults such as the San Andreas Fault, located approximately 67 miles
 21 to the west of the Project Footprint, or other faults in and south of the San Francisco Bay Area also
 22 would affect the Project Footprint. Some other potential faults which have the potential to impact
 23 the project are listed in **Table 4.2-4**.

24 **Table 4.2-4: List of Faults near Project**

Fault	Location in Relation to Project Footprint	Length of Fault	Estimated Magnitude	Age
Clovis Fault	Approximately 22 miles to the southeast of the Project Footprint	Approximately 14.8 miles	Inadequate historic evidence for assessing maximum earthquake impacts (County of Madera 2017)	Pre-Quaternary
San Joaquin Fault	Approximately 44.2 miles west of the Project Footprint	Approximately 85.7 miles	Up to 7.3	Late Quaternary
Ortogonalita Fault Zone	Approximately 50.9 miles southwest of the Project Footprint	Approximately 44.1 miles	Up to 6.9	Latest Quaternary
San Andreas Fault Zone	Approximately 67 miles to the west	Approximately 672.3 miles	Up to 8.0	Historic

	of the Project Footprint			
Hartley Springs Fault Zone	Approximately 76.49 miles northeast of the Project Footprint	Approximately 14.3 miles	6.7 or greater	Late Quaternary
Hilton Creek Fault	Approximately 77.8 miles northeast of the Project Footprint	Approximately 18.6 miles	6.7 or greater	Historic
Rinconada Fault Zone	Approximately 86.3 miles southwest of the Project Footprint	Approximately 75.8 miles	Up to 7.3	Late Quaternary
San Jacinto Fault Zone	Approximately 231.6 miles south of the Project Footprint	Approximately 151.6 miles	Up to 7.5	Undifferentiated Quaternary

Source: (California Department of Conservation (DOC) 1996, DOC 2010, Rosenberg et al. 2009, Southern California Earthquake Data Center n.d.a, Southern California Earthquake Data Center n.d.b, USGS 2018, USGS and CGS n.d.)

California is prone to seismic activity, with ground shaking potential present throughout much of the state. Although the Project Footprint is not directly on or adjacent to an active fault, it would still experience seismic shaking from regional faults. . California Code of Regulations (CCR), Title 24, Part 2, the California Building Code (CBC), provides minimum standards for building design in the State of California. Measures to minimize the risk of loss, injury, and death from the effects of earthquakes and ground-shaking on buildings are included within CBC, with specific provisions for seismic design. As the proposed Project site is in a seismically active region, the Project would be required to be designed in accordance with applicable parameters of the current CBC.

Liquefaction describes the phenomenon where soil loses its supportive strength and becomes incapable of bearing the load of overlaying soils or structures. Liquefaction occurs during earthquake conditions in saturated, relatively loose, sandy soils located near the ground surface (DOC n.d.). Soil types in Madera County generally are not conducive to liquefaction because they are either too coarse in texture or too high in clay content (County of Madera 1995). These types of soils reduce the potential for liquefaction. In addition, the Project site has not been identified as an area subject to potentially susceptible liquefaction by California Department of Conservation (CGS 2022, CGS 2024).

Impact Evaluation

The proposed Project site is in a seismically active region and would be required to be designed in accordance with applicable parameters of the current CBC for seismic design. Measures to minimize the risk of loss, injury, and death from the effects of earthquakes and ground-shaking on buildings are included within CBC with specific provisions for seismic design. In addition, according to by California Department of Conservation, the Project area is not in an area of known liquefaction potential. With adherence to existing CBC regulations on seismic design, the proposed Project would result in a less than significant impact to seismic ground-shaking and seismic-related ground failure and 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.
Level of Impact	Less than Significant

1 **Impact GEO-5**

2 **Existing Condition**

3 The Project Footprint is not identified by the USGS's Landslide Inventory as an area with potential
 4 risk of landslides (USGS 2023). The Project Footprint and surrounding areas are flat and do not
 5 include slopes that would be susceptible to landslides. According to the Madera County General Plan
 6 Background Report, the topography of most of Madera County is generally flat in the valley region
 7 where the Project is located, resulting in a low landslide risk (County of Madera 1995). The landslide
 8 hazards in the county are primarily associated with steeper slopes, such as those slopes in the Sierra
 9 Nevada foothills, which are located approximately 18.3 miles west of the Project Footprint. The
 10 Project Footprint is not located adjacent to an area with steep terrain, any hillsides, or other areas
 11 with substantial slopes that would be susceptible to landslides such that they would affect
 12 construction or operation of the Project.

13 **Impact Evaluation**

14 The Project Footprint varies in elevation by approximately 1 foot east to west and approximately 20
 15 feet north to south over a distance of more than 2 miles. Thus, the Project would not directly or
 16 indirectly create or exacerbate the risk of exposure to landslides, nor expose people or structures to
 17 a substantial hazard. Therefore, considering the surrounding flat terrain, construction and
 18 operational impacts related to landslide-related hazards would be less than significant.
 19

Impact GEO-6	Construction and operation of the Project would not result in substantial soil erosion or the loss of topsoil.
Level of Impact	Less than Significant

20 **Impact GEO-6**

21 **Existing Condition**

22 The Madera County General Plan describes the majority of the valley floor as composed of relatively
 23 flat terrain (County of Madera 1995), which minimizes susceptibility to significant soil erosion due
 24 to topography. According to the USDA Web Soil Survey, the erodibility of on-site soils both for
 25 water- and wind-related erosion ranges from very low to high depending on the soil classifications.
 26 Soils with a higher clay content, such as Alamo Clay (AsA), identified on-site, are more susceptible to
 27 erosion compared to San Joaquin-Whitney sandy loams (ScB), Hanford fine sandy loam (HaA), and
 28 Delhi sand (DfA), which compose the majority of the Project Footprint. Approximately 14% of the
 29 overall Project Study Area includes Alamo Clay (AsA), whereas the balance of the on-site soils has a
 30 low potential for erodibility (USDA NRCS 2023).

1 **Impact Evaluation**

2 Removal of vegetative ground cover, excavation, grading, and other activities that expose soils
3 during construction would increase the potential for wind or water erosion. If exposed soils are not
4 protected from wind or water erosion through stockpiling, covering, revegetation, watering,
5 application of soil stabilizers, or other means, the topsoil and other bare soils would erode and
6 result in impacts to nearby properties and water quality and the loss of higher-value surface soil.

7 The Project would not require major grading or excavation that would substantially change existing
8 topography, create or remove naturally occurring slopes, create retaining walls, or make other land
9 modifications outside of ordinary construction practices or that would substantially increase
10 exposure to erosive forces. Nevertheless, grading and earthwork, if not properly managed during
11 construction, would expose soils to potential short-term erosion by wind and water.

12 The Project would comply with the State Water Resources Control Board (SWRCB) National
13 Pollutant Discharge Elimination System (NPDES) General Permit during construction. Under the
14 NPDES, a Storm Water Pollution Prevention Plan (SWPPP) would be prepared and would identify
15 potential sources of erosion or sedimentation. The Project would include physical barriers to
16 erosion, potentially including the use of sandbags (to slow runoff and allow sediments to settle) and
17 silt fences (to capture sediment), covering stockpiles to prevent erosion, providing retention basins,
18 conducting street sweeping, etc. All such measures would be detailed in an erosion control plan that
19 would be developed and approved by Madera County prior to issuance of any grading permits and
20 subsequent initiation of construction.

21 Once operational, the Project would introduce impermeable surfaces (such as asphalt and concrete
22 in parking lots, driveways, roadways, and walkways). During construction, activities such as grading,
23 excavation, and vegetation removal would temporarily increase the risk of soil erosion. Stormwater
24 drainage systems would be installed to manage surface water, which would effectively control
25 runoff and prevent sedimentation from impacting nearby properties or water quality. Moreover, the
26 flat terrain and stable soil conditions of the Project Footprint inherently reduce the potential for
27 significant erosion or topsoil loss. The Project’s compliance with existing regulatory requirements
28 and incorporation of standard design elements, such as stormwater drainage, would prevent
29 significant erosion or loss of topsoil during construction and operation. Therefore, potential impacts
30 related to soil erosion or topsoil loss would remain less than significant.
31

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 Impact	Less than Significant

32 **Impact GEO-7**

33 **Existing Condition**

34 The components of the proposed Project include platforms, trackwork, bridges, overhead contact
35 system, substations, grade separations, and parking expansions, and culverts. The Project also
36 includes station and station access improvements which could require an on-site Wastewater

1 Treatment System (OWTS). The on-site Wastewater Treatment System (OWTS) in accordance with
 2 the Local Agency Management Program (LAMP) for Madera County. The most common type of
 3 OWTS found in Madera County consists of a septic tank connected to either seepage pits or leach
 4 lines, depending on the site location. LAMP has not considered all plausible future events for various
 5 sites and proposed projects. Soil conditions needed to support the use of OWTS need to provide
 6 sufficient depth of unsaturated soil below the leach field and seepage pits.

7 **Impact Evaluation**

8 The Project Footprint is on soils with very low permeability, which would help provide treatment of
 9 the percolating wastewater and would require fewer separation distances to afford proper
 10 groundwater protection. The Project would include a site-specific evaluation of soil conditions to
 11 comply with the California Building Code (Title 24 of the California Code of Regulations). This
 12 evaluation would identify recommendations for ground preparation and earthwork specific to the
 13 Project Footprint, including evaluation of soil conditions to support the use of OWTS. With the
 14 implementation of BMPs, as well as compliance with building regulations and site-specific
 15 recommendations to address on-site soil conditions, the severity of construction and operational
 16 impacts on soils incapable of supporting the use of septic tanks would reduce significantly.
 17 Therefore, construction and operational impacts on soils incapable of adequately supporting the use
 18 of septic tanks or alternative wastewater disposal systems would be less than significant.

19 With the implementation of Best Management Practices (BMPs), as well as compliance with building
 20 regulations and site-specific recommendations to address on-site soil conditions, the severity of
 21 construction and operational impacts on soils incapable of supporting the use of septic tanks would
 22 be reduced substantially. Therefore, construction and operational impacts on soils incapable of
 23 adequately supporting the use of septic tanks or alternative wastewater disposal systems would be
 24 less than significant.

25 **4.2.1.6 Hazards and Hazardous Materials**

26 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.
Level of Impact	Less than Significant

27 **Impact HAZ-2**

28 **Existing Condition**

29 Hazardous materials are listed by federal, state, or local agencies based on the materials'
 30 characteristics and their potential to cause harm or damage. A hazardous material is defined by the
 31 California Code of Regulations (CCR) as a substance that, because of physical or chemical properties,
 32 quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an
 33 increase in serious, irreversible, or incapacitating, illness, or (2) pose a substantial present or
 34 potential hazard to human health or environment when improperly treated, stored, transported, or
 35 disposed of, or otherwise managed (CCR, 2024). Hazardous materials are commonly used in
 36 commercial and industrial applications and, to a limited extent, in residential areas.

1 Both EPA and United States Department of Transportation (USDOT) regulate the transport of
2 hazardous waste and material, including transport via roadways and highways. EPA administers
3 permitting, tracking, reporting, and operational requirements established by the Resource
4 Conservation and Recovery Act (RCRA). USDOT regulates the transportation of hazardous materials
5 through implementation of Hazardous Materials Transportation Act (HMTA). HMTA administers
6 container design and labeling, and driver training requirements. These established regulations are
7 intended to track and manage the safe interstate transportation of hazardous materials and waste.
8 Additionally, state, and local agencies enforce the application of these acts and provide coordination
9 of safety and mitigation responses in the case of accidents involving hazardous materials.

10 **Impact Evaluation**

11 Construction activities associated with the Project would involve the routine transport, use, and
12 disposal of hazardous materials (e.g., fuels, greases, solvents, paints, and lubricants). If improperly
13 handled, used, or spilled, these materials would pose a significant threat to human health and safety
14 or the environment.

15 The transport, use, and disposal of hazardous materials during construction is regulated and
16 enforced by federal and state agencies. Workers who handle hazardous materials are required to
17 adhere to Occupational Safety and Health Administration and California Division of Occupation
18 Safety and Health requirements. During construction, hazardous materials must be transported in
19 accordance with the RCRA and USDOT regulations, stored in accordance with the Unified Program
20 enforced by local Certified Unified Program Agencies (CUPAs; County of Madera 2023) and disposed
21 of in accordance with the RCRA and the CCR at a facility permitted to accept the waste.

22 The Project would comply with the SWRCB requirements for construction sites greater than 1 acre
23 to prepare and implement a SWPPP during construction for coverage under the Construction
24 General Permit. The SWPPP would require implementation of BMPs to minimize erosion but also
25 would include measures to minimize potential effects of hazardous materials. The SWPPP would
26 detail requirements for hazardous materials storage and soil stockpiles, inspections, maintenance,
27 training of employees, and containment of releases to prevent runoff into existing stormwater
28 collection systems or waterways.

