Chapter 3
Impact Analysis

This chapter contains an evaluation of the environmental impacts of the proposed project for compliance with the California Environmental Quality Act (CEQA). The sections in this chapter examine the short-term, permanent, direct, and indirect effects on the physical environment. Cumulative impacts are evaluated in Chapter 5, Section 5.2, *Cumulative Impacts*.

Resources Considered in the EIR

- 3.1, *Aesthetics*
- 3.2, *Air Quality*
- 3.3, *Biological Resources*
- 3.4, *Cultural Resources*
- 3.5, *Geology, Soils, Minerals, and Paleontological Resources*
- 3.6, *Greenhouse Gas Emissions*
- 3.7, *Hazards and Hazardous Materials*
- 3.8, *Hydrology, Water Quality, and Water Resources*
- 3.9, *Land Use Planning and Agricultural Resources*
- 3.10, *Noise and Vibration*
- 3.11, *Population and Housing*
- 3.12, *Public Services and Utilities*
- 3.13, *Recreation*
- 3.14, *Transportation and Circulation*

Terminology

For each resource topic, the environmental impact report (EIR) presents the following information.

- **Regulatory Setting.** Describes pertinent federal, state, and local policies, regulations, and standards.
- **Environmental Setting.** Describes existing site and study area conditions.
- **Impacts and Mitigation Measures**
    - **Methods of Analysis.** Describes the technical methodology for the impact assessment. If models were used to assess impacts, they are described in this section, as are other technical tools.
    - **Thresholds of Significance.** Presents the thresholds used to determine the significance of the impacts. The significance conclusions that can be noted at the end of each impact discussion are defined below.

- *No Impact* is used for impacts where there is clearly no effect on a particular resource topic.
- A *less-than-significant impact* is considered to cause no substantial adverse change in the environment and requires no mitigation measures.
- A *significant impact* is considered to cause a substantial adverse effect on the environment but can be reduced to a less-than-significant level by implementing mitigation measures.
- A *significant and unavoidable impact* is considered to cause a substantial adverse effect on the environment for which feasible mitigation measures are not available to reduce the impact to a less-than-significant level.

○ **Impacts and Mitigation Measures.** Describes the effects of the proposed project. For each identified significant or potentially significant impact, mitigation measures are identified. Where mitigation is not available or feasible to reduce the impact to a less-than-significant level, the impact is identified as significant and unavoidable.

CEQA requires that each public agency mitigate or avoid, wherever feasible, the significant impacts of any project it approves or implements (State CEQA Guidelines 15126.4). State CEQA Guidelines Section 15370 defines mitigation as follows.

- *Avoiding* the impact altogether by not taking a certain action or part of an action.
- *Minimizing* the impact by limiting the degree or magnitude of the action and its implementation.
- *Rectifying* the impact by repairing, rehabilitating, or restoring the affected environment.
- *Reducing or eliminating* the impact over time by preservation and maintenance operations during the life of the action.
- *Compensating* for the impact by replacing or providing substitute resources or improvements to the environment.

As required by the State CEQA Guidelines, this EIR recommends feasible mitigation measures to reduce impacts of the proposed project. *Feasible* means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors (CEQA Guidelines 15364).

Topics that CEQA requires in addition to the resource topics addressed in this chapter are addressed in Chapter 4, *Alternatives Analysis*, and Chapter 5, *Other CEQA Considerations*. Chapter 4 examines a range of feasible alternatives to the proposed project that would reduce one or more of its potential environmental impacts, including a no project alternative. Chapter 5 includes the following additional topics.

- Cumulative Impacts
- Growth-Inducing Impacts
- Significant and Unavoidable Impacts
- Significant Irreversible Environmental Changes
- Mitigation Measures with the Potential for Environmental Effects under CEQA

3.1 Aesthetics

This section describes existing conditions and the regulatory setting related to aesthetics or visual resources and analyzes potential impacts that could result from implementation of the Lime Rock Valley Specific Plan (LRVSP) (proposed project). Documents referenced in this section are available for review during normal business hours at the County Community Development Agency office at 2850 Fair Lane, Building C, Placerville, California.

3.1.1 Concepts and Terminology

Identifying a project area's visual resources and conditions involves three steps.

1. Objective identification of the visual features (visual resources) of the landscape.
2. Assessment of the character and quality of those resources relative to overall regional visual character.
3. Determination of the importance to people, or *sensitivity*, of views of visual resources in the landscape.

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area (Federal Highway Administration 1988:26–27, 37–43, 63–72). Scenic quality can be best described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area (U.S. Bureau of Land Management 1980:2-3). Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below.

Scenic vistas generally encompass a wide area with long-range views to the middleground and background of surrounding elements in the landscape. Scenic vistas are typically visible from elevated vantages (e.g., hilltops, high points, and slopes higher than the surrounding area); flat landscapes, such as out and over open agricultural lands; and roadways with cleared rights-of-way on hilly and flat terrain that run through or near the study area. In addition, vistas have a directional range. Some areas have scenic vistas with a 360-degree view in all directions, while others may be limited in one direction in a manner that reduces the line-of-sight angle and amount of vista that is visible for a narrower vista view. Scenic vistas (viewsheds) provide expansive views of a highly valued landscape for the benefit of the general public.

Visual Character

Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with landscape settlements and development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line, color, and texture of the

landscape features (U.S. Department of Agriculture Forest Service 1995:28–34, 1-2–1-15; Federal Highway Administration 1988:37–43). The appearance of the landscape is described in terms of the dominance of each of these components.

Visual Quality

Visual quality is evaluated using the well-established approach to visual analysis adopted by the Federal Highway Administration, employing the concepts of vividness, intactness, and unity (Federal Highway Administration 1988:46–59; Jones et al. 1975:682–713), which are described below.

- *Vividness* is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings.
- *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.
- *Visual quality* is evaluated based on the relative degree of vividness, intactness, and unity, as modified by its visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

Visual Exposure and Sensitivity

The measure of the quality of a view must be tempered by the overall sensitivity of the viewer. Viewer sensitivity or concern is based on the visibility of resources in the landscape, proximity of viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and duration of views, number of viewers, and type and expectations of individuals and viewer groups.

The importance of a view is related in part to the position of the viewer to the resource; therefore, visibility and visual dominance of landscape elements depend on their placement within the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail) (Federal Highway Administration 1988: 26–27). To identify the importance of views of a resource, a viewshed must be broken into distance zones of foreground, middleground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in a viewshed may vary between different geographic region or types of terrain, the standard foreground zone is 0.25–0.5 mile from the viewer, the middleground zone from the foreground zone to 3–5 miles from the viewer, and the background zone from the middleground to infinity (Litton 1968:3).

Visual sensitivity depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. For example, visual sensitivity is generally higher for views seen by people who are driving for pleasure, people engaging in recreational activities such as hiking, biking, or camping, and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work (U.S. Department of

Agriculture Forest Service 1995:3-3–3-13; Federal Highway Administration 1988:63–72; U.S. Soil Conservation Service 1978:3, 9, 12). Commuters and non-recreational travelers have generally fleeting views and tend to focus on commute traffic, not on surrounding scenery; therefore, they are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they are generally considered to have high visual sensitivity. Viewers using recreational trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.

Judgments of visual quality and viewer response must be made based in a regional frame of reference (U.S. Soil Conservation Service 1978:3). The same landform or visual resource appearing in different geographic areas could have a different degree of visual quality and sensitivity in each setting. For example, a small hill may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.

3.1.2 Existing Conditions

Regulatory Setting

Federal and State

There are no roadways in the project area that are designated in federal or state plans as a scenic roadway or as a corridor worthy of protection for maintaining and enhancing scenic viewsheds (California Department of Transportation 2014, 2019). Applicable local policies and guidelines are discussed below.

Local

El Dorado County General Plan

The *El Dorado County General Plan* (County General Plan) identifies two categories of visual resources: scenic resources and scenic views. Scenic resources include specific features that are visually significant, or geologically or botanically unique and are usually a focal point. Scenic views are broader viewsheds, such as mountain ranges, valleys, or ridgelines. The County General Plan Land Use Element, Public Services and Utilities Element, and Conservation and Open Space Element (El Dorado County 2019:34, 37–42; El Dorado County 2015:98–99: El Dorado County 2017:138, 144, 147, 154) include the following relevant goals, objectives, and policies, the text of which can be found in Appendix B, *Site Design Standards*. See Section 3.9, *Land Use Planning and Agricultural Resources*, for an analysis of the proposed project's consistency with County General Plan policies as required under State CEQA Guidelines Section 15125.

Land Use Element

- Goal 2.2, *Land Use Designations,* addresses maintenance of the rural and open character of the County and includes Objective 2.2.5, *General Policy Section*, and implementing policy 2.2.5.21.
- Goal 2.3, *Natural Landscape Features*, addresses the unique landscapes of each area of the County and includes Objective 2.3.1, *Topography and Native Vegetation*, and implementing policies 2.3.1.1 and 2.3.1.2, and Objective 2.3.2, *Hillsides and Ridge Lines,* and implementing policy 2.3.2.1.

- Goal 2.5, *Community Identity*, addresses incorporating visual elements to enhance and maintain rural character and promote a sense of community, and includes Objective 2.5.1, *Physical and Visual Separation*, and implementing policies 2.5.1.1 and 2.5.1.2.
- Goal 2.8, *Lighting*, addresses issues related to lighting and glare, and includes Objective 2.8.1, *Lighting Standards,* and implementing policy 2.8.1.1.

Public Services and Utilities Element

- Goal 5.4, *Storm Drainage*, includes Objective 5.4.1, *Drainage and Flood Management Program,* and implementing policy 5.4.1.2, which addresses aesthetic qualities of drainage ways.
- Goal 5.6*, Gas, Electric, and Other Utility Services*, includes Objective 5.6.1, Provide Utility Services, and implementing policies 5.6.1.1 and 5.6.1.4, which address aesthetic issues related to overhead utilities.

Conservation and Open Space Element

- Goal 7.1, *Soils Conservation*, includes Objective 7.1.2, *Erosion/Sedimentation,* and implementing policy 7.1.2.2, which addresses conforming earthworks to natural contours.
- Goal 7.3, *Water Quality and Quantity*, includes Objective 7.3.3, *Wetlands*, and implementing policy 7.3.3.5, which addresses the preservation of the scenic value of wetland features, Objective 7.3.4, *Drainage*, and implementing policy 7.3.4.1, which encourages the integration of natural water courses, and Objective 7.3.5, *Water Conservation,* and implementing policy 7.3.5.1, which encourages the use of native plants.
- Goal 7.4, *Wildlife and Vegetation Resources*, includes Objective 7.4.4, *Forest and Oak Woodland Resources*, and implementing policy 7.4.4.2, which encourages the protection of native trees.
- Goal 7.5, *Cultural Resources*, includes Objective 7.5.2, *Visual Integrity*, which addresses the visual integrity of historic resources, and implementing policies 7.5.2.2, 7.5.2.4, and 7.5.2.5.

El Dorado County Zoning Ordinance

The following provisions contained in the El Dorado Zoning Ordinance are relevant to the visual resources in the project area.

130.34 Outdoor Lighting

The purpose and intent of this ordinance is to provide "standards consistent with prudent safety practices for the elimination of excess nighttime light and glare."

B. Lighting Plans Required

1. Any commercial, industrial, multi-family, civic, or utility project that proposes to install outdoor lighting shall submit plans for such lighting, to be reviewed by the Planning Director as a part of a site plan review. If the project requires a design review, special use permit, or development plan application, said lighting plan shall be included as a part of that application, and shall be subject to approval by the approving authority.
2. Lighting plans shall contain, at a minimum, the location and height of all light fixtures, the manufacturer's name and style of light fixture, and specifications for each type of fixture.

C. Outdoor Lighting Standards

All outdoor lighting shall conform to the following standards:

1. All outdoor lighting, including residential outdoor lighting, shall be hooded or screened as to direct the source of light downward and focus onto the property from which it originates and shall not negatively impact adjacent properties or directly reflect upon any adjacent residential property.
2. Parking lot and other security lighting shall be top and side shielded to prevent the light pattern from shining onto adjacent property or roadways, excluding lights used for illumination of public roads. [See Exhibit 130.14.170(A) of the zoning ordinance]
3. External lights used to illuminate a sign or the side of a building or wall shall be shielded to prevent the light from shining off of the surface intended to be illuminated.
4. Lights that shine onto a road in a manner which causes excessive glare and may be considered to be a traffic hazard shall be prohibited.
5. Outdoor floodlights shall not project above 20 degrees below the horizontal plane. [See Exhibit 130.14.170(B) of the zoning ordinance]
6. Lighting of outdoor display area, including but not limited to vehicle sales and rental, and building material sales, shall be turned off within thirty (30) minutes after the closing of the business. Security lighting, as approved by the Planning Director may remain on after the close of business hours.
7. Lighted signs shall also conform to Section 130.16.070 (37–38).

130.34 Outdoor Lighting Standards

This ordinance complies with General Plan Objective 2.8.1, providing standards consistent with prudent safety practices for the elimination of excess nighttime light and glare. The purpose and intent of this ordinance is to ensure "that the creation of artificial light and glare be controlled to the extent that unnecessary and unwarranted illumination of an adjacent property be prohibited."

B. Lighting Plans Required

1. Any commercial, industrial, multi-family, civic, or utility project that proposes to install outdoor lighting shall submit plans for such lighting, to be reviewed by the Planning Director as a part of a site plan review. If the project requires a design review, special use permit, or development plan application, said lighting plan shall be included as a part of that application, and shall be subject to approval by the approving authority.
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7. Lighted signs shall also conform to Section 130.36 (37–38).

Design Review

Development projects in the El Dorado Hills Community Services District (EDHCSD) are distributed to local design review committees for review, input, and advice. Per Chapter 130.44, the board of supervisors, with consideration by the planning commission, can create new design review districts if they determine the following.

1. An area of special, natural beauty and aesthetic interest forming a basic resource in the economy of the county; the preservation of which would enhance the character of the county and local communities and promote tourist attractions; or (Ord. 4228, 1992)
2. Areas, places, sites, structures or uses which have special historical significance as identified by an agency representing federal, state or local historical concerns; or
3. Both subdivisions 1 and 2 of this subsection (303–304).

Environmental Setting

Regional Visual Character

The project site is located in El Dorado County (County), approximately 28 miles east of the city of Sacramento, California. The project region, as discussed in this section, is considered the area within 30 miles of the project site. The gently rolling hills of the project site lies in the transition zone between the flat Sacramento Valley and the Sierra Nevada Mountains. The Sierra Nevada foothills and mountains, primarily including the El Dorado National Forest, largely comprise the easternmost portion of the region. The westernmost portion of the region primarily consists of agricultural and suburban land uses, with the urban core of Sacramento located in the southwestern portion of the region. The landscape pattern is influenced by development extending from existing city cores and the major roadways, such as U.S. Highway (US) 50, State Route (SR) 99, and Interstate 5 (I-5) and Interstate 80 (I-80), in the region.

Much development in the western region is between and just outside of the I-80 and US 50 and I-5 and SR 99 corridors, with remaining lands still largely in agricultural production and grazing, but there has been and continues to be conversion of agricultural land to urban and suburban land uses as development grows along expanding and upgraded transportation corridors, such as along SR 65, in Placer County north of I-80, and smaller local roadways. This trend is evident throughout the region, such as in Natomas, Roseville, Folsom, Rancho Cordova, El Dorado Hills, Cameron Park, Elk Grove, and West Sacramento. Smaller valley and foothill towns and communities in this region, such as Lincoln, Rocklin, Placerville, Diamond Springs, and Wilton to the south, are experiencing similar growth. However, agricultural land, planted predominantly with row crops, and grazing land stretch for miles in the region. When haze is at a minimum, views can extend from the foreground to the middleground and background.

While development is centralized along I-80, US 50, and SR 49 in the eastern region, terrain and vegetation play a major role in limiting development patterns in this portion of the region. High intensity development transitions to sparser development near the project site, where the terrain is rolling, and where slopes influence where development can feasibly occur. In addition, mature oak woodlands and coniferous forests also limit where development occurs due to a natural proclivity to retain such vegetation and visual features and because County policies and zoning regulate the removal of trees within these plant communities. Development within the foothills tends to be older residential and commercial development that is often centered around local business enterprises and agriculture, such as near the apple and Christmas tree farms of Apple Hill and Camino, near Sierra Pacific Industries.

Depending on the viewer's location within the western region, middleground and background views consist of Sutter Buttes to the northwest, Sierra Nevada foothills and mountains to the east, and the high-rise buildings of downtown Sacramento rising up above the horizon and Vaca Mountains to the west. These types of landscape views are strongly characteristic of the Sacramento Valley and contribute to the region's identity. Within the western part of the region, topography and vegetation limit many views to the immediate foreground. However, transportation corridors with cleared rights-of-way and public and private vantages that are elevated and sparsely vegetated, such as where a hillside or hilltop residence has cleared or thinned vegetation to allow for views, facilitate views that extend beyond the immediate foreground, toward the middleground and background.

Growth, radiating outward from the city and town cores, is reducing the amount of open land in the region and closing the gap between the Sacramento metropolitan region and outlying cities and towns. This growth is changing the visual character from rural to suburban. The development of the smaller cities in the region is typified by a growing core of residential, commercial, and some industrial land uses with agricultural fields or vegetated foothills surrounding the city outskirts. Residential and commercial development in the western region tends to be homogenous in nature, having similar architectural styles, building materials, plan layouts, and commercial entities. While the eastern region has retained a great deal of its older architectural styles and visual character, newer development is occurring in this portion of the region as well, introducing more homogenous development.

Overall, a mix of developed and natural landscapes characterizes the region. Water features include Pleasant Grove, Orchard, Deer, Elder, and Morrison Creeks; Auburn Ravine; Folsom, Bass, and Stone Lakes; Lake Natoma; the Sacramento and American Rivers and their tributaries; the Yolo Bypass (when flooded); and numerous other smaller lakes creeks, drainages, and local irrigation ditches.

A list of scenic views in El Dorado County was developed through a series of public workshops held during the development of a Scenic Highway Ordinance called for in the 1996 General Plan (EDAW 2003). The ordinance was never adopted by the County. The scenic views include views from US 50 near El Dorado Hills looking south to Marble Valley and west to the Sacramento Valley. The LRVSP project site does not lie within a scenic view as described in the *El Dorado County General Plan Environmental Impact Report* (EDAW 2003).

Project Vicinity Visual Character

The project vicinity is defined as the area within 0.5 mile of the project site, which is approximately 1.25 miles south of US 50, and approximately 0.7 mile west of South Shingle Road, east of the project site. The project site and vicinity are located at the beginning of the Sierra Nevada foothills, with rolling terrain that is undeveloped, and primarily supports mature blue oak woodlands (referred to

as oak woodland, herein) and manzanita chaparral intermixed with some grassland and riparian vegetative communities. Representative photograph locations of the project site are illustrated in Figure 3.1-1, with corresponding photographs shown in Figures 3.1-2a–3.1-2c.

The Village of Marble Valley Specific Plan (VMVSP) project area, which is currently undeveloped, abuts the western boundary of the LRVSP project site. The VMVSP area is currently undeveloped, made up of mature oak woodlands intermixed with some grassland and riparian vegetative communities. The north, east, and south areas of the site are bordered by the residential developments of Cameron Estates and Royal Equestrian Estates (Figure 2-3). The project site is closed to general public access. Access to the site from the east and west is gated and available via a dirt road on the VMVSP project site and Shingle Lime Mine Road, a paved road at the northeast corner of the project site. Gated access at Amber Fields Drive at Bullard Road limits the general public from accessing the Royal Equestrian Estates from the south and an additional gate at the south end of the project site where Amber Fields Drive dead ends at the site prevents access from within Royal Equestrian Estates (Figure 3.1-2a, Photo 1). Gated access at Flying C Road (Figure 3.1-2a, Photo 2) limits the general public from accessing the project site, and an additional gate on Deer Creek Road (Figure 3.1-2b, Photo 3) prevents access from within Cameron Estates. The gates prevent physical and visual access to the interior of the site. However, while the gates prevent physical access, the gates do allow for varying views of the edges of the site. Some gates do allow for slightly open foreground views of the grasslands and oak woodlands at the edges of the site where trees and terrain do not fully block views (Figure 3.1-2a, Photo 1) while terrain and vegetation limit views at other gates and only allow for enclosed views of the immediate foreground (Figure 3.1-2a, Photo 2). Although outside of the project vicinity, US 50 is considered a corridor with important public scenic viewpoints by the County for its views of the Marble Valley. However, US 50 passes approximately 1.6 miles northwest of the project site, and views of the project site from US 50 (including from the County designated scenic portions of US 50) are obscured by trees and terrain (Figure 3.1-2b, Photo 4).

Rural residential homes of Cameron Estates and Royal Equestrian Estates and areas farther south of the site are generally tucked into the oak woodland canopy, but some residents have cleared vegetation on their lots. Homes range from smaller to mid-sized older homes to larger, more modern homes. Views from rural residential lots surrounding the site are mostly limited to the foreground and middleground by the rolling topography, trees, and scattered development. However, roadways do sometimes provide view corridors toward the site. Residents, roadway users, and recreationists in Cameron Estates and Royal Equestrian Estates have more open views of the project site where roadways and elevation provide views out and over the landscape. Some scenic vista views may be available from a limited number of properties in Cameron Estates and Royal Equestrian Estates.

Views vary seasonally, such as in the winter and spring when grasses are green compared to the summer and fall when grasses are lighter browns and tans. Wildflowers and manzanita and redbud also contribute to the aesthetic quality of views in the late winter and early spring when they are in bloom. In addition, deciduous trees act to partially obscure portions of the project site when in leaf and reveal more views when they have dropped their leaves and the form of the blue oak trees contribute to the aesthetic nature of views in the vicinity.

Views on the interior of the site are limited to private use because public access to the site is prohibited. The interior of the site has a distinct separation of vegetative communities, with manzanita chaparral comprising the western portion and a mix of oak woodlands and grasslands

comprising the eastern portion of the project site (Figure 3.1-2c, Photo 5). Picturesque views over the manzanita chaparral and enclosed views from under the oak canopy to more open views of grasslands and the surrounding oak woodlands are characteristic of the site. Topography and trees can limit views to the exterior of the site, as seen in Photos 3, 5, and 6 (Figures 3.1-2b and 3.1-2c) but can also allow for framed scenic vista views over the site and beyond. Water features on the site include Deer Creek, which runs roughly through the central portion of the site, and Marble Creek, which connects to Deer Creek just north of the dirt road that is between Deer Creek and Shingle Lime Roads and provides a visual amenity. In addition to these features, cultural features also contribute to the aesthetic qualities of the site and include remnant historic buildings and limestone tailings associated with past mining operations in the Lime Rock Valley Historic District (Figure 3.1-2c, Photo 6), as described in Section 3.4, *Cultural Resources*.

The site is currently unlit and dark at night when seen from surrounding land uses looking toward the project site. Existing artificial light sources are primarily associated with the internal and external lighting of rural residential development adjoining the project site and vehicle headlights on local roadways in the surrounding area at night. However, rural land uses on the north, east, and south sides of the project site are not highly lit, and existing tree canopies filter and reduce the amount of visible light pollution and ambient sky glow radiating from rural residential areas. Local roadways in the vicinity tend to be mostly unlit. Because the area is largely unlit, views of the nighttime sky, with the moon and constellations, are not as obstructed by sky glow or other forms of light pollution associated with more developed areas that are nearby, which can create a reduction in the amount of dark sky that is visible for enjoyment. The scenic qualities of the project vicinity and the lack of light pollution also contribute to picturesque views of the sky during sunrise and sunset that provide a display of color variation in the sky and views of the rising and setting sun over the varied terrain. Views of the night skies, sunrises, and sunsets can be constrained by atmospheric conditions such as rain, cloud cover, fog, and haze.

The project vicinity has wooden transmission poles that parallel local roadways in the vicinity, and the power is supplied to the project site also via a wooden pole transmission line crossing the northern portion of the site. The project vicinity is characterized by local roadways, rural residential land uses associated with the estates, and rolling terrain and open space manzanita chaparral, oak woodlands, and grasslands. The predominance of open space manzanita chaparral and oak woodlands and grasslands lend to a project vicinity that is moderately high in vividness, intactness, and unity due to pleasant views offered in undeveloped areas combined with the presence of transportation and utility infrastructure and rural residential development. The overall visual quality of the project vicinity is moderately high.

Viewer Groups and Viewer Response

Residents

Rural residential homes north, east, and south of the site are generally tucked into the oak woodland canopy and do not have views of the site because terrain and trees limit such views. However, some rural residents in these areas and further south, have vista views out and over the project site because they are at higher elevations compared to the surrounding terrain and vegetation surrounding the homes is sparse enough to allow for such views. Although rolling terrain and trees limit the viewer's ability to see the entire project site, residents may have a high sensitivity to visual changes because they are likely to have a high sense of ownership of views of the surrounding picturesque landscape that is largely undeveloped.

Recreationists

There are no formal recreational facilities located on or near the project site that would offer views of the proposed project. In addition, the areas surrounding the site are private developments and roadways and not open to public access. Therefore, recreationists that may have views of the site would be quasi-public viewers who see the site while using local roadways for walking, jogging, running, or cycling. Given the density of rural residential areas, the number of private recreationists with views of the site is anticipated to be small. Recreationists are likely to be moderately sensitive to visual changes at the project site. They are more likely to regard the natural and built surroundings as a holistic visual experience. However, they are accustomed to the presence of infrastructure in the project vicinity associated with existing private residences, El Dorado Trail, local roadways, fencing, and overhead utility lines.

Roadway Users

Travelers on local roadways include rural residents, people accessing local businesses, and commuters driving in and through the area. While many of these roadways are within private developments, they offer quasi-public views for residents. Residents' views toward the site are largely obscured by the rolling terrain and trees, except when in very close proximity to the site or when an elevated vantage point affords views. The passing landscape becomes familiar for roadway users. Moreover, their attention typically is not focused on the passing views because winding roadways provide views of only short duration and force drivers to pay more attention to driving safely rather than taking in their surroundings at length. Roadway users, as a whole, have moderately low sensitivity to their surroundings because their focus is concentrated on driving and roadway conditions.

3.1.3 Environmental Impacts

Methods of Analysis

Using the concepts, terminology, and criteria for determining significance described at the beginning of this section, the analysis of the visual effects of the project is based on the following.

- Direct field observation from vantage points, including neighboring buildings, property, and roadways (June 7, 2013).
- Photographic documentation of key views of and from the project site.
- Evaluation of regional visual context.
- Review of the project description and proposed land uses and zoning.
- Review of the proposed project regarding compliance with state and local ordinances and regulations and professional standards pertaining to visual quality.

Professional Standards

Professional standards result from professional and direct expertise gained by staff working on visual analyses and consulting with other experienced staff, subconsultants, and clients on visual effects, including knowledge gained from public input on a broad range of projects. The effects listed represent collective knowledge that is professionally agreed upon and represents common, general

public concerns. According to professional standards, a project may be considered to have significant impacts if it were to do any of the following.

- Conflict with local guidelines or goals related to visual quality.
- Alter the existing natural viewsheds, including changes in natural terrain where the project dominates the view.
- Alter the existing visual quality of the region or eliminate visual resources.
- Increase light and glare in the project vicinity.
- Result in backscatter light into the nighttime sky.
- Result in a reduction of sunlight or introduction of shadows in community areas.
- Obstruct or permanently reduce visually important features.
- Result in long-term (persisting for 2 years or more) adverse visual changes or contrasts to the existing landscape as viewed from areas with high visual sensitivity.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings along a scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

As described in Section 3.9, Land Use, the project site is within a Rural Region. Therefore, the proposed project would be located entirely within the boundaries of a non-urbanized area. Therefore, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality in an urbanized area and there would be no impact. Discussion of this topic is, therefore, excluded from further discussion in the analysis below.

Impacts and Mitigation Measures

Impact AES-1: Temporary visual impacts caused by construction activities (significant and unavoidable)

As described in Chapter 2, *Project Description*, construction could be phased over 20–25 years and take place Monday through Friday, between 7:00 a.m. and 7:00 p.m., and between 8:00 a.m. and 5:00 p.m. on the weekends, as dictated by County noise ordinances. Construction of the proposed project would create changes in views of and from the project site over the course of phased development. Construction activities would introduce considerable heavy equipment and associated vehicles, including backhoes, compactors, tractors, and trucks into the viewshed of all viewer groups. While viewers are accustomed to seeing heavy machinery associated with construction in the region and project vicinity associated with roadway improvements and development projects, viewers would

not be accustomed to seeing intense and isolated construction activities on the project site because construction operations of this scale are not common in this portion of the project vicinity.

Construction activities would occur on approximately 405 acres of the total 740 acres of the project site, leaving 335 acres in open space. Construction of the project would require temporary facilities such as access roads, parking areas, construction management offices, and staging areas. Dust control would be implemented during construction to reduce the potential for slow-moving dust clouds that would attract attention from visual receptors and reduce the availability of short-range views. Construction traffic would access the project site via local roads connecting to the site that would be upgraded as a part of the proposed project, and traffic would be visible in the foreground and middleground, in addition to staging areas and associated facilities. The proposed project would also be required to comply with LRVSP, once adopted, and development standards and protocols required by the County that seek to reduce project impacts and aide in preserving onsite visual resources.

The LRVSP includes policies that would ensure that the proposed project would be sensitive to the site's natural and aesthetic resources (Policies 3.5, 3.6, and 3.9), and minimize the visual intrusion on the landscape by preserving oak trees (Policies 5.30 through 5.35), cultural resources (Policies 5.33 through 5.36), and other aesthetic qualities and features of the project site (Policies 5.2 through 5.10). The proposed project would also be required to comply with County General Plan policies and County zoning ordinances that seek to reduce project impacts and aid in preserving onsite visual resources. These policies and zoning ordinance applicability are listed under Section 3.1.2, *Existing Conditions, Regulatory Setting*, and detailed in Appendix B (*Consistency with the El Dorado County General Plan*). The policies include development standards and protocols to limit and guide the establishment of compatible land uses and design guidelines, minimize impacts from the loss of trees, create land use buffers, limit excessive grading and development on slopes and ridgelines, minimize outdoor lighting, protect natural drainages and wetlands, undergrounding of utilities, guide the installation of telecommunications facilities, limit the modification of National Register of Historic Places/California Register of Historical Resources structures, and limit the alteration of open space land uses. All of these measures would aid in reducing construction-related impacts associated with the proposed project and the proposed project's long-term impacts by ensuring that the project is designed to be sensitive to the existing landscape; that natural, cultural, and onsite visual resources are preserved to the degree possible; and that buffers aid in screening onsite development from surrounding land uses.

The project applicant would be required to comply with the County's Oak Woodland Preservation and Replacement Policy (Policy 7.4.4.4), the *El Dorado County Oak Resources Management Plan* (ORMP), and other County policies and zoning ordinances that seek to minimize impacts on the site's natural resources; however, these natural resources would still be substantially affected, as described in Section 3.3, *Biological Resources.* Mitigation Measure BIO-1d, *Avoid and minimize potential disturbance of oak woodland habitat and compensate for loss of oak woodland and individual trees* would reduce impacts on these natural resources to a less-than-significant level. In addition, these policies and measures would aid in reducing construction-related impacts associated with the proposed project and the proposed project's long-term impacts by ensuring that the project minimizes impacts to oak woodlands, which are an aesthetic resource. Many mature oak trees, manzanita chaparral, and grasslands would be removed, and the project site would be graded, altering the naturally rolling terrain to accommodate building pads. Compliance with County General Plan Policy 7.4.4.4 and implementation of the ORMP would result in the retention and replacement of oak woodland.

Due to the hours of construction (7 a.m. to 7 p.m., Monday through Friday, and 8 a.m. to 5 p.m. on weekends), high-intensity nighttime lighting would generally not be needed. This is because sunrise hours occur before or around 7a.m. for the majority of the year, except in December through the middle of March when sunrise occurs between 7 a.m. and 7:20 a.m., with the latest sunrise occurring in December. During these months, it is not anticipated that lights would be needed during these twenty minutes in the morning because that would be when staff would be preparing to initiate construction for the day. Similarly, sunset occurs after 7 p.m. for a little over half of the year but falls between 4:40 p.m. and 7 p.m. toward the end of September through early March, with the earliest sunset occurring in December (Time and Date AS 2021). If outside construction activities occur past sunset, then high-intensity lighting would be required for construction operations. However, existing nearby residents, who have the potential to be impacted by such lighting, are separated from the project site by existing oak woodland areas not included within the proposed project and by areas that are proposed for open space and park uses that would retain the existing oak woodlands. The oak woodlands and rolling terrain would provide adequate distance and buffering so that nearby residents would not be affected by any high-intensity lighting that may be needed for construction in the winter and early spring. Therefore, construction would not result in a substantial amount of nighttime lighting to operate in the dark that would negatively affect existing sensitive residential viewers.

Construction activities would be visible to all viewer groups and occur for a period of time greater than 2 years, starting and stopping based on market demands. While many construction activities would be obscured by terrain and the remaining trees, construction would still be visible, and viewers would observe a noticeable transition of the visual character of the project site over time. A smaller subset of viewers may view the visual impacts associated with construction on the site neutrally or beneficially, as a sign of growth and development. However, a larger subset of viewers in the vicinity are likely to see this transition and view the conversion of scenic manzanita chaparral, oak woodlands, and grasslands, through construction to a development negatively, even though Mitigation Measure BIO-1d would reduce long-term impacts on oak woodlands by retaining as many oak trees (i.e., an aesthetic resource) as possible, impacts on visual resources related to construction and operation would be significant and unavoidable.

Mitigation Measure BIO-1d: Avoid and minimize potential disturbance of oak woodland habitat and compensate for loss of oak woodland and individual trees

Impact AES-2: Have a substantial adverse effect on a scenic vista (no impact)

The County General Plan identifies two categories of visual resources: scenic resources and scenic views. Scenic resources include specific features that are visually significant, or geologically or botanically unique, and are usually a focal point. Scenic views are broader viewsheds, such as mountain ranges, valleys, or ridgelines. A list of scenic views, visible from public viewpoints, is provided in the *2003 Draft El Dorado County General Plan Environmental Impact Report* (EDAW 2003).