29 Operations of the Project would not result in a significant hazard to the public or the environment
30 through the routine transport, use, or disposal of hazardous materials. Operational activities would
31 include maintenance work, including the typical storage and periodic application of pesticides and
32 herbicides for pest and vegetation management, as well as the storage and use of fuels, greases,
33 lubricants, and solvents for use in machinery and equipment to ensure continued functionality of the
34 proposed structures and facilities. The routine transport, use, and disposal of these materials would
35 result in the exposure of maintenance workers, the public, and/or the environment to hazardous
36 materials if the materials are not properly managed.

37 Compliance with existing regulations is mandatory, and compliance with these requirements during
38 construction of the Project would minimize hazards to construction workers, the public, and the
39 environment that would occur during routine transport, use, disposal, or accidental release of
40 hazardous material(s). Accordingly, adherence to federal and state regulations would reduce the
41 risk of exposure to hazardous materials that would be used, transported, or disposed of during
42 construction and operations. As a result, construction and operation of the Project would not create
43 a significant hazard to the public or the environment through the routine transport, use, or disposal
44 of hazardous materials. Impacts would be less than significant, and mitigation is not required.

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.
Level of Impact	Less than Significant

1 **Impact HAZ-3**

2 **Existing Condition**

3 The Madera County Operational Area Emergency Operations Plan (MCOAEOEP) establishes
4 emergency management organization, identifies policies and responsibilities, and establishes
5 operational concepts and procedures required to mitigate an emergency or disaster affecting
6 Madera County. The plan does not identify specific emergency evacuation routes (Madera County
7 2010).

8 The LHMP is a strategic document aimed at identifying and mitigating risks from natural and
9 human-made hazards such as wildfires, flooding, and hazardous material incidents. It prioritizes
10 hazard assessment, resource allocation, and community preparedness measures, enabling the
11 county to reduce vulnerabilities and improve resilience. The LHMP primarily focuses on identifying
12 risks and strategies to mitigate hazards rather than detailing emergency response or evacuation
13 plans.

14 The Project falls under the jurisdiction of the Madera County Sheriff's Office (Sheriff's Office). The
15 Sheriff's Office is responsible for public protection and investigating crimes occurred within
16 unincorporated areas of Madera County.

17 Meanwhile, the Madera County Fire Department provides a range of programs designed to protect
18 the lives and property of the inhabitants of Madera County from adverse effects of fire, medical
19 emergencies, and exposure to hazardous materials or dangerous conditions as an emergency
20 response agency.

21 **Impact Evaluation**

22 Construction and staging areas would predominantly occur within existing agricultural areas, within
23 existing right-of way, and on adjacent properties that would be developed as part of other station
24 development. The Project includes adding a second platform and station siding track on the western
25 side of the Madera HSR Station. Other activities include the construction of a pedestrian overpass,
26 new and expanded culverts, wildlife corridor extensions, and additional parking. Such activities have
27 the potential for temporary interruptions in traffic flow and capacity to occur, but the Project would
28 be compliant with existing plans. Moreover, the Project would include a traffic management plan
29 during construction to ensure traffic flows are maintained, resulting in only minimal disruptions to
30 traffic flows.

31 If emergency response is needed, access to the Project Footprint during construction would use
32 existing roadways (Avenue 12) and construction road(s) within the site. However, the Project would
33 not conflict with any proposed emergency evacuation routes because both the LHMP and the
34 MCOAEOEP do not identify any specific emergency evacuation route.

35 Project construction would result in limited and temporary road closures and potentially cause
36 increased traffic congestion in areas where emergency vehicles may need to operate. Emergency
37 vehicles traveling on streets that cross the railroad ROW would experience delays due to gate-down

1 events at grade crossings. However, the duration of individual gate-down events would be
2 unchanged from existing conditions.

3 The Project includes safety and emergency elements for operators and passengers including having
4 emergency vehicle access in the event of an emergency. The Project would also include standard
5 features such as clear and visible signage, and communication systems compatible with local
6 emergency response agencies. These features ensure that the Project is in compliance with the
7 LHMP and the MCOAEOEP during operations.

8 Overall, Project operation or construction would not impair implementation of, or physically
9 interfere with, an adopted emergency response plan or emergency evacuation plan. Therefore,
10 impacts would be less than significant, and mitigation is not required.

11	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 Impact	Less than Significant

12 **Impact HAZ-4**

13 **Existing Condition**

14 Government Code Section 65962.5 (Cortese List) includes Department of Toxic Substances Control
15 (DTSC)-listed hazardous waste facilities and sites (DTSC, 2024a), California Department of Health
16 Care Services lists of contaminated drinking water wells, sites listed by SWRCB as having
17 underground storage tank leaks or a discharge of hazardous wastes or materials into the water or
18 groundwater, and lists from local regulatory agencies of sites with a known migration of hazardous
19 waste/material. Specifically, the following resources provide information regarding facilities
20 meeting “Cortese List” requirements:

- 21 • List of hazardous waste and substances sites from DTSC’s EnviroStor database;
- 22 • List of leaking underground storage tank sites from SWRCB’s GeoTracker database;
- 23 • List of solid waste disposal sites identified by SWRCB with waste constituents above
24 hazardous waste levels;
- 25 • List of “active” cease and desist orders and cleanup and abatement orders from SWRCB; and
- 26 • List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of
27 the Health and Safety Code, identified by DTSC.

28 **Impact Evaluation**

29 The Project is not located in an area that is on a list of hazardous materials sites compiled pursuant
30 to Government Code Section 65962.5. A search of the Hazardous Waste and Substances Sites
31 (Cortese) List on the DTSC website found a leaking underground storage tank site at 11272 Road 32,
32 approximately 0.74 miles to the east of the southernmost portion of the Project alignment. This site
33 is the former MacGillis and Gibbs site that was used as a wood pole treatment facility and used
34 solutions containing arsenic, chromium, copper, and pentachlorophenol to treat wood. The site is
35 under a DTSC cleanup program. Due to the distance from the Project Footprint, the flat site gradient,

1 the depth to groundwater, and the nature of the Project improvements, neither the proposed
 2 improvements nor operation of the Project would affect the MacGillis and Gibbs site, and there are
 3 no construction or operational impacts from the Project.

4 An online search of the SWRCB GeoTracker website (SWRCB, 2024) and the DTSC Hazardous Waste
 5 and Substances Site List on the EnviroStor website (DTSC, 2024b) were also conducted. The
 6 searches revealed that there are no other listed hazardous materials sites within or adjacent to the
 7 Project Footprint. Therefore, given that the Project is not located in an area that is on a Cortese List
 8 of hazardous materials sites, construction and operational impacts are less than significant.

9 **4.2.1.7 Hydrology and Water Quality**
 10

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.
Level of Impact	Less than Significant

11 **Impact HYD-3**

12 **Existing Condition**

13 The primary federal law governing water quality is the Clean Water Act (CWA) of 1972. The CWA
 14 provides for the restoration and maintenance of the chemical, physical, and biological integrity of
 15 the nation’s waters. The CWA also limits the amount of pollutants that may be discharged and
 16 requires wastewater to be treated with the best treatment technology economically achievable
 17 regardless of receiving water conditions. The control of pollutant discharge is established through
 18 NPDES permits that contain effluent limitations and standards. CWA Section 402 establishes the
 19 National Pollutant Discharge Elimination System (NPDES) permit process, which provides a
 20 regulatory mechanism for the control of point source discharges (a municipal or industrial discharge
 21 at a specific location or pipe) to waters of the U.S. The NPDES program also regulates: 1) diffuse
 22 source discharges caused by general construction activities over one acre; and 2) stormwater
 23 discharges in municipal stormwater systems where runoff is carried through a developed
 24 conveyance system to specific discharge locations.

25 In California, the Porter-Cologne Water Quality Control Act complements the federal CWA by
 26 establishing SWRCB and has nine Regional Water Quality Control Boards (RWQCBs) that exercise
 27 rulemaking and regulatory activities by basins throughout California. SWRCB administers water
 28 rights, sets water pollution control policy, and issues orders on matters of statewide application, and
 29 it oversees water quality functions throughout the state by approving basin plans, total maximum
 30 daily loads, and NPDES permits. RWQCBs are responsible for the development and implementation
 31 of water quality control plans, also known as basin plans. The NPDES permit would be obtained
 32 through SWRCB for Discharges of Storm Water Associated with Construction Activity (2022
 33 Construction Stormwater General Permit, Order 2022-0057-DWQ). Approvals would be granted by
 34 Central Valley Regional Water Quality Control Board (CVRWQCB).

35 During construction, soil would be exposed to natural processes such as precipitation (depending on
 36 the time of year) and runoff. Stormwater discharges generated during construction activities would
 37 cause an array of physical, chemical, and biological water quality impacts. Specifically, the physical,
 38 chemical, and biological integrity of surface runoff water could become compromised. The

1 interconnected process of erosion, sediment transport, and delivery is the primary pathway for
2 introducing key pollutants, such as nutrients (particularly phosphorous), metals, and organic
3 compounds into aquatic systems.

4 The delivery, handling, and storage of construction materials and wastes, as well as the use of
5 construction equipment, could introduce contaminants into storm drains. Spills or leaks from heavy
6 equipment and machinery can result in oil and grease contaminations. Staging areas or building
7 sites can also be the source of pollution due to the use of paints, solvents, cleaning agents, and
8 metals during construction. Impacts associated with oil, grease, and metals in stormwater include
9 toxicity to aquatic organisms and the potential contamination of drinking supplies. Larger
10 pollutants, such as trash, debris, and organic matter, are additional pollutants that could be
11 associated with construction activities.

12 As the proposed Project would require construction/grading on a site greater than one acre,
13 construction of the proposed Project would be subject to the General Construction Permit.
14 Incorporation of required BMPs for materials and waste storage and handling, equipment and
15 vehicle maintenance and fueling, as well as for outdoor work areas, would reduce potential
16 discharge of stormwater pollutants during construction.

17 Impervious surfaces could generate stormwater runoff containing urban pollutants. Nutrients that
18 may be present in stormwater runoff include nitrogen and phosphorous resulting from fertilizers
19 applied to landscaping and atmospheric deposition. Excess nutrients can impact water quality by
20 promoting excessive and/or a rapid growth of aquatic vegetation, which reduces water clarity and
21 results in oxygen depletion. Pesticides can also enter stormwater runoff after application on
22 landscaped areas and can be toxic to aquatic organisms and accumulate in certain tissues in larger
23 species, such as birds and fish. Oil and grease can enter stormwater from vehicle leaks, traffic, and
24 maintenance activities. Metals may enter stormwater runoff as surfaces corrode, decay, or leach.
25 Potential non-chemical pollutants associated with operational activities include clippings associated
26 with landscape maintenance, street litter, and pathogens (bacteria). Pathogens can impact water
27 contact recreation, non-contact water recreation, and shellfish harvesting.

28 Consideration related to water quality also include excavation for the placement of station
29 structures, structural elements for the rail bridge at Cottonwood Creek, and the OCS pole
30 foundations. The Construction Dewatering General Permit would include discharge quantity and
31 quality limitations based on site and groundwater characteristics. For water to be discharged to
32 surface waters, the contractor would notify CVRWQCB and comply with its requirements related to
33 the quality of water and discharges (Order Number R5-2022-0006).

34 Construction dewatering may be required during construction such as pile-driving. Dewatering
35 would result in the exposure of pollutants from spills or other activities and may contaminate
36 groundwater. Untreated water from construction site dewatering may contain pollutants that, if
37 discharged to a storm drain system or natural watercourse, may exceed water quality standards of
38 the receiving water. Typical pollutants that may be encountered include sediment (the most
39 common pollutant associated with dewatering operations), high levels of pH, and contaminant
40 pollutants associated with current or past use of the site or adjacent land.

41 **Impact Evaluation**

42 Compliance with existing regulations and the Construction General Plan, including BMPs, waste
43 discharge requirements, and dewatering regulations would ensure that construction activities do

1 not violation of any water quality standards or waste discharge requirements or otherwise result in
2 water quality degradation. Therefore, surface and groundwater quality impacts during construction
3 would be less than significant and would not substantially degrade surface water quality.

4 The Project would slightly increase impervious surfaces within its environmental footprint,
5 primarily from the expanded parking lot, station platforms, pedestrian bridge, and other
6 infrastructure. This increase in impervious areas would lead to higher runoff rates and volumes,
7 carrying pollutants such as oils, fuels, hydraulic fluids, and pesticides from maintenance activities.
8 Reduced stormwater infiltration would hinder natural filtration processes, potentially increasing
9 erosion, sedimentation, and pollutant loading to surface and groundwater. However, the Project
10 minimizes these impacts by incorporating design features like retention/detention basins,
11 landscaping, and drainage systems to promote water capture and infiltration. These measures, along
12 with the overall minimal changes to site permeability, help mitigate adverse effects on water quality
13 and recharge. Trains can be sources of pollutants such as petroleum products (e.g., oil, grease, and
14 diesel) and metals.

15 Operations would result in the potential for pollutants to be discharged into receiving waters when
16 trains cross over a water body on a bridge or culvert or are located close to a water body. Pollutants
17 emitted by trains would also be deposited on nearby impervious surfaces where runoff would
18 mobilize pollutants to a storm drain inlet and into a receiving water body, which would affect water
19 quality. These pollutants may include both inorganic compounds, such as metals, and organic
20 compounds, including polycyclic aromatic hydrocarbons (PAHs).

21 Incorporation of appropriate stormwater measures, including low-impact development source
22 control, site design, stormwater treatment, and hydromodification management would be required
23 in the design plan. During operations, permanent stormwater control and treatment BMPs specified
24 in the stormwater management and treatment plan would reduce the quantity and improve the
25 quality of stormwater runoff before runoff is discharged into a surface water body. The plan would
26 include design criteria and locations of stormwater control and treatment BMPs. Potential
27 stormwater BMPs would include biofiltration swales, biofiltration strips, infiltration devices,
28 detention devices, media filters, wet basins, and dry weather diversion. Treatment BMPs would
29 reduce concentrations of particulate materials in runoff, such as metals and PAHs, while infiltration
30 areas, infiltration devices, biofiltration swales and strips, and media filters can also reduce dissolved
31 metal concentrations in runoff. Stormwater control and treatment BMPs would also maintain
32 predevelopment runoff rates, volumes, and water quality. Improvements would be required to
33 comply with the post-construction stormwater performance standards of the Construction General
34 Permit.

35 During operations, maintenance activities will be required on tracks, bridge crossings, and other
36 Project facilities. Maintenance activities would require the use and storage of materials and
37 chemicals. Additionally, bridges and culverts would require intermittent maintenance, and
38 vegetation would need to be managed to maintain adequate track clearance. Pesticides would be
39 used to maintain and clear vegetation from tracks. Use of pesticides for vegetation removal would be
40 required to comply with the California Department of Pesticide Regulation regulations. The
41 operations and maintenance plan would identify measures to reduce pollutants in stormwater and
42 non-stormwater runoff: parking lot maintenance; bridge and culvert maintenance; and ROW
43 maintenance including vegetation management. Additional pollutants that may be generated and
44 emitted during continuous operations, such as trash, would be minimal and would be managed with
45 good housekeeping practices, such as trash pickup and sweeping along the tracks.

1 With compliance to BMPs, and applicable regional regulations, impacts related to the Project's
2 operational activities of the Project would be less than significant.

3

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.
Level of Impact	Less than Significant

4 **Impact HYD-4**

5 **Existing Condition**

6 The Project is in the Madera Groundwater Subbasin which is a part of the larger San Joaquin Valley
7 Groundwater Basin. The Sustainable Groundwater Management Act is a landmark law that
8 empowers local agencies to sustainably manage groundwater within their jurisdiction and
9 authorizes SWRCB intervention if local agencies are unable to do so (Davids Engineering; Luhdorff &
10 Scalmanini Consulting Engineers. 2018). The Madera Subbasin Coordination Committee has created
11 the Madera Subbasin Joint Groundwater Sustainability Plan that has generated a water budget to
12 ensure the sustainable recharge of the groundwater aquifer.

13 **Impact Evaluation**

14 Fluctuations in groundwater levels occur in response to temperature and rainfall. It is anticipated
15 that excavations will be required for construction of the subterranean tunnel. During excavation, the
16 soils that underlie the proposed Project site could be unstable or susceptible to caving. A standard
17 approach to reducing potential problems is to shore the excavation using drilled cast-in-place
18 "soldier piles" spaced evenly across the excavation, with appropriate bracing and/or anchoring. The
19 Construction Dewatering General Permit would include discharge quantity and quality limitations
20 based on site and groundwater characteristics. For water to be discharged to surface waters, the
21 contractor would notify CVRWQCB and comply with its requirements related to the quality of water
22 and discharges (Order Number R5-2022-0006). The soldier piles would need to be drilled to depths
23 that might encounter groundwater. Although numerous piles would be placed, this would not act as
24 a barrier to flow or redirect flows because the piles would be vertical features around which
25 groundwater could continue to flow.

26 The Project consists of station and station access improvements to facilitate expanded operation of
27 HSR service. The Project does not include uses such as residential, commercial, or industrial uses
28 that would result in a substantial increase in demand for water, including groundwater. The
29 proposed Project would not involve the withdrawal of the existing groundwater, and no alteration in
30 the amount of groundwater available for public water supplies would be expected. Thus, the
31 increase in impervious surfaces due to the Project would have a minimal impact on the percolation
32 of natural precipitation and the overall recharge of the Madera Groundwater Subbasin.
33 Furthermore, operations of the Project would not require the extraction of groundwater supplies.

34 Compliance with Construction Dewatering General Permit and implementation of BMPs the Project
35 would not substantially deplete groundwater supplies, lower the local groundwater table, or
36 interfere substantially with groundwater recharge, this impact is considered to be less than
37 significant.

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: <ul style="list-style-type: none"> I. 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; or II. impede or redirect flood flows.
Level of Impact	Less than Significant

1 **Impact HYD-5**

2 **Existing Condition**

3 The Project would comply with SWRCB and regional requirements related to water quality.
 4 Construction activities including clearing, grubbing, excavation, and grading would disturb over 1
 5 acre of soil, and the Project would be required to obtain a NPDES construction permit. The NPDES
 6 permit would be obtained through SWRCB for Discharges of Storm Water Associated with
 7 Construction Activity (2022 Construction Stormwater General Permit, Order 2022-0057-DWQ).
 8 Approvals would be granted by CVRWQCB.

9 **Impact Evaluation**

10 The proposed Project would not create or contribute additional runoff that may exceed the capacity
 11 of existing off-site storm drainage system or on-site storm drainage systems. The proposed Project
 12 would not substantially alter existing drainage patterns by increasing the amount of impervious
 13 surfaces routing on-site runoff through a storm drainage system and increase stormwater runoff
 14 rates and volumes. Compliance with the County regulatory process for ensuring that appropriate
 15 BMPs are included in project design and complying with the applicable federal CWA NPDES
 16 program and state NPDES requirements under the Porter Cologne Water Quality Act would also help
 17 minimize pollutants in runoff. Adherences to existing federal, state, and local regulations would
 18 ensure that during construction activities, runoff water that could exceed the capacity of existing or
 19 planned stormwater drainage systems would be minimized.

20 Operation of proposed Project could result in the addition of contaminants into the stormwater
 21 runoff entering the Cities' drainage system. The major source of pollution to runoff and infiltrating
 22 groundwater would be contaminants that have accumulated on the land surface over which
 23 stormwater passes. Between rainstorms, material would be deposited on the streets, paved areas,
 24 rooftops, and other surfaces from debris dropped or scattered by individuals, wastes and dirt from
 25 construction and renovation or demolition, fecal droppings from animals, oil and various residues
 26 contributed by vehicular traffic, and fallout of airborne particles.

27 Adherence to applicable federal, state, and local regulations would ensure that the Project would
 28 have a less than significant impact.

29
30
31

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.
Level of Impact	Less than Significant

1 **Impact HYD-6**

2 **Existing Condition**

3 The Project would partially occur in FEMA-designated Flood Zones X, AO, and AE. Flood Zone X is an
4 area of minimal flood hazard (500-year flood zone), so the Project would, therefore, have no impact
5 related to impeding or redirecting flood flows. Flood Zone AO is identified as an area subject to
6 inundation by 1% annual chance of shallow flooding, where average depths are between 1 and 3
7 feet (100-year flood event). FEMA identifies Flood Zone AE as areas subject to inundation by the 1%
8 annual-chance flood event (also 100-year flood event). Approximately 475 feet of at-grade guideway
9 would be built on Flood Zone AO, and 250 feet of the guideway, with both aerial and at-grade
10 components, would be built on Flood Zone AE.

11 The nearest tsunami zone to the Project is approximately 100 miles away on the Pacific Coast.
12 Seiches are standing waves that occur in enclosed or partially enclosed bodies of water, such as
13 lakes, reservoirs, or bays, caused by seismic activity, atmospheric pressure changes, or strong winds,
14 resulting in oscillations of water level. The Madera County General Plan (Safety Chapter) notes that
15 seiches are not a great concern in Madera County; in the county, the largest recorded seismically
16 induced wave heights were 1.2 feet. Moreover, the closest known seiche hazard is approximately
17 140 miles away at Lake Tahoe (County of Madera 2015).

18 According to the Madera County General Plan, Hidden Dam is the closest dam to the Project. It is
19 located in Raymond, California, approximately 12 miles northeast from the Project Footprint.
20 Hidden Dam serves primarily for irrigation, flood control, and recreational activities, with a
21 maximum storage capacity of 90,000 acre-feet. DWR has acknowledged that California's Central
22 Valley flood control system is deteriorating. Yet funding to maintain and upgrade flood protection
23 infrastructure has sharply declined. Most project levees are maintained by local levee districts. The
24 Madera County Flood Control and Water Conservation Agency (FCWCA) was formed in 1969 by
25 Madera County Flood Control Act 4525 to be responsible for flood control planning in the county.
26 These responsibilities are delegated through contracts with the state and United States Army Corps
27 of Engineers to provide adequate carrying capacity for portions of the Fresno and Chowchilla rivers
28 and Ash and Berenda sloughs. FCWCA performs additional channel-clearing activities in partnership
29 with irrigation and water districts. FCWCA also makes recommendations to the Central Valley Flood
30 Protection Board for various public works to prevent or minimize flooding and administers water
31 conservation and development of water recharge projects.

32 **Impact Evaluation**

33 There are no impacts for the risk of release of pollutants due to Project inundation. The nearest
34 tsunami zone to the Project is approximately 100 miles away on the Pacific Coast. The Madera
35 County General Plan has noted that seiches are not a great concern in Madera County, and the
36 closest known seiche hazard is approximately 140 miles away at Lake Tahoe (County of Madera
37 2015). According to the Madera County General Plan, the Project is within the inundation zone of
38 Hidden Dam, which is approximately 12 miles from the Project Footprint. However, the county notes
39 that dam failure is an unlikely occurrence due to routine monitoring and maintenance of the dam's
40 structural integrity. The Madera HSR Station does not fall within a FEMA flood hazard zone.

1 Portions of the Project’s track improvements would fall within FEMA-designated Flood Zones AO
 2 and AE. Operations of the Project include regular maintenance of and upgrades to track and station
 3 facilities. Accidental release of hydrocarbons onto the guideway, related to the routine maintenance
 4 of the HSR train, may result in additional pollutants released in an inundation. Compliance with
 5 federal and state regulatory framework is mandatory. Compliance with regulations ensures that any
 6 impact related to the release of pollutants due to Project inundation in flood hazard, tsunami, or
 7 seiche zones are less than significant. Therefore, operational and construction impacts related to the
 8 risk of release of pollutants due to inundation would be less than significant.
 9

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 Impact	Less than Significant

10 **Impact HYD-7**

11 **Existing Condition**

12 The Project is under the authority of CVRWQCB. At a minimum, local water management plans
 13 comply with applicable thresholds to meet water quality standards. The Madera Storm Water
 14 Resource Plan coordinates stormwater management strategies for the entire county to reduce
 15 runoff volumes and pollutants in receiving waters. The Madera County General Plan also presents
 16 policies for water quality that are codified into law (County of Madera 2015).

17 **Impact Evaluation**

18 The proposed Project would be required to comply with regulatory processes for the to ensure that
 19 appropriate BMPs are included in project design and complying with the applicable federal CWA
 20 NPDES program and state NPDES requirements under the Porter Cologne Water Quality Act. The
 21 proposed Project would not conflict with or obstruct implementation of a water quality control plan
 22 and sustainable groundwater management plan, and the proposed Project would result in less than
 23 significant impact.

24 **4.2.1.8 Land Use and Planning**

25

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 Impact	Less than Significant

26 **Impact LU-1**

27 **Existing Condition**

28 The Project is located solely within unincorporated Madera County and is subject to county and
 29 regional land use plans, policies, and regulations. An impact would occur if Project operations
 30 conflict with applicable land use plans, policies, and regulations. As previously mentioned, the
 31 Project is solely within unincorporated Madera County. The Project is consistent with the Madera

1 County General Plan and its Land Use Element, as it is primarily situated on land zoned for public
2 open space and industrial use (County of Madera 2015).

3 **Impact Evaluation**

4 The Project is zoned for public open space and industrial use (County of Madera 2015). These land
5 use designations allow for infrastructure development and are aligned with the station’s intended
6 function to enhance regional transit services. By utilizing areas already designated for public and
7 industrial purposes, the Project minimizes land use conflicts and preserves agricultural and
8 residential areas critical to the county’s long-term planning vision.