The project site does not include any visually significant or geologically or botanically unique natural features. The project site includes oak woodlands, grasslands, and manzanita chaparral, which are not unique in the area.

While there are several scenic views from the US 50 corridor, looking to the south and west in the vicinity of Bass Lake Road and Camino, the project site does not lie within these scenic views. The

project site is not visible from the highway. Therefore, the proposed project would not affect any scenic views. No impact would occur.

Impact AES-3: Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings along a scenic highway (no impact)

There are no federal- or state-designated scenic roadways in or near the project area but, as shown in Figure 3.1-1, a portion of US 50 north of the project site is a corridor with important public scenic viewpoints because of the existing views of Marble Valley; the segment is approximately 1.6 miles northwest of the proposed project. As shown in Figure 3.1-2b, Photo 4, the project site is not visible from this portion of US 50. Therefore, implementation of the proposed project would not damage scenic resources, such as trees, rock outcroppings, and historic buildings along a scenic highway. There would be no impact.

Impact AES-4: Substantially degrade the existing visual character or quality of the site and its surroundings (significant and unavoidable)

Compared to existing conditions, the proposed project would permanently alter the existing visual character of the site and these changes would be more apparent in views. The proposed project would change the visual landscape from manzanita chaparral, oak woodland, and grassland open space to a planned development, permanently altering the existing visual character and aesthetic resources of this foothill transition area and decreasing the amount of such resources available in the region and vicinity. In addition, lighter-colored roofs and building facades would make buildings stand out amongst the darker oak woodland canopy. Views of the proposed project are likely to be more visible from vantages that are at a higher elevation than lower vantages.

As specified in Mitigation Measure NOI-1b in Section 3.10, *Noise and Vibration*, noise barriers may be needed to lessen the impacts associated with noise along Lime Rock Valley Road. If the barriers are designed without aesthetic consideration, negative visual impacts could result by degrading the quality of views from local roadways, residences, and the surrounding area due to barrier heights, materials, and types of barrier. This would result in a significant visual impact. However, Mitigation Measure AES-4a would improve noise barrier aesthetics.

The existing trees in the open space buffers would limit views toward the project site for a large number of viewers bordering the site, but where trees are sparse and elevation and terrain permit, views may be available. Views out and over the site would also be seen from rural residential areas at higher elevations. The permanent conversion of the site from scenic natural open space to one with a residential subdivision would reduce the visual quality of these views, which is likely to affect sensitive viewer groups and views from the project vicinity. Some viewers may view the visual changes associated with the proposed project neutrally or beneficially, as a sign of growth and development. Conversely, other viewers are likely to see this transition and view conversion of scenic oak woodlands, grasslands, and manzanita chaparral to a development negatively because many viewers enjoy the scenic nature of foothill views that are available from their properties and have a high sense of ownership of such views. The combination of potential viewer sensitivity, permanent visual changes resulting on the site, and the scenic nature of existing, undeveloped views toward Lime Rock Valley would result in impacts that would be significant.

The proposed project would result in a substantial (approximately 37 acres) amount of oak tree removal; alteration of grasslands, manzanita chaparral, and oak woodlands; introduction of a substantial amount of built features associated with residential development where none presently

exist; and alteration of the existing visual context in which cultural resources, the creek, and remaining oak woodlands, grasslands, and manzanita chaparral occur. As described above, LRVSP includes policies that would ensure that the proposed project would integrate a suburban community environment with the rural character of the area (Policy 3.4,), be sensitive to the site's natural and aesthetic resources (Policies 3.4, 3.6, and 3.9), and minimize the visual intrusion on the landscape by preserving oak trees (Policies 6.29 through 6.35), cultural resources (Policies 5.12 through 5.14 and 6.36 through 6.39), and other aesthetic qualities and features of the project site (Policies 6.3 through 6.28 and 6.40 through 6.48). However, County policies, zoning ordinances, design review, and the proposed LRVSP policies would ensure that the proposed project be well designed, sensitive to the site's natural and aesthetic resources, and seek to minimize the visual intrusion on the landscape by preserving oak trees, cultural resources, and other aesthetic qualities and features of the site to the degree possible. In addition, compliance with the policies listed in Section 3.1.2, *Existing Conditions*, *Regulatory Setting*, and detailed in Appendix B, *Site Design Standards*, would limit and guide the establishment of compatible land uses and design guidelines, creation of land use buffers, excessive grading and development on slopes and ridgelines, use of outdoor lighting, protection of natural drainages and wetlands, undergrounding of utilities, installation of telecommunication facilities, and alteration of open space land uses. Mitigation Measure AES-4b would reduce the appearance of buildings located in oak woodland areas but would not reduce visual impacts associated with the proposed project to a less-than-significant level. The impact on the visual character and quality of the project site and its surroundings would be significant and unavoidable.

Mitigation Measure AES-4a: Design proposed noise barriers with aesthetic design treatments

Existing noise barriers in the El Dorado Hills area, such as along Serrano Parkway, use a combination of solid barriers, earthen berms, and landscaping to mitigate the effects of noise and improve site aesthetics. The earthen berms and landscaping not only improve the quality of views along roadways, but also act to screen and reduce the visibility and apparent scale of the solid barrier. Therefore, any new noise barriers to be installed as a part of the proposed project shall emulate this local design precedent and be designed and constructed in a manner that is visually consistent with the design of existing barriers located along Serrano Parkway. New noise barriers should include similar dimensions, barrier materials, and plant species to ensure visual consistency with existing barriers in the area that are well designed.

Mitigation Measure AES-4b: Apply aesthetic design treatments to buildings in oak woodland and grassland areas

Appendix B, *Site Design Standards,* of the Lime Rock Valley Specific Plan shall include Section B.6, *Building Design Standards*, as follows. These requirements shall be adopted as Conditions, Covenants and Restrictions with County approval of final maps.

B.6 Building Standards

Buildings associated with the proposed project that are to be located in oak woodland and grassland areas shall be designed to blend with the surrounding built and natural environments so that these structures complement the visual landscape. The U.S. Bureau of Land Management has conducted extensive research on color selection techniques illustrating the efficacy of color choice in reducing visual impacts in natural environments. Methods consistent with this study

shall be applied to design treatments for buildings in oak woodlands and grassland areas.[1] The following measures shall be incorporated and applied subject to County review and approval upon issuance of building permits.

- Roofing materials in oak woodlands and grasslands shall be colored using a shade that is two to three shades darker than the general surrounding area.
- Building facades in oak woodlands shall be painted in mid-range to darker earth tones to help buildings blend better within the oak canopy. Lighter beiges and tans, which would make buildings stand out and contrast against the blue oak canopy, shall be avoided.
- Building facades in grasslands shall be painted in mid-range earth tones to help buildings blend better within grassland areas. Very light off-whites, beiges, and tans that make buildings stand out and contrast against grassland areas, shall be avoided.

Impact AES-5: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area (significant and unavoidable)

Once the development has been built, permanent features, such as windows and building surfaces and temporary features such as parked cars, would introduce new sources of glare. Mature vegetation in the area would aid in reducing the amount of glare from these sources, but glare would still be substantially increased compared to existing conditions.

The project site is currently unlit. Rural land uses on the north, east, and south sides of the project site are not highly lit, and existing tree canopies filter and reduce the amount of visible light pollution and ambient sky glow radiating from rural residential areas. As described previously, County policies (particularly Policy 2.8.1.1), zoning ordinances (130.34 Outdoor Lighting), design review, and the proposed LRVSP would ensure that the proposed project minimizes lighting impacts to the degree possible. Specifically, Section 130.34 of the El Dorado County Code requires shielding to avoid impacts on adjoining areas. However, even with shielding (LRVSP Policy 5.21), the proposed project would substantially increase the amount of ambient light in the vicinity compared to existing conditions and result in visible light pollution and introduce ambient sky glow to the project vicinity. Even with the presence of the remaining tree canopy, new permanent sources of light would be introduced from lighted residences, walkways, roadways, parking lots, and accent lighting that would be visible to all viewer groups and would substantially increase light at the project site, which is currently unlit. This would draw viewers' attention toward the proposed project at night. Therefore, these impacts would be significant and unavoidable. Mitigation Measure AES-4a would reduce the amount of glare coming from building surfaces located within oak woodland and grassland areas, by reducing the reflectivity of these surfaces through the use of darker colors but would not reduce light and glare impacts associated with the proposed project to a less-than-significant level. The impact from new sources of light or glare from the project site would be significant and unavoidable.

[1] The U.S. Bureau of Land Management has conducted extensive research on color selection techniques and has prepared a standard color chart to help reduce the visibility of projects in the natural environment that can be applied to both public and private lands. These tools are available online at http://www.ntc.blm.gov/krc/uploads/35/Unit%206%20Design%20Fundamentals%2011%2005%2008.pdf, http://www.ntc.blm.gov/krc/uploads/35/Unit%207%20Design%20Strategies%2011%2005%2008.pdf, and http://www.blm.gov/wo/st/en/prog/Recreation/recreation_national/RMS/3.html.

Mitigation Measure AES-4b: Apply aesthetic design treatments to buildings within oak woodland and grassland areas

Impact AES-6: Adversely affect scenic highways and vistas, the existing visual character or quality of the site and its surroundings, or create a new source of substantial light or glare as a result of offsite improvements (less than significant)

As described in Chapter 2, *Project Description*, and shown in Figure 2-13, the proposed project would require offsite improvements to provide access and potable water and wastewater systems to the site. Entry to the site would be provided via Lime Rock Valley Road (a public road that would connect Lime Rock Valley with the proposed Village of Marble Valley to the west). Shingle Lime Mine Road, Deer Creek Road, and Amber Fields Drive would be available only for emergency vehicle access. These roadways all have paved and unpaved segments, and the proposed improvements would widen the existing corridors. The edges of most of these corridors are vegetated with grasses, trees, or shrubs and tend to be free of development immediately next to the roadway (i.e., development is set back off the roadway by 50 feet or more, in most cases). The approach to development for these improvements would be to minimize grading and vegetation removal and, thereby, lessen the potential visual impacts. In addition, most views from of the roadways would be obscured by terrain and existing vegetation surrounding the roadway corridors. Offsite water connections (Figure 2-13) would be constructed underground, through trenching, and disturbed ground would be restored during construction so that those water connections would not be visible or degrade the existing visual environment.

Transmission mains would need to be constructed underground for each system to connect the site to the new EID water transmission line identified in the Integrated Resource Water Management Plan (IRWMP). The transmission mains would require vegetation removal to trench and install the underground water and sewer lines. Disturbed areas would be reseeded for erosion control, would revegetate within a short period of time, and would not stand out within available views, including within scenic vistas.

Similarly, views from scenic portions of US 50 would not be negatively affected by offsite improvements because changes would not be noticeable or visible, depending on the improvement and location. The only locations from US 50 where project-related offsite improvements could be visible would be from near the Bass Lake Road exit and would include interchange improvements constructed under the VMVSP. The remainder of offsite improvements occurring in proximity to US 50 would be underground. In addition, offsite improvements would only result in minimal changes to light and glare that would not be noticeable. Overall, only limited views of changes would be visible, and changes would not greatly alter the existing visual landscape. As described previously, County policies, zoning ordinances, design review, and the proposed LRVSP would ensure that the proposed project further minimizes visual impacts associated with offsite improvements. Therefore, these impacts would be less than significant.

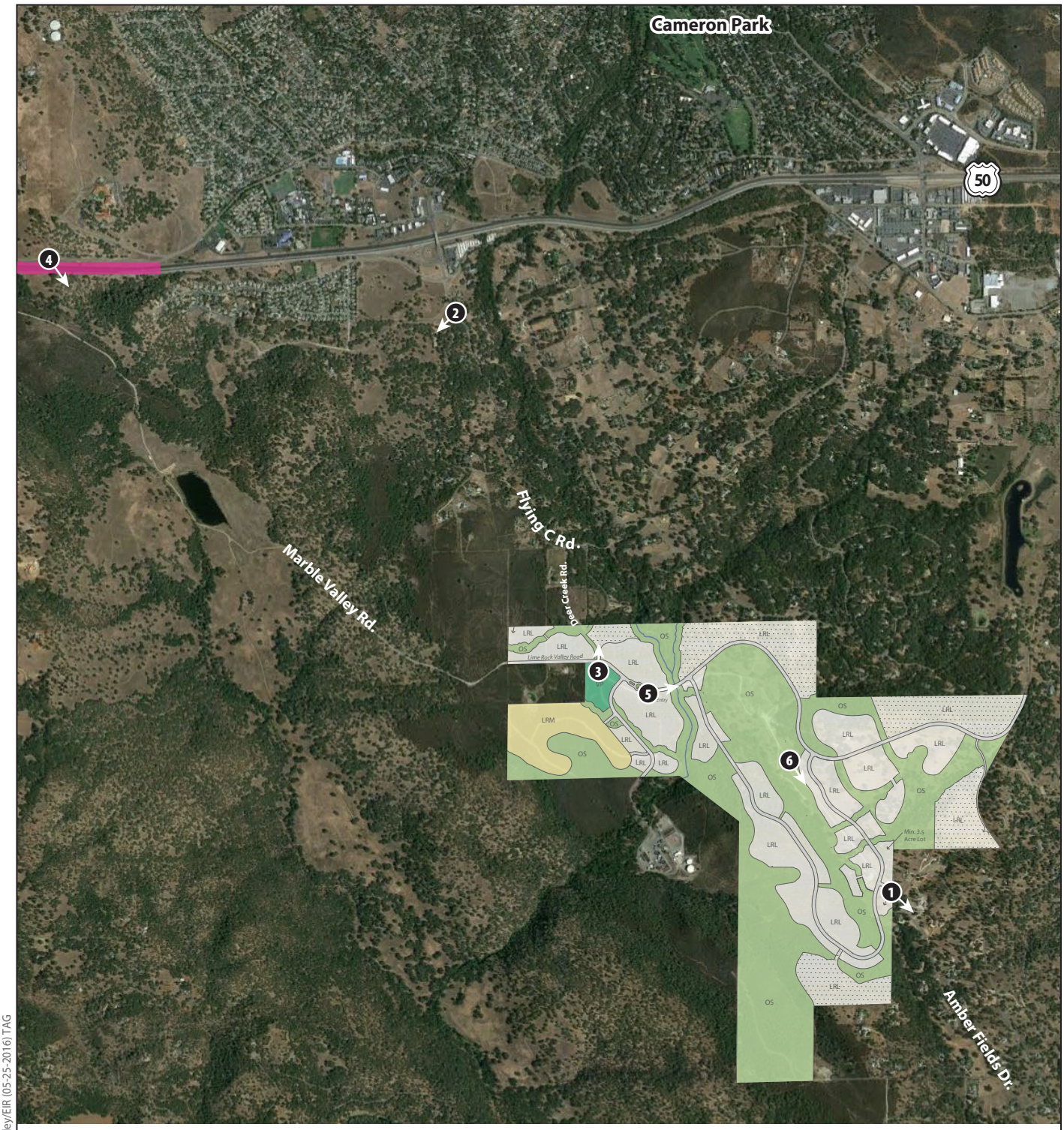
Offsite Improvements Without Village of Marble Valley Specific Plan Infrastructure

If VMVSP is not constructed, the LRVSP applicant would become responsible for implementing the new connection of Marble Valley Parkway to the US 50/Bass Lake Road interchange; extension of the new Lime Rock Valley Road to Deer Creek Road; and portions of the potable water transmission main improvements shown in Figure 2-14. These changes would widen offsite existing rural roadways, giving them a more suburban appearance by removing unpaved shoulders and replacing

them with curbs and gutters, adding more roadway striping. Moreover, vegetation would have to be removed to trench and install underground water lines. These changes are not likely to be seen in vista views because offsite topography and trees and onsite topography, trees, and development would obscure them from view. The water line would be placed underground and would not be visible. The Lime Rock Valley Road extension would not be visible because these improvements would occur out of view from sensitive viewers.

Views from the portions of US 50 that have scenic viewpoints would not be greatly affected because the proposed Marble Valley Parkway connection to Bass Lake Road would widen an existing roadway corridor. Terrain, existing trees, and the curvature of Marble Valley Parkway would limit available views of Marble Valley Parkway and it would primarily be visible from its intersection with the eastbound US 50 on- and off-ramps at Bass Lake Road to approximately Marble Ridge Road. Because a roadway corridor already exists and travelers on US 50 pass by quickly, views from scenic portions of US 50 would not appear to be substantially altered.

Only limited views of changes would be visible, and changes would not greatly alter the existing visual landscape. County policies, zoning ordinances, and design review would ensure that the proposed project further minimizes visual impacts associated with offsite improvements. Therefore, these impacts would be less than significant.



Legend

- # Representative Photo Location
- El Dorado Scenic Viewpoints and Highways
- LRL — Lime Rock Residential Low
- LRL — Lime Rock Residential Law (5 ac. min. lot)
- LRM — Lime Rock Residential Medium
- OS — Open Space
- VP — Village Park

1,000 feet

N

00667.12 El Dorado Co-Village of Marble Valley/EIR (05-25-2016) TAG

ICF

Figure 3.1-1
Representative Photo and Simulation Locations

Photo 1: Looking southeast from the southeastern project boundary towards the gated access at Amber Fields Drive.

Photo 2: Looking southwest towards the proposed project from Flying C Road, near the gated entrance for Cameron Estates.

Graphics 006612 (6/28/21) AB

ICF

Figure 3.1-2a
Representative Photographs

Photo 3: Looking north down Deer Creek Road from the dirt access road in the northwestern portion of the project site.

Photo 4: Looking southeast towards the project site from Country Club Drive, just north of US 50.

Graphics 006612 (6/28/21) AB

ICF

Figure 3.1-2b
Representative Photographs

Photo 5: Looking east towards Shingle Lime Mine Road and the transition from manzanita chaparral to blue oak woodlands from the dirt access road in the northern portion of the project site.

Photo 6: Looking southeast down Amber Fields Drive and toward historic limestone tailings and buildings associated with the Lime Rock Valley Historic District in the central portion of the project site.

Graphics 006612 (6/28/21) AB

ICF

Figure 3.1-2c
Representative Photographs

3.2 Air Quality

Air quality describes the amount of air pollution to which the public is exposed. Air quality is an important consideration for build-out of the LRVSP because of current regional air quality conditions, which exceed certain federal and state ambient air quality standards. The air quality study area encompasses the areas directly and indirectly affected by construction activities and operation of new development within the LRVSP. Two geographic scales define the study area—the *local study area* is the construction footprint plus areas within 1,000 feet, and the *regional study area* is the affected air basin. The LRVSP is in unincorporated El Dorado County, which is within the Mountain Counties Air Basin (MCAB).

This section discusses applicable air quality regulations as they pertain to the LRVSP. The section also describes ambient air quality conditions, including existing pollutant concentrations, meteorology, and general locations of sensitive receptors in the local air quality study area. It describes the air quality impacts, if any, that would result from build-out of the LRVSP and provides feasible mitigation for significant impacts where possible. Impacts related to GHGs are described in Section 3.6, *Greenhouse Gas Emissions*.

3.2.1 Existing Conditions

Regulatory Setting

The agencies of direct importance to the proposed project for air quality are the U.S. Environmental Protection Agency (USEPA), California Air Resources Board (CARB), and El Dorado County Air Quality Management District (EDCAQMD). USEPA has established federal air quality standards for which CARB and EDCAQMD have primary implementation responsibility. CARB and EDCAQMD are also responsible for ensuring that state air quality standards are met.

Federal

Clean Air Act and National Ambient Air Quality Standards

The federal Clean Air Act (CAA) was first enacted in 1963 and has been amended numerous times in subsequent years (1965, 1967, 1970, 1977, and 1990). The CAA establishes federal air quality standards, known as *national ambient air quality standards* (NAAQS), and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The plans must include pollution-control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. Table 3.2-1 shows the NAAQS currently in effect for each criteria pollutant. The California ambient air quality standards (CAAQS) (described below) are also provided for reference.

Table 3.2-1. National and State Ambient Air Quality Standards

Criteria Pollutant	Average Time	California Standards	National Standards [a]	
			Primary	Secondary
Ozone	1-hour	0.09 ppm*	None [b]	None [b]
	8–hour	0.070 ppm	0.070 ppm [c]	0.070 ppm [c]
Particulate matter (PM_{10})	24-hour	50 μg/m³**	150 μg/m³	150 μg/m³
	Annual mean	20 μg/m³	None	None
Fine particulate matter ($PM_{2.5}$)	24-hour	None	35 μg/m³	35 μg/m³
	Annual mean	12 μg/m³	9.0 μg/m³ [d]	15.0 μg/m³
Carbon monoxide	8-hour	9.0 ppm	9 ppm	None
	1-hour	20 ppm	35 ppm	None
	8-hour (Lake Tahoe)	6 ppm	None	None
Nitrogen dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1-hour	0.18 ppm	0.100 ppm	None
Sulfur dioxide [e]	Annual mean	None	0.030 ppm	None
	24-hour	0.04 ppm	0.14 ppm	None
	3-hour	None	None	0.5 ppm
	1-hour	0.25 ppm	0.075 ppm	None
Lead	30-day average	1.5 μg/m³	None	None
	Calendar quarter	None	1.5 μg/m³	1.5 μg/m³
	3-month average	None	0.15 μg/m³	0.15 μg/m³
Sulfates	24-hour	25 μg/m³	None	None
Visibility reducing particles	8-hour	–[f]	None	None
Hydrogen sulfide	1-hour	0.03 ppm	None	None
Vinyl chloride	24-hour	0.01 ppm	None	None

Source: CARB 2016a.

[a] National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

[b] The federal 1-hour standard of 12 parts per hundred million was in effect from 1979 through June 15, 2005. The revoked standard is referenced because it was employed for such a long period and is a benchmark for State Implementation Plans.

[c] The federal 8-hour standard of 75 parts per billion was lowered to 70 parts per billion on October 1, 2015.

[d] The federal annual standard of 12.0 μg/m³ was lowered to 9.0 μg/m³ on February 7, 2024.

[e] The annual and 24-hour national ambient air quality standards for sulfur dioxide only apply for 1 year after designation of the new 1-hour standard to those areas that were previously nonattainment for 24-hour and annual National Ambient Air Quality Standards.

[f] The California ambient air quality standards for visibility-reducing particles is defined by an extinction coefficient of 0.23 per kilometer: visibility of 10 miles or more due to particles when relative humidity is less than 70%.

* ppm = parts per million.

** μg/m³ = micrograms per cubic meter.

Nonroad Diesel Rule

USEPA established a series of increasingly strict emission standards for new off-road diesel equipment, on-road diesel trucks, and harbor craft. New construction equipment used to implement the proposed project, including heavy-duty trucks and off-road construction equipment, will be required to comply with the emission standards.

Vehicle Emission Standards

The National Highway Traffic Safety Administration (NHTSA) and USEPA set corporate average fuel economy (CAFE) standards for passenger cars and light trucks (collectively, light-duty vehicles) and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. CAFE standards require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8% annually for model years 2024 and 2025, and 10% annually for model year 2026. Phase 2 of the *Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles* applies to medium- and heavy-duty vehicle model years 2019 through 2027.

On April 12, 2023, USEPA proposed two new federal vehicle standards that will build on the existing CAFE and Phase 2 standards. The *Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium Duty Vehicles* proposes more stringent emission standards for light-duty and medium-duty vehicles for model years 2027 through 2032 and accelerates the deployment of electric and clean vehicles. The *Greenhouse Gas Standards for Heavy-Duty Vehicles—Phase 3* establishes fleet mix performance standards for vocational vehicles (e.g., delivery trucks) and trucks typically used to haul freight.

Radon Action Level

There are no current state or federal regulations related to permissible exposure levels for radon. However, USEPA has recommended an indoor action level for radon exposure, which is 4 picocurie[1] per liter (pCi/L). In existing homes with radon levels of more than 4 pCi/L, USEPA recommends taking corrective measures to reduce exposure to radon gas. Although USEPA has developed an action level of 4 Ci/L for radon exposure, there is no known safe level of exposure to radon (USEPA 2014).

State Regulations

California Clean Air Act and California Ambient Air Quality Standards

In 1988, the state legislature adopted the California Clean Air Act (CCAA), which established a statewide air pollution control program. CCAA requires all air districts in the state to endeavor to meet the CAAQS by the earliest practical date. Unlike the federal CAA, the CCAA does not set precise attainment deadlines. Instead, the CCAA establishes increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than the NAAQS and incorporate additional standards for sulfates (SO_4), hydrogen sulfide (H_2S), vinyl chloride (C_2H_3Cl), and visibility-reducing particles. The CAAQS and NAAQS are listed together in Table 3.2-1.

CARB and local air districts bear responsibility for achieving California's air quality standards, which are to be achieved through district-level air quality management plans that would be incorporated into the SIP. In California, USEPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts. CARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for

[1] A *picocurie* (pCi) is a measure of the rate of radium decay, or radiation. Radium decays at a rate of about 2.2 trillion disintegrations (2.2x1012) per minute. Thus, a picocurie represents 2.2 disintegrations per minute.

reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

The CCAA substantially adds to the authority and responsibilities of air districts. The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The CCAA also emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. The CCAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures.

Vehicle Efficiency and Zero-Emissions Standards

AB 1493 (Pavley I) required CARB to develop and implement regulations to reduce automobile and light-truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with model year 2009. In 2012, additional strengthening of the Pavley standards (referred to as the Advanced Clean Cars measure) was adopted for vehicle model years 2017 through 2025. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025.

In August 2022, CARB Board members voted to approve the Advanced Clean Cars II proposal, which will dramatically reduce emissions from passenger cars for model years 2026 through 2035. This requires an increasing proportion of new vehicles to be zero-emission vehicles, with the goal of 100 percent zero-emission vehicles for new vehicles sold by 2035.

CARB also adopted the Advanced Clean Truck Regulation to accelerate a large-scale transition of zero-emission medium- and heavy-duty vehicles. The regulation requires the sale of zero-emission medium- and heavy-duty vehicles as an increasing percentage of total annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55 percent of Class 2b and 3 truck sales, 75 percent of Class 4 through 8 straight truck sales, and 40 percent of truck tractor sales. By 2045, every new medium- and heavy-duty truck sold in California will be zero-emission. Large employers, including retailers, manufacturers, brokers, and others, are required to report information about shipments and shuttle services to better ensure that fleets purchase available zero-emission trucks.

Carl Moyer Program Air Quality Standards Attainment Program

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) is a voluntary program that offers grants to owners of heavy-duty vehicles and equipment. The program is a partnership between CARB and the local air districts throughout the state to reduce air-pollution emissions from heavy-duty engines. Locally, the air districts administer the Carl Moyer Program.

Toxic Air Contaminant Regulation

California regulates toxic air contaminants (TACs) primarily through the Toxic Air Contaminant Identification and Control Act (Tanner Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Hot Spots Act). In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Act created California's program to reduce exposure to air toxics. The Hot Spots Act supplements the Tanner Act by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

CARB has identified diesel particulate matter (DPM) as a TAC and approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The plan identifies 14 measures that target new and existing on-road vehicles (e.g., heavy-duty trucks and buses), off-road equipment (e.g., graders, tractors, forklifts, sweepers, boats), portable equipment (e.g., pumps), and stationary engines (e.g., stand-by power generators). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. To date, CARB has identified 21 TACs and has also adopted the USEPA's list of hazardous air pollutants (HAPs) as TACs.

Local Regulations

El Dorado County General Plan

The *Public Health, Safety, and Noise Element* of the *El Dorado County General Plan* (General Plan) (El Dorado County 2019) includes the following goals, objectives, and policies regarding air quality. The full text of these goals, objectives, and policies can be found in Appendix B of the Draft EIR, which provides an analysis of the proposed project's consistency with County General Plan policies as required under State CEQA Guidelines Section 15125.

- **Goal 6.7, *Air Quality Maintenance***, strives to achieve and maintain ambient air quality standards that USEPA and CARB established and minimize public exposure to toxic or hazardous air pollutants and air pollutants that create unpleasant odors. This goal includes the following Objectives.
    - **Objective 6.7.2, *Vehicular Emissions***, and implementing Policy 6.7.2.5, which encourages use of and facilities for alternative-fuel vehicles, including low-emission vehicles used in construction.
    - **Objective 6.7.4, *Project Design and Mixed Uses***, and implementing Policies 6.7.4.1, 6.7.4.2, and 6.7.4.4, which encourage project design that protects air quality and minimizes direct and indirect emissions of air contaminants.
    - **Objective 6.7.6, *Air Pollution-Sensitive Land Uses***, and implementing Policies 6.7.6.1 and 6.7.6.2, which direct that air pollution sensitive land uses be separated by significant sources of air pollution.
    - **Objective 6.7.7, *Construction-Related, Short-Term Emissions***, and implementing Policy 6.7.7.1, which requires that short-term construction, long-term operations, and toxic and odor-related impacts be evaluated in accordance with EDCAQMD CEQA Guidelines and feasible mitigation developed for such impacts.

In addition, the *Public Health, Safety, and Noise Element* includes the following goal that addresses naturally occurring asbestos (NOA).

- **Goal 6.3, *Geologic and Seismic Hazards***, addresses minimizing threats to life and property from geologic hazards, such as NOA, through evaluation of NOA hazards and includes Objective 6.3.1, *Building and Site Standards*, and implementing Policies 6.3.1.1, 6.3.1.2, and 6.3.3.3.
    - **Policy 6.3.1.1** requires that all discretionary projects and all projects requiring a grading permit, or a building permit that would result in earth disturbance, that are located in areas likely to contain NOA retain a California-registered geologist knowledgeable about asbestos-

containing formations to inspect the project area for the presence of asbestos using appropriate test methods.

El Dorado County Code

The following code addresses NOA.

- **Chapter 8.44 of the County Code**, including Sections 8.44.030 (General Requirements for Grading, Excavation and Construction Activities), 8.44.050 (General Procedures for Abatement and Penalties), and 8.44.060 (Real Estate Transfer Disclosure). The requirements and enforcement that these codes provide would apply to the proposed project and the mitigation adopted herein.

El Dorado County Air Quality Management District

At the local level, responsibilities of air quality districts include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality–related sections of environmental documents required by CEQA. The air quality districts are also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws and ensuring that NAAQS and CAAQS are met.

The proposed project falls under the jurisdiction of EDCAQMD, which has local air quality jurisdiction over projects in El Dorado County. EDCAQMD has adopted advisory emission thresholds to assist CEQA lead agencies in determining the level of significance of a project's emissions, which are outlined in its *Determining Significance of Air Quality Impacts under the California Environmental Quality Act* (CEQA Guidelines) (EDCAQMD 2002). EDCAQMD has also adopted the *Sacramento Regional 2015 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (2015 Ozone Plan) (EDCAQMD et al. 2023). Air districts within the Sacramento Federal Nonattainment Area (SFNA) developed the 2015 Ozone Plan,[2] which outlines how the SFNA will meet the 70 parts per billion (ppb) 8-hour ozone NAAQS.

In addition to air quality plans, EDCAQMD also adopts rules and regulations to improve existing and future air quality. The following rules are most pertinent to the proposed project.

- **Rule 202, *Visible Emissions***. Limits emissions that are darker in shade than No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to a degree equal to or greater than smoke.
- **Rule 205, *Nuisance***. Prohibits discharge of air contaminants or other material that 1) cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; 2) endanger the comfort, repose, health, or safety of any such persons or the public; or 3) cause, or have a natural tendency to cause, injury, or damage to business or property.
- **Rule 207, *Particulate Matter***. Limits particulate matter (PM) emissions in excess of 0.1 grains per cubic foot of dry exhaust gas.

[2] The SFNA includes Sacramento and Yolo counties, the western portion of El Dorado and Placer counties, the southern portion of Sutter County, and the northeastern portion of Solano County. Air districts in SFNA consist of the Sacramento Metropolitan Air Quality Management District (SMAQMD) and Yolo–Solano Air Quality Management District, as well as parts of EDCAQMD, Placer County Air Pollution Control District, and Feather River Air Quality Management District.

- **Rule 215, *Architectural Coatings***. Specifies volatile organic compound (VOC) content limits for architectural coatings applied within El Dorado County.
- **Rule 223-1, *Fugitive Dust***. Limits fugitive-dust emissions from construction and construction-related activities. The rule requires submission of a detailed Fugitive Dust-Control Plan to EDCAQMD prior to the start of any construction activity for which El Dorado County issued a grading permit.
- **Rule 223-2, *Asbestos Hazard Mitigation***. Requires that an Asbestos Dust Mitigation Plan must be prepared, submitted, approved, and implemented when more than 20 cubic yards of earth will be moved at all sites identified as being in Asbestos Review Areas, as shown on the EDCAQMD's *El Dorado County Naturally Occurring Asbestos Review Map*.
- **Rule 224, *Cutback Asphalt Paving Material***. Specifies VOC content limits for cutback asphalt.
- **Rule 233, *Stationary Internal Combustion Engines***. Limits nitrogen oxides (NO_X) and carbon monoxide (CO) emissions from stationary internal-combustion engines.

Environmental Setting

Climatological conditions, topography, and the types and amounts of pollutants emitted all affect ambient air quality. The following sections summarize how air pollution moves through the air, water, and soil within the air basin and how it is chemically changed in the presence of other chemicals and particles. This section also summarizes local climate conditions, existing air quality conditions, and sensitive receptors that project-generated emissions may affect.

Regional Climate and Meteorology

The primary factors that contribute to overall air quality are the locations of air-pollutant sources and the amount of pollutants emitted from those sources. Meteorological conditions and topography are also important contributing factors. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, interact with the physical features of the landscape to direct the movement and dispersal of air pollutants.

California is divided into 15 air basins based on geographic features that create distinctive regional climates. The proposed project's air quality study area is in the MCAB, which lies along the northern Sierra Nevada, close to or contiguous with the California–Nevada state line, and covers roughly 11,000 square miles. Elevations range from over 10,000 feet at the Sierra Nevada crest down to several hundred feet above sea level at the Sacramento County boundary. Throughout El Dorado County, the topography is highly variable and includes rugged mountain peaks and valleys with extreme slopes and altitude differences in the Sierra Nevada and rolling foothills to the west. The western slope of El Dorado County, from the Tahoe Basin rim on the east to the Sacramento County boundary on the west, lies within the MCAB.