9 The General Plan emphasizes balancing urban development with environmental and agricultural
10 preservation, and the Project’s location supports this balance. Public open space zoning in the area
11 accommodates essential public infrastructure, such as transportation facilities, while industrial
12 zoning allows for compatible uses that support regional economic and logistical activities. This
13 strategic siting ensures that the station expansion will not interfere with existing agricultural
14 operations or residential communities, aligning with General Plan policies promoting efficient land
15 use and orderly growth.

16 Moreover, the Project enhances land use compatibility by fostering transit-oriented development
17 (TOD) and reducing the reliance on personal vehicles. Its location supports Madera County’s goals of
18 improving transportation networks, encouraging economic development, and maintaining a
19 sustainable urban footprint. Additionally, Project implementation will include mitigation measures,
20 such as noise and traffic management, to further ensure compatibility with surrounding land uses,
21 reinforcing compliance with the county’s General Plan. Therefore, impacts associated with the
22 construction and operations of the Project would be less than significant relating to conflicting with
23 applicable plans, policies, and regulations for the purpose of mitigating an environmental impact.

24 **4.2.1.9 Mineral Resources**
25

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.
Level of Impact	Less than Significant

26 **Impact MIN-1**

27 **Existing Condition**

28 In 1988, the State Mining and Geology Board designated sand and gravel resources in areas of
29 regional significance throughout California. According to the Madera County General Plan and its
30 Agricultural and Natural Resources Element, the Project Footprint is in the Fresno Production–
31 Consumption (“P-C”) Region, which encompasses Madera County (County of Madera, 2015). Within
32 this area, all designated sand and gravel resources are within the floodplains of the San Joaquin and
33 Kings rivers. A significant impact would entail the loss of availability of a known mineral resource
34 that would be of value to the region and the residents of the state either from of extraction or
35 destruction of a valuable mineral resource.

36 DOC provides additional detail related to the locations and description of potential areas containing
37 mineral resources (DOC 2022). Lands are divided into one of four Mineral Resource Zones (MRZs):

1 MRZ-1 for areas with little or no likelihood for presence of significant mineral resources, MRZ-2 for
 2 areas where significant mineral resources are present or have a high likelihood of presence, MRZ-3
 3 for areas with an undetermined mineral resource significance, and MRZ-4 for areas with no known
 4 mineral occurrences but where geologic information cannot rule out the presence or absence of
 5 significant mineral resources.

6 **Impact Evaluation**

7 The Project Footprint is located in an MRZ-3 which is defined as an area in which the significance of
 8 resources cannot be evaluated from available data (DOC 1998). The Project area is designated with
 9 sand and gravel resources are within the floodplains of the San Joaquin and Kings rivers (DOC
 10 2022). Instream resources in the two rivers generally contain very small amounts of aggregate with
 11 far less than 1% of the reserves. In addition, no resources underlying designated lands within the
 12 Fresno P-C Region have been lost due to urbanization and other irreversible land uses since
 13 designation in 1988.

14 Because of the existing use of the Project Footprint primarily for agricultural production, the long
 15 and linear shape of the site, and the existing and planned land uses surrounding the site, it would
 16 not be feasible to use the Project Footprint for production of mineral resources. Furthermore,
 17 Project construction and operation would not result in the loss of availability of a known mineral
 18 resource that would be of value to the region and the residents of the state. Impacts would be less
 19 than significant.
 20

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 Impact	Less than Significant

21 **Impact MIN-2**

22 **Existing Condition**

23 The Project Footprint is not on or in the vicinity of valuable mineral resources. The Madera County
 24 General Plan's Agricultural and Natural Resources Element notes that the mineral resources in the
 25 county include aggregate (sand, gravel, and crushed stone), asbestos, copper, gold, iron, and silver.
 26 The Project Footprint is located in an MRZ-3 (DOC 1998). The General Plan does not place any land
 27 use restrictions for areas designated as MRZ-3 (County of Merced 2013).

28 **Impact Evaluation**

29 Therefore, Project construction and operation would not result in the loss of availability of a locally
 30 important mineral resource recovery site delineated on a local general plan, specific plan, or other
 31 land use plan. Impacts would be less than significant, and mitigation is not required.

4.2.1.10 Noise and Vibration

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 Impact	Less than Significant

Impact NOI-2

Existing Condition

Construction of the Project would include a new full-length (1,410 feet) side platform for HSR trains, trackwork, three new bridge structures (one track bridge, one roadway bridge, and one pedestrian bridge), an OCS, a Traction Power Substation, a road grade separation of Avenue 12, additional parking, station building expansion, 10 proposed draining culverts, two wildlife crossings, and the relocation of a PG&E transmission line (Chapter 2, *Project Description*).

The Project would enable additional HSR trains to serve the proposed Madera HSR Station by expanding capacity through the construction of a second platform and second station siding track (Chapter 2, *Project Description*). According to the CHSRA 2024 Business Plan, there would be a substantial increase in trains serving the proposed Madera HSR Station over the HSR EOS service, increasing from 18 roundtrips (36 trains per day) to 64 roundtrips (128 trains per day). An additional 66 trains skipping (i.e., passing through but not stopping in) Madera would also operate through the station (CHSRA, 2024).

Operation activities of the Project may produce noise and vibrations stemming mainly from wheel-rail contact, aerodynamic turbulence, and track design. Noise arises as train wheels roll over tracks, with irregularities amplifying the sound. Aerodynamic noise becomes more noticeable at higher speeds due to air turbulence around parts like the train's nose. Vibrations result from the interaction between the train's movement and the track's slab structure.

According to CARB, sensitive receptor locations include hospitals, schools, daycare centers, and residences (CARB, 2024), and general sensitive land uses are locations where human populations, especially children, seniors, and ill persons are located. Analyses performed by CARB indicate that providing a separation of at least 1,000 feet from diesel sources and high-traffic areas would reduce exposure to air contaminants and decrease asthma symptoms in children (CARB, 2005). This CARB study demonstrates that DPM concentrations and resultant health effects decline as a function of distance from the emissions source.

A desktop analysis reveals that the Project area is mostly surrounded by agricultural uses; however, there is an individual residence approximately 880 feet to the east of the northern portion of the Project site. Madera Community College is approximately 0.56 miles west from the western edge of the Project. Other schools include Cesar Chavez Elementary School (approximately 1.6 miles west from the Project's western edge), Virginia Lee Rose Elementary School (approximately 2.02 miles west from the northern end of the Project), Pioneer Technical Center County Community School (approximately 1.68 miles west from the northern end of the project), and Apollo Campus Special Education School (approximately 1.84 miles west of the northern end of the Project). The daycare Creation of God Childcare is located approximately 1.81 miles from the Project's northern edge.

There are four churches located near the Project area; Iglesia Cristo es El Camino (approximately 0.77 miles southwest from the northern end of the Project), Parksdale Church of Christ

1 (approximately 1.1 miles southwest from the northern end of the Project), First Southern Baptist
2 Church (approximately 1.19 miles southwest from the northern end of the Project), Iglesias
3 Apostolica Unica (approximately 1.22 miles southwest from the northern end of the Project), and
4 Kingdom Hall of Jehovah's Witnesses (approximately 1.95 miles southwest from the northern end of
5 the Project). The nearest known residential use is approximately 750 feet east of the northerly track
6 improvements. The next closest grouping of residences is located primarily 0.75 miles southwest of
7 the northern end of the Project.

8 **Impact Evaluation**

9 Construction-related vibration is assessed using two different metrics: 1) to assess potential
10 structural damage from vibration, and 2) to assess human annoyance from vibration. Potential
11 vibration impacts for both damage and human annoyance are typically assessed using the closest
12 distance to the potentially impacted structure. The nearest vibration-sensitive structure (a typical
13 rural masonry building) to the Project is approximately 1 mile west from the Project's proposed
14 construction activities.

15 Previous analyses associated with the Madera Station Relocation Project reveal that construction
16 activities would generate vibration levels (at 25 feet) as high as 0.2 inches per second (in/s) peak
17 particle velocity (PPV) (94 vibration decibels (VdB)) from compactors during site work and 0.09
18 in/s PPV (87 VdB) from bulldozers during rail and platform work. The Project is located in the same
19 general vicinity as the Madera Station Relocation Project and would use similar construction
20 machinery and methods. As previously mentioned, the nearest vibration-sensitive structure to the
21 Project is approximately 1 mile west from these construction activities, which would generate
22 groundborne vibration of approximately 0.0001 in/s PPV (24 VdB) at a distance of 1 mile. This level
23 of vibration would be below the Federal Transit Administration (FTA) vibration impact threshold of
24 0.3 in/s PPV for structural damage resulting from vibration (FTA, Transit Noise and Vibration
25 Impact Assessment Manual, 2018); therefore, construction impacts related to groundborne
26 vibrations would be less than significant.

27 The area surrounding the Project Footprint is generally undeveloped or farmland. However, there is
28 an individual residence approximately 880 feet to the east of the northern portion of the Project site.
29 As described in Chapter 2, *Project Description*, the station details in the northern side of the project
30 include a permanent ROW change to accommodate modifications to Avenue 12 Overpass for an
31 additional HSR track to cross under, a wildlife crossing, and an extension of an existing culvert.
32 Construction of these items will be temporary in nature and the closest construction site to the
33 individual home would be related to the modifications to Avenue 12. Construction-related
34 vibrations would be localized to the vicinity of the construction work area and impacts would be less
35 than significant.

36 Vibration from train operations is caused by the interaction of the wheels rolling on the rails. This
37 energy is then transmitted through the track support system into the ballast, through the ground, to
38 the foundations of nearby buildings, and finally throughout the remainder of the building structure.
39 The level of vibration received at the building depends on many factors including the train type and
40 speed; the track system, structure, support, and condition; the distance from the tracks; the
41 geological condition; and the receiving structure. Groundborne vibration typically does not annoy
42 people who are outdoors.

1 The Project would allow for expanded HSR service, potentially including both trains serving the
2 Madera HSR Station and trains passing through the station. The amount of noise generated would
3 typically vary depending on the type of train, with stopping trains typically generating less noise as
4 part of decelerating, idling, and accelerating compared to non-stopping trains that pass through the
5 station, typically at full speed.

6 The assessment of railroad operation noise considered noise from train, track, and stationary noise
7 sources at the intersection with Avenue 12 and found that noise impacts would be less than
8 significant. In that analysis, noise calculations were conservative, using the higher noise levels
9 anticipated from the operation of diesel trains in Phase 1 rather than the quieter electric trains in
10 this Project.

11 It is anticipated that Project operation impacts related to groundborne vibration and groundborne
12 noise levels would be less than significant.

13 **4.2.1.11 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 Impact	Less than Significant

15 **Impact POP-1**

16 **Existing Condition**

17 As previously described, the Project is located within unincorporated Madera County. Development
18 of the Project Footprint and surrounding area is guided by the Madera County General Plan, Madera
19 County Zoning Ordinance, and the SCCC State Center Community College Area Specific Plan (See
20 Section 5.2.1.9, *Land Use*). Induced substantial unplanned population growth in an area, either
21 directly or indirectly, would be considered a significant effect.

22 **Impact Evaluation**

23 Construction of the Project is anticipated to last approximately 2 to 3 years and, given the semi-rural
24 setting, would have the potential to temporarily induce local population growth through the
25 employment of workers during the construction period, if local workers are not available or if
26 enough labor exists to meet demand. The source of the construction labor force is anticipated to be
27 from the existing local workforce in nearby urban centers including the cities of Madera and Fresno.
28 Therefore, it is not anticipated that construction of the Project would cause substantial population
29 growth or a substantial increase in housing demand in the vicinity of the Project or region as a
30 whole.

31 Furthermore, if construction workers from outside of the region were employed during the
32 construction period, the temporary nature of the work suggests that it would be unlikely that non-
33 local workers would permanently relocate to the area to work on the Project. This pattern is typical
34 for employees in the various construction trades.

35 Construction activities are temporary; therefore, impacts related to inducing substantial unplanned
36 population growth would be less than significant.

1 Operation of the Project would not result in substantial changes to existing populations in or near
 2 the Project Footprint. The Project would not include development of new housing or businesses that
 3 would directly induce population growth. However, operation of the Project would indirectly affect
 4 growth and development in or near the Project Footprint by enhancing transit connections that
 5 would make the area near or within the Project Footprint a more desirable location for residences
 6 and businesses, encouraging growth and economic development in the surrounding communities.
 7 Madera County is currently updating its Housing Element and is accepting public comments. The
 8 latest adopted Housing Element was last adopted in 2009. As shown in **Table 4.2-5**, the 2009
 9 Housing Element projected that total population growth in Madera County to increase
 10 approximately 98.03% between 2010 and 2040. Moreover, as shown in **Table 4.2-6**, the housing
 11 units were expected to increase approximately 16.3% in Madera County between 2000 and 2010.
 12 Additional information regarding the projection and regional growth characteristics for population
 13 and housing are summarized in Chapter 3.11, *Cumulative Impacts*.

14 **Table 4.2-5: Population Projections in Madera County**

Population Projections Madera County 2010 to 2040			
	Year	Estimates	Average Annual Growth Rate
Estimates	2010	151,328	Not Applicable
Projections	2015	161,556	1.4%
	2020	185,056	2.9%
	2025	208,914	2.6%
	2030	229,277	1.9%
	2035	278,011	2.2%
	2040	299,681	1.9%
Percent Change Between 2010 to 2040			98.03%

15 Source: (County of Madera General Plan, Housing Element, 2010-2060 Department of Finance Population
 16 Projections, 2009)

17 **Table 4.2-6: Housing Unit Trends in Madera County**

Housing Unit Trends			
Type	2000	2010	% Change
Housing Units	36,155	42,032	16.3

18 Source: (County of Madera General Plan, Housing Element, 2000 and 2010 United States Census Bureau Data, 2009)

19 Any potential anticipated population and household growth forecasts for the Project Footprint
 20 would be consistent with Madera County’s growth projections. Moreover, state and regional
 21 planning programs and policies encourage and incentivize development near transit stations.
 22 Madera County’s transportation goals include providing safe, accessible, reliable, and efficient public

1 transit services in both urban and rural areas of Madera County, which would facilitate development
2 around the Madera HSR Station.

3 Any development that would result in the vicinity of the Project would be consistent with local
4 polices and requirements and with local growth projections as set forth in the MCTC 2022 RTP/SCS
5 and would be subject to a separate environmental review and approval process. Operation of the
6 Project would not induce substantial unplanned population growth, either directly or indirectly.
7 Therefore, the Project would have a less than significant impact during operation.

8 **4.2.1.12 Public Services**
9

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: <ul style="list-style-type: none"> I. Fire protection, or II. Police protection.
Level of Impact	Less than Significant

10 **Impact PS-1**

11 I. Fire protection

12 **Existing Condition**

13 The Madera County Fire Department provides fire protection services to the unincorporated areas
14 of the county (including the Project Footprint), operating out of 14 fire stations with a fleet of 56
15 apparatus and support vehicles (County of Madera 2023a). Of these fire stations, the department has
16 seven full-time fire stations staffed 24 hours per day with a minimum of 12 career firefighters on
17 duty at one time. Also, there are six unstaffed fire stations supported by paid-call firefighters.
18 Countywide, the department consists of 32 full-time career firefighters, seven county support
19 personnel, and 75 paid-call firefighters (County of Madera 2023b).

20 The closest fire station to the Project Footprint is Station #1, located at 14225 Road 28,
21 approximately 3.5 miles northwest of the Project Footprint. The station is staffed by one captain and
22 one engineer per day, and equipment includes one water tender and one engine. The other two
23 stations in proximity to the Project Footprint are Station #19 (35141 Bonadelle Avenue), located to
24 the east of the Project, and Station #3 (21205 Rd 26), located northwest of the Project. Both stations
25 are staffed with one captain or one engineer per day. (Madera County Fire Department, n.d.)

26 If the primary service provider is not available, coordination is facilitated across up to four fire
27 stations affiliated with the City of Madera and Madera County within 5.5 miles (5- to 6-minute
28 driving distance in rural areas). The City of Madera funds a combined total of 24 suppression
29 positions and one administrative Battalion Chief. The engines and truck are staffed with three
30 personnel consisting of a Fire Captain, Fire Apparatus Engineer, and Firefighter. Fire engines are
31 primary vehicles for firefighting carrying water, hoses, tools to fight fires and fire trucks specialize in
32 rescue, ventilation and accessing high places. Tenders are water supply vehicles, particularly useful
33 in areas without hydrants or a reliable water source.

1 **Impact Evaluation**

2 Construction of the Project would involve hiring a temporary workforce, but given the proximity,
3 most of these workers are anticipated to be hired locally from existing residents in the cities of
4 Madera and Fresno, in surrounding communities, and in other unincorporated areas of Madera
5 County. These workers would be served by existing fire services in the communities in which they
6 reside, and the Project would not cause a substantial permanent increase in the residential or
7 working population, or otherwise result in a substantial increase in demand for fire services.

8 Operation of the Project would result in new passengers using the new facilities who would be
9 temporarily located in the Project Footprint and transiting via the Project for access to/from HSR
10 and other connecting transportation. It is anticipated that many users of the Project would be from
11 the local area and already using existing fire protection services and facilities. Therefore, the Project
12 would not result in a substantial increase in permanent residents that would increase demand for
13 fire services or create the need for new facilities; the construction or operation of which would
14 result in impacts to the environment.

15 The Madera County Fire Department is administered, and career personnel are provided through a
16 contract with the California Department of Forestry and Fire Protection (CAL FIRE). The county
17 employees provide administrative support. A mutual aid agreement between the City of Madera, the
18 City of Chowchilla, and the Madera County Fire Department is in place to assist with fire protection.
19 Thus, the Madera County Fire Department would sufficiently meet potential increases in fire service
20 demand. The Project would not result in the need for new or expanded fire protection services or
21 facilities; the construction or expansion of which would result in environmental effects. As a result,
22 the impacts from increased demand for fire protection services would be less than significant, and
23 mitigation is not required.

24 II. Police protection

25 **Existing Condition**

26 The Madera County Sheriff's Office would provide primary law enforcement services for the Project.
27 The Sheriff's Office has four divisions (Patrol, Investigations, Special Operations, and Professional
28 Standards) and, through the Sheriff's Office of Emergency Services (OES), also acts as the Director of
29 Emergency Services. The Sheriff's OES is the lead agency during any disaster or emergency and is
30 tasked with public safety and property protection during evacuations due to catastrophic events.
31 The Madera County Sheriff's Office operates out of the main headquarters at 2725 Falcon Drive in
32 the City of Madera and serves county residents by providing public protection and investigating
33 crimes occurring in unincorporated areas of the county, operating the county jail, and performing
34 other law enforcement duties. Staffing remains critical for the police department due to recruitment
35 and training challenges all throughout the Central Valley and California; however, in 2023, the police
36 department hired 13 new police officers and is going to continue hiring more to reach full staffing.
37 (Madera Police Department 2023 Annual Report)

38 The largest division of the Sheriff's Office is the Patrol division, composed of four teams, each
39 working 12-hour shifts. Each team has a minimum of five officers, supervised by a sergeant and a
40 corporal. The police department also works closely with the California Commission on Peace Officer
41 Standards and training to ensure quarterly training for officers, aligned with the state and local
42 requirements.
43

1 The Project is not in the City of Madera but is in the city’s Sphere of Influence, and the city police
 2 department would respond to the Project Footprint if mutual aid is requested, although such a
 3 request would be rare. According to the recently published City of Madera Police Department annual
 4 report from 2023, response times to emergency calls averaged 4 minutes and 30 seconds. Response
 5 times to Priority 1, 2, and 3 calls averaged 7 minutes and 42 seconds, 7 minutes and 2 seconds, and
 6 35 minutes and 42 seconds, respectively (City of Madera 2023). The police department handled
 7 61,825 events in 2023.

8 **Impact Evaluation**

9 Operation of the Project would result in new passengers and workers using the new facilities who
 10 would be temporarily located in the Project Footprint and transiting via the Project for access
 11 to/from HSR and other connecting transportation. It is anticipated that many users of the Project
 12 would be from the local area and already using existing law enforcement services and facilities.
 13 Therefore, the Project would not result in a substantial increase in permanent residents that would
 14 increase demand for law enforcement services or create the need for new facilities; the construction
 15 or operation of which would result in impacts to the environment.

16 Thus, the Madera County Sheriff’s Department is anticipated to have sufficient resources to meet
 17 potential increases in demand for law enforcement services. The Project would not result in the
 18 need for new or expanded law enforcement services or facilities; the construction or expansion of
 19 which would result in environmental effects. As a result, the impacts from increased demand for law
 20 enforcement services would be less than significant, and mitigation is not required.

21 **4.2.1.13 Transportation**

Impact TR-2	Operation of the Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
Level of Impact	Less than Significant

23 **Impact TR-2**

24 **Existing Condition**

25 In accordance with SB 743, California Natural Resources Agency has adopted changes to the CEQA
 26 Guidelines that “promote the reduction of GHG emissions, the development of multimodal
 27 transportation networks, and a diversity of land uses,” as described under Public Resources Code
 28 Section 21099(b)(1). With these changes, VMT has been identified as the most appropriate metric
 29 for evaluating a project’s transportation impact, and automobile delay—as measured by “level of
 30 service” or similar metrics—generally no longer constitutes a significant environmental effect under
 31 CEQA (Governor’s Office of Planning and Research 2018). Therefore, components of the regulatory
 32 setting referring to automobile delay (e.g., level of service) are not applicable to the analysis of the
 33 Project’s transportation impacts and are not discussed further in this section.

34 CEQA Guidelines Section 15064.3, subdivision (b) specifies applicable criteria for analyzing
 35 transportation impacts. Specifically, it states the following:

36 *Transportation projects that reduce, or have no impact on, vehicle miles traveled should be*
 37 *presumed to cause a less-than-significant transportation impact. For roadway capacity projects,*

1 *agencies have discretion to determine the appropriate measure of transportation impact*
2 *consistent with CEQA and other applicable requirements.*

3 The Project is a transportation project (specifically, a transit project), and would reduce VMT by
4 inducing a mode shift from personal (household) automobiles to public transit, including for long-
5 distance commute and intercity trips. More specifically, the Project is anticipated to result in a
6 localized increase in VMT from riders traveling to and from the proposed station, but this localized
7 increase would be outweighed by a reduction in overall VMT in Madera County and the Central
8 Valley, as well as to more distant areas of the state, particularly as HSR service expands beyond the
9 EOS into northern and southern California.

10 **Impact Evaluation**

11 Overall, the Project would not conflict with or be inconsistent with CEQA Guidelines
12 Section 15064.3, subdivision (b), and the impact would be less than significant; no mitigation is
13 required.
14

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).
Level of Impact	Less than Significant

15 **Impact TR-3**

16 **Existing Condition**

17 The design, construction, and operation of the Project would comply with applicable standards from
18 the FRA and/or CPUC. Similarly, design, construction, and operation of site access improvements,
19 including new roadways or modifications to existing roadways, would adhere to applicable
20 standards such as the California Manual on Uniform Traffic Control Devices and local design
21 guidelines and specifications. Design approval for specific Project components would be sought
22 from the appropriate agencies as part of the detailed design and subsequent stages of the Project.

23 **Impact Evaluation**

24 Given these considerations, construction and operational impacts related to hazards from geometric
25 design features or incompatible uses would be less than significant; no mitigation is required.
26

Impact TR-4	Construction and operation of the Project would not result in inadequate emergency access.
Level of Impact	Less than Significant

27 **Impact TR-4**

28 **Existing Condition**

29 Emergency vehicle access for the area is currently provided primarily by Avenue 12, which is a
30 major east-west arterial roadway providing direct access to and from State Route (SR) 99. Initial
31 construction of the four-lane station access road will commence with the already-approved Phase 2
32 improvements, providing a complete access road to connect into the Avenue 12 grade separation

1 completed by the CHSRA. The access road would provide emergency access for the entire station
2 site.

3 As discussed under Impact TR-3, design, construction, and operation of Project elements would
4 comply with applicable standards from Caltrans and local agencies (for changes to the roadway
5 network or roadway facilities) and from the FRA and/or CPUC (for the Project's rail elements),
6 including provisions for emergency access. As discussed under Impact TR-1, any temporary
7 roadway closures would be coordinated with local agencies to minimize any disruptions to the
8 circulation system, including to emergency vehicle response.

9 **Impact Evaluation**

10 Given these considerations, the construction and operational impacts related to emergency access
11 would be less-than-significant.

12 **4.2.1.14 Utilities and Service Systems**

13

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.
Level of Impact	Less than Significant

14 **Impact UTL-1**

15 **Existing Condition**

16 Construction and introduction of new hardscape (e.g., expanded parking lot, new Cottonwood Creek
17 Bridge, and the proposed station platform) would change existing runoff characteristics and
18 increase the flow and volume of stormwater. Stormwater runoff improvements would be
19 implemented as needed in the Project footprint and areas of disturbance already considered in this
20 EIR. The Madera County Department of Public Works has standards and ordinances established for
21 stormwater management for new and future developments." Future developments must contain,
22 retain, and mitigate stormwater through catch basins. The county, unlike the cities, does not have a
23 master plan; therefore, every new development must retain its runoff, and all designs must meet
24 and withstand the 100-year flood. (Madera County Code of Ordinances; Madera County General
25 Plan) (Madera County, n.d.)

26 The already-approved Madera Station Relocation Project included a stormwater drainage system
27 leading to a retention pond located immediately south of the Phase 1 parking structure. The
28 retention pond would be designed to accommodate additional stormwater anticipated from the
29 Project.