The general climate of the MCAB varies considerably with elevation and proximity to the Sierra Nevada crest. The MCAB's terrain features enable various climates to occur in relatively close proximity. The pattern of mountains and hills causes a wide variation in rainfall, temperature, and localized winds throughout the MCAB. Temperature variations have an important influence on basin wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry.

The Sierra Nevada receives large amounts of precipitation from storms moving in from the Pacific Ocean in the winter, with lighter amounts from intermittent monsoonal moisture flows from the

south and cumulus buildup during the summer. Precipitation levels are high in the highest mountain elevations but decline rapidly toward the western portion of the basin. Winter temperatures in the mountains can be below freezing for weeks at a time, and substantial depths of snow can accumulate. In the western foothills, however, winter temperatures usually dip below freezing only at night, and precipitation is mixed as rain or light snow. In the summer, temperatures in the mountains are mild, with daytime peaks in the 70s to low 80 degrees Fahrenheit (°F), but the lower elevations in western portions of the county can routinely exceed 100°F.

The topography and meteorology of the MCAB combine such that local conditions predominate in directing the effect of emissions in the basin. The mountains and hills affect regional airflows by hindering dispersion, directing surface air flows, causing shallow vertical mixing, and creating areas of high pollutant concentrations. Inversion layers (where warm air overlays cooler air) frequently form and trap pollutants close to the ground. In the winter, these conditions can lead to elevated CO concentrations, known as *hot spots*, along heavily traveled roads and at busy intersections.

During longer daylight hours in summer, stagnant air, high temperatures, and plentiful sunshine provide the conditions and energy for the photochemical reaction between reactive organic compounds (ROG) and NO_X (i.e., ozone precursors) that results in the formation of ozone. In the summer, the strong upwind valley air flowing into the basin from the Central Valley to the west is an effective transport medium for ozone precursors and ozone generated in the San Francisco Bay Area and the Sacramento and San Joaquin valleys to flow into the MCAB. These transported pollutants are the predominate cause of ozone in the MCAB and are largely responsible for exceedances of the federal and state ozone standards in the MCAB. CARB has officially designated the MCAB as "ozone impacted" by transport from those areas (Title 17 California Code of Regulations [CCR] § 70500).

Criteria Pollutants of Concern

As discussed above, the federal and state governments have established NAAQS and CAAQS, respectively, for six criteria pollutants: ozone, CO, lead (Pb), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and PM, which consists of PM 10 microns in diameter or less (PM10) and PM 2.5 microns in diameter or less (PM2.5). Ozone is considered a regional pollutant because its precursors combine to affect air quality on a regional scale. Pollutants such as CO, NO_2, SO_2, and Pb are considered local pollutants that tend to accumulate in the air locally. PM is both a local and a regional pollutant. The primary criteria pollutants of concern that would be generated by the LRVSP are ozone precursors (ROG and NO_X), CO, and PM.[3, 4] Principal characteristics surrounding these pollutants are described below.

All criteria pollutants can result in human health and environmental effects at certain concentrations. The ambient air quality standards for these pollutants (Table 3.2-1) have been established to protect public health and the environment within an adequate margin of safety (CAA § 109). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants and form the scientific basis for new and revised ambient air quality standards.

[3] As discussed above, there are also ambient air quality standards for SO_2, Pb, sulfates, hydrogen sulfide, vinyl chloride, and visibility particulates. However, these pollutants are typically associated with industrial sources, which are not included as part of the project. Accordingly, they are not evaluated further.

[4] Most emission of NO_X are in the form of nitric oxide (Reşitoğlu 2018). Conversion to NO_2 occurs in the atmosphere as pollutants disperse downwind. Accordingly, NO_2 is not considered a local pollutant of concern for the proposed project and is not evaluated further.

Principal characteristics and possible health and environmental effects from exposure to the primary criteria pollutants the proposed project may generate are discussed below.

Ozone

Ozone, or smog, is photochemical oxidant formed when ROGs and NO_X (both by-products of the internal-combustion engine) react with sunlight. ROGs are compounds primarily composed of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROGs include emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products, such as aerosols. The two major forms of NO_X are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion occurs under high temperatures and/or high pressure. NO_2 is an irritating, reddish-brown gas formed by the combination of NO and oxygen. In addition to serving as an integral participant in ozone formation, NO_X also directly acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens by causing impairments to the immune system.

Ozone poses a higher risk to those who already suffer from respiratory diseases (e.g., asthma), children, older adults, and people who are active outdoors. Exposure to ozone at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage the airways, aggregate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease. Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest that long-term exposure to ozone may increase the risk of respiratory-related deaths (USEPA 2018a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 ppb of ozone and a 50-percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 ppb (USEPA 2016).

In addition to human health effects, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature plant death. Ozone can also act as a corrosive and oxidant, resulting in property damage, such as the degradation of rubber products.

Carbon Monoxide

CO is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. In the study area, high CO levels are of greatest concern during the winter, when periods of light winds combine with the formation of ground-level temperature inversions from evening through early morning. These conditions trap pollutants near the ground, reducing the dispersion of vehicle emissions. Moreover, motor vehicles exhibit increased CO emission rates at low air temperatures. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. No ecological or environmental effects are associated with ambient CO (CARB 2016b).

Particulate Matter

PM consists of finely divided solids or liquids, such as soot, dust, aerosols, fumes, and mists. Two forms of particulates are currently generally considered: PM10 and PM2.5. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading.

Particulate pollution can be transported over long distances, and both PM_{10} and $PM_{2.5}$ may adversely affect human health, especially for people who are naturally sensitive or susceptible to breathing problems. Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. In 2008, CARB estimated that annual $PM_{2.5}$ emissions for the entire Sacramento metropolitan area[5] causes 90 premature deaths, 20 hospital admissions, 1,200 asthma and lower respiratory symptom cases, 110 acute bronchitis cases, 7,900 lost workdays, and 42,000 minor restricted activity days (SMAQMD 2013). Depending on composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (USEPA 2018b).

Existing Air Quality Conditions

CARB collects ambient air quality data through a network of air-monitoring stations throughout the state. In El Dorado County, three stations record ozone levels, and one station records PM10 levels. No monitoring stations in the County collect data on PM2.5 or NO_2. The closest ozone-monitoring station is the Placerville–Gold Nugget Way station, approximately 12 miles east of the project area. The PM10 monitoring station is in the Lake Tahoe Air Basin (LTAB) portion of El Dorado County. Given the distinct meteorological conditions in the LTAB, which can influence pollutant concentrations, PM10 data from the Sacramento–Branch Center Road monitoring station in Sacramento County,[6] approximately 19 miles west of the project area, are used as representative data for the project area. PM2.5 and NO_2 data are from the Folsom–Natoma Street station, also in Sacramento County.

Table 3.2-2 summarizes ozone and PM10 levels for the last 3 years for which complete data are available (i.e., 2020–2022). As shown in Table 3.2-2, the Placerville–Gold Nugget Way station has experienced frequent violations of the ozone standards. At least 10 violations of the state 24-hour PM_{10} standard were recorded at the Sacramento–Branch Center Road station in 2020, 4 violations in 2021, and 1 violation in 2020; 10 violations of the PM2.5 standard were recorded at the Folsom–Natoma Street station in 2021 and 2 violations in 2022. No violations of the NO_2 standards were recorded at the Folsom–Natoma Street station over the past 3 years. As discussed above, the CAAQS and NAAQS represent concentration limits of criteria air pollutants needed to adequately protect human health and the environment. Existing violations of the ozone and PM ambient air quality standards indicate that certain individuals exposed to this pollutant may experience certain health effects, including increased incidence of acute and chronic cardiovascular and respiratory ailments.

[5] The Sacramento metropolitan area includes Sacramento and Yolo counties and portions of Placer, Solano, and El Dorado counties.

[6] Sacramento County is in the Sacramento Valley Air Basin, which borders the MCAB to the west.

Table 3.2-2. Ambient Criteria Air Pollutant Monitoring Data (2020–2022)

Pollutant Standards	2020	2021	2022
Ozone (O_3)			
Maximum 1-hour concentration (ppm)	0.127	0.090	0.062
Maximum 8-hour concentration (ppm)	0.101	0.080	0.056
Number of Days Standard Exceeded [a]			
CAAQS 1-hour (>0.09 ppm)	4	0	0
CAAQS 8-hour (>0.070 ppm)	20	10	0
NAAQS 8-hour (>0.075 ppm)	20	10	0
Particulate Matter (PM_{10}) [c]			
National maximum 24-hour concentration (µg/m³) [b]	201.0	57.0	55.0
National second-highest 24-hour concentration (µg/m³) [b]	109.0	56.0	49.0
State maximum 24-hour concentration (µg/m³) [c]	203.0	58.0	54.0
State second-highest 24-hour concentration (µg/m³) [c]	109.3	56.0	49.0
National annual average concentration (µg/m³)	33.2	24.2	21.8
State annual average concentration (µg/m³)	–	24.8	22.3
Number of Days Standard Exceeded [a]			
NAAQS 24-hour (>150 µg/m³)	7	0	0
CAAQS 24-hour (>50 µg/m³)	10	4	1
Particulate Matter ($PM_{2.5}$)			
National maximum 24-hour concentration (µg/m³) [b]	19.6	265.7	73.0
National second-highest 24-hour concentration (µg/m³) [b]	19.3	133.0	64.2
State maximum 24-hour concentration (µg/m³) [c]	21.5	265.7	73.5
State second-highest 24-hour concentration (µg/m³) [c]	19.6	133.0	64.3
National annual average concentration (µg/m³)	–	10.3	6.3
State annual average concentration (µg/m³)	–	9.3	7.3
Number of days standard exceeded [a]			
NAAQS 24-hour (>35 mg/m³)	0	10	2
Nitrogen Dioxide (NO_2)			
National maximum 1-hour concentration (ppm) [b]	–	14.0	23.0
State maximum 1-hour concentration (ppm) [c]	–	14	23
State annual average concentration (ppm) [c]	–	13	20
Number of Days Standard Exceeded [a]			
NAAQS 1-hour (98th percentile >0.100 ppm)	0	0	0
CAAQS 1-hour (0.18 ppm)	0	0	0

Source: CARB 2023a.

[a] Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been rounded. An exceedance of a standard is not necessarily a violation because each pollutant has specific criteria on which a violation of the federal and state standards would occur.

[b] National statistics are based on standard conditions data and samplers using federal reference or equivalent methods.

[c] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California-approved samplers.

"–" = data not available; µg/m^3 = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standards; mg/m^3 = milligrams per cubic meter; NAAQS = National Ambient Air Quality Standards; ppm = parts per million.

Attainment Status

Local monitoring data (Table 3.2-2) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS. The four designations are defined as follows.

- **Nonattainment**. Assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- **Maintenance**. Assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- **Attainment**. Assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- **Unclassified**. Assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.

Table 3.2-3 summarizes the attainment status of the project area with regard to the NAAQS and CAAQS.

Table 3.2-3. Federal and State Attainment Status for the Project Area

Criteria Pollutant	Federal Designation	State Designation
O_3 (8-hour)	Serious nonattainment (P) [a]	Nonattainment
CO	Attainment	Unclassified
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Moderate nonattainment (P)	Unclassified
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified
Visibility-reducing Particles	(No federal standard)	Unclassified

Source: CARB 2023b; USEPA 2024.

[a] (P) Designation applies to the project area portion of El Dorado County.

CO = carbon monoxide; O_3 = ozone; PM_{10} = particulate matter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide.

Toxic Air Contaminants

Although ambient air quality standards have been established for criteria pollutants, no ambient standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, CARB has consistently found that there are no levels or thresholds below which exposure is risk-free. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. The California Office of Environmental Health Hazard Assessment identifies TACs and studies their toxicity. The primary TACs of concern associated with the proposed project are DPM and asbestos, both of which are discussed below.

Diesel Particulate Matter

DPM is generated by diesel-fueled equipment and vehicles. CARB estimates that DPM emissions are responsible for about 70 percent of the total ambient air toxics risk (CARB 2000). Short-term exposure to DPM can cause acute irritation (e.g., eye, throat, bronchial), neurophysiological symptoms (e.g., lightheadedness, nausea), and respiratory symptoms (e.g., cough, phlegm). USEPA (2002) has determined that diesel exhaust is "likely to be carcinogenic to humans by inhalation".

The closest proposed residential unit in the project area is approximately 1.25 miles south of U.S. Highway 50 (US 50), which is a heavily traveled roadway and a source of DPM. Based on data from SMAQMD (2023), the existing cancer risk at 1.25 miles south of US 50, which is the distance to the closest proposed residential land use, is 3 per million.[7]

Asbestos

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have mined for applications requiring thermal insulation, chemical and thermal stability, and high tensile strength. Before the adverse health effects of asbestos were identified, it was widely used as insulation and fireproofing in buildings, and asbestos can still be found in some older buildings. It is also found in its natural state in rock or soil (i.e. NOA).

Exposure and disturbance of rock and soil that contain asbestos can result in the release of fibers to the air and consequent exposure to the public. Asbestos can result in a human health hazard when airborne. The inhalation of asbestos fibers into the lungs can result in a variety of adverse health effects, including inflammation of the lungs, respiratory ailments (e.g., asbestosis, which is scarring of lung tissue that results in constricted breathing), and cancer (e.g., lung cancer and mesothelioma, a cancer of the linings of the lungs and abdomen). NOA most commonly occurs in ultramafic rock (i.e., igneous and metamorphic rock with low silica content) that has undergone partial or complete alteration to serpentine rock (or serpentinite) and often contains chrysotile asbestos. Another form of asbestos, tremolite, is associated with ultramafic rock, particularly near geologic faults. Bands of NOA, trending in a north–south direction, occur in western El Dorado County in the general vicinities of Georgetown and El Dorado Hills (California Department of Conservation 2000). Construction activities in ultramafic rock deposits may be a source of asbestos emissions if NOA is present.

As shown in Figure 3.2-1, portions of the proposed project lie within areas known to contain NOA. Accordingly, geological conditions in some areas of the LRVSP could have a higher likelihood for NOA.

Radon

Although not a TAC, nor USEPA-, CARB-, or EDCAQMD-regulated, *radon* is a naturally occurring odorless, tasteless, and invisible radioactive gas formed from the natural decay of uranium in soil, rock, and water. Typical exposure is from inhalation of radon as it moves up through the ground into the air. Radon can seep into homes through cracks in foundations, walls, and joints (CDPH 2014; USEPA n.d.), and it is estimated the average indoor radon concentration in U.S. homes is

[7] Because the risk-mapping tool only includes data for Sacramento County, values 1.25 miles south of US 50, at the Sacramento–El Dorado County line, were selected. The corresponding health risks at this location are likely greater than those at the project site because traffic volumes at the county boarder are greater than at the Cambridge Road interchange.

approximately 1.3 pCi/L of air, whereas the average outdoor radon concentration is 0.4 pCi/L (USEPA 2014). Prolonged human exposure to radon can lead to lung cancer; USEPA estimates that radon is the second leading cause of lung cancer in the United States and results in approximately 21,000 cancer-related deaths each year (USEPA 2012). Radon exposure is the leading cause of lung cancer among nonsmokers (USEPA n.d.).

Radon is found throughout California because it exists in all soil and rock, although certain areas of the state have higher radon levels than others (CDPH 2014). It is estimated that nearly 1 out of every 15 homes in the United States has elevated radon levels (USEPA 2012). Within El Dorado County, most radon potential is found in the Lake Tahoe area (California Geological Survey 2009), although non-Lake Tahoe areas within the County also have elevated tested levels (California Department of Health Services 2010). Although certain areas within the state and county are more likely to contain higher radon levels than others, the California Department of Public Health (CDPH) notes that radon is a house-to-house issue: a house in an area with low radon potential may have elevated radon levels, but a neighboring house could have low radon levels (CDPH 2014).

As discussed above, neither USEPA nor EDCAQMD has established exposure limits for radon, given that background concentrations vary and are highly dependent on household conditions and site-specific geology. Moreover, because radon is most concentrated in the Lake Tahoe portion of the County, exposure in the project area is not anticipated to represent a substantial concern (e.g., the CDPH radon sampling database indicates that out of 31 tests, only three reported concentrations in excess of 4 pCi/L). Accordingly, radon is not discussed further in this analysis.

Sensitive Receptors

EDCAQMD generally defines *sensitive receptors* as people, or facilities that generally house people (e.g., schools, hospitals, clinics, elderly housing, residences), who may experience adverse effects from unhealthful concentrations of air pollutants. There are no schools, churches, or medical facilities within 1,000 feet of the project area. The project area is bounded by rural residential land uses and the proposed VMVSP area. The nearest residential receptors are adjacent to the northern and eastern boarders of the project area.

Odors

Although offensive odors rarely cause physical harm, they can be unpleasant and lead to considerable distress among the public, which often generates citizen complaints to local governments and air districts. A project that includes activities that could frequently expose the public to objectionable odors would be deemed as one having a significant impact. According to the EDCAQMD CEQA Guidelines and CARB's *Air Quality and Land Use Handbook* (CARB 2005), land uses associated with odor complaints typically include sewage-treatment plants, landfills, recycling facilities, and manufacturing processes.

The Deer Creek Wastewater Treatment Plant (WWTP) is approximately 800 feet from the nearest proposed sensitive land use (residential lots proposed off Deer Creek Road) in the LRVSP. The Deer Creek WWTP does not have any active odor control systems (e.g., foul air and biofilter facilities) that would help contain odors onsite at the WWTP if they were generated. Consultation with EDCAQMD further indicates that air district staff consider the Deer Creek WWTP problematic with respect to odors, and that EDCAQMD foresees a likelihood that residents near the Deer Creek WWTP could complain of odors associated with the facility if odor controls are not installed. (Serieh pers. comm.).

Neither EID nor EDCAQMD has received any odor complaints for the Deer Creek WWTP in the past 3 years (Serieh pers. comm). However, the complaint history is not a valid indictor of the likelihood of exposure of new residences to nuisance odors because there are only a few existing scattered residential receptors within 1,500 feet of the WWTP.

In 1998, in conjunction with revising its National Pollutant Discharge Elimination System permit for a 3.6-million-gallon-per-day (mgd) plant, El Dorado Irrigation District (EID) prepared and certified an environmental impact report (EIR) that evaluated the environmental impacts of constructing and operating the 3.6-mgd-capacity plant. The EIR also evaluated potential expansion to an ultimate capacity of 10.8 mgd. Along with other mitigation measures to address environmental effects, EID adopted mitigation measures to address the potential for odor generated as a result of its operations. The odor-related mitigation measures require that EID implement an odor complaint monitoring program, install odor control mechanisms in response to odor generation problems or future potential odor complaints, and comply with regulatory requirements regarding odor control (El Dorado Irrigation District 1998). An updated odor study was recently conducted for the WWTP and the results are currently being analyzed for the next course of action, including specific odor control strategies (Serieh pers. comm).

3.2.2 Environmental Impacts

This section describes the impact analysis related to air quality for the proposed project, describes the methods used to determine the impacts of the proposed project, and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Methods of Analysis

This section was partially based on the *Air Quality and Greenhouse Gas Modeling Technical Report for the Lime Rock Valley Specific Plan* (Air Quality and GHG Technical Report) (Ascent 2024), which is provided in Appendix C. Please refer to the Air Quality and GHG Technical Report for further information on the emissions quantification and analysis method used in this analysis.

Construction Emissions

Construction of the proposed project would generate emissions of ROG, NOX, CO, PM10, and PM2.5 that would temporarily change ambient air quality in the study area. Emissions would originate from mobile and stationary construction-equipment exhaust, employee-vehicle exhaust, dust from land clearing, and application of architectural coatings. Although it is not possible to develop a refined construction inventory without specific project-level details,8 criteria pollutant emissions from construction of development that would be supported by the proposed project were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1.

Modeling inputs included project-specific land use types and sizes and construction phasing, timing, and activities included in Chapter 2, Project Description, and summarized in the Air Quality and GHG Technical Report (Appendix C). Model defaults for all other assumptions were used for construction

[8] Project-level information includes details such as the size and scale of the project to be constructed, construction schedule, equipment fleet, construction worker-crew estimates, and demolition and grading quantities.

emissions modeling. Buildout of the proposed project was assumed to occur over an extended period, beginning in 2027, with full buildout anticipated around 2045.

Although mass emissions generated during construction of the proposed project have been estimated, the potential for construction DPM emissions to expose sensitive receptors to substantial health risks was evaluated qualitatively based on the types of DPM-generating equipment (e.g., heavy-duty equipment) expected during project construction. Accurately quantifying DPM concentrations and predicting associated health risks (e.g., excess cancer cases) requires detailed, site-specific information about the locations of specific construction activity. Given the preliminary level of design available at this time, the inventory of construction-generated DPM was prepared based on generalized project information and model defaults. Specific details about the timing and locations of individual equipment and vehicles are currently unavailable, and, as such, a quantitative health-risk assessment was not possible.

Operational Emissions

Operation of the proposed project would generate emissions of ROG, NOX, CO, PM10, and PM2.5 that could result in long-term changes to ambient air quality. Three types of air pollutant sources are expected during occupancy of the LRVSP: mobile, area, and energy. Mobile sources are sources of emissions from motor-vehicle trips associated with the future land uses. Area sources include emissions from landscaping activities, consumer products (e.g., personal care products), and periodic paint and architectural coatings emissions from facility upkeep. Energy-source emissions originate from natural-gas combustion utilized for heating and cooking requirements.

Operational emissions were estimated with CalEEMod, version 2022.1, using a combination of project-specific information and model defaults. Modeling inputs included land use types, sizes, and other project details (e.g., vehicle miles traveled [VMT]), as described in the Air Quality and GHG Technical Report (Appendix C). Modeling was conducted under the assumption that project operations would start in 2028 and reach full buildout around 2045.

The analysis of localized CO impacts was conducted using the CARB's EMFAC2021 model, CALINE4 dispersion model, and evening peak-hour traffic data in the transportation impact assessment (Appendix K1). Buildout traffic conditions were modeled to evaluate CO hot-spot concentrations at four study-area intersections. Receptors were placed 9.8 feet from the traveled way at each intersection corner. A standard receptor elevation of 5.9 feet was used, consistent with CO-protocol guidance (Garza et al. 1997). Worst-case wind angles and meteorological conditions were modeled to estimate conservative CO concentrations at each receptor. Pursuant to consultation with EDCAQMD staff, CO concentrations from EDCAQMD's 2002 Guide to Air Quality Assessment, Determining Significance of Air Quality Impacts Under the California Environmental Quality Act (EDCAQMD CEQA Guidelines) were used to define background CO levels because no monitoring stations in El Dorado County collect CO data (Baughman pers. comm.).

The potential for operational DPM emissions to expose sensitive receptors to substantial health risks was evaluated qualitatively based on the types of DPM-generating equipment expected to be used during project operations.

Other Air Quality Considerations Disclosed for Informational Purposes

The California Supreme Court's holding in California Building Industry Assoc. v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369 (CBIA v. BAAQMD) clarified the reduced scope of what is

an environmental impact under CEQA. The California Building Industry Association challenged the Bay Area Air Quality Management District's (BAAQMD) adoption of new CEQA guidance, including thresholds for determining whether a project's exposure to existing levels of TACs would result in a significant impact. The California Supreme Court's review of the case focused on whether CEQA requires "an analysis of how existing environmental conditions will impact future residents or users (receptors) of a proposed project." After reviewing the CEQA statute and State CEQA Guidelines Section 15126.2(a), the California Supreme Court concluded that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents."

The California Supreme Court did not exclude all consideration of existing conditions from CEQA. An agency must "evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present." In addition, in a footnote, the California Supreme Court explained that CEQA does not prohibit an agency from considering, as part of an environmental review, how existing conditions might affect a project's future users or residents. However, the California Supreme Court stopped short of suggesting that the agency should determine the significance of such impacts and require mitigation. In light of the California Supreme Court's decision, existing air quality conditions that would not be exacerbated by the proposed project are not subject to CEQA analysis.

With respect to the LRVSP environmental analysis, these considerations include future resident exposure to existing radon and odors from the Deer Creek WWTP. These considerations are each discussed below.

Radon

As discussed in *Environmental Setting*, radon is found throughout California because it exists in all soil and rock. Certain areas, such as the Lake Tahoe area, have higher radon levels than others. Radon is a naturally occurring substance. Outdoors, radon disperses rapidly and is generally not a health concern (USEPA 2022). Most radon exposure occurs indoors when radon enters and concentrates in homes through cracks or other holes in the foundation. The proposed project would not introduce additional material or exacerbate potential public exposure to increased indoor radon levels. Accordingly, exposure to radon is not subject to CEQA analysis under the California Supreme Court's holding in *CBIA v. BAAQMD*, and no mitigation is required. Nevertheless, it should be noted that, because radon is most concentrated in the Lake Tahoe portion of El Dorado County, exposure in the project area is not anticipated to represent a substantial concern. For example, the CDPH radon-sampling database indicates that, out of 31 tests, only three reported concentrations in excess of 4 pCi/L.

Ambient Odor from the Deer Creek WWTP

Environmental Management Consulting (1999) analyzed wastewater flow rates at the Deer Creek WWTP to determine whether residents of the Marble Valley Master Plan (the current tentative map) would be exposed to nuisance odors. The study assumed the fully built 10.8-mgd capacity of the Deer Creek WWTP and worst-case odor source strengths and meteorological conditions. The results of the study indicated that six lots, as proposed under the 1998 Marble Valley Master Plan, could have odor impacts above the CAAQS for hydrogen sulfide. Residents on lots directly adjacent to the plant may detect odors from the facility. The impacts identified by the Environmental Management Consulting study are conservative in that they assumed extremely low mixing meteorological conditions and odor emission rates that are more than three times the estimated peak emissions.

Although odors from the Deer Creek WWTP may be detected in the project area, additional wastewater flows from the project and adjacent VMVSP development would not exacerbate existing odors at the Deer Creek WWTP. The facility currently treats wastewater using preliminary and primary treatment, secondary treatment, and tertiary treatment. Odor problems associated with properly operated WWTPs stems from the quality of wastewater influent; the potential for the proposed project to increase odors is, therefore, a function of flow. If the proposed project were to decrease flows below current conditions (2.64 mgd), it could decrease odor generation. On the other hand, if the proposed project were to increase flows above the full build 10.8-mgd capacity, the proposed project could increase odors. The LRVSP would add 0.19 mgd, which when added to existing flows (2.64 mgd), yields a total flow rate of 2.83 mgd.[9] This is within the 10.8 mgd full build scenario and existing 3.6-mgd permitted capacity for the Deer Creek WWTP. Accordingly, implementation of the proposed project would not exacerbate existing odors associated with wastewater treatment at the Deer Creek WWTP (Michael Baker International 2016).

Accordingly, future resident exposure to ambient odors from the existing Deer Creek WWTP are not subject to CEQA analysis under the California Supreme Court's holding in *CBIA v. BAAQMD* and no mitigation is required. However, as discussed in the *Environmental Setting*, EID is subject to the odor control measures identified in previous EIRs and the odor study recently completed for the Deer Creek WWTP.

Correlation of Criteria Pollutants to Potential Human Health Consequences

The California Supreme Court's decision in Sierra Club v. County of Fresno (6 Cal. 5th 502) (hereafter referred to as the Friant Ranch Decision) reviewed the long-term regional air quality analysis contained in the EIR for the proposed Community Plan Update and Friant Ranch Specific Plan (Friant Ranch Project). The Friant Ranch Project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin, which is currently in nonattainment under the NAAQS and CAAQS for ozone and PM2.5. The California Supreme Court found that the EIR's 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 California Supreme Court's decision clarified that environmental documents must attempt to connect a project's regional air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

Potential health effects associated with construction and operational criteria pollutants the LRVSP could generate were estimated using SMAQMD's Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District (Friant Ranch Guidance) (Ramboll 2020). The Friant Ranch Guidance provides two Microsoft Excel calculators that were developed from photochemical and health-effects modeling of hypothetical projects throughout the SFNA. The Friant Minor Project Health Screening Tool provides insights on the health effects that may result from projects emitting NOX, ROG, and PM2.5 at levels at or below 82-pounds per day, which corresponds to the highest daily emissions threshold of all SFNA air districts. The Strategic Area Project Health Screening Tool

[9] When flows from the VMVSP (0.79 mgd) are added to the LRVSP flows (0.19 mgd), the combined flow from both projects (0.98 mgd) plus existing flows would be 3.62 mgd, which is still within the current 3.6-mgd permitted capacity of the facility and would be above the current 2.64-mgd flows and below the maximum 10.8-mgd full build condition (Michael Baker International 2016).

estimates health effects that may result from projects emitting NOX, ROG, and PM2.5 at levels between 164- and 656-pounds per day and located within one of five strategic growth areas.

Importantly, outputs from SMAQMD's tools only include health effects of NOX, ROG, and PM2.5 that have been researched sufficiently to be quantifiable (Ramboll 2020). These include the following health endpoints.

- Mortality (from all causes)
- Hospital admissions (i.e., respiratory, asthma, cardiovascular)
- Emergency room visits (i.e., asthma/respiratory)
- Acute myocardial infarction (i.e., heart attack, nonfatal)

As noted in SMAQMD's guidance, research has identified other health effects for both $PM_{2.5}$ and ozone precursors (i.e., ROG and NO_X) (Ramboll 2020). For example, exposure to $PM_{2.5}$ at certain concentrations can: alter metabolism, leading to weight gain and diabetes; cause cognitive decline, brain inflammation, or reduced brain volume; and affect gestation, resulting in low birthweight or preterm birth (Ramboll 2020). Likewise, at high enough doses, exposure to ozone can increase lung permeability, increasing susceptibility to toxins and microorganisms (Ramboll 2020). These and other effects (refer to *Environmental Setting*) have been documented, but a quantitative correlation to project-generated emissions cannot be accurately established based on published studies (Ramboll 2020). Accordingly, these *potential* health effects of project-generated air pollution are qualitatively documented and disclosed.

Thresholds of Significance

Based on State CEQA Guidelines Appendix G, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial criteria pollutant concentrations.
4. Result in other emissions (such as those leading to odors) that adversely affect a substantial number of people.

Local Air District Thresholds

According to the State CEQA Guidelines Section 15064.7, the significance criteria that the applicable air quality management or air pollution control district establishes may be relied on to make significance determinations for potential impacts on environmental resources. As described above, EDCAQMD is responsible for ensuring that federal and state ambient air quality standards are not violated within El Dorado County and has developed its own thresholds of significance to evaluate both construction and operational impacts (EDCAQMD 2002). The following section summarizes the local air district thresholds, presents sustainable evidence regarding the basis on which the thresholds were developed, and describes how they were used to determine whether project construction and operational emissions would result in the following.

- Interfere or impede with attainment of federal or state ambient air quality standards (NAAQS and CAAQS, respectively).
- Cause increased risk to human health.

Attainment of Federal and State Ambient Air Quality Standards

As described in Existing Conditions, the western portion of El Dorado County is in the SFNA for ozone. EDCAQMD has adopted ozone-precursor (i.e., ROG and NOX) thresholds to assist the Sacramento area in reaching attainment status with the federal and state ozone standards. The thresholds, which are described below for both construction and operations, represent levels above which project-generated emissions could affect EDCAQMD's commitment to attain ozone standards in the Sacramento Region (EDCAQMD 2002). Similarly, thresholds for construction-generated fugitive dust and operations-generated CO and PM10, which are the CAAQS, have been adopted to identify projects that could make a substantial contribution to an existing violation of the applicable CAAQS.

Adopted ozone thresholds for construction and operational emissions are described below, as well as thresholds for construction-generated fugitive dust and operations-generated CO and PM10.

Construction-Generated Regional Ozone Precursors[10]

In 2002, EDCAQMD adopted a fuel-based screening threshold for criteria pollutant emissions, where projects with equipment (1996 engine year or newer) that consume less than 402 gallons of fuel per day are considered to have a less-than-significant impact (Resolution 079-2002). Modeling indicates that the proposed project would exceed this screening threshold. Accordingly, EDCAQMD's quantitative threshold of 82 pounds per day is used to evaluate ROG and NOX emissions. This threshold is combined to obtain a total ozone precursor threshold of 164 pounds per day. With the combined threshold, emissions of one pollutant may be in excess of 82 pounds per day; however, if the combined total is below 164 pounds per day, then EDCAQMD considers the impact to be less than significant. For example, a project with NOX emissions of 100 pounds per day and ROG emissions of 20 pounds per day would be considered to have a less-than-significant impact because the combined total would be 120 pounds per day, which is below the combined threshold of 164 pounds per day (Otani pers. comm.).

EDCAQMD's ozone-precursor thresholds were developed to analyze emissions generated by a single project, and thus do not lend well to an evaluation of emissions from a land use plan, like the LRVSP. Large-scale land use plans that consist of numerous individual projects will, by their nature, produce more criteria pollutants than single projects, even if the plans include efficiency measures to reduce emissions. Use of project-level thresholds to evaluate land use plans may therefore unfairly penalize the plans, yielding a significant and unavoidable conclusion simply due to scale. Nevertheless, EDCAQMD's project-level thresholds are used to inform the plan's impacts on air quality.

[10] EDCAQMD CEQA Guidelines indicate that other criteria pollutants (e.g., CO) may result in a significant impact during construction if they exceed federal or state ambient air quality standards. However, the Guidelines (Chapter 4, page 3) also state that if ROG and NO_X emissions are deemed not significant, then exhaust emissions of CO and PM_{10} from construction equipment and worker commute vehicles may also be deemed not significant.

Construction-Generated Fugitive Dust

According to the EDCAQMD CEQA Guidelines, emissions of fugitive-dust PM10 need not be quantified and may be assumed to be not significant if the proposed project includes mitigation measures that prevent visible dust beyond the property lines (EDCAQMD 2002) because mitigation measures that control fugitive-dust emissions can reduce those emissions by approximately 50–75 percent. However, without mitigation, uncontrolled construction dust could contribute to exceedances of the CAAQS and would be considered a significant impact. Use of the PM10 standard as a surrogate for the assessment of PM2.5 impacts is considered appropriate because PM2.5 is a substituent of PM10.