30 **Impact Evaluation**

31 The Project would not result in the construction or operation of any uses that would result in the
32 relocation or construction of new or expanded water, wastewater treatment or stormwater
33 drainage, electric power, natural gas, or telecommunications facilities outside of any area already
34 proposed to be disturbed as part of construction. Typical uses that result in such increases include

1 residential, commercial, or industrial uses. As the Project consists of transportation improvements,
2 the need for these utility services is minimal and would not result in substantial effects on the
3 environment.

4 Conformance to other requirements would further reduce impacts related to stormwater runoff in
5 the Project Footprint. Madera County Ordinance 680, for example, outlines control measures related
6 to stormwater and storm sewer systems, illicit discharge and connections, and construction site
7 stormwater runoff and landscaping. Implementing standard construction practices such as BATs,
8 BCTs, and BMPs would also help reduce potential impacts related to stormwater drainage systems.
9 Therefore, construction or operational impacts related to new stormwater drainage systems would
10 be less than significant.

11 Some new electrical utility lines would be installed to electrify lighting within the expanded parking
12 lot area and pedestrian bridge. Services for electrical needs would be extended from existing lines
13 into the Project Footprint as needed. These improvements would be made in areas that are already
14 proposed to be disturbed as part of construction and are, therefore, considered in the Project
15 Footprint and impact discussion provided throughout this document. No new off-site electrical
16 facilities such as a new substation or expansion of the existing substation adjacent to the southern
17 side of Avenue 12 would be required. Additionally, the new western-side HSR trackwork would
18 include approximately 20-foot-tall electrical poles at specified intervals to be part of the OCS
19 powering the HSR trains. A traction power supply system (TPSS) may also be provided if necessary
20 in the area between the two HSR platforms in order to supply power for the electrification of trains.

21 Overall, the Project would not require or result in the relocation or construction of new or expanded
22 utilities, the construction or operation of which would result in impacts to the environment.
23 Therefore, impacts would be less than significant.
24

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.
Level of Impact	Less than Significant

25 **Impact UTL-2**

26 **Existing Condition**

27 The overall Project Footprint and surrounding area is served by the Madera Irrigation Water
28 District, which provides water supply for areas in the Project Footprint. The Project Footprint is
29 currently used for agricultural production and has a demand to support production of crops, which
30 would be anticipated to continue should the Project not be approved.

31 **Impact Evaluation**

32 The Project includes station and station access improvements but does not include any uses that are
33 typically associated with increasing water demand (i.e., residential, commercial, or industrial). The
34 Project consists of transportation improvements and would, therefore, use a substantially reduced
35 volume of water compared to existing conditions. Thus, it is anticipated that sufficient water
36 supplies would be available to serve the Project and future developments during normal, dry, and
37 multiple dry years. As such, construction and operational impacts related to sufficient water
38 supplies available to serve the Project and future developments would be less than significant.

1

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.
Level of Impact	Less than Significant

2

Impact UTL-3

3

Existing Condition

4 There are no wastewater drainage facilities in the Project Footprint, but there are existing utilities
 5 east of the Project Footprint, located on Avenue 13 and Road 30 within the eastern edge of the City
 6 of Madera's Urban Growth Boundary. Wastewater flows from service areas are conveyed to the
 7 Madera Wastewater Treatment Plant, which has an average daily capacity rating of 10.1 million
 8 gallons per day. Improvements to expand wastewater treatment facilities would occur in the Project
 9 Footprint and surrounding areas in the intermediate to long-term timeframe (fiscal years 2016 to
 10 2050) as new developments arise and require service

11

Impact Evaluation

12 The Project is not proposed to be served at this time, and extension of wastewater services are not
 13 part of the Project. Overall, construction and operational impacts of the Project would not exceed
 14 the capacity of the wastewater treatment provider, and impacts would be less than significant.
 15

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.
Level of Impact	Less than Significant

16

Impact UTL-4

17

Existing Condition

18 Solid waste services are provided by Redrock Environmental Group for the County of Madera. Solid
 19 waste generated in the County of Madera and within the Project Footprint are transferred and
 20 processed at the Fairmead Landfill approximately 17 miles northwest of the Project Footprint in the
 21 City of Chowchilla in Madera County. The landfill is owned by Madera County and operated by the
 22 Redrock Environmental Group. As of March 2017, the estimated closure date of the landfill was
 23 extended from 2028 to 2048, and the total permitted acreage was increased from 121.7 total acres
 24 (97.0 acres permitted for disposal) to 146.9 total acres (122.3 acres permitted for disposal), which
 25 increased the volumetric capacity from 13,186,000 cubic yards to 23,007,696 cubic yards.

26

Impact Evaluation

27 During Project construction and operations, waste would be generated and disposed of by using
 28 bins for both recycling and waste material in compliance with district, local, state, and federal
 29 criteria, standards, regulations, or laws, and would be disposed of through a commercial collector.

1 Solid waste collected in the Project Footprint would be sent to Fairmead Landfill. As such, there is
2 adequate capacity at the landfill to dispose of solid waste from Project construction.

3 The Project would also be required to divert (recycle) 50% of the solid waste generated by both
4 construction and operation to comply with the 50% solid waste diversion rate mandated by the
5 California Integrated Waste Management Act of 1989 (AB 939).

6 As such, Project construction and operation would not generate solid waste in excess of state or
7 local standards or in excess of the capacity of local infrastructure, or otherwise impair the
8 attainment of solid waste reduction goals, and impacts would be less than significant.
9

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 Impact	Less than Significant

10 **Impact UTL-5**

11 **Existing Condition**

12 Existing law requires Madera County to implement various state programs designed to encourage
13 the reduction of solid waste, including, among others, a source reduction and recycling program for
14 school districts, recycling programs designed to divert commercial solid waste and organic waste
15 from businesses, defined to include public agencies, and requirements for state agencies and large
16 state facilities to arrange for recycling services, as provided. California law (SB 1383, Lara, Chapter
17 395, Statutes of 2016) targets a 50 percent reduction in the landfilling of organic waste in 2022. By
18 2025, that reduction target is 75 percent.

19 **Impact Evaluation**

20 Construction and operation of the Project would meet the requirements of applicable federal, state,
21 and local management and reduction statutes and regulations related to solid waste, and this
22 compliance would be accomplished by implementing BATs, BCTs, and BMPs, as well as applying for
23 all the required water and disposal permits from the city and county for construction and operation
24 permits. Therefore, construction or operational impacts involving compliance with federal, state,
25 and local management and reduction statutes and regulations related to solid waste would be less
26 than significant.

27 **4.2.1.15 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 Impact	Less than Significant

29 **Impact WF-1**

30 **Existing Condition**

31 The MCOAEOEOP addresses the planned response to extraordinary emergency situations, including
32 wildfire. The plan establishes the emergency management organization; identifies the policies,

1 responsibilities, and procedures required to protect the health and safety of Madera County; and
2 establishes the operational concepts and procedures associated with initial response operations
3 (“field response”) to emergencies. The plan also establishes the framework for implementation of
4 the National Incident Management System and is intended to facilitate multi-agency and multi-
5 jurisdictional coordination in emergency operations, particularly between Madera County and local
6 governments, including special districts, tribes, and state agencies.

7 According to the MCOAEOP, wildfires in Madera County generally occur during each year from May
8 to October, which is considered the fire season. Most of the fire-susceptible areas are in the eastern
9 portion of the county that consists of steeper terrain and landforms with thick vegetation and heavy
10 brush. These areas are largely undeveloped and have rugged terrain and highly flammable
11 vegetation that is prone to wildfire. Especially during the late spring, early summer, and early fall,
12 high temperatures, low humidity, and strong winds can exacerbate the potential for wild land fires
13 (County of Madera 2010).

14 The MCOAEOP does not identify emergency evacuation routes but includes numerous discussions of
15 interagency coordination related to evaluations in emergency situations. Regarding wildfire, the
16 plan includes coordinating with law enforcement to isolate and deny entry to the wildfire area and
17 providing status reports to the Emergency Command Center and the County Emergency Operations
18 Center.

19 The Madera County Community Wildfire Protection Plan (CWPP; County of Madera 2008) discusses
20 evacuation routes for wildfire protection. As mentioned in the Madera County CWPP, roads
21 identified as probable evacuation routes are intended to be well-maintained (including removal of
22 hazardous roadside brush and trees) and have adequate site clearance. There are no evacuation
23 routes listed near the Project Footprint, but the Project Footprint does not have heavy brush or trees
24 that would need clearance nor any site access issues. Evacuation routes identified in the Madera
25 County CWPP are limited to the eastern portion of the county, including those routes near the
26 communities and areas of Oakhurst, North Fork, Bass Lake, Ahwahnee, Coarsegold, Raymond, and
27 O’Neals (County of Madera 2008). None of these locations occur in, adjacent to, or near the Project
28 Footprint.

29 The Madera County CWPP also references the 2007 CAL FIRE Fire and Resource Assessment
30 Program State Responsibility Area (SRA) Fire Hazard Severity Zone (FHSZ) maps. The FHSZ maps
31 show areas with very high, high, and medium risk for wildfire, all of which are approximately 25
32 miles to the east of the project. The Project Footprint is listed in a Local Responsibility Area (LRA)
33 and is not designated as being in a very high-, high-, or medium-risk FHSZ (County of Madera 2008;
34 CAL FIRE 2007).

35 **Impact Evaluation**

36 The Project Footprint is not in an area that would be at substantial risk from wildfire. The Project
37 Footprint is in an agricultural area of Madera County, is not adjacent to wildlands, and does not
38 contain dense brush or other vegetation that would be prone to wildfire. As such, the risk of wildfire
39 and threat to structures and facilities that would be built as part of the Project are minimal.
40 Furthermore, the Project consists of station and station access improvements to facilitate expanded
41 HSR service and does not include features that would substantially impair an adopted emergency
42 response plan or emergency evacuation plan.

1 For example, the Project does not include habitable structures that would substantially increase the
 2 population, nor would the Project substantially increase traffic volumes on the roadway network
 3 such that emergency response or evacuation is impeded. Access to and from the Project Footprint
 4 for fire and other emergency access would be maintained and provided by existing roadways and
 5 already-approved roadway improvements included under the Madera Station Relocation Project. As
 6 discussed under Section 5.2.1.14, design, construction, and operation of Project elements would
 7 comply with applicable standards from Caltrans and local agencies (for changes to the roadway
 8 network or roadway facilities) and from the FRA and/or CPUC (for the Project's rail elements),
 9 including provisions for emergency access.

10 Therefore, Project construction and operations would not substantially impair an adopted
 11 emergency response plan or emergency evacuation plan, and the associated impacts would be less
 12 than significant.

13 **4.2.2 No Impacts**

14 **4.2.2.1 Aesthetics**

Impact AES-4	Construction and operation of the Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings at a state scenic highway.
Level of Impact	No impact

16 **Impact AES-4**

17 **Existing Conditions**

18 There are no significant rocks or outcroppings on the Project Footprint or in the vicinity. The closest
 19 state scenic highway that is eligible for official designation is the segment of SR 41 that starts north
 20 of the SR 49 junction, approximately 30 to 35 miles from the Project (Caltrans 2019). This highway
 21 segment is not visible from the Project Footprint, and the Project is not visible from the highway.
 22 The closest historic building (National Register of Historic Places n.d.) is the historic Madera County
 23 Courthouse, which is approximately four miles from the Project and not visible from the Project, nor
 24 is the Project visible from this site.

25 **Impact Evaluation**

26 There are no scenic resources located at or near the Project. Therefore, Project construction and
 27 operation would have no impact on scenic resources, including, but not limited to, trees, rock
 28 outcroppings, and historic buildings at a state scenic highway.

4.2.2.2 Forestry Resources

Impact AG-4	Construction and operation of the Project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).
Level of Impact	No impact

Impact AG-4

Existing Condition

The Project Footprint is mostly surrounded by agricultural land that is dedicated to deciduous fruit and nut production, as well as vineyards. No properties in the proximity of the Project Footprint, including the Project Footprint, include forest land or timberland. According to USDA, the closest forest is the Sierra National Forest located approximately 16.7 miles northeast of the northern portion of the Project (USDA 2024).

Impact Evaluation

There is no potential for conflicting with existing zoning for, or cause of rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or Timberland Production (as defined by Government Code Section 51104(g)) given there is no forest land in the area. Therefore, Project construction and operation would have no impact.

Impact AG-5	Construction and operation of the Project would not result in the loss of forest land or conversion of forest land to non-forest use.
Level of Impact	No impact

Impact AG-5

Existing Condition

The Project and surrounding area are characterized by features typical of an agricultural landscape and do not include any forest land. The closest forest land is the Sierra National Forest located approximately 16.7-miles northeast of the northern portion of the Project (USDA 2024).

Impact Evaluation

Implementation of the Project would not involve changes that would result in loss or conversion of forest land to non-forest uses because there is no forest land at the Project Footprint or the surrounding area. Therefore, no impact would occur during Project construction or operation.