Operations-Generated Regional Ozone Precursors

EDCAQMD has adopted size thresholds for various land uses to identify projects that would result in operational emissions in excess of EDCAQMD's threshold of 82 pounds per day for ROG and NOX. Unlike with construction emissions, the 82-pound-per-day threshold for ROG and NOX cannot be combined for a total ozone threshold. Accordingly, ROG and NOX emissions associated with project operations must be evaluated separately against the 82-pound-per-day threshold (Otani pers. comm.). Based on the EDCAQMD CEQA Guidelines, the proposed project would exceed the residential screening thresholds (i.e., 230 single-family dwelling units, 350 multifamily dwelling units). Accordingly, EDCAQMD's quantitative threshold of 82 pounds per day is used to evaluate ROG and NOX emissions.

As noted above, EDCAQMD's ozone precursor thresholds were developed to analyze emissions generated by a single project, and thus do not lend well to an evaluation of emissions from a land use plan, like the CEDSHP. Nevertheless, EDCAQMD's project-level thresholds are used to inform the plan's impacts on air quality.

Operations-Generated Regional and Local CO and PM10[11]

EDCAQMD considers CO and PM10 emissions significant if they cause or contribute to violations of the NAAQS or CAAQS (EDCAQMD 2002).

Human Health Concerns

As discussed in Environmental Setting, all criteria pollutants that the proposed project could generate are associated with some form of health risk (e.g., asthma, lower respiratory problems). Criteria pollutants can be classified as either regional or localized pollutants. Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. Ozone is considered a regional criteria pollutant, whereas CO, NO2, SO2, and Pb are localized pollutants. PM can be both a local and a regional pollutant, depending on its composition. As discussed above, the primary pollutants of concern for the LRVSP are ozone precursors (i.e., ROG and NOX), CO, PM, and TACs (i.e., DPM and NOA). The following sections discuss thresholds and analysis considerations for regional and local emissions with respect to their human-health implications.

[11] The EDCAQMD's CEQA Guidelines (2002) also consider SO_2, Pb, sulfates, hydrogen sulfide, vinyl chloride, and visibility particulates to be significant if they exceed the federal or state ambient air quality standards. However, these pollutants are typically associated with industrial sources, which are not included as part of the LRVSP. Accordingly, they are not evaluated further.

Regional Project-Generated Criteria Pollutants (Ozone Precursors and Regional PM)

Adverse health effects induced by LRVSP -generated regional criteria pollutant emissions (i.e., ozone precursors and PM) are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, ozone precursors (i.e., ROG and NOX) contribute to the formation of ground-borne ozone on a regional scale. Emissions of ROG and NOX generated in one area may not equate to a specific ozone concentration in that same area. Similarly, some types of particulate pollution may be transported over long distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased ozone or regional PM concentrations are the products of emissions generated by numerous sources throughout a region, as opposed to a single individual project. Moreover, exposure to regional air pollution does not guarantee that an individual will experience an adverse health effect: as discussed above, there are large individual differences in the intensity of symptomatic responses to air pollutants. According to the El Dorado Community Health Assessment, approximately 24 percent of residents in El Dorado County have been diagnosed with asthma (2015–2016 data) and may therefore experience more intense symptomatic responses to air pollution (El Dorado County 2018). However, other variables, including the overall health of individuals and other underlying medical conditions, which cannot be known, strongly influence individual health consequences.

Nonetheless, LRVSP -generated emissions could increase photochemical reactions and the formation of tropospheric ozone and secondary PM, which, at certain concentrations, could lead to increased incidence of specific health consequences, such as various respiratory and cardiovascular ailments. As discussed previously, air districts develop region-specific CEQA thresholds of significance 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 that there are known safe concentrations of criteria pollutants. Accordingly, the LRVSP would expose receptors to substantial regional pollution if any of EDCAQMD's thresholds summarized above were exceeded.

Localized Project-Generated Criteria Pollutants and Air Toxics

Localized project-generated pollutants are deposited near the emissions source and potentially affect nearby populations. Because these pollutants dissipate with distance, emissions from individual projects can result in direct health impacts on adjacent sensitive receptors. The localized pollutants of concern associated with the LRVSP are DPM,12 NOA, CO, and PM. The following subsections provide the applicable thresholds for each pollutant.

Diesel Particulate Matter

EDCAQMD has adopted a fuel-based screening threshold for DPM in which projects that consume less than 37,000 gallons of fuel over the construction period are considered to have a less-than-

[12] DPM is the primary TAC of concern for mobile sources: of all controlled TACs, emissions of DPM are estimated to be responsible for about 70 percent of the total ambient TAC risk (CARB 2000). Given the risks associated with DPM, tools and factors for evaluating human-health impacts from project-generated DPM have been developed and are readily available. Conversely, tools and techniques for assessing project-specific health outcomes that result from exposure to other TACs (e.g., benzene) remain limited. These limitations impede the ability to evaluate and precisely quantify potential public health risks posed by TAC exposure.

significant impact (Resolution 079-2002). Modeling indicates that the proposed project would exceed this screening threshold.

EDCAQMD considers health risks from projects that exceed this screening level to be significant if the lifetime probability of contracting cancer is greater than 10 in 1 million, or if ground-level concentration of noncarcinogenic toxic air contaminants would result in a hazard index (HI)13 of greater than 1 (with implementation of best-available control technology). The project-level threshold of significance for evaluating DPM generated by a project can also be used to determine whether a project's DPM emissions are cumulatively considerable.

Naturally Occurring Asbestos

If a project does not comply with the applicable regulatory requirements outlined in Rule 223-2 to control NOA, then EDCAQMD considers that project to have a significant impact.

Particulate Matter and Carbon Monoxide

As discussed above, uncontrolled construction dust could contribute to exceedances of the health-protective PM CAAQS and would be considered a significant impact. EDCAQMD likewise considers operational CO and PM emissions significant if they would cause or contribute to violations of the NAAQS or CAAQS. EDCAQMD has also determined that if ROG and NOX emissions are deemed not significant, then exhaust emissions of CO and PM10 may also be deemed not significant (EDCAQMD 2002). Special consideration should be given to potential CO hot spots associated with increased traffic congestion. CO concentrations from mobile sources in excess of the CAAQS could result in a CO hot spot and would constitute a significant impact (EDCAQMD 2002).

Odors

EDCAQMD recommends that, for projects near a source of odors where there is currently no nearby development and for odor sources located near existing receptors, the determination of significance should be based on the distance and frequency of odor complaints from the public regarding a similar facility.

Impacts and Mitigation Measures

Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan (significant and unavoidable)

El Dorado County is currently designated a nonattainment area for the federal 8-hour ozone and PM2.5 standards (Table 3.2-3). The applicable air quality plan is the 2015 Ozone Plan, which outlines how the SFNA, including western El Dorado County, will meet the 70 ppb 8-hour ozone NAAQS. The 2015 Ozone Plan estimates future emissions in the SFNA and determines strategies necessary for emissions reductions through regulatory controls. Emissions projections are based on population, vehicle, and land use trends typically developed by the regional air quality management districts (e.g., EDCAQMD, SMAQMD) and metropolitan planning organizations (MPOs), including the SACOG.

[13] The HI represents the sum of hazard quotients for toxics that affect the same target organ or organ system. An HI of 1 or lower means that air toxics are unlikely to cause adverse, noncancerous health effects over a lifetime of exposure.

The EDCAQMD considers projects consistent with the applicable air quality plan if the proposed project satisfies the following criteria.

- Does not require a change in the existing land use designation, such as through a General Plan amendment or rezone.
- Does not exceed EDCAQMD significance thresholds.
- Implements applicable ozone plan emissions-reduction measures.
- Complies with all applicable air district rules and regulations.

Project consistency with each criterion is evaluated below.

Change to Land Use Designation Plan

The LRVSP would amend the County General Plan, including a change to make the plan site part of the El Dorado Hills Community Region. Rezoning of the project area as proposed would allow for a substantial increase in development and eliminate the Rural Lands zoning now applied to approximately 620.41 acres of the project site. Because the proposed project would require amending the County General Plan land use diagram, it would conflict with EDCAQMD's first criterion for defining consistency with the 2015 Ozone Plan.

Exceedance of EDCAQMD Significance Thresholds

As described in Impact AQ-2a, below, construction of the proposed project would not exceed EDCAQMD's significance criteria with implementation of Mitigation Measures AQ-2a through AQ-2d and GHG-1. Likewise, combined construction and operations would not exceed EDCAQMD's significance criteria with implementation of these measures and Mitigation Measures GHG-2 and TRA-2 (and AQ-2e, if needed). Accordingly, the proposed project would not exceed EDCAQMD's significance thresholds.

Implementation of Applicable Ozone Plan Reduction Measures

EDCAQMD CEQA Guidelines Appendix E outlines measures designed to reduce ozone emissions. The measures target mobile-source emissions through bicycle, pedestrian, and transit use, parking supply, and transportation-demand management strategies. The measures target area-source and energy emissions through building-design strategies. The proposed project is a specific plan that allows for pedestrian-scale development, a walkable community linking neighborhoods, and mixed-used development. This approach to land use would be consistent with the 2015 Ozone Plan and the County's long-term goal of encouraging infill and integrated land use planning. Siting land uses closer to employment opportunities would reduce VMT, encourage alternative transportation, and contribute to long-term mobile-source reductions. The LRVSP contains the following policies that reduce VMT and emissions from motor vehicles.

- **Policy 7.1**, Provide bicycle parking.
- **Policy 7.2**, Provide parking for low-emitting and shared vehicles.
- **Policy 7.3**, Install plug-in electric vehicle charging stations.
- **Policy 7.4**, Pre-wire residential parking areas for future electric vehicles.
- **Policy 7.9**, Create a transportation management association.

- **Policy 4.6**, Develop a pedestrian network.
- **Policy 3.10**, Construct multiuse paths.

The LRVSP also includes the following energy-efficiency and renewable-energy measures that would reduce building energy consumption.

- **Policies 7.7** and **7.17**, Plant shade trees and vegetation.
- **Policy 7.8**, Encourage solar canopies.
- **Policy 7.10**, Exceed Title 24 standards.
- **Policy 7.11**, Promote sustainable building orientation.
- **Policy 7.12**, Install cool roofs.
- **Policy 7.13**, Use energy efficient glazing.
- **Policy 7.14**, Include programmable thermostats.
- **Policy 7.15**, Install Energy Star appliances.
- **Policy 7.16**, Encourage natural air drying.
- **Policy 7.18**, Obtain third-party commission and verification.
- **Policy 7.19**, Use high efficiency lighting.
- **Policy 7.20**, Promote renewable energy design.
- **Policy 7.21**, Encourage solar water heating systems.

These LRVSP policies would be consistent with the mobile source, area source, and building energy reduction measures in the 2015 Ozone Plan.

Compliance with Air District Rules and Regulations

As described in Impact AQ-2a (below), implementation of Mitigation Measure AQ-2d requires compliance with EDCAQMD Rules 223 and 223-1. In addition, Mitigation Measure AQ-3 would require the proposed project to be consistent with EDCAQMD Rule 223-2, which requires submittal of an Asbestos Dust Mitigation Plan to the EDCAQMD prior to the start of any construction activity (see Impact AQ-3d). Project implementation also would comply with all other applicable EDCAQMD rules, as described in *Regulatory Setting*.

Conclusion

The LRVSP *Sustainability Element* includes several policies that would contribute to criteria pollutant reductions. The proposed project would comply with applicable EDCAQMD rules and regulations, including Rules 223, 223-1 and 223-2, which are included in Appendix D of this EIR. Modeled emissions are not estimated to exceed EDCAQMD's significance thresholds with mitigation. However, the proposed project would require amending the County General Plan land use diagram. Accordingly, based on EDCAQMD's analysis criteria for consistency with applicable air quality plans, the LRVSP would conflict with the 2015 Ozone Plan for the SFNA. This impact would be significant and unavoidable, and no additional feasible mitigation is available to reduce the impact to a less-than-significant level.

Impact AQ-2a: Result in a cumulatively considerable net increase of any criteria pollutant during construction for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (less than significant with mitigation)

Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment, construction-worker vehicle trips, and material-hauling truck trips. In addition, fugitive-dust emissions would result from site preparation and grading, and paving activities and application of architectural coatings would generate ROGs. These emissions were quantified using CalEEMod (Ascent 2024).

Estimated construction emission levels are summarized in Table 3.2-4. Several construction activities would likely occur concurrently. To ensure a conservative analysis, maximum daily emissions during these periods of overlap were estimated assuming that all equipment would operate at the same time. This approach identifies the maximum total project-related air quality impact during construction.

Table 3.2-4. Estimated Maximum Unmitigated Construction Emissions (pounds per day)[a]

				PM10			PM2.5		
Year	ROG	NO_X	CO	Dust	Exhaust	Total[b]	Dust	Exhaust	Total[b]
Year 1	224	57	63	30	2	33	14	2	16
Year 2	284	31	46	21	1	22	10	1	11
Year 3	284	26	29	9	1	10	4	1	5
Year 4	284	25	29	9	1	10	4	1	5
Year 5	283	24	28	20	1	21	10	1	11
Year 6	283	22	26	20	1	21	10	1	11
Year 7	219	36	56	46	1	47	12	1	13
Year 8	278	25	43	31	1	32	11	1	12
Year 9	278	24	43	28	1	29	11	1	12
Year 10	277	18	25	20	1	21	10	1	11
Year 11	272	18	24	20	1	21	10	1	11
Year 12	214	17	24	20	1	20	10	1	11
Year 13	273	21	41	20	1	21	10	1	11
Year 14	272	16	23	20	1	20	10	1	11
Year 15	272	15	22	20	1	20	10	<1	11
Year 16	272	14	22	20	<1	20	10	<1	11
Threshold	82	82	–	BMPs[c]	–	–	BMPs[c]	–	–

Source: Ascent 2024.

[a] Exceedances of the EDCAQMD's thresholds are shown in underline.

[b] Values may not sum exactly due to rounding.

[c] EDCAQMD CEQA Guidelines consider dust impacts to be less than significant for projects that implement BMPs.

BMPs = best management practices; CO = carbon monoxide; NOX = nitrogen oxides; PM10 = particulate matter less than or equal to 10 microns; PM2.5 = particulate matter less than or equal to 2.5 microns; ROG = reactive organic compounds.

As shown in Table 3.2-4, construction of the proposed project would exceed the EDCAQMD's threshold for ROG during all construction years. These emissions and exceedances correspond to the application of architectural coatings and use of heavy-duty off-road equipment (e.g., bulldozers).

These emissions could contribute to ozone ground-level formation in the MCAB, which, at certain concentrations, can contribute to short- and long-term human-health effects, if left unmitigated.

Implementation of Mitigation Measures AQ-2a through AQ-2c, identified below, is required to reduce ROG emissions from architectural coatings and construction equipment. These measures are consistent with local air district recommendations to reduce construction-generated exhaust emissions. Mitigation Measure GHG-1 in Section 3.6, *Greenhouse Gas Emissions*, would also achieve reductions through requirements for alternatively fueled equipment, idling limitations, local sourcing of materials, and other BMPs. EDCAQMD CEQA Guidelines consider dust impacts to be less than significant for projects that implement BMPs. Mitigation Measure AQ-2d outlines these BMPs, which are required for reducing the impact of construction-related fugitive dust to a less-than-significant level. Table 3.2-5 summarizes maximum daily emissions with implementation of Mitigation Measures AQ-2a through AQ-2d (Mitigation Measure GHG-1 is not quantified).

Table 3.2-5. Estimated Maximum Mitigated Construction Emissions (pounds per day)

				PM10			PM2.5		
Year	ROG[a,b,c]	NO_X[b,c]	CO[b,c]	Dust[d]	Exhaust[b,c]	Total[e]	Dust[d]	Exhaust[b,c]	Total[e]
Year 1	9	9	71	12	<1	13	6	<1	6
Year 2	12	9	56	8	<1	8	4	<1	4
Year 3	12	7	36	4	<1	4	1	<1	2
Year 4	12	7	36	3	<1	3	1	<1	1
Year 5	11	4	36	5	<1	5	3	<1	3
Year 6	11	4	36	5	<1	5	3	<1	3
Year 7	10	22	66	36	1	37	4	1	5
Year 8	12	20	45	28	1	28	4	1	4
Year 9	12	19	45	25	1	25	3	1	4
Year 10	11	4	36	5	<1	5	3	<1	3
Year 11	11	4	36	5	<1	5	3	<1	3
Year 12	9	4	36	5	<1	5	3	<1	3
Year 13	11	9	54	6	<1	6	3	<1	3
Year 14	11	4	36	5	<1	5	3	<1	3
Year 15	11	4	36	5	<1	5	3	<1	3
Year 16	11	4	36	5	<1	5	3	<1	3
Threshold	82	82	–	BMPs[f]	–	–	BMPs[f]	–	–

Source: Ascent 2023.

[a] Per Mitigation Measure AQ-2a, assumes use of low-volatile organic compound (VOC) coatings that have a VOC content of 10 grams per liter.

[b] Per Mitigation Measure AQ-2c, assumes use of Tier 4 Final construction equipment during Years 2–16.

[c] Per Mitigation Measure AQ-2b, assumes a 10-percent reduction in NO_X during Year 1.

[d] Per Mitigation Measure AQ-2d, assumes a 61-percent reduction in fugitive dust.

[e] Values may not sum exactly due to rounding.

[f] EDCAQMD CEQA Guidelines consider dust impacts to be less than significant for projects that implement BMPs. Mitigation Measure AQ-2d outlines these BMPs, which are required for reducing the impact of construction-related fugitive dust to a less-than-significant level.

BMPs = best management practices; CO = carbon monoxide; NO_X = nitrogen oxides; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns; PM_{10} = particulate matter less than or equal to 10 microns; ROG = reactive organic compounds.

As shown in Table 3.2-5, construction emissions would not be expected to contribute a significant level of air pollution such that regional air quality within the MCAB would be degraded. Accordingly, construction emissions would result in a less-than-significant impact with implementation of Mitigation Measures AQ-2a through AQ-2d and GHG-1.

Mitigation Measure AQ-2a: Use low-VOC coatings during construction.

The project applicant will require all construction contractors use low-VOC coatings that have a VOC content of 10 grams/liter or less during construction. The project applicant will submit evidence of the use of low-VOC coatings to EDCAQMD prior to the start of construction.

Mitigation Measure AQ-2b: Implement BMPs to reduce construction-related exhaust emissions during early construction.

The project applicant, or its designee, will provide a plan for EDCAQMD approval that demonstrates that the heavy-duty off-road vehicles (50 horsepower or more) to be used 8 hours or more during the construction project will achieve a project-wide fleet-average 10-percent NO_X reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions may include use of cleaner engines (e.g., Tier 3 or Tier 4 engines), low-emission diesel products, alternative fuels, engine-retrofit technology, aftertreatment products, and/or other options as they become available. The plan will have two components, an initial report submitted before construction, and a final report submitted at the completion, and comply with the following specifications.

- Submit the initial report at least 4 business days prior to construction activity using SMAQMD's Construction Mitigation Tool (http://www.airquality.org/businesses/ceqa-land-use-planning/mitigation).
- Provide project information and construction company information.
- Include the equipment type, horsepower rating, engine model year, projected hours of use, and CARB equipment-identification number for each piece of equipment in the plan. Incorporate all owned, leased, and subcontracted equipment anticipated to be used.
- To demonstrate continued project compliance, submit the final report at the end of the job, phase, or calendar year, as pre-arranged with EDCAQMD staff and documented in the approval letter.

EDCAQMD and/or other officials may conduct periodic site inspections to determine project compliance. Nothing in this mitigation will supersede other federal, state, or EDCAQMD rules or regulations. This mitigation will sunset on January 1, 2028, provided that full implementation of the CARB In-Use Off-Road Regulation has occurred or equally effective or superior regulations have been implemented, as EDCAQMD determines.

Mitigation Measure AQ-2c: Require advanced off-road engines and newer onsite on-road trucks.

Beginning in 2028, following the sunsetting of the NO_X performance standard outlined in Mitigation Measure AQ-2b, the project applicant will require that off-road equipment utilize USEPA-certified Tier 4 Final or more-advanced engines. A copy of each unit's certified tier specification, emissions rating, and any required CARB or air pollution control district operating permit will be made available to EDCAQMD at the time each piece of equipment is mobilized.

The project applicant will also require contractors to use onsite diesel on-road trucks (e.g., water trucks) that have model-year engines manufactured or retrofitted ideally within the past 5 years of when the vehicles are brought to the construction site, but no more than 8 years from overall project ground-breaking. The project applicant will consider use of electric or hybrid-electric vehicles over diesel counterparts to the extent that they become commercially available and earn a track record for reliability in real-world construction conditions and become cost effective.

Mitigation Measure AQ-2d: Implement EDCAQMD fugitive-dust control measures and submit a Fugitive Dust Control Plan.

As required by EDCAQMD Rule 223-1, the project applicant will implement all feasible and practicable fugitive-dust control measures during construction. Emissions-reduction measures will include, at a minimum (and as applicable), the EDCAQMD Rule 223-1 BMPs identified in Appendix B of the DEIR, such as application of soil stabilizers, pre-watering soil prior to cut-and-fill activities, and covering haul vehicles. EDCAQMD or the contractor may identify additional measures, as appropriate. All measures will be incorporated into a Fugitive Dust Control Plan, which will be submitted to and approved by EDCAQMD. The County will not issue a grading permit for any phase of construction until it has received the approved Fugitive Dust Control Plan. Compliance with the approved plan will be documented, at the applicant's expense, through periodic monitoring and annual reporting to the County.

Mitigation Measure GHG-1: Implement BMPs to reduce construction-generated GHG emissions.

Impact AQ-2b: Result in a cumulatively considerable net increase of any criteria pollutant during operation for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (less than significant)

Occupancy of the proposed project has the potential to create air quality impacts primarily associated with mobile and area sources. Motor-vehicle traffic would include daily resident access, visitor trips, waste-management trucks, and employee trips. Area sources would include landscaping equipment, off-gassing during the reapplication of architectural coatings, consumer products (e.g., solvents, cleaning supplies, cosmetics, toiletries). Energy sources would include onsite natural-gas combustion for space and water heating. Each of these sources was taken into account when calculating the plan's long-term operational emissions (Ascent 2024).

Table 3.2-6 summarizes estimated operational emissions at full buildout. The analysis accounts for legislative requirements that were default in CalEEMod at the time of analysis and emissions benefits achieved by mandatory LRVSP policies that prohibit wood-burning fireplaces and stoves (Policies 7.45 and 7.46). Additional reductions may be achieved by implementing voluntary LRVSP policies that reduce energy consumption, particularly natural-gas usage, and encourage alternative transportation (e.g., bicycling and walking); however, these policies were neither quantified nor included as part of the emissions benefits because the exact number of features is currently unknown given that the proposed project is only at the specific-plan approval stage (i.e., no immediate development activity is proposed). Accordingly, the emissions presented in Table 3.2-6 likely represent a conservative estimate of operational impacts.

Table 3.2-6. Estimated Operational Emissions (pounds per day) [a]

Source	ROG	NO_x	CO	PM10	PM2.5
Area	54	13	53	1	1
Energy	<1	6	3	<1	<1
Mobile	22	12	145	38	11
Total [b]	77	31	201	38	11
EDCAQMD threshold	82	82	CAAQS[c]	CAAQS	CAAQS

Source: Ascent 2024.

[a] Emissions account for reductions achieved by LRVSP Policies 7.45 and 7.46.

[b] Values may not add due to rounding.

[c] Refer to Impact AQ-3c for significance determination.

CAAQS = California ambient air quality standards; CO = carbon monoxide; EDCAQMD = El Dorado County Air Quality Management District; NO_X = nitrogen oxides; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns; PM_{10} = particulate matter less than or equal to 10 microns; ROG = reactive organic compounds.

As shown in Table 3.2-6, operational ROG and NO_X emissions would not exceed the EDCAQMD's pollutant threshold of 82 pounds per day. Thus, operational emissions would not contribute to regional ozone formation in the MCAB. Consequently, operation of the proposed project would result in a less-than-significant regional impact related to air quality. Refer to Impact AQ-3c for an assessment of localized air pollution with respect to the CAAQS.

The LRVSP's *Sustainability Element* includes several policies that would further reduce criteria pollutant emissions during project operations. Emissions benefits achieved by LRVSP Policies 7.45 and 7.46 have been incorporated into the emissions modeling presented in Table 3.2-6. Additional reductions may be achieved by policies that reduce natural gas usage and vehicle trips, including Policy 7.1 (Provide bicycle parking), Policy 7.2 (Provide parking for low-emitting and shared vehicles), Policy 7.3 (Install plug-in electric vehicle charging stations), Policy 7.4 (Pre-wire residential parking areas for future electric vehicles), Policy 7.9 (Create a transportation management association), Policy 4.6 (Develop a pedestrian network), Policy 3.10 (Construct multiuse paths), Policy 7.11 (Promote sustainable building orientation), Policy 7.14 (Include programmable thermostats), Policy 7.16 (Encourage natural air drying), and Policy 7.18 (Obtain third-party commission and verification). Mitigation Measures TRA-2 in Chapter 3.14, *Transportation and Circulation*, and potential strategies (e.g., all electric design) pursued under Mitigation Measures GHG-2 in Chapter 3.6, *Greenhouse Gases*, will also reduce operational criteria pollutant emissions (these measures are also discussed below under Impact AQ-2c). These LRVSP Sustainability Element policies and EIR measures collectively would reduce emissions further below EDCAQMD thresholds.

Impact AQ-2c: Result in a cumulatively considerable net increase of any criteria pollutant during combined construction and operation for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (less than significant with mitigation)

Construction of several residential units would start in Year 1 and be completed that same year, with operational emissions beginning immediately thereafter in Year 2. Accordingly, concurrent construction and operational activities would occur from Years 2–16, resulting in higher maximum daily emissions than either component when analyzed separately.

Combined construction and operational emissions are presented in Table 3.2-7 and compared with the EDCAQMD's thresholds. Estimated construction emissions assume implementation of Mitigation Measures AQ-2a through AQ-2d (required per Impact AQ-2a), and operational emissions include emissions benefits from applicable and quantifiable LRVSP policies (Policies 7.45 and 7.46) (Mitigation Measure GHG-1 is not quantified). The analysis conservatively assumes that all structures would be fully occupied immediately following construction.

Table 3.2-7. Estimated Maximum Construction and Operational Emissions (pounds per day)[a]

				PM10			PM2.5		
Year[b]	ROG	NO_X	CO	Dust	Exhaust	Total[c]	Dust	Exhaust	Total[c]
Year 2	17	12	73	11	<1	11	5	<1	5
Year 3	23	13	68	8	<1	9	3	<1	3
Year 4	29	16	86	9	<1	10	3	<1	3
Year 5	35	15	113	14	1	15	5	1	5
Year 6	43	20	126	18	1	19	6	1	7
Year 7	45	38	162	51	2	53	8	1	10
Year 8	52	37	153	45	2	46	8	1	9
Year 9	56	38	163	44	2	45	8	2	9
Year 10	60	25	165	27	1	28	8	1	9
Year 11	64	27	176	29	1	30	9	1	10
Year 12	66	28	186	31	1	32	9	1	10
Year 13	72	34	215	33	2	34	10	2	11
Year 14	76	31	207	35	2	36	10	2	12
Year 15	81	33	220	37	2	39	11	2	12
Year 16	<u>84</u>	33	227	39	2	41	11	2	13
Threshold	82	82	CAAQS[d]	–	–	CAAQS	–	–	CAAQS

Source: Ascent 2024.

[a] Exceedances of the EDCAQMD's thresholds are shown in <u>underline</u>. Emissions assume implementation of Mitigation Measures AQ-2a through 2d and LRVSP Policies 7.45 and 7.46.

[b] Emissions were quantified assuming that construction would begin in Year 1, and the first buildings could become operational in Year 2.

[c] Values may not add due to rounding.

[d] Refer to Impact AQ-3c for significance determination.

CAAQS = California ambient air quality standards; CO = carbon monoxide; EDCAQMD = El Dorado County Air Quality Management District; NO_X = nitrogen oxides; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns; PM_{10} = particulate matter less than or equal to 10 microns; ROG = reactive organic compounds.

As shown in Table 3.2-7, combined construction and operational emissions would exceed EDCAQMD's numeric threshold for ROG in Year 16 with implementation of Mitigation Measures AQ-2a through AQ-2d and GHG-1. The exceedance would only occur when partial operational emissions overlap with when architectural coatings are applied during construction. Emissions during all other periods of overlap in Year 16 would not exceed 82 pounds per day. Mitigation Measures TRA-2 and GHG-2 are required to address this impact. As discussed in Chapter 3.6, *Greenhouse Gases*, Mitigation Measure GHG-2 outlines a combination of required LRVSP policy revisions and onsite and offsite strategies that will reduce GHG emissions.

Table 3.2-8 summarizes estimated combined construction and operational ROG emissions in Year 16 with implementation Mitigation Measure TRA-2 and quantifiable revisions to LRVSP Policy 7.20, which is required by Mitigation Measure GHG-2. Reductions from revisions to LRVSP Policy 7.2, which is also required by Mitigation Measure GHG-2, could not be quantified at this time. This is because specific details required to quantify emissions reductions are not currently available. Revisions to LRVSP Policy 7.20 would not reduce operational ROG emissions.

Table 3.2-8. Estimated Maximum Mitigated Construction and Operational ROG Emissions During Year 16 (maximum pounds per day) [a]

Year	ROG
Year 16	82.2
Threshold	82

Source: Ascent 2024.

[a] Emissions assume implementation of Mitigation Measures AQ-2a through 2d, TRA-2, and GHG-2 (revision to LRVSP Policy 7.20). Mitigation Measure GHG-1 is not quantified.

[b] Values may not add due to rounding.

[c] Refer to Impact AQ-3c for significance determination.

MM = mitigation.

As shown in Table 3.2-8, ROG emissions are estimated to still slightly exceed EDCAQMD's significance threshold. The emission estimate presented in Table 3.2-8 is conservative because it does not account for emissions benefits of Mitigation Measrue GHG-1. Likewise, it only accounts for quantifiable reductions achieved by revisions to LRVSP Policy 7.20 under Mitigation Measure GHG-2. Depending on the strategies selected by the applicant, Mitigation Measures GHG-2 is likely to achieve additional operational ROG reductions. For example, if all electric design is pursued, maximum ROG emissions in Year 16 would be further reduced to 81.8 pounds (Ascent 2024). This quantity is below EDCAQMD's significance threshold. Thus, if all electric design is pursued as a strategy under Mitigation Measure GHG-2 (or mandated by future building code), the impact would be less than significant with implementation of Mitigation Measures AQ-2a through AQ-2d, TRA-2, GHG-1, and GHG-2. If all electric design is not implemented under Mitigation Measure GHG-2, Mitigation Measure AQ-2e is required to reduce combined ROG emissions during the last year of construction. The measure supersedes Mitigation Measrue AQ-2a and requires construction contractors use zero-VOC coatings that have a VOC content of 5 grams/liter or less during the final year of construction. Maximum daily ROG emissions with Mitigation Measure AQ-2e would be reduced to 76.7 pounds day, which is below EDCAQMD's threshold (Ascent 2024). Thus, combined construction and partial operational emissions would not be expected to contribute a significant level of air pollution such that regional air quality within the MCAB would be degraded. Accordingly, emissions would result in a less-than-significant impact with mitigation.

Mitigation Measure AQ-2a: Use low-VOC coatings during construction.

Mitigation Measure AQ-2b: Implement BMPs to reduce construction-related exhaust emissions during early construction.

Mitigation Measure AQ-2c: Require advanced off-road engines and newer onsite on-road trucks.

Mitigation Measure AQ-2d: Implement EDCAQMD fugitive-dust control measures and submit a Fugitive Dust Control Plan.

Mitigation Measure AQ-2e: Use zero-VOC coatings during the last year of construction.

If all electric buildings are not pursued as a strategy under Mitigation Measure GHG-2, the project applicant will require all construction contractors use zero-VOC coatings that have a VOC content of 5 grams/liter or less during the final of construction. The project applicant will submit evidence of the use of low-VOC coatings to EDCAQMD prior to the start of the final year of construction. This measure will supersede Mitigation Measure AQ-2a during the final year of construction.

Mitigation Measure GHG-1: Implement BMPs to reduce construction-generated GHG emissions.

Mitigation Measure GHG-2: Develop and implement a GHG reduction plan to reduce construction and operational area, mobile, and building natural gas GHG emissions.

Mitigation Measure TRA-2: TDM strategies to reduce the impact of the residential component.

Impact AQ-3a: Expose sensitive receptors to substantial toxic air contaminant concentrations and health risks during construction (significant and unavoidable)

Equipment and vehicles used during construction would generate DPM, potentially resulting in the exposure of nearby existing sensitive receptors (e.g., residences) to increased pollutant concentrations. Similarly, new residents that occupy the project area prior to completion of the entire proposed project may be exposed to a portion of construction-generated DPM. The primary driver of health risk from DPM and all TACs is the concentration of a substance (i.e., the pollutant) and the duration of exposure. Cancer health risks associated with exposure to DPM are typically associated with chronic (i.e., long-term) exposure, in which a 30-year exposure period is assumed. In addition, DPM concentrations, and, thus, cancer health, risks typically dissipate as a function of distance from the emissions source (SMAQMD 2018).

As described above, residential land uses are within 1,000 feet of the project area, with the nearest receptors 25 feet from the northern and eastern boundaries of the project area. Air quality management agencies recognize that many variables, such as duration of the construction period, types of construction equipment, and the amount of onsite diesel-generated PM exhaust, can influence DPM concentrations and the potential for a project to result in increased health risks. Accurately quantifying DPM concentrations and predicting associated health risks requires detailed, site-specific information about these and other parameters that are currently unavailable, given the preliminary level of design at this time. Based on the mass-emission results, the greatest potential for DPM emissions would occur between Year 1 and Year 5, when construction of land uses within the planning areas would overlap with construction of several offsite improvements. Construction activities during this time would be spread among the project area and offsite locations, as opposed to a single location. Similar geographic dispersion would occur throughout construction. However, depending on the size and scale of an individual development project, along with its construction schedule and proximity to receptors, there may also be instances where DPM emissions could result

in cancer or noncancer health risks that exceed EDCAQMD's thresholds, resulting in a potentially significant impact.

Implementation of LRVSP policies would reduce receptor exposure to TAC emissions from construction activities. LRVSP Policy 7.54 requires installation of minimum efficiency reporting value (MERV) 6 air filters on all residential central-air or ventilation systems. According to USEPA (2009), MERV 6 filters remove 35 percent to 50 percent of PM10. Best-available control technologies implemented pursuant to Mitigation Measure AQ-2b would also reduce construction-generated DPM emissions during early construction. Mitigation Measure AQ-2b outlines a performance standard for heavy-duty off-road equipment for achieving a project-wide fleet-average NO_X reduction of 10 percent, compared with the most recent CARB fleet average at the time of construction. This performance standard may be met through a variety of CARB-approved best-available control technologies that achieve DPM benefits and NO_X reductions. For example, use of alternatively fueled equipment (as required by Mitigation Measure GHG-1) or engines that meet Tier 3 or Tier 4 emission standards reduces emissions. Use of a performance standard, as required by Mitigation Measure AQ-2b, as opposed to a single equipment-specific control (e.g., all electric-powered equipment), provides construction contractors with flexibility to select technologies that are the most cost effective and appropriate at the time of construction. Because reduction technologies and air quality regulations are constantly changing, and it is highly likely that additional control strategies will be developed throughout the course of construction, this type of mitigation also provides for continued protection of public health without precluding new control measures or existing technologies that may become economically feasible with changing market conditions. Recognizing this, Mitigation Measure AQ-2c requires the use of advanced off-road engines and newer onsite on-road trucks beginning in 2028, following the sunsetting of Mitigation Measure AQ-2b.

Despite these considerations and the implementation of Mitigation Measures AQ-2b, AQ-2c, and GHG-1, there may be instances where project-specific conditions preclude the reduction of health risks below adopted thresholds. For example, construction may require multiple concurrent phases where DPM is generated by various pieces of heavy equipment near receptors. Depending on the magnitude and duration, DPM generated under these circumstances may lead to increased health risks at specific receptor locations. Therefore, health impacts from TAC exposure during construction are considered significant and unavoidable.

Mitigation Measure AQ-2b: Implement BMPs to reduce construction-related exhaust emissions during early construction.

Mitigation Measure AQ-2c: Require advanced off-road engines and newer onsite on-road trucks.

Mitigation Measure GHG-1: Implement BMPs to reduce construction-generated GHG emissions.

Impact AQ-3b: Expose sensitive receptors to substantial toxic air contaminant concentrations and health risks during operation (less than significant)

As discussed in *Environmental Setting*, US 50 runs east–west to the south of the plan area. The segment of US 50 north of the plan area currently has annual average daily traffic volumes of 61,000 to 62,000, of which about 6% are classified as heavy trucks (CDOT 2023a, 2023b). Buildout of the

LRVSP would generate 7,832 average daily vehicle trips. Because the LRVSP is a residential project, most trips would be made using personal automobiles, which are generally electric- or gasoline-powered and do not represent a substantial source of DPM. To provide a conservative analysis, the countywide average fleet mix from CalEEMod was applied to the project vehicle traffic. Based on this analysis, it is estimated that about 184 of LRVSP trips may be made by medium or heavy-duty trucks. When added to existing truck volumes on US 50, implementation of the LRVSP would only increase the percentage of truck traffic on US 50 north of the plan area by about 0.3%. This increase would not result in a material change in ambient DPM concentrations or associated health risks from highway traffic. Moreover, the fraction of diesel-powered heavy trucks operating on California roadways, including those associated with the project, is expected to decline overtime due to federal and state regulations, as discussed in *Regulatory Setting*.

The LRVSP does not propose any commercial development or land uses that would result in the installation or operation of new stationary sources of TACs (e.g., generators).

The LRVSP includes policies that would help reduce exposure of sensitive receptors to operational TAC. As discussed in Impact AQ-3a, LRVSP Policy 7.54 requires MERV 6 air filters on all residential central-air or ventilation systems. Implementation of these policies would further reduce operational exposure to TAC, and this impact would be less than significant.

Impact AQ-3c: Expose sensitive receptors to substantial criteria pollutant concentrations during construction and operation (less than significant with mitigation)

Regional Criteria Pollutants

As discussed under Impacts AQ-2a and AQ-2c, unmitigated ROG emissions would exceed EDCAQMD's threshold of significance. Emissions generated during construction and during the last year of construction combined with partial operational emissions could thus contribute to ozone formation in the MCAB, which, at certain concentrations, can contribute to short- and long-term human-health effects. However, Mitigation Measures AQ-2a through AQ-2d, GHG-1, GHG-2, and TRA-2 (and AQ-2e, if needed) would reduce emissions to below threshold levels. Operation of the project would not exceed EDCAQMD's numeric thresholds (see Impact AQ-2b).

EDCAQMD's thresholds are derived from regionally specific modeling that demonstrates that the air basin can accommodate emissions below the threshold levels without attainment of the NAAQS or CAAQS being affected, as required by the local air quality plans. As noted above, the NAAQS and CAAQS are set to protect public health and the environment within an adequate margin of safety. Accordingly, projects that do not exceed EDCAQMD's thresholds would not adversely affect air quality or exceed the NAAQS or CAAQS. The analysis presented in Impacts AQ-2a through AQ-2c demonstrates that, with mitigation, neither construction nor operational emissions would exceed EDCAQMD's thresholds. Accordingly, implementation of the LRVSP would not contribute a significant level of air pollution that could degrade air quality within the MCAB. This impact would be less than significant with mitigation.

Although regional criteria pollutant emissions that the proposed project could generate would not result in a significant impact, consistent with the Friant Ranch Decision, Table 3.2-9 provides a conservative estimate of the maximum potential health effects associated with regional criteria pollutants that buildout of the proposed project could generate. Because emissions would not exceed EDCAQMD's thresholds with implementation of Mitigation Measures AQ-2a through AQ-2d, GHG-1, GHG-2, and TRA-2 (and AQ-2e, if needed), this analysis was conducted using SMAQMD's

Minor Project Health Screening Tool (version 2). The results presented in Table 3.2-9 are conservative because they are based on a source generating 82 pounds per day of ROG, NO_X, and PM2.5 during each day of the year. As shown in Table 3.2-5 through Table 3.2-8, maximum daily emissions during most years of construction and during long-term operation are well below 82 pounds per day. For this reason, any increase in regional health risks associated with project-generated emissions would be less than those presented in Table 3.2-9, which are already very small increases over the background incident health effect.

The analysis presented in Table 3.2-9 is given for informational purposes, consistent with the Friant Ranch Decision, and has no bearing on the impact determination, which is based on a comparison of mass emissions to EDCAQMD thresholds. Although implementation of the LRVSP would contribute to existing and future air pollution, it is important to consider the magnitude of project-generated emissions and potential health risks relative to ambient conditions. The increased health effects potentially associated with the LRVSP (see Table 3.2-9) are minute relative to the background regional-incident health effect. Specific to only the County, the CDPH (2023) reported an annual average of 1,769 deaths from all causes between 2019 and 2021. The estimated one death shown in Table 3.2-9 is less than 0.1 percent of this total.

Although the estimated health effects shown in Table 3.2-9 and the proportion of those effects relative to the regional and county background incidence are low, it is important to acknowledge that the model does not take into account population subgroups with greater vulnerabilities to air pollution, except in the analysis of age ranges for certain endpoints. As noted in SMAQMD's guidance, "the health effects of increased air pollution emissions may occur disproportionately in areas where the population is more susceptible to health effects from air pollution" (Ramboll 2020). The five determinates for increased susceptibility, as reported by the Centers for Disease Control and Prevention (2019), are genetics, behavior, environmental and physical influences, medical care, and social factors. The Public Health Alliance of Southern California has developed a Healthy Places Index to characterize local community conditions, including several of these determinates (Public Health Alliance of Southern California 2023). This data can be used to compare the overall relative health vulnerability of geographic areas. Based on the Healthy Places Index, the LRVSP and surrounding areas have relatively high levels of health-promoting community conditions (i.e., healthier conditions than 50 to 80 percent of other California census tracts) (Public Health Alliance of Southern California 2023).

Table 3.2-9. Conservative Estimate of Increased Regional Health Effect Incidence Resulting from Construction and Operation of the LRVSP (cases per year)

Health Endpoint	Age Range[a]	Annual Mean Incidences (model domain and SFNA)[b]	% of Background Incidence (SFNA)[c]	Total # of Health Incidence (SFNA)[d]
PM2.5 Emissions – Respiratory				
Emergency Room Visits, Asthma	0–99	<1	<1%	18,419
Hospital Admissions, Asthma	0–64	<1	<1%	1,846
Hospital Admissions, All Respiratory	65–99	<1	<1%	19,644
PM2.5 Emissions – Cardiovascular				
Hospital Admissions, All Cardiovascular[e]	65–99	<1	<1%	24,037
Acute Myocardial Infarction, Nonfatal	18–24	<1	<1%	4
Acute Myocardial Infarction, Nonfatal	25–44	<1	<1%	308

Health Endpoint	Age Range[a]	Annual Mean Incidences (model domain and SFNA)[b]	% of Background Incidence (SFNA)[c]	Total # of Health Incidence (SFNA)[d]
Acute Myocardial Infarction, Nonfatal	45–54	<1	<1%	741
Acute Myocardial Infarction, Nonfatal	55–64	<1	<1%	1,239
Acute Myocardial Infarction, Nonfatal	65–99	<1	<1%	5,052
PM2.5 Emissions – Mortality				
Mortality, All Cause	30–99	1	<1%	44,766
ROG and NO_X Emissions – Respiratory				
Hospital Admissions, All Respiratory	65–99	<1	<1%	19,644
Emergency Room Visits, Asthma	0–17	<1	<1%	5,859
Emergency Room Visits, Asthma	18–99	<1	<1%	12,560
ROG and NO_X Emissions – Mortality				
Mortality, Non-Accidental	0–99	<1	<1%	30,386

Source: SMAQMD Minor Project Health Screening Tool, version 2, published June 2020.

Note: The analysis point is in the middle of the LRVSP plan area at 38.635172, -120.97883.

[a] Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.

[b] Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are across the Northern California model domain and 5-air-district SFNA (rounded values are equivalent).

[c] The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, these background incidence rates cover the 5-air-district SFNA (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP, as reported in SMAQMD's Minor Project Health Screening Tool, version 2.

[d] The total number of health incidences across the 5-air-district SFNA is calculated based on modeling data, as reported in SMAQMD's Minor Project Health Screening Tool, version 2. The information is presented to assist in providing overall health context.

e Less Myocardial Infarctions.

Ultimately, the County does not currently attain the ozone NAAQS or CAAQS, PM2.5 NAAQS, or the PM10 CAAQS (Table 3.2-3). Certain individuals residing in areas that do not meet the ambient air quality standards could be exposed to pollutant concentrations that cause or aggravate acute and/or chronic health conditions (e.g., asthma, lost workdays, premature mortality), regardless of implementation of the project.

Localized Particulate Matter

Earthmoving activities required for construction would result in the generation of localized fugitive dust. The amount of dust generated by a project during construction is highly variable and dependent on the size of the disturbed area at any given time, the amount of activity, soil conditions, and meteorological conditions. Fugitive-dust emissions from construction activities would be spread throughout the entire 740-acre LRVSP area, as opposed to being concentrated at a single location. Despite the variability in emissions, numerous control measures can be reasonably implemented to significantly reduce construction fugitive-dust emissions. EDCAQMD CEQA Guidelines consider construction-dust impacts to be less than significant with implementation of BMPs. Mitigation

Measure AQ-2d outlines these BMPs, which are required to reduce construction-related fugitive dust to a less-than-significant level.

The primary source of operational PM would be vehicles driving on paved and unpaved roads. These emissions would be spread over numerous roads throughout the County and region. Implementation of numerous LRVSP policies will reduce operational vehicle trips, and, thus, road dust; these include Policy 7.1 (Provide bicycle parking), Policy 7.9 (Create a transportation management association), and Policy 4.6 (Develop a pedestrian network), Policy 3.10 (Construct multi-use paths). LRVSP policies collectively represent best-available control strategies for reducing operational VMT and associated road dust that could result from buildout of a long-term specific plan. With implementation of LRVSP, localized PM emissions would be less than significant and would not expose receptors to substantial pollutant concentrations or risks.

Localized Carbon Monoxide

Development resulting from implementation of the proposed project could also potentially create new localized CO hot spots from changes in vehicle activity. As shown in Table 3.2-6, about 32 percent of operational CO emissions would be generated by area sources. Landscaping equipment, which would contribute most of the CO emissions from area sources, would be spread among new development throughout the plan area and would not be concentrated at a single location. LRVSP Policy 7.46 prohibits open-hearth wood-burning fireplaces.

New vehicle trips from LRVSP buildout would add to existing intersection volumes and congestion. While CO emissions from vehicles have declined significantly in the past thirty years due to improvements in engine technology and strengthening of emissions standards, CO can concentrate locally when vehicles idle or move slowing. Potential impacts related to localized CO from mobile sources are typically determined by estimating CO concentrations from the most project-affected intersections, where the concentrations would be the greatest. Traffic generated by the proposed project would have the potential to create CO hot spots at nearby roadways and intersections. Buildout traffic conditions were modeled to evaluate CO concentrations relative to the federal and state air quality standards (see Table 3.2-1). CO concentrations were modeled at the following study area intersections, as identified in the transportation impact assessment for the proposed project (Appendix K). These intersections generally represent the intersections with the highest peak-hour evening traffic volumes or intersection delay under existing, near-term, and cumulative conditions).

- Bass Lake Road/US 50 eastbound ramps.
- Cambridge Road/Merrychase Drive/US 50 westbound ramps.
- US 50 westbound ramps/El Dorado Hills Boulevard.
- Latrobe Road/US 50 eastbound ramps.

Table 3.2-10, which presents the results of the CO hot-spot modeling, indicates that CO concentrations are not expected to contribute to any new localized violations of the 1-hour or 8-hour ambient air quality standards. Consequently, implementation of project would not result in CO concentrations in excess of the health-protective NAAQS or CAAQS, and, therefore, would not expose sensitive receptors to significant pollutant concentrations that could result in adverse health effects. This impact would be less-than-significant.

Table 3.2-10. Modeled Carbon Monoxide Concentrations at Study Area Intersections

Intersection		No Project [b]		Project [b]	
		1-hr [c]	8-hr [d]	1-hr [c]	8-hr [d]
Bass Lake Road/Eastbound US 50 Ramps	1	3.3	0.2	3.3	0.2
	2	3.3	0.2	3.4	0.3
	3	3.3	0.2	3.3	0.2
	4	3.3	0.2	3.3	0.2
Cambridge Road/Merrychase Drive/Westbound US 50 Ramps	5	3.3	0.2	3.4	0.3
	6	3.4	0.3	3.4	0.3
	7	3.3	0.2	3.3	0.2
	8	3.4	0.3	3.5	0.4
Westbound US 50 Ramps/El Dorado Hills Blvd	9	3.4	0.3	3.4	0.3
	10	3.5	0.4	3.5	0.4
	11	3.4	0.3	3.5	0.4
	12	3.5	0.4	3.5	0.4
Latrobe Road/ Eastbound US 50 Ramps	13	3.4	0.3	3.4	0.3
	14	3.5	0.4	3.5	0.4
	15	3.5	0.4	3.4	0.3
	16	3.6	0.4	3.6	0.4

RE = receptor.

[a] Receptors 1 through 16 were placed 3 meters from the traveled way at each intersection corner.

[b] Background concentrations of 3 and 0 parts per million (ppm) were added to the modeling 1- and 8-hour results, respectively.

[c] The federal and state 1-hour standards are 35 and 20 ppm, respectively.

[d] The federal and state 8-hour standards are 9 and 9.0 ppm, respectively.

Conclusion

The LRVSP would not expose sensitive receptors to substantial criteria pollutant concentrations with implementation of LRVSP policies and Mitigation Measures AQ-2a through AQ-2d, GHG-1, GHG-2, and TRA-2 (and AQ-2e, if needed). Accordingly, this impact would be a less-than-significant impact with mitigation.

Mitigation Measure AQ-2a: Use low-VOC coatings during construction.

Mitigation Measure AQ-2b: Implement BMPs to reduce construction-related exhaust emissions during early construction.

Mitigation Measure AQ-2c: Require advanced off-road engines and newer onsite on-road trucks.

Mitigation Measure AQ-2d: Implement EDCAQMD fugitive-dust control measures and submit a Fugitive Dust Control Plan.

Mitigation Measure AQ-2e: Use zero-VOC coatings during the last year of construction.

Mitigation Measure GHG-1: Implement BMPs to reduce construction-generated GHG emissions.

Mitigation Measure GHG-2: Develop and implement a GHG reduction plan to reduce construction and operational area, mobile, and building natural gas GHG emissions.

Mitigation Measure TRA-2: TDM strategies to reduce the impact of the residential component.

Impact AQ-3d: Expose sensitive receptors to naturally occurring asbestos and associated health risks during construction (less than significant with mitigation)

Disturbance of rock and soil that contains NOA can result in consequent exposure of the public to health risks from inhalation of NOA-containing dust. As shown in Figure 3.2-1, portions of the proposed project lie within areas known to contain asbestos. The presence of soil that contains NOA does not guarantee that construction activities would result in increased incidence of asbestos-related illness. Nevertheless, earthmoving activities during construction could expose NOA and increase the potential for individuals to become exposed. This would be a potentially significant impact. Compliance with EDCAQMD's Rule 223-2 and periodic monitoring of earthwork activities for NOA would minimize the public's exposure to NOA. With implementation of Mitigation Measure AQ-3, the impact of NOA exposure would be reduced to a less-than-significant level.

Mitigation Measure AQ-3: Submit and implement an Asbestos Dust Mitigation Plan in accordance with EDCAQMD Rule 223-2.

For portions of the project within an NOA area, the project applicant will prepare and submit an Asbestos Dust Mitigation Plan to EDCAQMD that is consistent with EDCAQMD Rule 223-2. The final Asbestos Dust Mitigation Plan will address specific construction activities, locations, and timing information that are not yet available and will be submitted to and approved by EDCAQMD prior to the start of any construction activity. The County will not issue a grading permit for any phase of construction until it has received the approved Asbestos Dust Mitigation Plan. Compliance with the approved plan will be documented, at the applicant's expense, through periodic monitoring and annual reporting to the County. The Asbestos Dust Mitigation Plan will contain all of the following information:

- Contact information for the party responsible for plan preparation and application of dust-control measures.
- Plot plan showing project type, location, acres, and area to be disturbed.
- Expected start and completion dates of dust-generating and soil-disturbing activities to be performed on site.
- Actual and potential sources of fugitive-dust emissions on site and the location of bulk material-handling and storage areas, paved and unpaved roads, entrances and exits where carryout/trackout may occur, and traffic areas.
- BMP (Rule 223-2, Table 1 through 4) or other effective measures for:
    - Construction.
    - Bulk material handling.

  - Carryout and trackout management.
  - Blasting activities.
- Dust-control measures if operations are large in scale (Rule 223-2, Table 5 and 6).
- List of specific control measures for chemical dust suppressants.
- Surface treatments and/or control measures for material carryout, trackout, and sedimentation where unpaved and/or access points join paved roads.
- A statement indicating how often the items specified in Section 223-2.9 (Recordkeeping and Reporting Requirements), and any other items identified in the plan, will be reported to EDCAQMD.

The Asbestos Dust Mitigation Plan will include contingency plans for the discovery of previously unidentified asbestos in concentrations triggering special capping requirements for school sites (as required by DTSC) that EDCAQMD will approve before construction. A geologist experienced in the visual assessment for NOA, or for conditions likely to contain NOA, will periodically observe all earthwork. To allow for the determination of possible final capping requirements, a certified engineering geologist will perform additional NOA evaluation during grading. Results of the evaluation will be reported to and approved by EDCAQMD.

Impact AQ-4: Result in other emissions (such as those leading to odors) that adversely affect a substantial number of people (less than significant)

Potential odor sources during construction activities may include diesel exhaust from heavy-duty equipment and architectural-coating emissions. Construction-related operations near existing receptors would be temporary in nature, and construction activities would not be likely to result in nuisance odors that would violate EDCAQMD Rule 205.

Potential odor sources from project operations could include diesel exhaust from ongoing trash pick-up and the use of architectural coatings during routine maintenance; limited odors may also result from residential cooking appliances (e.g., range hood vents). These odors are expected to be minor and are not likely to dominate ambient odors that the surrounding environment generates, which includes adjacent residential land uses. Moreover, EDCAQMD does not consider the land uses associated with the proposed project to contain facilities with the potential to result in nuisance odors.

Based on the above analysis, neither construction nor operation of the project would result in new or worsened odors that would affect a substantial number of people, and impacts would be less than significant.

Impact AQ-5: Result in a cumulatively considerable net increase of any criteria pollutant, expose sensitive receptors to substantial pollutant concentrations, or generate odors as a result of construction and operations of offsite improvements (less than significant with mitigation)

Construction

Construction criteria pollutant emissions for the roadway improvements and water/wastewater infrastructure upgrades are included in the emissions reported in Impact AQ-2a (Tables 3.2-4 and 3.2-5). On an individual basis, with implementation of Mitigation Measures AQ-2b through AQ-2d

and GHG-1, none of the offsite improvements would result in emissions that would exceed thresholds. As such, criteria pollutant emissions would not be expected to contribute a significant level of air pollution such that regional air quality within the MCAB would be degraded. Accordingly, with implementation of Mitigation Measures AQ-2b through AQ-2d and GHG-1, construction-generated criteria pollutant emissions would result in a less-than-significant impact.

Construction activities have the potential to exposure receptors to TACs and disturb rock and soil that could contain NOA (if the offsite improvements are in areas known to contain asbestos). Although DPM would be generated during construction, most improvements would be completed within a few months, and no more than 2 years. Mitigation Measures AQ-2b and AQ-2c and GHG-1 would also reduce DPM emissions from off-road equipment. Compliance with EDCAQMD Rule 223-2 and implementation of Mitigation Measures AQ-2d and AQ-3 would reduce the impact of NOA exposure to a less-than-significant level by requiring soil testing before the onset of soil-disturbing activities, as would implementation of NOA control measures (i.e., BMPs) and periodic monitoring if NOA were present.

Mitigation Measure AQ-2b: Implement BMPs to reduce construction-related exhaust emissions during early construction.

Mitigation Measure AQ-2c: Require advanced off-road engines and newer onsite on-road trucks.

Mitigation Measure AQ-2d: Implement EDCAQMD fugitive-dust control measures and submit a Fugitive-Dust Control Plan.

Mitigation Measure AQ-3: Submit and implement an Asbestos Dust Mitigation Plan in accordance with EDCAQMD Rule 223-2.

Mitigation Measure GHG-1: Implement BMPs to reduce construction-generated GHG emissions.

Operation

It is anticipated that operation of the water transmission line and wastewater system upgrades would not result in a significant impact related to TACs or criteria pollutant emissions, because operation of the facilities and infrastructure are not anticipated to generate substantial TAC sources or materially affect regional VMT. Criteria pollutant emissions associated with the use of offsite utility and roadway improvements were included in the analysis of project emissions. Additional minor emissions would be associated with operations and maintenance (O&M) activities for the water lines and roadways that are not included in the analysis of project operational emissions. However, O&M vehicle trips to service the water lines and roadways would amount to a limited number of trips and would not contribute an appreciable amount of emissions. The offsite improvements are not anticipated to generate significant levels of odors. Accordingly, impacts would be less than significant.

Impact AQ-6: Result in a cumulatively considerable net increase of any criteria pollutant, expose sensitive receptors to substantial pollutant concentrations, or generate odors as a result of implementation of General Plan Policy TC-Xf improvements (less than significant with mitigation)

Construction

Construction of the intersection and roadway improvements would generate minor amounts of criteria pollutant emissions, such as the offsite roadway improvements discussed under Impact AQ-2a. On an individual basis, it is unlikely any of the improvement projects would result in emissions that would exceed thresholds. However, if activities overlap with construction of onsite elements, thresholds may be exceeded. Mitigation Measures AQ-2b through AQ-2d and GHG-1 would be available to address this impact.

Construction activities have the potential to exposure receptors to TACs and disturb rock and soil that could contain NOA (if the offsite improvements are in areas known to contain asbestos). Although DPM would be generated during construction, most improvements would be completed within a few months, and no more than 2 years. Mitigation Measures AQ-2b and AQ-2c and GHG-1 would also reduce DPM emissions from off-road equipment. Compliance with EDCAQMD Rule 223-2 and implementation of Mitigation Measures AQ-2d and AQ-3 would reduce the impact of NOA exposure to a less-than-significant level by requiring soil testing before the onset of soil-disturbing activities, as would implementation of NOA control measures (i.e., BMPs) and periodic monitoring if NOA were present.

Mitigation Measure AQ-2b: Implement BMPs to reduce construction-related exhaust emissions during early construction.

Mitigation Measure AQ-2c: Require advanced off-road engines and newer onsite on-road trucks.

Mitigation Measure AQ-2d: Implement EDCAQMD fugitive-dust control measures and submit a Fugitive-Dust Control Plan.

Mitigation Measure AQ-3: Submit and implement an Asbestos Dust Mitigation Plan in accordance with EDCAQMD Rule 223-2.

Mitigation Measure GHG-1: Implement BMPs to reduce construction-generated GHG emissions.

Operation

General Plan Policy TC-Xf projects would improve traffic and intersection operations, thereby reducing congestion and vehicle delay. Accordingly, the projects would likely reduce mobile source emissions and associated odors and health risks because vehicle movement would be more efficient compared with existing conditions. This impact would be less than significant.

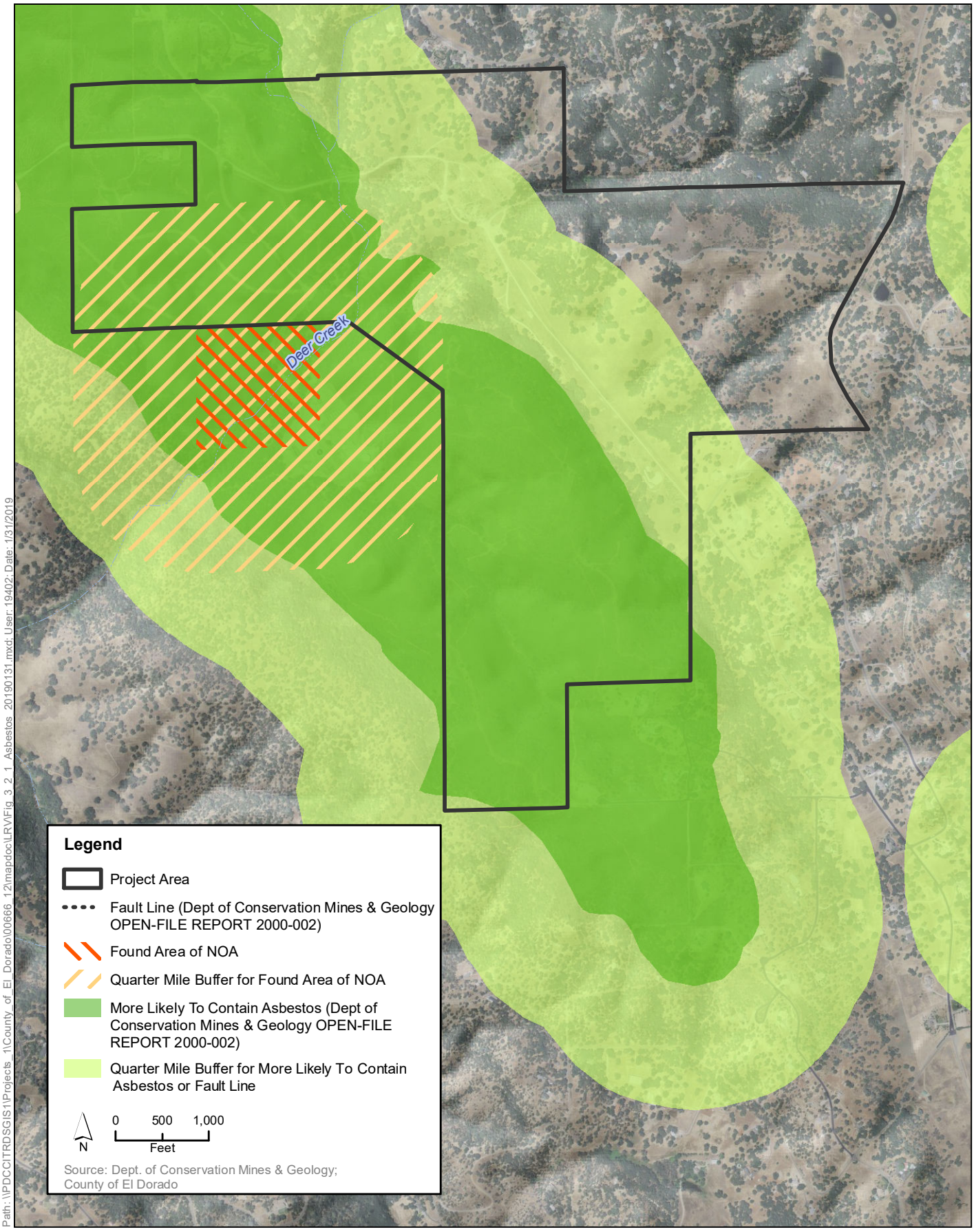


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Figure 3.2-1
Naturally Occurring Asbestos in the Planning Area

3.3 Biological Resources

3.3.1 Existing Conditions

This section describes the regulatory setting and environmental setting for biological resources and analyzes potential impacts that could result from implementing the project.

Regulatory Setting

Federal

The federal Endangered Species Act (ESA) of 1973 and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems on which they depend. The U.S. Fish and Wildlife Service (USFWS) (with jurisdiction over plants, wildlife, and resident fish) and the National Marine Fisheries Service (NMFS) (with jurisdiction over anadromous fish and marine fish and mammals) oversee the ESA. Section 7 of the ESA mandates all federal agencies to consult with USFWS and NMFS if they determine that a proposed project may affect a listed species or its habitat. Section 7 requirements do not apply to nonfederal actions. At present, California red-legged frog (*Rana draytonii)*, a federally listed species with potential to occur in portions of the project area, has not been observed. The U.S. Army Corps of Engineers (USACE) will make an effects determination for the species and determine if there is a need to initiate formal consultation under Section 7.

Section 9 of the ESA prohibits the take of any fish or wildlife species listed as endangered, including the destruction of habitat that prevents the species' recovery. *Take* is defined as the action of or attempt to hunt, harm, harass pursue, shoot, wound, capture, kill, trap, or collect a species. Section 9 prohibitions also apply to threatened species unless a special rule has been defined with respect to take at the time of listing.

Clean Water Act

The federal Clean Water Act (CWA) was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

CWA empowers the U.S. Environmental Protection Agency (USEPA) to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. Point-source pollution is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Nonpoint-source pollution originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool. The following discussion provides additional details on specific CWA sections.

Permits for Fill Placement in Waters and Wetlands (Section 404)

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States. Waters of the United States refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands.

On January 9, 2001, the U.S. Supreme Court made a decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* (SWANCC) [121 S.CT. 675, 2001] that affected USACE jurisdiction in isolated waters. Based on SWANCC, USACE no longer has jurisdiction or regulates isolated wetlands (i.e., wetlands that have no hydrologic connection with waters of the United States).

A June 19, 2006 ruling on two consolidated cases (*Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers*), referred to as the Rapanos decision, affects whether some waters or wetlands are considered jurisdictional under CWA. In these cases, the U.S. Supreme Court reviewed the USACE definition of waters of the United States and whether it extended to tributaries of traditional navigable waters (TNW) or wetlands adjacent to those tributaries. The decision provided two standards for determining jurisdiction of water bodies that are not TNWs: (1) if the non-TNW is a relatively permanent water (RPW) or is a wetland directly connected to a RPW, or (2) if the water body has "significant nexus" to a TNW. The significant nexus definition is based on the purpose of the CWA ("restore and maintain the chemical, physical, and biological integrity of the Nation's waters"). Guidance issued by USEPA and USACE on the Rapanos decision requires application of the two standards to support a jurisdictional determination for a water body.

In January 2023, the "Revised Definition of 'Waters of the United States'" replaced the 2020 Navigable Waters Protection Rule and took effect on March 20, 2023. On May 25, 2023, the United States Supreme Court's decision in the case of *Sackett v. Environmental Protection Agency* was issued. Based on this case, USEPA and USACE announced a final rule on September 8, 2023, the "Revised Definition of 'Waters of the United States'; Conforming" (Conforming Rule). California is among the states that have adopted this rule. Significant changes in the definitions include the revised definition of adjacent wetlands. "Adjacent" now means having a continuous surface connection. The Conforming Rule also removes the significant nexus test from consideration when identifying tributaries and other waters as federally protected.

Under the Conforming Rule [88 FR 3142, Jan. 18, 2023, as amended at 88 FR 61968, Sept. 8, 2023], Waters of the United States includes the following waters (§ 328.3, Definitions).

(a) Waters of the United States are defined as follows:

(1) Waters which are:

(i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) The territorial seas; or

(iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

(i) Waters identified in paragraph (a)(1) of this section; or

(ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

(b) The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

For ***Non-tidal waters of the United States****,* i.e., rivers, streams, lakes, ponds, the limits of jurisdiction are:

(1) In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or

(2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.

(3) When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

Applicants must obtain a permit from USACE for all discharges of dredged or fill material into waters of the United States, including adjacent wetlands, before proceeding with a proposed activity. USACE may issue either an individual permit evaluated on a case-by-case basis or a general permit evaluated at a program level for a series of related activities. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause only minimal adverse environmental effects. The nationwide permits (NWPs) are a type of general permit issued to cover particular fill activities. Each NWP specifies particular conditions that must be met for the NWP to apply to a particular project.

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general permit until the requirements of the National Environmental Policy Act (NEPA), ESA, and the National Historic Preservation Act (NHPA) have been met. In addition, USACE cannot issue or verify any permit until a water quality certification, or a waiver of certification has been issued pursuant to CWA Section 401. Because the proposed project would discharge fill into waters of the United States in the project area, a Section 404 permit would be required.