4.2.2.3 Geology, Seismicity, Soils, and Paleontology

Impact GEO-8	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 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.
Level of Impact	No impact

Impact GEO-8

Existing Condition

The Project Footprint's is not located on or near an Alquist-Priolo Earthquake Fault Zone which eliminates the risk of surface fault rupture at the site. The closest potentially active Alquist-Priolo fault is the Ortigalita Peak Fault, which is located approximately 50.9 miles southwest of the Project Footprint. While the Project Footprint is not directly influenced by surface rupture hazards associated with the Alquist-Priolo Earthquake Fault Zones, the area may still experience seismic shaking from regional faults such as the San Joaquin Fault and other faults within the San Joaquin Valley seismic network. In addition, no construction activities such as excavation, trenching, boring, or piledriving would disturb fault areas or exacerbate the potential for fault rupture.

Impact Evaluation

Due to the distance of the Project Footprint to the nearest Alquist-Priolo fault zone, the Ortigalita Peak Fault, construction and operation of the Project would not expose people or structures to adverse effects caused by the rupture of a known Alquist-Priolo fault or exacerbate the potential effects of fault rupture. Implementation of the Project would not result in the placement of any structures that would cross or be located on or adjacent to an Alquist-Priolo fault zone or any other known fault. In addition, no construction activities such as excavation, trenching, boring, or piledriving would disturb fault areas or exacerbate the potential for fault rupture. Thus, construction and operational would have no impacts related to potential substantial adverse effects (including the risk of loss, injury, or death) involving rupture of a known earthquake fault.

4.2.2.4 Hazards and Hazardous Materials

Impact HAZ-5	Construction and operation of the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
Level of Impact	No Impact

Impact HAZ-5

Existing Condition

As discussed under Impact HAZ-1 in Section 5.2.7, Project construction would involve routine transport, use, and disposal of hazardous materials typically used in construction projects. Handling of these hazardous materials would be temporary, would comply with applicable regulations and would not include the handling of acutely hazardous materials. During operations, maintenance

1 activities would involve the use of a wide variety of commercial products that are formulated with
 2 hazardous materials. Such materials are considered common and are unlikely to be stored or used in
 3 large quantities. Releases involving these materials would be small and localized and would be
 4 cleaned up as they occur. Compliance with applicable regulations would ensure that all safety
 5 precautions are taken during the handling of these materials. However, there are no schools within a
 6 quarter mile of the Project footprint.

7 **Impact Evaluation**

8 There are no schools within a quarter mile of the Project footprint. The nearest school is Madera
 9 Community College, approximately 0.75 miles to the west (Madera Community College, 2023), and
 10 the nearest public school is Cesar Chavez Elementary School, approximately 1.5 miles to the west
 11 (Madera Unified School District, 2023). Thus, no construction or operational impacts related to
 12 emitting hazardous emissions or handle hazardous materials within a quarter mile of an existing
 13 school would occur.

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, construction and operation of the project would not result in a safety hazard or excessive noise for people residing or working in the project area.
Level of Impact	No Impact

15 **Impact HAZ-6**

16 **Existing Condition**

17 The Project footprint is not within an airport land use plan and there are no public or public-use
 18 airports within two miles of the Project Footprint. The nearest public-use airports are Madera
 19 Municipal Airport, approximately 5.5 miles to the northwest, and Sierra Sky Park Airport,
 20 approximately 7.5 miles to the southeast (AirNav, 2023a,b). Thus, the Project would not create an
 21 airport-related safety hazard or result in excessive noise from any airport operations that would
 22 affect people working on or using the Project.

23 **Impact Evaluation**

24 Since the Project footprint is not within an airport land use plan or within two miles of a public
 25 airport or public use airport, the Project’s construction and operational activities would have no
 26 impact related to airport proximity including safety hazards or excessive noise.

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Impact HAZ-7	Construction and operation of the Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.
Level of Impact	No Impact

Impact HAZ-7

Existing Condition

CAL FIRE provides fire hazard severity maps that rate areas as having a “very high,” “high,” or “moderate” fire hazard. Areas are designated as either SRA or Local Responsibility Area (LRA) (CAL FIRE, 2024). The closest moderate fire hazard zone is located approximately 5.2 miles northeast from the Project. The Project footprint is located within an area that has primarily been used for agricultural production with residential housing in the vicinity.

Impact Evaluation

The Project Footprint is located within an area that has primarily been used for agricultural production, is surrounded by agricultural uses, is flat and level, and does not contain thick brush and vegetation, or have other characteristics that make it prone to substantial hazards from wildfire. CAL FIRE provides fire hazard severity maps that rate areas as having a “very high,” “high,” or “moderate” fire hazard. Areas are designated as either SRA or Local Responsibility Area (LRA) (CAL FIRE, 2024). CAL FIRE produces maps that display Fire Hazard Severity Zones (FHSZ) in LRAs as recommended by the State Fire Marshal between 2007-2011 (CAL FIRE 2024). Based on review of the most recent maps from 2011, the entire Project Footprint is within an LRA. All of the Project is “unzoned” in regard to wildfire hazard (CAL FIRE, 2011). At the time the 2011 maps were prepared, the land use conditions within the Project Footprint and surrounding areas were similar to what they are now. Due to the nature of the existing land uses (agricultural production) and minimal native vegetative growth, the Project Footprint and surrounding areas are not particularly susceptible to wildfire.

All construction activities would be conducted in accordance with all requirements established by the Madera County Fire Marshal’s office, local jurisdictions, and other applicable fire code regulations to minimize risk of and exposure to wildfire. The Project does not include any habitable structures that, once constructed, would house people or visitors, and expose them to an increased risk from fire hazards. Furthermore, all new facilities would be constructed and operated in compliance with applicable Madera County building code and fire code regulations as applicable within the Madera County Code of Ordinances Title 14 Buildings and Construction. This would include installation of needed fire suppression systems (including sprinkler systems) and fire alarm systems, installation and maintenance of fire extinguishers, and use of fire-retardant building materials, as required by applicable codes.

Overall, construction and operations of the Project would not occur within areas of high or very high wildland fire risk areas or a FHSZ, and the Project would include design features to reduce the risk of fires. Therefore, there are no impacts related to wildland fires during both construction and operations of the Project.

4.2.2.5 Land Use and Planning

Impact LU-2	Construction and operation of the Project would not physically divide an established community.
Level of Impact	No Impact

Impact LU-2

Existing Condition

Physical divisions of established communities typically occur when a new use is developed between two areas and severs or reduces a connection between them. Projects that make travel between the residential areas more difficult can be considered to physically divide a community. Construction of the Project would have the potential to temporarily disrupt access or necessitate detours on streets near construction areas. This disturbance would impede access to local businesses and community services and facilities in construction areas and would interfere with the routine activities and interactions that contribute to established communities.

Impact Evaluation

The majority of the Project would be constructed on undeveloped land north of Avenue 12. Most of the Project trackwork would be located immediately west of the CHSRA Project (i.e., the HSR mainline) currently under construction, with a portion of new track constructed adjacent to an existing industrial area south of Avenue 12. The nearest residential unit is approximately 750 feet east of the northernmost portion of the Project, and there are no established communities within or adjacent to the Project Footprint. The Madera Community College Center is approximately 1.0 miles west of the Madera HSR Station site and is located on the north side of Avenue 12. The industrial uses are along the south side of Avenue 12 adjacent to proposed track locations and include two chemical plants and an electrical substation.

Physical divisions of established communities typically occur when a new use is developed between two areas and severs or reduces a connection between them. Projects that make travel between the residential areas more difficult can be considered to physically divide a community. The closest established communities are Parksdale (approximately 1.5 miles northwest of the Project Footprint) and Trigo (approximately 2 miles to the southeast of the Project Footprint), and the Project would not prevent or impede travel between or through these areas.

The Project would result in the acquisition of privately-owned land. Most of the Project area consists of existing agricultural land in a linear strip adjacent to an existing dirt road used to access the fields to the west. To the south of Avenue 12, the Project would be located on undeveloped privately-owned parcels zoned for industrial uses.

While the Project would result in disturbance within these areas, neither construction nor operation of the Project elements would affect any existing residential uses or disallow continued use of any businesses or private structures within the footprint or adjacent areas. The Project would include modifications to the Avenue 12 grade separation to allow the new west-side station siding track to pass beneath the roadway. Construction of this modification would result in temporary disruptions or slowing of multimodal traffic flows along Avenue 12 but would not result in a physical division, and upon completion, unhindered flow along Avenue 12 would be restored.

1 All improvements within these areas and the Project's design features are sensitive to the existing
 2 surrounding uses, and the improvements would not decrease the viability of the uses. As discussed
 3 above, the Project would not result in a taking of any existing habitable structures, and although
 4 traffic flows would be modified as part of the overall Project, improvements would be made to
 5 ensure that ingress and egress from all existing adjacent uses are maintained. Thus, while the
 6 Project would result in acquisition of and change to the property, continued use and operation of the
 7 surrounding uses would not be substantially affected. Given these factors, construction of the
 8 Project would not divide any established communities.

9 Operation of the expanded HSR service would include trains on the two mainline passing tracks, as
 10 well as the station siding tracks, a new pedestrian bridge, Avenue 12 grade separation modifications,
 11 parking expansions and two new wildlife crossings. Given that Project operation would run adjacent
 12 to the BNSF corridor, and given the fact there are no established communities within or adjacent to
 13 the alignment, no communities would be divided. Rather, the Project would not prohibit vehicular
 14 access to Avenue 12 during operation since it would be grade separated and the new pedestrian
 15 bridge would provide pedestrians with access to the HSR station from the provided parking.
 16 Moreover, the Project would have a beneficial impact by providing greater ridership potential,
 17 increasing transit connectivity both locally and regionally, enhancing the potential for TOD in the
 18 vicinity of the station, and improving access to/from SR 99 and the City and County of Madera.

19 **4.2.2.6 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, construction and operation of the project would not expose people residing or working in the project area to excessive noise levels.
Level of Impact	No Impact

21 **Impact NOI-3**

22 **Existing Condition**

23 The Project footprint is not within an airport land use plan and there are no public or public-use
 24 airports within two miles of the Project Footprint. The nearest public-use airports are Madera
 25 Municipal Airport, approximately 5.5 miles to the northwest, and Sierra Sky Park Airport,
 26 approximately 7.5 miles to the southeast (AirNav, 2023a,b). Thus, the Project would not create an
 27 airport-related safety hazard or result in excessive noise from any airport operations that would
 28 affect people working on or using the Project.

29 **Impact Evaluation**

30 As described in Section 5.2.7 HAZ-3, the Project footprint is not located within an airport land use
 31 plan or within two miles of a public airstrip or public-use airport. Because there are no airports
 32 nearby, the Project would not expose people residing or working in the Project area to excessive
 33 noise levels due to proximity to airport-related noise. Therefore, the Project's construction and
 34 operational activities would have no impact related to airport proximity including safety hazards or
 35 excessive noise.
 36

4.2.2.7 Population and Housing

Impact POP-2	Construction and operation of the Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.
Level of Impact	No Impact

Impact POP-2

Existing Condition

The Project adds a second station siding track and second platform to the west side of the HSR Station and also includes a pedestrian overpass, several culverts (new and extended), wildlife corridor extensions, and the expansion of parking and the station building. The Project will not require any residential takings or parcels with housing. Some of the Project elements will require acquisition of private land that is vacant.

Impact Evaluation

The environmental footprint of the Project is generally located within or adjacent to already approved Madera Station Relocation Project. New elements of the Project include a pedestrian bridge, expanded parking, the Cottonwood Creek Bridge, a proposed station siding track, new and expanded culverts, and wildlife corridor extensions. The station facilities are located within a wedge-shaped site defined by the existing BNSF Stockton Subdivision to the east and the HSR corridor (currently under construction) to the west, and are located on land owned by the CHSRA. Some of the Project components would be located outside of the land owned by the CHSRA on private property / vacant land.

Given that these parcels are on vacant land, parcels affected by these elements would not displace any residential units that may require replacement housing and there would be no impact on residential displacement. Therefore, construction and operation of the Project would not displace substantial numbers of existing people or housing and would result in no impacts.

4.2.2.8 Public Services

Impact PS-2	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: <ol style="list-style-type: none"> I. Schools, II. Parks, or III. Other public facilities.
Level of Impact	No Impact

1 **Impact PS-2**

2 **Existing Condition**

3

4 I. Schools

5 In the Madera Unified School District, the nearest schools are Cesar Chavez Elementary School at
6 2600 E Pecan Ave (approximately 1.5 miles to the west of the Project Footprint), Martin Luther King
7 Middle School located at 601 Lilly St (approximately 4.0 miles to the northwest of the Project
8 Footprint), and Madera South High School located at 705 W Pecan Ave (approximately 4.5 miles to
9 the west of the Project Footprint) (Madera Unified School District, 2023b). The nearest college to the
10 Project Footprint is Madera Community College (30277 Ave 12), approximately 0.75 miles to the
11 west of the Project Footprint.