Permits for Stormwater Discharge (Section 402)

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, administered by USEPA. In California, the State Water Resources Control Board (State Water Board) is authorized by USEPA to oversee the NPDES program through the Regional Water Quality Control Boards (Regional Water Boards) (see the related discussion under *Porter-Cologne Water Quality Control Act*). The project area is under the jurisdiction of the Central Valley Regional Water Quality Control Board (Central Valley Water Board).

NPDES permits are required for projects that disturb more than 1 acre of land. The NPDES permitting process requires the applicant to file a public notice of intent (NOI) to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities. In addition, it describes the best management practices (BMPs) that would be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. Permittees are required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants. Because the proposed project would disturb more than 1 acre of land, an NPDES permit and SWPPP would be required for construction activities.

Additionally, the County is in the process of implementing requirements of the State Water Board's NPDES General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4) Order No. 2013-0001-DWQ (Order). The proposed project qualifies as a "Regulated Project" as defined in Section E.12 of the Order and therefore will be required to comply with the standards provided in the Order.

Water Quality Certification (Section 401)

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401. A Section 401 water quality certification from the Central Valley Water Board would be required for waters of the United States identified in the project area.

For each of the relevant CWA sections, the project applicant would obtain and comply with the applicable federal and state permits, and all conditions that are attached to those permits would be implemented as part of the proposed project. The permit conditions would be clearly identified in the construction plans and specifications and monitored during and after construction to ensure compliance. Because the proposed project would require a Section 404 permit and has potential to discharge pollutants into waters of the United States, a Section 401 permit would be required.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) domestically implements a series of international treaties that provide for migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act further provides that it is unlawful, except as permitted by regulations "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird …" (United States Code [USC], Title 16, Section 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA can be found in the November 1, 2013 *Federal Register* (FR) (Code of Federal Regulations [CFR], Title 50, Section 10.13). This list comprises several hundred species, including essentially all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as health and safety and of personal property. USFWS publishes a list of birds of conservation concern (BCC) to identify migratory nongame birds that are likely to become candidates for listing under ESA without additional conservation actions. The BCC list is intended to stimulate coordinated and collaborative conservation efforts among federal, state, tribal, and private parties.

The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) (16 USC 668) prohibits take and disturbance of individuals and nests. Take permits for birds or body parts are limited to religious, scientific, or falconry pursuits. However, the BGEPA was amended in 1978 to allow mining developers to apply to USFWS for permits to remove inactive golden eagle (*Aquila chrysaetos*) nests in the course of "resource development or recovery" operations. With the 2007 removal of bald eagle (*Haliaeetus leucocephalus*) from the ESA list of threatened and endangered species, USFWS issued new regulations to authorize the limited take of bald eagles and golden eagles under the BGEPA, where the take to be authorized is associated with otherwise lawful activities. A final Eagle Permit Rule was published on September 11, 2009 (74 FR 46836–46879; 50 CFR 22.26). The final rule was revised on February 12, 2024, and takes effect on April 12, 2024 (89 FR 9920).

Executive Order 13112: Prevention and Control of Invasive Species

Executive Order (EO) 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. The EO established the National Invasive Species Council (NISC), which is composed of federal agencies and departments, and a supporting Invasive Species Advisory Committee (ISAC) composed of state, local, and private entities. In 2016, NISC released an updated national invasive species management plan (National Invasive Species Council 2016) that recommends objectives and measures to implement the EO and prevent the introduction and spread of invasive species. The EO requires consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them. Because the proposed project construction would require federal permits and has potential to spread invasive plant species, measures are included in this CEQA document to prevent the introduction and spread of invasive plants.

State

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Section 2050 et seq.) establishes state policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies should not approve projects that jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under CESA. For projects that would affect a species that is federally and state listed, compliance with ESA satisfies CESA requirements if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with CESA under California Fish and Game Code Section 2080.1. For projects that would result in take of a species that is only state listed, or if CDFW does not issue a Section 2080.1 consistency determination, project proponents must apply for a take permit under Section 2081(b).

California Fish and Game Code

Several sections of the California Fish and Game Code apply to the proposed project and are described below: 1602, 3503, 3503.5, 3511, 3513, 4700, 5050, and 5515.

Section 1602: Streambed Alteration Agreements

Under California Fish and Game Code 1602, public agencies are required to notify CDFW before undertaking any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a streambed alteration agreement that becomes part of the plans, specifications, and bid documents for the project. Because the proposed project would alter the natural flow, bed, and bank of streams in the project area, a streambed alteration agreement would be required.

Sections 3503 and 3503.5: Birds and Raptors

Section 3503 of the California Fish and Game Code prohibits the killing of birds and the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and the destruction of raptor nests. Raptors are birds of prey and include eagles, hawks, falcons, kites, and owls. Trees and shrubs in and adjacent to the project area provide suitable nesting habitat for birds and raptors.

Sections 3511, 4700, 5050 and 5515: Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as fully protected species. Section 5050 lists fully protected amphibians and reptiles; Section 5515 lists fully protected fish; Section 3511 lists protected birds, including the white-tailed kite (*Elanus leucurus*), for which there is potential nesting and foraging habitat in the study area; and Section 4700 lists protected mammals, including the ringtail (*Bassariscus astutus*), for which there is suitable denning habitat in the study area. The California Fish and Game Code defines *take* as "an action to hunt, pursue, catch, capture, or kill or an attempt to hunt, pursue, catch, capture, or kill." Senate Bill (SB) 147, that took effect on July 10, 2023, amends Sections 395, 3511, 4700, 5050, and 5515, and adds Section 2081.15 to the California Fish and Game Code. Unless a project is eligible for a take authorization permit pursuant to Section 2081.35, all take of fully protected species is prohibited, except for take related to scientific research. Recent take provisions added under SB 147 do not apply to the proposed project as the proposed project does not fall within the project categories eligible for a take authorization permit.

Section 3513: Migratory Birds

California Fish and Game Code Section 3513 prohibits the take or possession of any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA) of 1977 prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. CESA defers to CNPPA, which ensures that state-listed plant species are protected when state agencies are involved in projects subject to CEQA. In this case, plants listed as rare under CNPPA are protected under CEQA, not under CESA. Because the proposed project has potential to adversely affect rare and endangered plants, surveys for these plants and mitigation for any effects are required and are discussed in this document.

Porter-Cologne Water Quality Control Act

California Water Code Section 13260 requires "any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements)." Under the Wetland Riparian Area Protection Policy (May 28, 2020), Regional Water Boards will maintain jurisdiction over features excluded in the NWPR. The newly adopted regulations create a new statewide wetland definition that expands to features not previously covered under federal law and creates a new permitting program for activities that result in the discharge of dredge or fill materials to any waters of the state. The new rules are adopted under the federal CWA and the state Porter-Cologne Water Quality Control Act. Under the latter act, waters of the state are broadly defined as "[a]ny surface water or groundwater,

including saline waters within state boundaries," including both natural and certain artificial or constructed facilities. Waters of the state includes both waters of the United States and non-federal waters of the state (State Water Resources Control Board 2019). Therefore, California retains authority to regulate discharges of waste into any waters of the state, regardless of whether USACE has concurrent jurisdiction under CWA Section 404. If USACE determines that a wetland is not subject to regulation under Section 404, CWA Section 401 water quality certification is not required. However, the Regional Water Board may impose waste discharge requirements (WDRs) if fill material is placed into waters of the state. Because the proposed project would place fill material into wetlands and drainages, which are also waters of the state, an application for water quality certification from the Central Valley Water Board would be needed.

Oak Woodlands Conservation Act

SB 1334, the Oak Woodlands Conservation Act was enacted by the Legislature in 2004 to add Section 21083.4 to the Public Resources Code (CEQA) regarding oak woodlands conservation. Section 21083.4(b) requires that a county shall make a determination whether a project within its jurisdiction may result in conversion of oak woodlands that will have a significant effect on the environment. If a county determines that there may be a significant effect on oak woodlands, the county must require one or more of four oak woodlands mitigation alternatives to mitigate the significant effect of the conversion of woodlands. These alternatives are: conserving oak woodlands through conservation easements; planting an appropriate number of trees and maintaining them; contributing funds to the Oak Woodlands Conservation Fund; or other mitigation measures developed by the county. El Dorado County implements the requirements of this act through the Oak Resource Management Plan (ORMP), which defines mitigation requirements for impacts on oak woodlands, individual native oak trees, and Heritage Oaks and outlines the County's strategy for oak resource management and conservation (El Dorado County 2017). The Oak Resources Conservation Ordinance implements the ORMP.

Local

El Dorado County General Plan

The relevant biological resource goals, objectives, and policies from the 2004 County General Plan (El Dorado County 2004) are discussed below. The full text of the goals, objectives, and policies can be found in Appendix B, which provides analysis of the proposed project's consistency with County General Plan policies, as required under State CEQA Guidelines Section 15125.

Conservation and Open Space Element

GOAL 7.3, *Water Quality and Quantity*, addresses conservation, enhancement, and management of water resources and includes Objective 7.3.3, *Wetlands*, and associated policies 7.3.3.1, 7.3.3.4, and 7.3.3.5, and Objective 7.3.4, *Drainage*, and associated policies 7.3.4.1 and 7.3.4.2.

GOAL 7.4, *Wildlife and Vegetation Resources*, addresses the identification, conservation, and management of wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value, and includes Objective 7.4.1, *Rare, Threatened, and Endangered Species*, and associated policies 7.4.1.1, and 7.4.1.6, Objective 7.4.2, *Identify and Protect Resource*, and implementing policies 7.4.2.2, and 7.4.2.3 , and Objective 7.4.4, *Forest and Oak Woodland Resources*, and associated policies, 7.4.4.3, 7.4.4.4, and 7.4.4.5, Objective 7.4.5, *Native Vegetation and Landmark Trees*, and associated policy 7.4.5.1.

In 2014, through a series of public workshops, the County determined that a mitigation and conservation approach to biological resource policies would most effectively meet the County's objectives. This approach is reflected in revisions to General Plan Policy 7.42.8 and retains the OWMP, renamed the Oak Resources Management Plan (ORMP), but omits the requirements for an INRMP. The revised Policy 7.4.2.8 establishes a comprehensive Biological Resources Mitigation Program to govern evaluation, impact assessment, and mitigation for biological resources in the County. Under this policy, development projects in the County that require discretionary approval would be required to submit a biological resources study that meets the requirements of Policy 7.4.2.8, which include identifying impacts on each habitat type, and meeting mitigation and mitigation monitoring requirements.

Oak Resources Management Plan and Oak Resources Conservation Ordinance

The ORMP defines mitigation requirements for impacts on oak woodlands, individual native oak trees, and Heritage Oaks and outlines the County's strategy for oak resource management and conservation. The Oak Resources Conservation Ordinance implements the ORMP. Per the requirements of the ORMP, a tree removal permit is required for projects to authorize removal of any trees that are a component of an oak woodland and any individual native oak tree not located within an oak woodland.

Mitigation for impacts on oak resources can be achieved through a combination of onsite retention, replacement planting onsite and offsite, and in-lieu fees that will be used to acquire land and/or conservation easements to conserve oak woodlands, and to plant and maintain native oak trees. Per the requirements of the ORMP, all of a project's oak woodland impacts must be mitigated at a 1:1 ratio where 50% or less of onsite oak woodlands are affected, removing up to 75% requires a 1.5:1 ratio of mitigation, and removing up to 100% requires a 2:1 ratio of mitigation. In addition, the California Public Resources Code (PRC) Section 21083.4 requires that replacement planting not account for more than 50% of the total oak woodland mitigation requirement. Therefore, the remaining half of a project's oak woodland impact mitigation requirement would be implemented in the form of an in-lieu fee payment to the County. The current in-lieu fee for oak woodlands is $8,285 per acre of affected woodland. For individual trees, replacement requirements are based on an inch-for-inch replacement of the combined diameters of the trees removed. Currently, the in-lieu fee program requires a payment of $153 per inch of impact for individual non-Heritage oak trees and $459 per inch for Heritage trees. The in-lieu fees collected are deposited in the County's Oak Woodland Conservation Fund. That fund is used to acquire land and/or conservation easements to conserve oak woodlands, provide for native oak tree planting, and for ongoing conservation area monitoring and management activities.

Environmental Setting

Study Area

For the purposes of this section, the study area comprises both the onsite LRVSP project area and offsite improvement locations. The approximate 740-acre onsite portion is a series of sloping hills surrounding the main valley (Lime Rock Valley) and a minor valley associated with the corridor of Deer Creek, a perennial stream that flows from north to south through the property. The elevation of the site ranges from approximately 800 to 1,300 feet above mean sea level (MSL). The offsite portion of the study area is shown in Figure 2-13 and includes part of the Village of Marble Valley

Specific Plan (VMVSP) and a section of the existing Shingle Lime Mine Road , in which a new EID water transmission line would be constructed.

Methods

Biological Studies Conducted

The data provided in this section were summarized from the following studies prepared for the proposed project. Impact conclusions and mitigation measures were based on the results of these studies and reconnaissance-level biological surveys.

- *Biological Resources Section, Lime Rock Valley Specific Plan, El Dorado County, California* (LSA Associates 2014)
- *Biological Resources Study and Important Habitat Mitigation Program, Lime Rock Valley Specific Plan, El Dorado County, California* (LSA Associates 2014)
- *Request for Verification of Jurisdictional Delineation, Lime Rock Valley Project Site, El Dorado County, California* (LSA Associates 2013)
- *Biological Resource Survey, El Dorado Limestone Mine G-3 Property, El Dorado County, CA* (Kjeldsen Biological Consulting 2009)
- *Oak Resources Technical Report* (LSA Associates 2020a)
- *Biological Resources Study and Important Habitat Mitigation Plan for Oak Woodlands at the Village of Marble Valley, El Dorado County, California* (ECORP Consulting, Inc. 2014a)

Summary of Biological Surveys

Onsite Project Area

Kjeldsen Biological Consulting biologists conducted biological surveys on February 4, March 19, April 7 and 30, May 11 and 29, June 24, and July 21, 2009. LSA Associates biologists conducted reconnaissance-level surveys on June 18 and 22, 2012; oak canopy mapping on September 27 and 28, 2012; special-status plant surveys on June 18 and 22, 2012 and March 4 and 5 and May 13, 2013; and a delineation of waters of the United States on December 6 and 12, 2012 and March 4 and 5, 2013. ICF biologists conducted a reconnaissance-level survey on April 10, 2014 (Table 3.3-1). LSA Associates conducted tree surveys in 2018 and 2019 and prepared the Oak Resources Technical Report according to the ORMP requirements. Data from these surveys were used in preparation of Section 3.3.1, *Existing Conditions*.

Offsite Improvement Areas

No surveys of the area adjacent to the proposed improvement area in Shingle Lime Mine Road have been conducted. Surveys in the offsite improvement areas that overlap the VMVSP project area were conducted for the VMVSP project (Table 3.3-1).

Table 3.3-1. Biological Resource Survey Dates

Resource	Date	Surveyor	Observations[a]
Plant communities[b]	1990	McClelland Consultants	Identified five terrestrial plant communities in VMVSP project area.

Resource	Date	Surveyor	Observations[a]
Plant communities, special-status plants, special-status wildlife habitat, raptor nests	February 4, March, 19, April 7 and 30, May 11 and 29, June 24, and July 21, 2009	Kjeldsen Biological Consulting	Observed northwestern pond turtle and suitable habitat for valley elderberry longhorn beetle,[c] raptor nests, and bats; mapped drainages and seasonal wetlands; identified plant communities.
Oak woodland	September 27 and 28, 2012	LSA Associates, Inc.	Evaluated oak canopy coverage in accordance with County General Plan policies.
Oak woodland, native oaks, and heritage oaks	multiple days in 2018 and 2019	LSA Associates, Inc.	Mapped oak woodland in accordance with County ORMP requirements and mapped individual native and heritage oaks in impact areas and outside of oak woodland communities.
Plant communities[b]	May 9, June 12–14, and July 2, 2012	ECORP	Identified five terrestrial plant communities in VMVSP project area.
Blue oak woodland[b]	January 24, 2014	ECORP	Evaluated oak canopy coverage and presented a mitigation plan in accordance with County General Plan policies for VMVSP project area.
Special-status plants[b]	1990	Sugnet & Associates	No special-status plants observed in VMVSP project area.
Special-status plants[b]	1996	EIP Associates	No special-status plants observed in VMVSP project area.
Special-status plants[b]	April 6 and 13 and May 3, 2005	ECORP	No special-status plants observed in VMVSP project area.
Special-status plants[b]	May 9, June 12–14, and July 2, 2012	ECORP	Four populations of intergraded Brandegee's clarkia and two-lobed clarkia observed in VMVSP project area.
Special-status plants	June 18 and 22, 2012; March 4 and 5, 2013; and May 13, 2013	LSA Associates, Inc.	Observed two special-status plants (Bisbee peak rush rose and Layne's ragwort);
Delineation of waters of the United States[b]	June 26, 1991	–	Verification letter from USACE for VMVSP project area.
Delineation of waters of the United States	November 14, 1994	Sugnet & Associates	Reverified for VMVSP project area.
Delineation of waters of the United States[b]	February 1 and March 3–5 and 7, 2005	ECORP	Identified seasonal wetlands, seasonal wetland swales, seeps, intermittent streams, drainage ditches, stock ponds, quarry ponds, perennial creek, and seasonal creeks in VMVSP project area.
Delineation of waters of the United States[b]	2007–2012	ECORP	Verification site visit of VMVSP study area with USACE on January 18, 2007; revised February 13, 2007; verified on March 27, 2007; reverified July 2012; preliminary jurisdictional determination on August 16, 2012 (SPK-2012-00209).
Delineation of waters of the United States	December 6 and 12, 2012 and March 4 and 5, 2013	LSA Associates, Inc.	Identified seasonal wetlands, ponds, and streams as onsite jurisdictional features.
California Rapid Assessment Method[b]	May 25, 29–31 and June 19, 2012	ECORP	Evaluated habitat quality in 10 depressional wetlands and 13 riverine wetlands in VMVSP project area using CRAM.

Resource	Date	Surveyor	Observations[a]
Federally listed branchiopods—protocol-level dry-season surveys[b]	October 30, 2012	ECORP	No listed vernal pool branchiopod cysts observed during soil analysis in VMVSP project area.
Federally listed branchiopods—protocol-level wet-season surveys[b]	December 7 and 20, 2012; January 4 and 18, 2013; February 1 and 15, 2013; March 1, 15, and 29, 2013; April 5 and 19, 2013	ECORP	No listed vernal pool branchiopods observed in VMVSP project area.
Valley elderberry longhorn beetle—elderberry shrub survey[b,c]	June 19–21, 2012	ECORP	A total of 46 elderberry shrubs observed; no evidence of valley elderberry longhorn beetle presence (exit holes) on any shrub in VMVSP project area.
California red-legged frog—habitat assessment[b]	May 6 and 8, 2012; June 21, 2012	ECORP	Potential foraging and dispersal habitat in Deer Creek, Marble Creek, one stock pond, and drainages throughout the property; potential breeding habitat in both quarry ponds and potentially in Deer Creek; uplands throughout the project area may provide foraging habitat and refugia; suitable breeding habitat in at least nine ponded aquatic features within 1.6 miles of the VMVSP project area.
Foothill yellow-legged frog—habitat assessment[b]	May 9 and June 9, 2012; May 14, May 15, and September 20 2019	ECORP	No foothill yellow-legged frogs observed; habitat present for adult frogs in VMVSP project area.
California tiger salamander—habitat assessment[b]	May 6 and May 8, 2012	ECORP	Potential breeding and foraging habitat in Marble Creek, a stock pond, and a small quarry pond; marginal breeding habitat in a large quarry pond; suitable breeding habitat in at least nine ponded aquatic features within 2 kilometers (approximately 1.2 miles) of the VMVSP project area.
Blainville's horned lizard and western spadefoot toad[b]	May 29, 2012	ECORP	Suitable horned lizard habitat in chaparral and open grassland. Probable horned lizard scat observed in chaparral near the eastern edge of the property and potential horned lizard observed; no western spadefoot toads observed but several pools that may provide suitable habitat in VMVSP project area.
Western pond turtle[b]	May 7 and 9, 2012	ECORP	Western pond turtles observed in the central quarry pond, small quarry pond, Deer Creek, and Marble Creek in VMVSP project area.
Special-status nesting birds[b]	May 1, 4, 22, and 23, 2012; June 26 and 27, 2012	ECORP	Two red-tailed hawk nests observed; Cooper's hawk, white-tailed hawk, and lark sparrow nesting behavior observed; other special-status birds observed but nests or nesting behavior were not detected in VMVSP project area.
Bats[b]	May 31–June 15 and October 1–12, 2012	David Wyatt	Three special-status species detected, in addition to four additional bat species; three bat species were potentially detected during surveys but not confirmed in VMVSP project area.

Resource	Date	Surveyor	Observations[a]
Fisheries assessment[b]	October 19 and 24, 2005; May 31, 2012	ECORP	Potential suitable habitat for special-status fish but no special-status fish observed; suitable holding and rearing habitat for anadromous salmonids, but extremely limited potential spawning habitat in VMVSP project area.
Reconnaissance for all biological resources	June 18 and 22, 2012	LSA Associates, Inc.	Characterized plant communities; observed western pond turtle, evidence of Blainville's horned lizard, and suitable habitat for valley elderberry longhorn beetle[b] in LRVSP project area.
Reconnaissance for all resources[b]	April 10, 2014	ICF International	Did not observe additional species or identify habitat in LRVSP that was not previously documented.
Foothill yellow-legged frog	November 11, 2019 and April 28, 2020	LSA Associates, Inc.	No foothill yellow-legged frogs observed.
Special-status plants	April 18 and 19, 2020; June 11 and 12, 2020	LSA Associates, Inc.	Presence of Bisbee Peak rush rose and Laynes ragwort.

CRAM = California Rapid Assessment Method.
USACE = U.S. Army Corps of Engineers.
[a] Surveys were conducted in the onsite project area, unless otherwise noted for offsite surveys.
[b] Studies that include offsite improvement areas.
[c] Subsequent to survey, the project area was determined to be outside of valley elderberry longhorn beetle habitat.

Vegetation Communities

The project area occurs within the northern Sierra Nevada Foothills subdivision of the California Floristic Province (Baldwin et al. 2012:39, 42–43). Eight distinct vegetation communities and four open water communities occur in the project area (Table 3.3-2). These communities are described in this section and shown in Figure 3.3-1. A list of the plant species observed in each community type is provided in Appendix E.

Table 3.3-2. Total Area of Vegetation Communities and Drainages in the Onsite Project Area and Offsite Improvement Area

Community Type	LRVSP Project Area[a] (acres)	Offsite Infrastructure Improvement Areas[b]
Oak Woodland	265.42	16.88
Riparian Woodland	8.51	1.57
White-Leaf Manzanita Chaparral	284.07	6.56
Annual Grassland	145.41	9.79
Ruderal	23.94	0
Seasonal Wetland[a]	0.309	0.193
Seasonal Wetland Seep[a]	0.340	0.020
Seasonal Wetland Pond[a]	0.832	0
Perennial Stream[a]	3.444	0
Intermittent Stream[a]	2.728	0.049
Ephemeral Stream[a]	0.721	0
Pond[a]	0.013	0

Community Type	LRVSP Project Area[a] (acres)	Offsite Infrastructure Improvement Areas[b]
Seasonal Creek[a]	0	0.222
Drainage Ditch[a]	0	0.010
Total	735.49[c]	35.28

[a] Acreages of waters of the United States have been verified by USACE on May 11, 2015 (SPK-2013-00236) (U.S. Army Corps of Engineers pers. comm.)

[b] Acreages of waters of the United States mapped in the offsite infrastructure improvement areas do not include the entire offsite area, are preliminary, and have not been verified by USACE. Upland community types were not mapped in the offsite areas, and acreages are estimates.

[c] This total does not exactly match the 740 acres stated in the project description due to minor deviations in GIS mapping of project area boundaries and rounding of the individual community type acreages.

The study area supports both common vegetation communities and sensitive natural communities. Common vegetation communities are habitats with low species diversity that are widespread, reestablish naturally after disturbance, or support primarily nonnative species. These communities generally are not protected by agencies unless the specific site is habitat for or supports special-status species (e.g., raptor foraging or nesting habitat, upland habitat in a wetland watershed). Common vegetation communities in the study area are white-leaf manzanita chaparral, annual grassland, and developed areas. Sensitive natural communities are habitats considered sensitive because of their high species diversity, high productivity, unusual nature, limited distribution, or declining status. Local, state, and federal agencies consider these habitats important. The California Natural Diversity Database (CNDDB) contains a current list of rare natural communities throughout the state. USFWS considers certain habitats, such as wetlands and riparian communities, important to wildlife; and the USACE and USEPA consider wetland habitats important for water quality and wildlife. The habitats in the study area that meet the criteria for sensitive natural communities are oak woodland and savannah, riparian woodland, wetlands, and open water communities.

Oak Woodlands

Oak woodlands occur throughout the project area and consist of mixed stands of blue oak (*Quercus douglasii*) and canyon live oak (*Quercus chrysolepis*), with scattered valley oak (*Quercus lobata*) and black oak (*Quercus kelloggii*). Most of the oak woodland occurs on slopes in the east half of the area. Canopy density ranges from closed canopy with a shrub and herbaceous understory to oak savannah, in which individual oaks are scattered in annual grassland habitat. Tree species associated with the oaks in the closed-canopy woodlands include madrone (*Arbutus menziesii*), gray pine (*Pinus sabiniana*), interior live oak (*Quercus wislizeni*), blue oak, black oak, and canyon live oak. The understory is predominantly annual grassland species, but also commonly includes common manzanita (*Arctostaphylos manzanita*), soap plant (*Chlorogalum spp.*), miner's lettuce (*Claytonia perfoliata*), poison oak (*Toxicodendron diversilobum*), and Pacific sanicle (*Sanicula crassicaulis*). Where the oak woodlands transition to chaparral, other species occur in the understory, including chamise (*Adenostoma fasciculatum*), white-leaf manzanita (*Arctostaphylos manzanita*), buck brush (*Ceanothus cuneatus*), deerbrush (*Ceanothus integerrimus*), and California rose (*Rosa californica*). Acorns are a key resource for deer, squirrels, turkeys, jays, quail, and bear. Standing dead trees provide an important habitat resource for raptors, bats, salamanders, and lizards. Coarse woody tree material lying on the ground is a very important wildlife habitat element—particularly large

logs—because the logs retain moisture in a relatively dry ecosystem. Oak woodlands near riparian resources such as creeks, rivers, or lakes support the greatest number of wildlife species.

A complete biological resources study was prepared for the project area to evaluate the existing oak woodland and oak canopy (LSA Associates 2014). In 2018 and 2019, the mapping of oak woodland cover was conducted, and a survey of individual oak trees was performed (LSA Associates 2020a, see Appendix F). The oak woodland accounts for 36% (265.42 acres) of the total project area.

Oak woodland also occurs in the offsite improvement area both west and east of the project area. The oak canopy has been mapped in the offsite improvement area to the west (ECORP Consulting 2014a), but not yet in the area to the east along Shingle Lime Mine Road.

Local and state agencies, including CDFW recognize native oak woodlands as sensitive natural communities, and El Dorado County General Plan Policies 7.4.4.2, 7.4.4.4, 7.4.4.5, 7.4.5.1, and 7.4.5.2 protect oak woodlands.

Riparian Woodland

Riparian woodland occurs along Deer Creek, its unnamed perennial tributary, and other unnamed drainages in the project area. Riparian trees include broadleaved and deciduous trees, such as red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), white alder (*Alnus rhombifolia*), black oak, canyon oak, live oak, valley oak, black walnut (*Juglans nigra*), Oregon ash (*Fraxinus latifolia*), and Fremont cottonwood (*Populus fremontii*). Common understory shrubs include poison oak, coyote brush (*Baccharis pilularis*), Himalayan blackberry (*Rubus armeniacus*), and California grape (*Vitis californica*). Understory dominants consist of torrent sedge (*Carex nudata*), mule fat (*Baccharis salicifolia*), common ninebark (*Physocarpus opulifolius*), and California polypody (*Polypodium californicum*).

Riparian habitat supports a wide variety of wildlife species. Riparian trees are used for nesting, foraging, and protective cover by many bird species, including warbling vireo (*Vireo gilvus*) black-headed grosbeak (*Pheucticus melanocephalus*), tree swallow (*Tachycineta bicolor*), Bewick's wren (*Thryomanes bewickii*), and Cooper's hawk (*Accipiter cooperii*). Understory shrubs provide cover for mammals such as Botta's pocket gopher (*Thomomys bottae)* and for ground-nesting birds, such as spotted towhee (*Pipilo maculatus*), that forage among the vegetation and leaf litter. Northwestern pond turtle (*Actinemys marmorata*) has been observed within riparian habitat in the project area (LSA Associates 2013). Local and state agencies recognize riparian habitats as sensitive natural communities. County General Plan Policy 7.4.2.2 protects riparian habitats that are critical wildlife areas and migration corridors by using open space designations and setbacks from development.

Riparian woodland also occurs in the offsite improvement area located west of the LRVSP project area. The riparian woodland is associated with Marble Creek and has been mapped in the offsite area to the west (ECORP Consulting 2014a). The offsite improvement area to the east has not yet been surveyed but may also support riparian woodland in association with a drainage that crosses Shingle Lime Mine Road.

Local, state, and federal agencies recognize riparian habitats as sensitive natural communities. County General Plan Policy 7.4.2.2 protects riparian habitats that are critical wildlife areas and migration corridors by using open space designations and setbacks from development.

White-Leaf Manzanita Chaparral

Large stands of white-leaf manzanita chaparral are present across most of the west side of the project area. A portion of the chaparral located east of the El Dorado Irrigation District Deer Creek wastewater treatment plant (WWTP) burned in August 2006. Characteristic shrubs include chamise, white-leaf manzanita, coyote brush, buck brush, deerbrush, golden fleece (*Solidago sphacelate*), yerba santa (*Eriodictyon californicum*), California coffeeberry (*Rhamnus californica*), toyon (*Heteromeles arbutifolia*), chaparral pea (*Pickeringia montana*), scrub oak (*Quercus berberidifolia*), western redbud (*Cercis occidentalis*), and poison oak. Although trees are not a major component of the chaparral, they are obvious features of the landscape emerging above the chaparral brush. Canyon live oak occurs commonly throughout this habitat, and foothill pine occurs only in a couple of locations. Grasses, forbs, and sub-shrubs are minor components of chaparral habitats and are typically found in openings within the chaparral following fires or formed by road cuts or other disturbances. These other plant species include deerweed (*Lotus scoparius*), wooly Indian paintbrush (*Castilleja foliolosa*), pygmyflower cryptantha (*Cryptantha micromeres*), Bisbee Peak rush rose (*Helianthemum suffrutescens*), pitcher sage (*Lepechinia fragrans*), and creeping sage (*Salvia sonomensis*). Bisbee Peak rush rose has a rare plant rank of 3.2, which is currently under review by CNPS. Typical wildlife species that use chaparral habitat include western whiptail (*Aspidoscelis tigris*), California thrasher (*Toxostoma redivivum*), and wrentit (*Chamaea fasciata*).

White-leaf manzanita chaparral has also been mapped in the offsite improvement area west of the project area (ECORP Consulting 2014a). The offsite improvement area to the east has not yet been surveyed but does not appear to support white-leaf manzanita chaparral based on review of aerial photographs.

White-leaf manzanita chaparral that includes chamise and creeping sage as dominants has an S4 state threat ranking on the CNDDB. The S4 ranking indicates that this vegetation community is apparently secure within California, but factors exist to cause concern for the condition or extent of the community. This is not a threat rank, and white-leaf manzanita chaparral is not currently considered a sensitive community, although it could become more rare in the future.

Annual Grassland

Annual grasslands occur primarily in the eastern half of the project area and as the understory in the oak savannahs. These grasslands support weedy species, including yellow star-thistle (*Centaurea solstitialis*), and Klamath weed (*Hypericum perforatum*). Common grass species in the annual grassland include wild oat (*Avena barbata*), ripgut brome(*Bromus diandrus*), soft brome (*Bromus hordeaceus*), wild barley (*Hordeum spontaneum*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), rattlesnake grass (*Briza maxima*), little quaking grass(*Briza minor*), hedgehog dog-tail grass (*Cynosurus echinatus*), cultivated timothy (*Phleum pretense),* annual hairgrass (*Deschampsia danthonioides*), hood canarygrass (*Phalaris minor*), tall fescue (*Festuca arundinacea*), Medusa head-grass (*Elymus caput-medusae*), and rattail fescue (*Vulpia myuros*). Common forbs include red stem filaree (*Erodium cicutarium*),, smooth cat's ear (*Hypochaeris glabra*), rough cat's ear (*Hypochaeris radicata*), bur clover (*Medicago polymorpha*), California poppy (*Eschscholzia californica*), , vetches (*Vicia spp.*), and English plantain (*Plantago lanceolata*). Grassland communities provide foraging, breeding, and cover habitat value for a variety of wildlife species, including gopher snake (*Pituophis catenifer*), western bluebird (*Sialia mexicana*), western meadowlark (*Sturnella neglecta*), red-tailed hawk (*Buteo jamaicensis*). Mammals expected to occur

in this habitat include coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), mountain lion (*Puma concolor*), and bobcat (*Lynx rufus*).

Annual grassland has also been mapped in the offsite improvement area located west of the LRVSP project area (ECORP Consulting 2014a). The offsite improvement area to the east has not yet been surveyed but appears to support annual grassland on part of the west side of Shingle Lime Mine Road. Because it is common and widespread, annual grassland is not considered a sensitive natural community.

Ruderal

Ruderal vegetation is composed of mostly nonnative plants adapted to colonizing and persisting in disturbed areas. Ruderal vegetation in the project area is primarily found in the vicinity of the old mining operation. The species composition is a mix of weedy, broadleaved herbs (forbs), nonnative annual grasses, and ornamental plants, but, typically, native species are also present. Plant species present include tree of heaven (*Ailanthus altissima*), wild oat, ripgut brome, soft brome, yellow star-thistle, dove weed (*Murdannia nudiflora*), wild barley, sweet clover (*Melilotus spp.*), skunkweed (*Polemonium viscosum*), Bermuda buttercup (*Oxalis pes-caprae*), English plantain, wild radish (*Raphanus raphanistrum*), milk thistle (*Silybum Marianum*), and periwinkle (*Vinca minor*). Most wildlife species found in areas of annual grassland are also present in ruderal areas. Species most closely associated with this type include mourning dove (*Zenaida macroura*), barn swallow (*Hirundo rustica*), house finch (*Carpodacus mexicanus*), and house mouse (*mus musculus*).

No ruderal vegetation was mapped in the offsite improvement area located west of the LRVSP project area (ECORP Consulting 2014a). However, the offsite improvement area to the east has not yet been surveyed but may support areas of ruderal vegetation along Shingle Lime Mine Road.

Because it is common, widespread, and supports primarily weedy species, ruderal vegetation is not considered a sensitive natural community.

Wetlands

All wetlands in the project area are considered waters of the United States regulated by USACE under CWA Section 404. Wetlands mapped in the project area consist of seasonal wetlands, seasonal wetland seeps, and seasonal wetland pond. Wetlands were delineated according to the USACE delineation manual and were verified by USACE on May 11, 2015 (SPK-2013-00236) (U.S. Army Corps of Engineers pers. comm.). Wetlands in the offsite improvements area to the west have been delineated according to the USACE delineation manual and verified by USACE (ECORP Consulting 2013b). The offsite improvement area to the east has not been assessed for wetlands but could support similar wetland types to those identified onsite.

Seasonal Wetland

The project area supports nine seasonal wetlands located either in shallow basins or, in one case, a swale along the bank of an intermittent stream in the northwest corner of the project area. Dominant vegetation in the basin seasonal wetlands includes slender popcorn flower (*Plagiobothrys stipitatus*), water pygmyweed (*Crassula aquatica*), hyssop loosestrife (*Lythrum hyssopifolia*), and Mediterranean barley. The swale seasonal wetland is primarily vegetated by meadow barley (*Hordeum brachyantherum*).

Seasonal wetlands have also been mapped in the offsite improvement area located west of the project area (ECORP Consulting 2013a). The offsite improvement area to the east has not yet been surveyed but may also support seasonal wetlands associated with a drainage that crosses Shingle Lime Mine Road and a pond located 25 to 50 feet from the road.

Seasonal Wetland Seep

Seeps are perennial or nearly perennial features where groundwater comes to the surface and supports wetland plants. Ten seeps are located on the hill slopes in the northern part of the project area, most of which are associated with intermittent streams. The seeps support species, such as meadow barley, irisleaf rush (*Juncus xiphioides*), water smartweed (*Persicaria amphibia*), spiny-fruit buttercup (*Ranunculus muricatus*), nut sedge (*Cyperus esculentus*), creeping spikerush (*Eleocharis palustris*), curly dock (*Rumex crispus*), Mediterranean barley, pennyroyal (*Mentha pulegium*), Mexican rush (*Juncus mexicanus*), tules (*Schoenoplectus spp.*), and sedges (*Carex spp.*).

Seasonal wetland seeps have also been mapped in the offsite improvement area west of the project area (ECORP Consulting 2013a). The offsite improvement area to the east has not yet been surveyed but could support seasonal wetland seeps associated with a drainage that crosses Shingle Lime Mine Road.

Seasonal Wetland Pond

Four seasonal wetland ponds were mapped in the north central part of the project area. These ponds were formed by the construction of berms and functioned as retention basins or reservoirs. Plant species observed in the ponds include cattails, rushes, curly dock, common cocklebur (*Xanthium strumarium*), creeping spikerush, water smartweed, and willow.

Seasonal wetland ponds were not mapped in the offsite improvement area located west of the project area (ECORP Consulting 2013a). The offsite improvement area to the east has not yet been surveyed but could support seasonal wetland pond west of Shingle Lime Mine Road near the proposed offsite improvement area.

Open Water

All open water features in the project area are considered waters of the United States regulated by USACE under CWA Section 404. Other waters mapped in the project area include perennial stream (Deer Creek and unnamed tributaries), intermittent streams, ephemeral streams, and a pond. Several drainage features not considered to be under USACE jurisdiction were also mapped in the project area. Open water features were delineated according to the USACE standards and were verified by USACE (U.S. Army Corps of Engineers pers. comm.).

Open water features in the offsite improvements area to the west have been delineated according to the USACE standards and verified by the USACE (ECORP Consulting 2013a). The offsite improvement area to the east has not been assessed for open water features but could support similar types to those identified onsite.

Perennial Stream

Deer Creek and one of its unnamed tributaries are perennial streams in the project area. These streams flow year-round and are primarily unvegetated due to the scouring effects of water. Deer

Creek varies from 24 to 50 feet wide, and the tributary is 8 to 18 feet wide. Both creeks are culverted under roads.

Deer Creek is south of the offsite improvement area, and no other perennial stream was mapped west of the project area (ECORP Consulting 2013a). The offsite improvement area to the east has not yet been surveyed, but a drainage that crosses Shingle Lime Mine Road might be a perennial stream.

Intermittent Streams

Intermittent streams occur throughout the project area and vary from 1 to 20 feet wide. These drainages carry water seasonally. Some of the intermittent streams are tributary to Deer Creek or other unnamed streams, and some connect to seasonal wetland seeps.

Intermittent streams have also been mapped in the offsite improvement area located west of the project area (ECORP Consulting 2013a). The offsite improvement area to the east has not yet been surveyed, but intermittent streams might cross Shingle Lime Mine Road.

Ephemeral Stream

Ephemeral streams are similar to intermittent streams, but only receive water from storm events and are not influenced by groundwater levels. Ephemeral streams in the project area are generally the upstream segments of intermittent streams or tributaries to larger streams and are no wider than 4 feet.

No ephemeral streams were mapped in the offsite improvement area located west of the project area (ECORP Consulting 2013a). The offsite improvement area to the east has not yet been surveyed, but ephemeral streams might cross Shingle Lime Mine Road.

Pond

One mostly unvegetated pond occurs in the project area. This pond is a basin carved into bedrock adjacent to Deer Creek, where it exits the project area.

A quarry pond has also been mapped in the offsite improvement area west of the project area (ECORP Consulting 2013a). The offsite improvement area to the east has not yet been surveyed, but a large pond exists west of Shingle Lime Mine Road.

Disturbed/Developed

The disturbed/developed areas mapped onsite are roads, existing houses, and abandoned buildings. These areas are unvegetated due to historic and ongoing disturbances.

Disturbed/developed areas have also been mapped in existing roads in the offsite improvement area west of the project area (ECORP Consulting 2014a). The offsite improvement area to the east has not yet been surveyed but has a disturbed/developed area in Shingle Lime Mine Road.

Soils

The project area includes five soil map units, as shown in Section 3.5, *Geology, Soils, Minerals, and Paleontological Resources*, Figure 3.5-3: (AwD) Auburn silt loam, 2 to 30% slopes, (AxD) Auburn very rocky silt loam, 2 to 30% slopes, (Qu) Quarries, (SaF) Serpentine rock land, and (SuC) Sobrante silt loam, 3 to 15% slopes.

Wetlands and Waters of the United States

As described above, the project area contains waters of the United States consisting of seasonal wetlands, seasonal wetland seeps, seasonal wetland ponds, perennial streams, intermittent streams, ephemeral streams, and a pond. A preliminary delineation of the project area was conducted in 2009 (Kjeldsen Biological Consulting 2009), on December 6 and 11, 2012, and on March 4 and 5, 2013 (LSA Associates 2013). The delineation was submitted to USACE on February 3, 2014 for verification of their jurisdiction. A revised map, dated March 10, 2015, was verified, and a preliminary jurisdictional determination was returned on May 11, 2015 (SPK-2013-00236).

A delineation of waters of the United States was conducted in the part of the proposed offsite improvement area west of the Project area as part of the VMVSP surveys (ECORP Consulting 2006, 2007). This area contains waters of the United States consisting of seasonal wetlands, seasonal wetland swales, seeps, intermittent drainages, seasonal creeks, perennial creeks, drainage ditches, stock ponds, and quarry ponds. A preliminary delineation of the project area was conducted in February and March 2006 and submitted to USACE to determine their jurisdiction. A verification site visit was conducted on January 18, 2007, and the delineation was verified on March 27, 2007. The delineation was reverified and a preliminary jurisdictional determination was provided on August 16, 2012 (SPK-2012-00209).

The section of the proposed offsite improvement area located east of the project area and adjacent to Shingle Lime Mine Road has not yet been surveyed or delineated.

Special-Status Species

Special-status species are plants and animals that are legally protected under CESA, ESA, or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. For the purposes of this EIR, special-status species include the following.

- Species listed or proposed for listing as threatened or endangered under ESA (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under ESA (88 FR 41560 [June 27, 2023]).
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (California Code of Regulations, Title 14, Section 670.5).
- Species that meet the definitions of rare or endangered under the State CEQA Guidelines Section 15380.
- Animals fully protected in California (California Fish and Game Code Section 3511 [birds], 4700 [mammals], and 5050 [amphibians and reptiles]).
- Animal species of special concern to CDFW.
- Taxa (i.e., taxonomic categories or groups) that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the State CEQA Guidelines (e.g., species that appear on the CDFW special animals list).
- Plants listed as rare under the CNPPA (California Fish and Game Code Section 1900 et seq.).

- Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (Rare Plant Ranks 1B and 2 [California Native Plant Society 2024]).
- Plants listed by CNPS as plants about which more information is needed to determine their status, and plants of limited distribution (Rare Plant Ranks 3 and 4 [California Native Plant Society 2024]), which may be included as special-status species on the basis of local significance or recent biological information.

Special-Status Plants

Based on results of database searches of the CNDDB and CNPS Inventory (California Department of Fish and Wildlife 2024; California Native Plant Society 2024), vegetation communities in the project area, conditions present in the project area, and data on known species' distribution, a total of 38 special-status plant species were identified as having potential to occur in the project area or vicinity (Table 3.3-3). No suitable habitat (Ione soils, gabbro soils, or coniferous forest; range is higher in elevation) is present in the project area for 6 of the 38 species. Gabbro soils known to support special-status plants in El Dorado County are included in Rescue mapping units, which do not occur in the project area (see Section 3.5, *Geology, Soils, Minerals, and Paleontological Resources*, for further details on soils in the project area). Potential habitat is present in the project area for the other 32 special-status species.

There are no previously documented occurrences of special-status plants in the project area (California Department of Fish and Wildlife 2024). Surveys previously conducted in the project area (Kjeldsen Biological Consulting 2009) did not identify any special-status plants in the project area, however subsequent special-status plant surveys conducted on June 18 and 22, 2012 and on March 4– 5, and May 13, 2013 (LSA Associates 2014) identified two special-status plant species, Bisbee Peak rush-rose and Layne's ragwort (*Packera layneae*) in the project area (Figure 3.3-1). Additional details regarding these species are provided below. A complete list of plant species encountered during these surveys is included as Appendix E.

Bisbee Peak Rush-Rose

Bisbee Peak rush-rose is designated as a CNPS Rare Plant Rank 3.2 plant but is not listed pursuant to either ESA or CESA. Rank 3 plants may be of concern under CEQA if they are locally significant, and this species also may be evaluated for protection based on its association with the Pine Hill endemics, consistent with County General Plan Policy 7.4.1.1 (protection for Pine Hill endemics).

Bisbee Peak rush-rose is a perennial species that occurs in chaparral, often on serpentine, gabbro, or Ione formation soils, at elevations ranging from approximately 150 to 2,750 feet above mean sea level (California Native Plant Society 2024). This species blooms from April through June. The current range of this species includes Amador, Calaveras, and El Dorado Counties (California Native Plant Society 2024). Five occurrences of Bisbee Peak rush-rose have been reported within 2 to 3 miles north of the project area (California Department of Fish and Wildlife 2024).

Surveys conducted in 2009 (Kjeldsen Biological Consulting 2009) identified the common species peak rush-rose (*Helianthemum scoparium*) in the project area as occasional, occurring in areas of chaparral, rocky ridges, and dry slopes. Bisbee peak rush-rose is closely related and very similar in appearance to peak rush-rose. Populations of Bisbee Peak rush-rose are known from areas north of the project site. Rush-rose plants were also observed in the project area in September of 2012 and March 2013 (LSA Associates 2014) along ridgelines on the western side of the project area, where they were associated with road cuts and areas in the chaparral that burned in 2006. Although these

plants were tentatively identified as the peak rush-rose using the currently accepted authority for identifying California flora (*The Jepson Manual, Vascular Plants of California*, Second Edition [Baldwin et al. 2012]), this source does not provide a key to distinguish the common peak rush-rose from the rare Bisbee Peak rush-rose. Additional survey work on May 13, 2013 compared known reference site populations of Bisbee Peak rush-rose with the onsite populations using keys and descriptions of Bisbee Peak rush-rose (*Crocanthemum* [*Helianthemum*] *suffrutescens*) in Munz and Keck (1973) and Abrams (1951). The onsite plants were positively identified as Bisbee Peak rush-rose.

No Bisbee Peak rush-rose was identified in the offsite improvements area west of the project area (ECORP Consulting 2013a). Special-status plant surveys have not been conducted in the offsite improvement area east of the project area, but it does not appear to support chaparral habitat based on review of aerial photographs, and Bisbee Peak rush-rose would not be anticipated to occur along Shingle Lime Mine Road.

Layne's Ragwort

Layne's ragwort (or Layne's butterweed) is federally listed as threatened, state listed as rare, and designated as a CNPS Rare Plant Rank 1B.2 plant. This species is a perennial that occurs in openings in chaparral and foothill woodland communities on serpentine soils at elevations ranging from approximately 650 to 3,300 feet above mean sea level (California Native Plant Society 2024). This species blooms from April through August. The current range of this species includes the northern Sierra Nevada foothills in El Dorado, Placer, Tuolumne, and Yuba Counties (California Native Plant Society 2024). Thirteen occurrences of Layne's ragwort have been reported within less than 5 miles of the project area, and the closest recorded occurrence is approximately 2 miles northeast of the project area (California Department of Fish and Wildlife 2024). Layne's ragwort was observed in the project area during surveys conducted in 2013 in an area that had been burned in 2006.

No Layne's ragwort was identified in the offsite improvement area west of the project area (ECORP Consulting 2013a). Special-status plant surveys have not been conducted in the offsite improvement area located east of the project area, but it does not appear to support chaparral habitat based on review of aerial photographs, and Layne's ragwort would not be anticipated to occur along Shingle Lime Mine Road.

Special-Status Wildlife

Based on database searches of the CNDDB (California Department of Fish and Wildlife 2024), USFWS species list (U.S. Fish and Wildlife Service 2024) for the project region, and professional judgement based on vegetation communities in the project vicinity, and existing conditions in the project area, 32 special-status wildlife species were identified as having potential to occur in the project area or vicinity (Table 3.3-4). After a review of species distribution and habitat requirements data, and results of wildlife surveys conducted in the project area by Kjeldsen Biological Consulting in 2009 and by LSA Associates in 2013 (Table 3.3-1), it was determined that 8 of these species would not occur in the project area or offsite improvement areas because these areas lack suitable habitat for the species or are outside the species' known range (Table 3.3-4). Potential suitable habitat is present in the project area or offsite improvement areas for the remaining 24 species, which are discussed below.

Table 3.3-3. Special-Status Plant Species with Potential to Occur in the Lime Rock Valley Specific Plan Region

Scientific Name Common Name	Status[a] Fed/State/CNPS	Geographic Distribution	General Habitat Description	Blooming Period	Potential for Occurrence in Project Area
Allium jepsonii Jepson's onion	–/–/1B.2	Sierra Nevada foothills in Butte, El Dorado, Placer, and Tuolumne Counties.	Serpentine or (volcanic) basalt outcrops in oak woodland, chaparral, and lower montane coniferous forest; 980–4,350 feet.	Apr–Aug	Suitable habitat is present in oak woodlands and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Allium sanbornii var. congdonii Congdon's onion	–/–/4.3	El Dorado, Mariposa, Nevada, Placer, and Tuolumne Counties.	Serpentine or volcanic soils in chaparral and cismontane woodland; 980–3,250 feet.	Apr-Jul	Suitable habitat is present in white-leaf manzanita chaparral and oak woodland in the project area. No recorded occurrences near the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Allium sanbornii var. sanbornii Sanborn's onion	–/–/4.2	Cascade Range foothills and Sierra Nevada Foothills, from Shasta County to Calaveras County, Oregon.	Gravelly or usually serpentine soils in chaparral, cismontane woodland, and lower montane coniferous forest; 850–5,000 feet.	May-Sep	Suitable habitat is present in white-leaf manzanita chaparral and oak woodland in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Arctostaphylos mewukka ssp. *truei*	–/–/4.2	Northern Sierra Nevada Foothills: Butte, Plumas, Nevada, Placer, and Yuba Counties.	Chaparral, lower montane coniferous forest; 1,400–4,500 feet.	Feb-Jul	Suitable habitat is present in white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not

Scientific Name Common Name	Status[a] Fed/State/CNPS	Geographic Distribution	General Habitat Description	Blooming Period	Potential for Occurrence in Project Area
					observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Arctostapylos nissenana Nissenan manzanita	–/–/1B.2	Sierra Nevada foothills, El Dorado and Tuolumne Counties.	Closed-cone coniferous forest, chaparral on rocky, dry ridges; 1,500–3,600 feet.	Feb–Mar	Suitable habitat is present in white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Balsamorhiza macrolepis Big-scale balsamroot	–/–/1B.2	Coast Ranges and Sierra Nevada foothills.	Sometimes on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland; 300–5,100 feet.	Mar–Jun	Suitable habitat is present in annual grassland, white-leaf manzanita chaparral, and oak woodland in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Calandrinia breweri Brewer's calandrinia	–/–/4.2	Widely scattered throughout California: Coast Ranges, central Sierra Nevada Foothills, Western Transverse Ranges.	On sandy or loamy, disturbed sites and burns in chaparral and coastal scrub; 30–4,000 feet.	Mar-Jun	Suitable habitat is present in white-leaf manzanita chaparral in the project area. No recorded occurrences near the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Calystegia stebbinsii Stebbins' morning-glory	E/E/1B.1	Northern Sierra Nevada foothills: with reported occurrences in El Dorado and Nevada Counties	Serpentine or gabbro soils in chaparral openings, cismontane woodland; 600–2,400 feet.	Apr–Jul	Suitable habitat is present in oak woodlands and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is approximately 1.4 miles northeast of the

Scientific Name Common Name	Status[a] Fed/State/CNPS	Geographic Distribution	General Habitat Description	Blooming Period	Potential for Occurrence in Project Area
					project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Calystegia vanzuukiae Van Zuuk's morning-glory	–/–/1B.3	El Dorado and Placer Counties.	Gabbro or serpentinite substrates in chaparral and cismontane woodland; 1,650–4,000 feet.	May-Aug	Suitable habitat is present in oak woodlands and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Carex cyrtostachya Sierra arching sedge	–/–/1B.2	North Sierra Nevada: Butte, El Dorado, and Yuba Counties.	Lower montane coniferous forest (mesic), meadows and seeps, marshes and swamps, and riparian forest (margins); 2,000–4,460 feet.	May–Aug	Suitable habitat is present in the seasonal wetlands in the project area. The nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Carex xerophila Chaparral sedge	–/–/1B.2	North Sierra Nevada foothills: Butte, El Dorado, Nevada, and Yuba Counties.	Serpentinite, gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest; 1,450–2,500 feet.	Mar–Jun	Suitable habitat is present in blue oak woodlands, blue oak savannah, and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is approximately 1.7 miles northeast of the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.

Scientific Name **Common Name**	**Status[a]** **Fed/State/CNPS**	**Geographic Distribution**	**General Habitat Description**	**Blooming Period**	**Potential for Occurrence in Project Area**
Ceanothus fresnensis Fresno ceanothus	–/–/4.3	Central Sierra Nevada, Calaveras, El Dorado, Fresno, Madera, Mariposa, Placer, Tulare, and Tuolumne Counties.	Openings in cismontane woodland, lower montane coniferous forest; 3,000–6,900 feet.	May-Jul	Project area is located at elevations well below known range for species.
Ceanothus roderickii Pine Hill ceanothus	E/R/1B.2	Endemic to El Dorado County.	Serpentine or gabbro soils in chaparral or cismontane woodland; 800–2,050 feet.	Apr–Jun	Suitable habitat is present in oak woodlands and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is approximately 1.5 miles northeast of the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Chlorogalum grandiflorum Red Hills soaproot	–/–/1B.2	North and central Sierra Nevada foothills: Amador, Butte, Calaveras, El Dorado, Placer, and Tuolumne Counties.	Serpentine or gabbro soils in chaparral, lower montane coniferous forest, and cismontane woodland; 800–4,050 feet.	May–Jun	Suitable habitat is present in oak woodlands and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is approximately 1.4 miles north of the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Clarkia biloba ssp. *brandegeeae* Brandegee's clarkia	–/–/4.2	Northern Sierra Nevada foothills from Butte to El Dorado Counties.	Chaparral, cismontane woodland, lower coniferous forest, often on roadcuts; 240–3,000 feet.	May–Jul	Suitable habitat is present in oak woodlands and white-leaf manzanita chaparral in the project area. The nearest recorded occurrence is approximately 0.5 mile west of the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.

Scientific Name Common Name	Status[a] Fed/State/CNPS	Geographic Distribution	General Habitat Description	Blooming Period	Potential for Occurrence in Project Area
Claytonia parviflora ssp. *grandiflora* Streambank spring beauty	–/–/4.2	Known only from pine/blue oak woodlands in the Sierra Nevada foothills: Amador, Butte, Calaveras, El Dorado, Fresno, Kern, Placer, Tulare, Tuolumne Counties.	Rocky sites in cismontane woodland; 820–4,000 feet.	Feb-Apr(May)	Suitable habitat is present in blue oak woodlands and blue oak savannah in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Crocanthemum [Helianthemum] suffrutescens Bisbee Peak rush-rose	–/–/3.2	Amador, Calaveras, El Dorado, Mariposa, Sacramento, and Tuolumne Counties.	Chaparral openings, often on serpentinite, gabbro, or Ione soils; 150–2,750 feet.	Apr–Jun	Species is present onsite. Suitable habitat is present in the white-leaf manzanita chaparral in the project area. Species was observed during the 2013 and 2020 surveys of the project area.
Delphinium hansenii ssp. *ewanianum* Ewan's larkspur	–/–/4.2	Calaveras, Fresno, Kern, Madera, Merced, and Tulare Counties.	Rocky areas in cismontane woodland, valley and foothill grassland; 200–2,000 feet.	Mar-May	Suitable habitat is present in annual grassland, blue oak woodlands, and blue oak savannah in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Downingia pusilla Dwarf downingia	–/–/2.2	Central Valley.	Vernal pools and mesic valley and foothill grasslands; below 1,400 feet.	Mar–May	Suitable habitat is present in the seasonal wetlands in the project area. The nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.

Scientific Name **Common Name**	**Status[a]** **Fed/State/CNPS**	**Geographic Distribution**	**General Habitat Description**	**Blooming Period**	**Potential for Occurrence in Project Area**
Erigeron miser Starved daisy	–/–/1B.3	Lassen, Mono, Nevada and Placer Counties.	Rocky places in upper montane coniferous forest; 6,050–8,500 feet.	Jun–Oct	No coniferous forest habitat is present in the project area.
Eriophyllum jepsonii Jepson's woolly sunflower	–/–/4.3	Alameda, Contra Costa, El Dorado, Kern, Monterey, San Benito, Santa Clara, San Luis Obispo, Stanislaus, and Ventura Counties.	Chaparral, cismontane woodland, coastal scrub, sometimes serpentinite, on dry, rocky slopes; 650–3,400 feet.	Apr-Jun	Suitable habitat is present in blue oak woodlands, blue oak savannah, and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Eryngium pinnatisectum Tuolumne button-celery	–/–/1B.2	Amador, Calaveras, Sacramento, and Tuolumne Counties.	Vernal pools and moist areas in cismontane woodland and lower montane coniferous forest; 230–3,000 feet.	May–Aug	Suitable habitat is present in seasonal wetlands in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Fremontodendron decumbens Pine Hill flannelbush	E/R/1B.2	Pine Hill area in El Dorado County, Grass Valley vicinity in Nevada County, Yuba County.	Rocky gabbro or serpentine soils in chaparral, cismontane woodland; 1,400–2,500 feet.	Apr–Jul	Suitable habitat is present in oak woodlands and white leaf manzanita chaparral in the project area. Nearest recorded occurrence is approximately 4.8 miles north of the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.

Scientific Name Common Name	Status[a] Fed/State/CNPS	Geographic Distribution	General Habitat Description	Blooming Period	Potential for Occurrence in Project Area
Galium californicum ssp. *sierrae* El Dorado bedstraw	E/R/1B.2	Endemic to El Dorado County.	On gabbro soils in chaparral, cismontane woodland, lower montane coniferous forest; 330–1,900 feet.	May–Jun	No gabbro soils are known to occur in the project area, although otherwise suitable habitat is present in oak woodlands and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is approximately 1.7 miles north of the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Githopsis pulchella ssp. *serpentinicola* Serpentine bluecup	–/–/4.3	Amador, El Dorado, Mariposa, Stanislaus, and Tuolumne Counties.	On loam serpentine soils in cismontane woodland; 1,050–2,000 feet.	May–Jun	Suitable habitat is present in oak woodlands in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Hesperocyparis bakeri Baker cypress	–/–/4.2	Butte, El Dorado, Modoc, Plumas, Shasta, Siskiyou, and Tehama Counties; Oregon.	Sometimes on serpentine or volcanic soils, in chaparral, lower montane coniferous forest; 2,690–6,545 feet.	N/A	Project area is located at elevations well below known range for species.
Horkelia parryi Parry's horkelia	–/–/1B.2	Amador, Calaveras, El Dorado, and Mariposa Counties.	Chaparral, or cismontane woodland openings, especially Ione formation, dry slopes; 260–3,400 feet.	Apr–Sep	No Ione formation soils are present in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.

Scientific Name Common Name	Status[a] Fed/State/CNPS	Geographic Distribution	General Habitat Description	Blooming Period	Potential for Occurrence in Project Area
Iris longipetala Coast iris	–/–/4.2	Alameda, Contra Costa, El Dorado, Glenn, Humboldt, Marin, Mendocino, Merced, Monterey, Napa, San Benito, San Francisco, San Mateo Santa Clara, Santa Cruz, Solano, Sonoma, Ventura Counties.	Mesic coastal prairie, lower montane coniferous forest, meadows and seeps; 0–1,970 feet.	Mar–May(Jun)	Suitable habitat is present in the seasonal wetlands in the project area. The nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Jepsonia heterandra Foothill jepsonia	–/–/4.3	Amador, Calaveras, El Dorado, Mariposa, Stanislaus, and Tuolumne Counties.	Metamorphic, rocky soils in cismontane woodland, lower montane coniferous forest; 165–1,640 feet.	Aug–Dec	Suitable habitat is present in blue oak woodlands in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Leptosiphon ambiguous Serpentine leptosiphon	–/–/4.2	Alameda, Butte, Contra Costa, El Dorado, Fresno, Merced, Monterey, San Benito, San Joaquin, San Mateo, Santa Clara, Santa Cruz, and Stanislaus Counties.	Usually on serpentine in cismontane woodland, coastal scrub, valley and foothill riparian; 395–3,710 feet.	Mar–Jun	Suitable habitat is present in oak woodlands in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Lilium humboldtii ssp. *Humboldtii* Humboldt lily	–/–/4.2	Southern Cascade Range, high Sierra Nevada: Amador, Butte, Calaveras, El Dorado, Fresno, Madera, Mariposa, Nevada, Placer,	Openings in chaparral, cismontane woodland, lower montane coniferous forest; 300–4,200 feet.	May–Jul	Suitable habitat is present in blue oak woodlands, blue oak savannah, and white-leaf manzanita chaparral in the project area. No known occurrences near the project area. Species was not observed during the 2009, 2012, 2013,

Scientific Name Common Name	Status[a] Fed/State/CNPS	Geographic Distribution	General Habitat Description	Blooming Period	Potential for Occurrence in Project Area
		Tehama, Tuolumne, and Yuba Counties.			or 2020 surveys of the project area.
Monardella candicans Sierra monardella	–/–/4.3	Sierra Nevada Foothills in Amador, Calaveras, El Dorado, Fresno, Kern, Madera, Mariposa, Nevada, Placer, San Joaquin, Stanislaus, Tulare, and Tuolumne Counties.	Gravelly, sandy soils in chaparral, cismontane woodland, lower montane coniferous forest; 490-2,623 feet.	Apr–Jul	Suitable habitat is present in blue oak woodlands, blue oak savannah, and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Navarretia heterandra Tehama navarretia	–/–/4.3	Interior North Coast Ranges, Cascade Range foothills, western Sacramento Valley, east San Francisco Bay Area, interior South Coast Ranges, Modoc Plateau in Butte, Colusa, Lake, Napa, Shasta, Tehama, Trinity, and Yuba Counties; Oregon.	Mesic valley and foothill grassland, vernal pools; 100–3,315 feet.	Apr–Jun	Suitable habitat is present in the seasonal wetlands in the project area. The nearest recorded occurrence is approximately 1.9 miles northwest of the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Packera layneae Layne's ragwort (or Layne's butterweed)	T/R/1B.2	Northern Sierra Nevada foothills, Butte, El Dorado, Placer, Tuolumne, and Yuba Counties.	Rocky serpentine or gabbro soils in chaparral and foothill woodland; 650–3,300 feet.	Apr–Aug	Species is present onsite. Suitable habitat is present in the oak woodlands and white-leaf manzanita chaparral project area. Species was observed during the 2013 and 2020 surveys of the project area.

Scientific Name Common Name	Status[a] Fed/State/CNPS	Geographic Distribution	General Habitat Description	Blooming Period	Potential for Occurrence in Project Area
Sagittaria sanfordii Sanford's arrowhead	–/–/1B.2	Scattered locations in Central Valley and Coast Ranges.	Freshwater marshes, sloughs, canals, and other slow-moving water habitats; below 2,100 feet.	May–Oct	Suitable habitat is present in Deer Creek in the project area. Nearest recorded occurrence is approximately 4.5 miles west of the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Trichostema rubisepalum Hernandez bluecurls	–/–/4.3	Mariposa, Napa, San Benito, and Tuolumne Counties.	On volcanic or serpentinite derived soils in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, vernal pools; 300–1435 meters.	Jun-Aug	Suitable habitat is present in blue oak woodlands, blue oak savannah, white-leaf manzanita chaparral, seasonal wetlands and quarry pond QP-2 in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.
Viburnum ellipticum Oval-leaved viburnum	–/–/2.3	Northwest California, San Francisco Bay Area, north and central Sierra Nevada foothills: Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Mendocino, Napa, Placer, Shasta, Sonoma, and Tehama Counties; also Oregon, Washington.	Chaparral, cismontane woodland, and lower montane coniferous forest; 700–4,600 feet.	May–Jun	Suitable habitat is present in oak woodlands and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is more than 5 miles from the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.

Scientific Name Common Name	Status[a] Fed/State/CNPS	Geographic Distribution	General Habitat Description	Blooming Period	Potential for Occurrence in Project Area
Wyethia reticulata El Dorado County mule ears	–/–/1B.2	El Dorado and Yuba Counties.	On clay or gabbro soils in chaparral, cismontane woodland, and lower montane coniferous forest; 600–2,050 feet.	Apr–Aug	No gabbro soils are known to occur in the project area, although otherwise suitable habitat is present in oak woodlands and white-leaf manzanita chaparral in the project area. Nearest recorded occurrence is approximately 1.3 miles northeast of the project area. Species was not observed during the 2009, 2012, 2013, or 2020 surveys of the project area.

Sources: California Native Plant Society 2024; California Department of Fish and Wildlife 2024; Consortium of California Herbaria 2024.

[a] Status explanations:

Federal

T = listed as threatened under the federal Endangered Species Act.
E = listed as endangered under the federal Endangered Species Act.
– = no listing.

State

E = listed as endangered under the California Endangered Species Act.
R = listed as rare under the California Endangered Species Act.
– = no listing.

California Native Plant Society (CNPS) California Rare Plant Rank

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
2 = List 2 species: plants rare, threatened, or endangered in California, but more common elsewhere.
3 = List 3 species: plants about which we need more information—a review list.
4 = List 4 species: plants of limited distribution—a watch list.

CNPS Code Extensions:

0.1 = seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat).
0.2 = fairly endangered in California (20–80% of occurrences threatened).

Table 3.3-4. Special-Status Wildlife Species Known or with Potential to Occur in the Lime Rock Valley Specific Plan Project Region

Scientific Name Common Name	Status[a] Fed/State/ Other	Geographic Distribution	Habitat Requirements	Potential Occurrence in Project Area	Potential Occurrence in Offsite Infrastructure Improvement Area
Invertebrates					
Danaus plexippus Monarch butterfly	C/-/-	Adults breed and migrate throughout California, and winter along the California coast and in central Mexico.	Open habitats including fields, meadows, weedy areas, marshes, and roadsides. Monarch butterflies roost in wind-protected tree groves (such as eucalyptus) with nectar and water sources nearby. Caterpillar host plants are milkweeds.	Moderate. The project area is within the spring/summer breeding and spring/fall migration ranges. Breeding was documented within 1 mile of the project area in 2023 and three adult monarch butterfly occurrences have been recorded within 5 miles of the project area (Western Monarch Milkweed Occurrence Database 2024). Milkweed (caterpillar host plants) have been observed west of the project area (ECORP Consulting 2013a) and adults may breed, forage, and migrate through project area.	Moderate. Adults may breed, forage, and migrate through the offsite area, and milkweed may be present in the annual grassland in the offsite area.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	T/–/–	Shasta County in the north to Fresno County in the south including the valley floor and lower foothills below approximately 152 meters (500 feet) in elevation.	Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.	None—Elderberry shrubs (host plant) were identified in low densities during 2009 and 2012 surveys; however, the project area is outside of USFWS's currently defined range for the species. Therefore, valley elderberry longhorn beetle is not expected to occur in the project area.	None— the offsite area is outside of USFWS's currently defined range for the species. Therefore, valley elderberry longhorn beetle is not expected to occur in the offsite area.
Branchinecta lynchi Vernal pool fairy shrimp	T/–/–	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County; isolated populations also in Riverside County.	Common in vernal pools; also found in sandstone rock outcrop pools.	None—Habitat assessment conducted and no suitable habitat present in the project area.	Low—Potential habitat west of Shingle Lime Mine Road.