12 II. Parks

13 The City of Madera features several parks. The following parks are in close proximity to the Project
14 Study Area:

- 15 • Lions Town and Country Park (2300 Howard Rd) offers various walking trails as well as
16 picnic areas and playgrounds. It offers several picnic areas with seating available for up to
17 80 people.
- 18 • Pan-American Park (703 E Sherwood Way) is a community space with playgrounds, open
19 grassy areas and picnic facilities with seating available for up to 30 people.
- 20 • McNally Park (825 S A St) is a community park and also has a picnic shelter with seating
21 available for up to 30 people.

22 Several other parks in the City of Madera include Almond Park, Knox Park, Riverside Park, and
23 Sunset Park.

24 III. Other public facilities

25 There are several other public facilities in the proximity to the project including Libraries,
26 community centers and senior centers. The Madera County Library located at 121 N G Street, is the
27 main library providing a wide range of services including book lending, digital resources and
28 programming for all ages. The City of Madera has several community centers including the Pan-
29 American Community Center located at 703 E Sherwood Way, offering programs and activities for
30 residents. The John W Wells Youth Center located at 701 E 5th Street focuses on youth activities
31 providing recreational and educational opportunities for youth. The Frank Bergon Senior Center,
32 located at 238 S. D Street serves the senior community with programs designed for wellness,
33 recreation and socialization.

34 **Impact Evaluation**

35 Construction and operation of the Project would involve hiring a temporary workforce to construct
36 the Project and a small number of permanent employees to operate the Project. Given proximity,
37 most of the temporary and permanent employees are anticipated to be hired locally from existing
38 residents in the cities of Madera and Fresno, in surrounding communities, and in other
39 unincorporated areas of Madera County as discussed in the Population and Housing section. These
40 workers and their families would be served by existing schools, parks, libraries, youth centers and
41 senior centers. Therefore, the Project would not result in a substantial increase in permanent

1 residents and their children that would create the need for public services, the construction or
2 operation of which would result in impacts to the environment.

3 Furthermore, the Project would not result in new land uses or cause a redistribution of planned land
4 uses that would induce unplanned population growth and result in the demand for new public
5 services. Therefore, there will be no impact in regard to an increased demand for public services.

6 **4.2.2.9 Recreation**

Impact REC-1	Construction and operation of the Project would not 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.
Level of Impact	No Impact

8 **Impact REC-1**

9 **Existing Condition**

10 In proximity to the project, there are several recreational centers. The Pan-American Community
11 Center (703 E Sherwood Way) is a local facility providing various services and activities for
12 residents. It entails a gym and a multi-purpose room with a capacity of about 90 people. The John W.
13 Wells Youth Center (701 E 5th St) is a recreational facility that is a hub for various activities and
14 services for the community.

15 The Project consists of station and station access improvements to facilitate expanded operation of
16 HSR service. The Project does not include any residential, commercial, or other uses that would
17 result in a substantial increase in residential or working population such that there would be
18 increased demand or use of parks or recreational facilities. Additionally, the Project would not result
19 in an intensification or development of specific land uses that would directly increase population
20 and are associated with increasing demand for or use of parks or other recreational facilities.

21 **Impact Evaluation**

22 Construction and operation of the Project would involve hiring a temporary workforce to construct
23 the Project and a small number of permanent employees to operate the Project. Given proximity,
24 most of the temporary and permanent employees are anticipated to be hired locally from existing
25 residents in the cities of Madera and Fresno, in surrounding communities, and in other
26 unincorporated areas of Madera County. These workers would be served by existing recreational
27 facilities.

28 Operation of the Project would also result in new passengers using the new facilities who would be
29 temporarily located within the Project Footprint and transiting via the Project for access to/from
30 HSR and other connecting transportation. It is anticipated that many users of the Project would be
31 from the local area and already using existing parks or other recreational facilities.

32 Given these considerations, the Project would not result in a substantial increase in permanent
33 residents that would create the need for new parks or other recreational facilities, the construction
34 or operation of which would result in impacts to the environment. In addition, the Project would not
35 increase the use of existing parks or other recreational facilities such that a substantial physical

1 deterioration of the facilities would occur or be accelerated. Therefore, there would be no impacts in
 2 regard to increases use of existing neighborhood and regional parks or other recreational facilities.
 3

Impact REC - 2	Construction and operation of the Project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
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Level of Impact	No Impact
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4 **Impact REC-2**

5 **Existing Condition**

6 In proximity to the project, there are several recreational centers. The Pan-American Community
 7 Center (703 E Sherwood Way) is a local facility providing various services and activities for
 8 residents. It entails a gym and a multi-purpose room with a capacity of about 90 people. The John W.
 9 Wells Youth Center (701 E 5th St) is a recreational facility that is a hub for various activities and
 10 services for the community.

11 The Project consists of station and station access improvements to facilitate expanded operation of
 12 HSR service. The Project does not include any residential, commercial, or other uses that would
 13 result in a substantial increase in residential or working population such that there would be
 14 increased demand or use of parks or recreational facilities. Additionally, the Project would not result
 15 in an intensification or development of specific land uses that would directly increase population
 16 and are associated with increasing demand for or use of parks or other recreational facilities.

17 **Impact Evaluation**

18 The Project consists of station and station access improvements to facilitate expanded operation of
 19 HSR service, and does not include any recreational facilities or require the construction or
 20 expansion of recreational facilities that would result in impacts to the environment beyond those
 21 already evaluated as part of this document. Therefore, there would be no impacts in regard to
 22 recreational facilities expansion or creation that may have adverse effects on the environment.

23 **4.2.2.10 Wildfire**

24

Impact WF - 2	Construction and operation of the Project would not, 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.
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Level of Impact	No Impact
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25 **Impact WF-2**

26 **Existing Condition**

27 The Project Footprint is not in the Fire Hazard Severity Zone, as determined by CAL FIRE, and the
 28 Project Footprint is outside of the SRA. The Project Footprint and surrounding areas consist
 29 primarily of agricultural uses, industrial uses south of Avenue 12, and the BNSF corridor. Weather
 30 conditions such as temperature, relative humidity, wind, and lightning can affect wildfire potential.
 31 Winds in Madera County can be significant at times, such as the Santa Ana winds that are especially

1 conducive to hot, dry conditions, which can lead to “red flag” days indicating extreme fire danger. In
 2 addition to wind speed, wind shifts can occur suddenly due to temperature changes or the
 3 interaction of wind with topographical features such as slopes or steep hillsides. These conditions
 4 that can exacerbate wildfire severity are more pertinent to areas in the eastern parts of Madera
 5 County that are characterized by steep and rugged terrain, thick and heavy vegetation, and high
 6 winds.

7 **Impact Evaluation**

8 The Project Footprint area doesn’t fall into the Fire Hazard Severity Zone, as determined by CAL
 9 FIRE and the Project Footprint area falls outside the SRA. Because it is not in a wildfire zone, there is
 10 no impact. The Project Footprint and surrounding areas are dominated by flat agricultural lands and
 11 do not contain landscapes such as those within the mountainous, thickly vegetated eastern portions
 12 of the County that are at substantial risk of wildfire. While the Project Footprint may contain and be
 13 surrounded by noxious weeds that are more drought-tolerant and would increase fire risk
 14 compared to irrigated crop lands, the Project Footprint is located in a relatively flat area with
 15 irrigated vegetation that is harvested and cleared yearly, and is not exposed to exacerbated wildfire
 16 risk.

17 Therefore, Project construction and operations would not exacerbate wildfire risks (due to slope,
 18 prevailing winds, and other factors), such that it would expose Project occupants to pollutant
 19 concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, there are no
 20 impacts in regard to pollutant concentrations from wildfires or their uncontrolled spread being
 21 exposed to the Project’s occupants.

Impact WF-3	Construction and operation of the Project would not 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.
Level of Impact	No Impact

23 **Impact WF-3**

24 **Existing Condition**

25 Areas of Madera County in which the Project is located are not normally susceptible to wildland
 26 fires, but there is still potential for smaller fires in and around the less developed areas, such as the
 27 Project Footprint. Most wildfires within the county originate in populated areas along roads and
 28 around homes. These fires can be the result of arson or careless acts such as the disposal of
 29 cigarettes, use of equipment, or discarding of burning debris. Other factors that contribute to
 30 wildfire risk and the susceptibility of an area to wildfire include excessive vegetation along
 31 roadsides, lack of proper fire engine and emergency service access, and lack of adequate evacuation
 32 routes. Evacuation routes can become congested if they are too narrow, such as one-lane dead-end
 33 roads or developments with limited alternative ingress and egress. Roadways such as these can
 34 complicate evacuation and emergency response. Other factors that can trigger fires can be electrical
 35 equipment, HVAC systems, mechanical systems, machinery and appliances at the station. Fire
 36 prevention would involve regular maintenance and inspection of electrical systems, HVAC units, and
 37 mechanical equipment to identify and address any potential hazards.

1 Impact Evaluation

2 The County is increasing the number of defensible space inspections, which has been effective in
 3 reducing the amount of ground fuels that contribute to large, uncontrolled wildfires. The Madera
 4 County CWPP encompasses the areas of Madera County north and east of the Madera Canal and is
 5 multi-jurisdictional in that it addresses wildfire risk and mitigation measures that include privately-
 6 owned property, tribal lands, and Federal lands administered by the United States Forest Service,
 7 Bureau of Land Management, and United States Army Corps of Engineers. The Project would meet
 8 the building standards and operation requirements outlined in *California Building Code* (Title 24 of
 9 the CCR) and be in accordance with countywide ordinances outlined in the CWPP, which would
 10 reduce the potential for smaller fires in and around less developed areas.

11 Access to and within the Project Footprint would be provided by existing and planned roadways and
 12 infrastructure, and no additional maintenance of such access roads or corridors would be needed. As
 13 discussed above, all other infrastructure improvements (emergency water resources, power lines or
 14 other utilities) would be constructed in compliance with all applicable codes, and none would be
 15 located within high or very high FHSZs or in areas susceptible to wildfire. Lastly, due to the location
 16 of the Project in an area with low volumes of combustible fuel and vegetation, no fire breaks are
 17 needed or proposed.

18 Thus, the Project would not require the installation or maintenance of associated infrastructure that
 19 may exacerbate fire risk, and therefore, there are no impacts.
 20

Impact WF-4	Construction and operation of the Project would not 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.
Level of Impact	No Impact

21 Impact WF-4**22 Existing Condition**

23 The Project Footprint is not in a high or very high FHSZ and is not located near steep slopes that
 24 would exacerbate either on-site or downstream flooding hazards because of a fire. The Project
 25 Footprint and surrounding areas are flat and consist primarily of agricultural lands, with a smaller
 26 portion occupied by existing roadways. While the Project would introduce new hardscape that
 27 would increase runoff, the Project would include drainage facilities such as retention and detention
 28 basins designed to time the release of stormwater runoff, further reducing the potential for on-site
 29 or downstream flood channels to be exceeded.

30 Impact Evaluation

31 The Project would not expose people to downslope or downstream flooding or landslides as a result
 32 of runoff, post-fire slope instability, or drainage changes; therefore, there are no impacts.

4.3 Significant Environmental Effects of the Project

Chapter 3 (Environmental Impact Analysis), and Sections 3.1 through 3.11 of this Draft EIR provide a comprehensive identification of the Project's environmental effects, including the level of significance both before and after mitigation.

4.4 Significant Environmental Effects that Cannot Be Avoided if the Project is Implemented

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. According to the environmental impact analysis, the Project has a significant and unavoidable impacts to project-related and/or cumulative impacts to Farmlands that would remain with the implementation of mitigation measures. For agricultural Resources, implementation of the proposed project would convert farmland to non-agricultural uses—Concept Plan, Redlands Commons Development, and cumulative.

4.5 Significant Irreversible Environmental Changes

CEQA Guidelines Section 15126.2(c) requires a discussion of any significant irreversible environmental changes that would be caused by the Project. Specifically, Section 15126.2(c) states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses.

The construction and implementation of the Project would entail the commitment of energy and nonrenewable resources. Construction activities would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels. However, the use of energy for construction activities would be consistent with other construction projects and would not substantially affect the availability of such resources. Operation of the Project would also consume natural resources. However, the consumption of resources for operation would be consistent with other similar public transit operations, would provide a regional transportation benefit, and would not represent a wasteful or unnecessary use of energy.

The Project would result in irreversible environmental changes to existing nonrenewable resources, such as the commitment of energy as a result of operation. However, the amount and rate of consumption of these resources would not result in significant environmental impacts or result in the unnecessary, inefficient, or wasteful use of resources. Furthermore, the Project will result in the avoidance of consumption of fossil fuels due to automobile and plane trips diverted to train trips and the train would operate on renewable electricity. The Project is not anticipated to consume substantial amounts of energy or use other resources in a wasteful manner; therefore, impacts related to significant and irreversible environmental changes would be less than significant.