Scientific Name **Common Name**	**Status[a] Fed/State/ Other**	**Geographic Distribution**	**Habitat Requirements**	**Potential Occurrence in Project Area**	**Potential Occurrence in Offsite Infrastructure Improvement Area**
Lepidurus packardi Vernal pool tadpole shrimp	E/–/–	Shasta County south to Merced County.	Vernal pools and ephemeral stock ponds.	None— Habitat assessment conducted and no suitable habitat present in the project area.	Low—Potential habitat west of Shingle Lime Mine Road.
Amphibians					
Rana draytonii California red-legged frog	T/SSC/–	Along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County.	Permanent and semi-permanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation; may estivate in rodent burrows or cracks during dry periods.	Low—Potential aquatic breeding and dispersal habitat onsite. The closest confirmed sighting is 22 miles northeast of the project area.	Low—Potential breeding and dispersal habitat is present in the offsite area west of the project area. Habitat may also be present east of the project area. The closest confirmed sighting is 22 miles to the northeast.
Ambystoma californiense California tiger salamander	T/T/–	Central Valley, including Sierra Nevada foothills, up to approximately 1,500 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.	None—Project area is north of the known range, closest occurrence is greater than 14 miles southwest of the project area.	None—Offsite areas are north of species known range. No suitable habitat is present in offsite area.
Rana boylii Foothill yellow-legged frog	E/E/–	Foothill and mountain streams in the Klamath, Cascade, Sutter Buttes, Coast, Sierra Nevada, and Transverse ranges from sea level to 6,400 feet.	Rocky streams in a variety of habitats including valley-foothill hardwood, conifer, and riparian forests, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow.	Low—Habitat is present for adult frogs in Deer Creek and one of its tributaries. However, the species was not observed during focused surveys conducted in November 2019 or April 2020. The nearest record (CNDDB occurrence #273) is approximately 7 miles north of the LRVSP project area (California Department of Fish and Wildlife 2024).	Low—Suitable habitat may be present in the offsite area east of the project area. The nearest record (CNDDB occurrence #273) is approximately 7 miles north of the LRVSP project area (California Department of Fish and Wildlife 2024).

Scientific Name **Common Name**	**Status[a] Fed/State/ Other**	**Geographic Distribution**	**Habitat Requirements**	**Potential Occurrence in Project Area**	**Potential Occurrence in Offsite Infrastructure Improvement Area**
Scaphiopus hammondii Western spadefoot	PT/SSC/–	Sierra Nevada foothills, Central Valley, Coast Ranges, and coastal counties in southern California.	Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands.	None—Short-duration ponds and associated uplands provide potential breeding and dispersal/foraging habitat for adults. However, the nearest recorded occurrence is over 7 miles northwest of the project area (California Department of Fish and Wildlife 2024), and the species was not observed during focused surveys conducted west of the project area (ECORP Consulting 2013f) Given the lack of any observations of western spadefoots during surveys, including focused surveys conducted in the vicinity of the project area, western spadefoot is not expected to occur in the project area.	None—Potential habitat may be present in drainages and seasonal wetlands in the offsite area east of the project area. However, the nearest recorded occurrence is greater than 7 miles from the project area (California Department of Fish and Wildlife 2024). Given the lack of any observations of western spadefoots during surveys, including focused surveys conducted in the vicinity of the project area western spadefoot is not expected to occur in the offsite improvement areas.
Reptiles					
Phrynosoma blainvillii Blainville's horned lizard	–/SSC/–	Northern California to the tip of Baja California.	Various scrublands, grasslands, coniferous and broadleaf forests, and woodlands; associated with sandy soils that support native ant colonies and the presence of chaparral plants.	High—Chaparral and grassland in the project area provides habitat for the species. Scat was observed in the southern portion of the project area during 2012 surveys. There are also three recorded occurrences within 5 miles of the project area (California Department of Fish and Wildlife 2024).	High—Potential chaparral and grassland habitat is present in the offsite areas. Scat was observed in the project area and the nearest recorded occurrence is within approximately 2 miles of the offsite improvement area (California Department of Fish and Wildlife 2024).

Scientific Name **Common Name**	**Status[a] Fed/State/ Other**	**Geographic Distribution**	**Habitat Requirements**	**Potential Occurrence in Project Area**	**Potential Occurrence in Offsite Infrastructure Improvement Area**
Thamnophis gigas Giant garter snake	T/T/–	Central Valley from the vicinity of Burrel in Fresno County north to near Chico in Butte County; has been extirpated from areas south of Fresno.	Sloughs, canals, low gradient streams and freshwater marsh habitats where there is a prey base of small fish and amphibians; also found in irrigation ditches and rice fields; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.	None—Project area is outside of the species range.	None—Offsite area is outside of the species range.
Actinemys marmorata Northwestern pond turtle	PT/SSC/–	Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of the Sierra Nevada.	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests.	High—Pond turtles were observed in the seasonal wetland in the northeast corner of the project area in 2009 and in portions of Deer Creek in 2012. There are five recorded occurrences within 5 miles of the project area (California Department of Fish and Wildlife 2024).	High—Pond turtles have been observed in Deer Creek and its tributaries, and there is potential habitat for turtles in ponds and drainages within the offsite improvement area.
Birds					
Haliaeetus leurocephalus Bald eagle	-/FP/-	Breeding range includes the Sierra Nevada, Cascade Range, and portions of the Coast Ranges; winter range expands to include most of the state.	Forages primarily in large inland fish-bearing waters with adjacent large trees or snags and occasionally in uplands with abundant rabbits, other small mammals, or carrion.	None—No suitable foraging or nesting habitat is present in the project area. One occurrence approximately 3 miles north of the project area (California Department of Fish and Wildlife 2024).	None—No suitable foraging or nesting habitat is present in the offsite area.

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Laterallus jamaicensis coturniculus California black rail	–/T,FP	Permanent resident in the San Francisco Bay and eastward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties.	Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations.	None—No suitable nesting and foraging habitat in the project area. One occurrence approximately 3 miles west of the project area (California Department of Fish and Wildlife 2024).	None—No suitable nesting and foraging habitat in the offsite area.
Riparia Bank swallow	–/T/–	Breeds in much of lowland and riparian California, with 75% of the nesting colonies occurring on the Sacramento and Feather Rivers and their tributaries; additional breeding locations are scattered throughout the northern and central portions of the state; migrates south of California in fall/winter.	Nests in vertical banks or bluffs, typically adjacent to water, devoid of vegetation with friable, eroding soils; forages in a wide variety of habitats.	None—No suitable nesting habitat in the project area.	None—No suitable nesting habitat in the offsite area.
Aquilachrysaetos Golden eagle	-/FP/-	Winter range spans most of California; breeding range excludes the Central Valley floor.	Nests in cliffs, rocky outcrops and large trees; Forages in a variety of open habitats, including grassland, shrubland, and cropland.	Moderate—Suitable foraging and nesting habitat is present in oak woodlands and grasslands in the project area; One nest recorded occurrence approximately 6 miles west of the project area (California Department of Fish and Wildlife 2024).	Moderate—Suitable foraging and nesting habitat is present in oak woodlands and grasslands in the offsite improvement area; record of recent nest within 6 miles of the offsite area (California Department of Fish and Wildlife 2024).

Scientific Name **Common Name**	**Status[a] Fed/State/ Other**	**Geographic Distribution**	**Habitat Requirements**	**Potential Occurrence in Project Area**	**Potential Occurrence in Offsite Infrastructure Improvement Area**
Ammodramus savannarum Grasshopper sparrow	–/SSC/–	Breeding range spans much of the Central Valley and California coast, but populations are typically localized and disjunct; most individuals migrate, although some may be present year-round.	Nests and forages in dense grasslands; favors a mix of native grasses, forbs, and scattered shrubs.	Moderate—Suitable nesting and foraging grassland habitat is present in the project area. Species was not observed during 2009 or 2012 surveys. There are no CNDDB records of grasshopper sparrow within 5 miles of the project area (California Department of Fish and Wildlife 2024).	Moderate—Suitable nesting and foraging grassland habitat is present in the offsite area.
Lanius ludovicianus Loggerhead shrike	–/SSC/–	Resident and winter visitor in lowlands and foothills throughout California; rare on coastal slope north of Mendocino County, occurring only in winter.	Nests in isolated shrubs and trees and woodland/scrub edges of open habitats; forages in grasslands, agricultural fields and low, scrub habitats.	Moderate—Suitable nesting and foraging habitat is present in the project area. There are no CNDDB records of loggerhead shrike nesting within 5 miles of the LRVSP project area (California Department of Fish and Wildlife 2024).	Moderate—Suitable nesting and foraging habitat is present in the offsite area.
Buteo swainsoni Swainson's hawk	-/T/–	Breeding range spans the Central Valley and Sacramento–San Joaquin Delta west of Suisun Marsh, northeastern California, and a few additional scattered sites; most of the population migrates south of California in fall/winter, although a small number winters in the Sacramento–San Joaquin Delta.	Nests in isolated trees, open woodlands, and woodland margins; forages in grasslands and agricultural fields.	Low—The project area is east of known nesting range but suitable nesting and foraging habitat is present. There are no CNDDB records of Swainson's hawk within 5 miles of the project area (California Department of Fish and Wildlife 2024).	Low—Offsite area is east of known nesting range but suitable nesting and foraging habitat is present.
Agelaius tricolor Tricolored blackbird	BCC/T, SSC/–	Year-round resident throughout the Central Valley and the central and southern coasts, with	Nests colonially in large, dense stands of freshwater marsh, riparian scrub and other shrubs; forages in	Low—Potential riparian habitat is present in the project area, but suitable marsh habitat is lacking. No breeding colonies were	Low—Potential riparian habitat is present in the offsite area west of the project area, but suitable

Scientific Name Common Name	Status[a] Fed/State/ Other	Geographic Distribution	Habitat Requirements	Potential Occurrence in Project Area	Potential Occurrence in Offsite Infrastructure Improvement Area
		additional scattered locations throughout California.	grasslands and agricultural fields.	observed during 2009 or 2012 surveys in the project area; however, there are four presumed extant occurrences of tricolored blackbird within 5 miles of the project area (California Department of Fish and Wildlife 2024).	marsh habitat is lacking. There may be suitable habitat in the offsite area east of the project area.
Athene cunicularia Burrowing owl	BCC/SSC/–	Year-round range includes the Central Valley and Sacramento–San Joaquin Delta and portions of the central coast, eastern California, and southern California.	Nests and forages in grasslands, agricultural fields, and low scrub habitats, especially where ground squirrel burrows are present; occasionally inhabits artificial structures and small patches of disturbed habitat.	Moderate—Annual grassland in the project area provides potential habitat. However, few burrows were observed during 2009 surveys and no burrowing owls were observed during the 2009 or 2012 surveys. There are two CNDDB occurrences within 5 miles of the project area (California Department of Fish and Wildlife 2024).	Moderate—Annual grassland in the offsite area provides potential breeding and wintering habitat.
Elanus leucurus White-tailed kite	–/FP/–	Year-round range spans the Central Valley, Coast Ranges and coast, Sierra Nevada foothills, and Colorado River.	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging.	High—Suitable nesting and foraging habitat occurs in the project area. Species was not observed during 2009 or 2012 surveys; however, foraging white-tailed kites exhibiting territorial behavior were observed during 2012 breeding bird surveys west of the project area (ECORP Consulting 2013c). There are no CNDDB occurrences of white-tailed kite within 5 miles of the project area (California Department of Fish and Wildlife 2024).	High—Suitable nesting and foraging habitat occurs in the offsite area.

Scientific Name Common Name	Status[a] Fed/State/ Other	Geographic Distribution	Habitat Requirements	Potential Occurrence in Project Area	Potential Occurrence in Offsite Infrastructure Improvement Area
Mammals					
Martes pennanti Pacific fisher	-/SSC/–	Uncommon resident of Sierra Nevada, Cascades, Klamath Mountains and North Coast Ranges.	Inhabits large areas of conifer, mixed conifer, and hardwood forests; requires mature dense stands with snags and >50% canopy cover.	None—No suitable habitat is present in the project area, and the project is not within the elevation range of this species.	None—No suitable habitat is present in the project area, and the project is not within the elevation range of this species.
Bassariscus astutus Ringtail	–/FP/–	Found throughout most of California except for the San Joaquin Valley and portions of southern deserts.	Rocky outcrops in open grassland and oak woodland; riparian habitats.	Moderate—Suitable habitat is present among rock outcrops and snags within riparian. Outside of species known range; however, ringtails have been reported to occur in the area (ECORP Consulting 2014c).	Moderate—Suitable habitat is present among rock outcrops adjacent to Deer Creek. Outside of species known range; however, observations of the species have been reported in the area (ECORP Consulting 2014c).
Taxidea taxus American Badger	–/SSC	In California, occurs throughout the state except in humid coastal forests of northwestern California in Del Norte and Humboldt Counties.	Wide variety of open, arid habitats but most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub; the principal habitat requirements for the species appear to be sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground.	Low— No documented occurrences within 5 miles of the project area (California Department of Fish and Wildlife 2024). Suitable habitat is present in the project area but patch size of grasslands is likely too small to support badger dens.	Low—Suitable habitat is present in the offsite areas but patch size of grasslands is likely too small to support badger dens.
Myotis thysanodes Fringed myotis	–/–/ WBWG: High priority	Widespread in California, occurring in all but the Central Valley and Colorado and Mojave deserts.	Prefers pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally 4,000–7,000 feet elevation; roosts in caves, mines, buildings, or crevices.	Low—Preferred roosting areas not present in the project area and species was not detected during 2012 spring and autumn acoustic bat surveys west of the project area (Wyatt 2013).	Low—Preferred roosting areas do not appear to be present in the offsite area and species was not detected during 2012 spring and autumn acoustic bat surveys conducted west of the project area (Wyatt 2013).

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Lasurius cinerius Hoary bat	–/–/ WBWG: Moderate priority	Occurs in forested areas throughout most of California from sea level to 13,200 feet.	Primarily found in forested habitats; also found in riparian areas and in park and garden settings in urban areas; day roosts in foliage of trees.	High—Suitable roosting and foraging habitat is present in the project area. Species was detected throughout the project area during 2012 acoustic bat surveys west of the project area (Wyatt 2013).	High—Suitable roosting and foraging habitat is present in the offsite area. Species was detected west of the project area during 2012 acoustic bat surveys (Wyatt 2013).
Myotis evotis Long-eared myotis	–/–/ WBWG: Moderate priority	Occurs throughout California.	Occurs in semi-arid shrublands, sage, chaparral and agricultural areas, but is usually associated with coniferous forests.	None—Preferred roosting areas not present in the project area and species was not detected during 2012 spring and autumn acoustic bat surveys west of the project area (Wyatt 2013).	Low—Preferred roosting areas do not appear to be present in the offsite area, and the species was not detected during 2012 spring and autumn acoustic bat surveys conducted west of the project area (Wyatt 2013).
Antrozous pallidus Pallid bat	–/SSC/ WBWG: High priority	Occurs throughout California except the high Sierra from Shasta to Kern Counties and the northwest coast, primarily at lower and mid-level elevations.	Occurs in a variety of habitats from desert to coniferous forest; most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California.	High—Suitable roosting and foraging habitat is present in the project area. Species was confirmed adjacent to Marble Creek and Deer Creek west of the project area during 2012 acoustic bat surveys (Wyatt 2013).	High—Suitable roosting and foraging habitat is present in the offsite areas west of the project area and could be present in offsite areas to the east, which have not been surveyed. Species was confirmed west of the project area during 2012 acoustic bat surveys (Wyatt 2013).
Lasionycteris noctivagans Silver-haired bat	–/–/ WBWG: Moderate priority	Only a few scattered breeding locations are known in the San Francisco Bay Area, Central Valley, and central coast.	Typically roosts in tree cavities, crevices and under loose bark; may also use leaf litter, buildings, mines, and caves; breeds in coastal and montane coniferous forests, valley foothill and montane riparian habitats; may occur in any habitat during migration.	Moderate—Suitable roosting and foraging habitat is present in the project area. Species is primarily known from higher elevations, but was potentially detected during 2012 acoustic bat surveys west of the project area (Wyatt 2013).	Moderate—Suitable roosting and foraging habitat is present in the offsite area to the west and could be present in offsite areas to the east. Species is primarily known from higher elevations, but was potentially detected west of the project area during 2012

Scientific Name Common Name	Status[a] Fed/State/ Other	Geographic Distribution	Habitat Requirements	Potential Occurrence in Project Area	Potential Occurrence in Offsite Infrastructure Improvement Area
					acoustic bat surveys (Wyatt 2013).
Corynorhinus townsendii Townsend's big-eared bat	–/SSC/ WBWG: High priority	Year-round range spans most of California except the highest elevations of the Sierra Nevada south of Lake Tahoe.	Typically roosts in colonies of fewer than 100 individuals in caves or mines; occasionally roosts in buildings or bridges, and rarely, hollow trees; forages in all habitats except alpine and subalpine, although most commonly in mesic forests and woodlands.	Low—Suitable roosting and foraging habitat is present in the project area. Species was not detected during 2012 acoustic bat surveys conducted west of the project area (Wyatt 2013).	Low—Suitable roosting and foraging habitat is present in the offsite area. Species was not detected west of the project area during 2012 acoustic bat surveys (Wyatt 2013).
Lasiurus blossevillii Western red bat	–/SSC/ WBWG: High priority	Year-round range spans the Central Valley, Sierra Nevada foothills, Coast Ranges, and coast except Humboldt and Del Norte Counties.	Found primarily in riparian and wooded habitats; occurs at least seasonally in urban areas; day roosts in trees within the foliage; found in fruit orchards and sycamore riparian habitats in the Central Valley.	High—Suitable roosting and foraging habitat is present in the project area. Species was detected during 2012 acoustic bat surveys west of the project area (Wyatt 2013).	High—Suitable roosting and foraging habitat is present in the offsite area. Species was detected adjacent to the two quarry ponds west of the project area during 2012 acoustic bat surveys (Wyatt 2013).
Myotis ciliolabrum Western small-footed myotis	–/– WBWG: High priority	Occurs throughout much of California except the northwest and coastal areas.	Particularly associated with coniferous forests and rocky xeric habitats; typically roosts in rock crevices in mines, caves and occasionally in buildings, bridges, and other human structures; forages over a wide variety of habitats.	High—Suitable roosting and foraging habitat is present in the project area. Species was detected during 2012 acoustic surveys west of the project area (Wyatt 2013).	High—Suitable roosting and foraging habitat is present in the offsite area. Species was detected west of the project area during 2012 acoustic surveys (Wyatt 2013).
Fish					
Hypomesus transpacificus Delta smelt	T/E/–	Sacramento–San Joaquin Delta.	Brackish-water channels and sloughs.	None—Outside the range of the species.	None—Outside the range of the species.

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Oncorhynchus mykiss Central Valley steelhead	T/-/–	Sacramento River and tributary Central Valley rivers.	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8 to 18°C (Moyle 2002); habitat types are riffles, runs, and pools.	None—Outside the range of the species and no suitable habitat present.	None—Outside the range of the species and no suitable habitat present.
Oncorhynchus tshawytcha Central Valley spring-run Chinook salmon	T/T/–	Upper Sacramento River and Feather River.	Has the same general habitat requirements as winter-run Chinook salmon; coldwater pools are needed for holding adults (Moyle 2002).	None—Outside the range of the species and no suitable habitat present.	None—Outside the range of the species and no suitable habitat present.

[a] Status explanations:

Federal

E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
C = candidate species for listing under the federal Endangered Species Act.
BCC = bird of conservation concern.
– = no listing.

State

E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.
C = candidate species for listing under the California Endangered Species Act.
– = no listing.

Western Bat Working Group (WBWG) 2013.

High priority = species are imperiled or at high risk of imperilment.
Moderate priority = this designation indicates a level of concern that should warrant closer evaluation, more research, and conservation actions of both the species and possible threats. A lack of meaningful information is a major obstacle in adequately assessing these species' status and should be considered a threat.

Of the remaining species, two wildlife species (Blainville's horned lizard (*Phrynosoma blainvillii*) [detected by presence of scat] and northwestern pond turtle) were detected in the project area during the wildlife surveys. No previous special-status species occurrences have been documented by CNDDB in the project area (California Department of Fish and Wildlife 2024).

Monarch Butterfly

Monarch butterfly is a candidate for listing under ESA. The number of overwintering monarchs in California is believed to have declined as much as 74% since the late 1990s (Western Association of Fish and Wildlife Agencies 2019). The geographic range for monarch butterfly in California is throughout the state and includes spring and summer breeding areas and overwintering areas; the overwintering areas are almost entirely along the coast. Coastal California is considered critical for overwintering populations, and the Central Valley is considered a critical breeding area for this species (Western Association of Fish and Wildlife Agencies 2019).

Generally, the migratory and breeding habitat for this species consists of all areas with the required habitat, including milkweeds (*Asclepias* spp.), nectar sources, and roosting structures. Overwintering habitat consists of groves of trees that produce the necessary microclimate for survival. Most overwintering sites in California are within 1.5 miles of the Pacific Ocean or San Francisco Bay (Western Association of Fish and Wildlife Agencies 2019). Monarch butterfly requires milkweed for breeding, as it lays eggs on the milkweed plant, and milkweed is an obligate species for the monarch caterpillar (Western Association of Fish and Wildlife Agencies 2019; U.S. Fish and Wildlife Service 2020).

Monarch butterfly requires nectar-producing plants for foraging and roosting sites (particularly during fall migration) (Western Association of Fish and Wildlife Agencies 2019; U.S. Fish and Wildlife Service 2020). Roosting sites during migration consist of native and nonnative deciduous and evergreen trees, and narrow-leaved trees such as Monterey cypress (*Hesperocyparis macrocarpa*), Monterey pine (*Pinus radiata*), and blue gum eucalyptus (*Eucalyptus globulus*) (U.S. Fish and Wildlife Service 2020).

Monarch butterfly goes through four life stages, including egg, larva (caterpillar), pupa (chrysalis), and adult, which are typically completed within a month during the breeding and migration season. During the spring and summer, up to seven cycles of mating and breeding are completed as the butterflies migrate, then they typically reach overwintering areas in September or October. Most overwintering individuals are in reproductive diapause, and these individuals may live up to 9 months, but in some warmer areas such as southern coastal California, overwintering may not be needed (Western Association of Fish and Wildlife Agencies 2019).

Three adult monarch butterfly occurrences have been recorded within 5 miles of the project area, and breeding has been documented within 2 miles of the project area (Western Monarch Milkweed Occurrence Database 2024). Potentially suitable monarch butterfly habitat is present in the project area, and the offsite infrastructure improvement areas and consists of oak woodland, riparian woodland, annual grassland, seasonal wetland, seasonal wetland swale, seep, marsh, creek, intermittent drainage, ephemeral drainage, drainage/roadside ditch, and pond land cover types. Milkweed (caterpillar host plants) were observed in the project area during plant surveys in 2005 (ECORP Consulting 2013a) and may be present in annual grassland in the offsite infrastructure improvement areas. The project area and offsite infrastructure improvement areas are not located within the overwintering range of monarch butterfly.

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

Vernal pool fairy shrimp (*Branchinecta lynchi*) is a federally listed threatened species. The species is found from Shasta County in the north throughout the Central Valley and west to the central Coast Ranges, at elevations of 30 to 4,000 feet. Additional populations have been reported from the Agate Desert region of Oregon near Medford, and disjunct populations occur in San Luis Obispo, Santa Barbara, and Riverside Counties. However, most known locations are in the Sacramento and San Joaquin Valleys and along the eastern margin of the central Coast Ranges (Eng et al. 1990:255–258).

Vernal pool fairy shrimp inhabit vernal pools that form in depressions, usually in grassland habitats (Eng et al. 1990:255–258). Pools must remain inundated long enough for the species to complete its life cycle. Vernal pool fairy shrimp also occur in other wetlands that provide habitat similar to vernal pools, such as alkaline rain pools, ephemeral streams, rock outcrop pools, ditches, stream oxbows, stock ponds, vernal swales, and some seasonal wetlands (Helm 1998:137). Occupied wetlands range in size from as small as several square feet to more than 10 acres.

Vernal pool fairy shrimp and other fairy shrimp have been observed in artificial depressions and drainages where water ponds for a sufficient duration (Helm 1998:134–138). Examples of such areas include roadside ditches and ruts left behind by off-road vehicles or heavy equipment. Soil compaction from construction activity can sometimes create an artificial hardpan, or restrictive layer, which allows water to pond and form suitable habitat for vernal pool fairy shrimp.

Vernal pool tadpole shrimp (*Lepidurus packardi*) is a federally listed endangered species. The species is distributed across the Central Valley of California and in the San Francisco Bay area and has a patchy distribution across the Central Valley of California from Shasta County southward to northwestern Tulare County (U.S. Fish and Wildlife Service 2007). The largest concentration of vernal pool tadpole shrimp occurrences is found in the Southeastern Sacramento Vernal Pool Region, where the species occurs on a number of public and private lands in Sacramento County (U.S. Fish and Wildlife Service 2005, 2007).

Vernal pool tadpole shrimp occur in a wide variety of seasonal habitats, including vernal pools, ponded clay flats, alkaline pools, ephemeral stock tanks, and roadside ditches. Habitats where vernal pool tadpole shrimp have been observed range in size from small (less than 25 square feet), clear, vegetated vernal pools to highly turbid alkali scald pools to large (more than 100 acres) winter lakes (Helm 1998:134–138; Rogers 2001:1002–1005). These pools and other ephemeral wetlands must dry out and be inundated again for the vernal pool tadpole shrimp cysts to hatch. This species has not been reported in pools that contain high concentrations of sodium salts but may occur in pools with high concentrations of calcium salts (Helm 1998:134–138; Rogers 2001:1002–1005).

Potential habitat characteristics of these federally listed branchiopods are based on the life history of Central Valley endemics (Eriksen and Belk 1999; Helm 1998; Helm and Vollmar 2002). The project area contains seasonal wetlands, two seasonal ponds, and a bedrock pond; however, project biologists conducted a habitat assessment of these features and concluded that they are not suitable vernal pool fairy shrimp or vernal pool tadpole shrimp habitat. Therefore, there is no potential for impact on federally listed branchiopods in the project area.

In the offsite improvement area to the west of the project area, protocol-level surveys were conducted for federally listed branchiopods. The ponds were sampled using dry-season and wet-season techniques, as described in the 90-day Report of Findings (ECORP Consulting 2013c, 2013d). In summary, no cysts of any federally listed branchiopod species (e.g., *Branchinecta* sp. or *Lepidurus*

sp.) were observed within any of the soil samples and no federally listed branchiopods were observed during dip-net surveys. Therefore, federally listed branchiopods are not expected to occur in this area.

No habitat assessment or protocol-level surveys were conducted in the offsite improvement area to the east of the project area, and there is the potential for suitable federally listed branchiopod habitat to occur west of Shingle Lime Mine Road.

California Red-Legged Frog

California red-legged frog is a California species of special concern and is federally listed as threatened. The current range of California red-legged frog consists of isolated locations in the Sierra Nevada, throughout the northern Coast Ranges, and in the northern Transverse Ranges.

California red-legged frogs use a variety of habitats, including various aquatic systems and riparian and upland habitats. The species inhabits marshes, streams, lakes, ponds, and other usually permanent sources of water (Stebbins 2003). Juvenile frogs seem to favor open, shallow, aquatic habitats with dense submergent vegetation. As adults, California red-legged frogs are highly aquatic when active but depend less on permanent water bodies than other frog species, such as bullfrogs (*Lithobates catesbeianus*). Adults may take refuge during dry periods in rodent burrows or leaf litter in riparian habitats. Although California red-legged frogs typically remain near streams or ponds, marked and radio-tagged frogs have been observed moving more than 2 miles through upland habitat with no apparent regard for topography. These movements are typically made during wet weather and at night (U.S. Fish and Wildlife Service 2002).

California red-legged frogs typically breed from late November to late April. Female frogs lay between 2,000 and 6,000 eggs around aquatic vegetation; these hatch in 6 to 14 days (Jennings and Hayes 1994). Larvae require 11 to 20 weeks to metamorphose into adult frogs (U.S. Fish and Wildlife Service 2002). Juvenile frogs are active diurnally and nocturnally, whereas adult frogs are largely nocturnal. Feeding activity most commonly occurs along the shoreline and on the surface of the water (U.S. Fish and Wildlife Service 2002).

Deer Creek and a perennial tributary to Deer Creek provide potential California red-legged habitat within the project area. Nonnative bullfrogs, sunfish, and crayfish, which prey upon and compete with California red-legged frogs of all life stages, were found in Deer Creek and its tributary. The presence of these species cannot be taken as evidence for the absence of California red-legged frogs; however, their presence reduces the quality of the breeding habitat. Upland habitat in the project area, consisting of grassland and oak woodland, is relatively intact and supports some small mammal burrows, which can be used by red-legged frogs as cover during dispersal movements or as temporary refuge if aquatic habitats dry out late in the summer. Thus, uplands in the project area would provide marginal refuge, dispersal, and foraging habitat if California red-legged frogs are present. California red-legged frogs were not observed during 2009 or 2012 surveys or site visits of the project area; however, protocol-level surveys have not been conducted within the project area or within 1 mile of the project area. There is one recorded occurrence of California red-legged frog approximately 9 miles northwest of the project area; however, this record is considered suspect and no individuals have been observed in the vicinity before or after this 2005 record (California Department of Fish and Wildlife 2024). The closest confirmed population of California red-legged frogs is at Spivey Pond approximately 22 miles northeast of the project area (California Department of Fish and Wildlife 2024).

Potential California red-legged frog habitat in the offsite improvement area west of the project area (ECORP Consulting 2013a, 2013e) includes a quarry pond, intermittent streams and other waters (seasonal wetlands, seasonal wetland swales and seeps), and upland grassland and oak woodland. The offsite improvement area to the east of the project area has not yet been surveyed but includes a large pond east of Shingle Lime Mine Road and may also support other breeding, dispersal, and foraging habitat for California red-legged frog. Potentially suitable habitat is present for California red-legged frog in both the project area and the offsite improvement areas. However, due to the lack of known occurrences in the area, there is a low probability that the species is present.

Foothill Yellow-Legged Frog

Foothill yellow-legged frog (*Rana boylii*) is a state-listed endangered species. Foothill yellow-legged frogs are a highly aquatic amphibian, spending most or all of their life in or near streams, though frogs have been documented underground and beneath surface objects more than 50 meters (164 feet) from water (Nussbaum et al. 1983). Foothill yellow-legged frogs require shallow, flowing water in small- to moderate-sized streams with at least some cobble-sized substrate (Hayes and Jennings 1988; Jennings 1988). This habitat is believed to favor oviposition (Storer 1925; Fitch 1936; Zweifel 1955) and refuge habitat for larvae and postmetamorphs (Hayes and Jennings 1988; Jennings 1988). This species has been found in streams without cobble (Fitch 1938; Zweifel 1955), but it is not clear whether these habitats are regularly used (Hayes and Jennings 1988; Jennings and Hayes 1994). Foothill yellow-legged frogs are usually absent from habitats where introduced aquatic predators, such as various fishes and bullfrogs, are present (Hayes and Jennings 1986, 1988; Kupferberg 1994). The species deposits its egg masses on the downstream side of cobbles and boulders over which a relatively thin, gentle flow of water exists (Storer 1925; Fitch 1936; Zweifel 1955). The timing of oviposition typically follows the period of high flow discharge from winter rainfall and snowmelt (Jennings and Hayes 1994).

Deer Creek and a perennial tributary to Deer Creek provide potential habitat for foothill yellow-legged frogs. The species was not observed during site visits in 2009 (Kjeldsen Biological Consulting 2009) or 2012 (LSA Associates 2014). According to the May 6, 2020 *Surveys for Foothill Yellow-Legged Frogs at Lime Rock Valley, El Dorado County Memorandum* (LSA Associates 2020), no foothill yellow-legged frogs were observed during surveys on November 11, 2019 and April 28, 2020 in the LRVSP project area. Furthermore, no foothill yellow-legged frogs were observed west of the LRVSP project area during surveys in the VMVSP project area in May, June, or September 2019, and foothill yellow-legged frogs are unlikely to occur in the VMVSP project area (ECORP Consulting 2019). The nearest presumed extant record (CNDDB occurrence #273) is approximately 7 miles north of the LRVSP project area (California Department of Fish and Wildlife 2024).

Deer Creek is south of the offsite improvement area, and no other perennial stream foothill yellow-legged frog habitat has been mapped west of the project area (ECORP Consulting 2013f, 2019). The offsite improvement area to the east has not yet been surveyed, but a drainage that crosses Shingle Lime Mine Road might be a perennial stream and provide potential habitat for foothill yellow-legged frog.

Blainville's Horned Lizard

Blainville's (Coast) horned lizard is a California species of special concern. Although fragmented, the range of Blainville's horned lizard generally extends along the Pacific coast from the Baja California border west of the deserts and the Sierra Nevada, north to the Bay Area (California Herps 2013). The species occurs between sea level and an elevation of 8,000 feet (Stebbins 2003:301).

Blainville's horned lizard occupies a variety of habitats, including areas with an exposed gravelly sandy substrate supporting scattered shrubs, chamise chaparral, annual grassland (Jennings and Hayes 1994:132), broadleaf woodland, and conifer forest (Stebbins 2003:300). It is most common in lowlands along sandy washes with scattered shrubs for cover. Habitat requirements include open areas for basking, patches of fine, loose soil where it can bury itself, and ants and other insect prey (Stebbins 2003:300–301). For extended periods of inactivity or hibernation, these lizards occupy small mammal burrows or burrow into loose soils under surface objects (Zeiner et al. 1988:148). Blainville's horned lizards have been observed to be active between April and October, and hatchlings first appear in July and August (Jennings and Hayes 1994:130).

Chaparral and grassland habitat in the project area provide habitat for Blainville's horned lizard. Sign of the species (scat) was observed within the firebreaks in the chaparral habitat at the southern portion of the project area (LSA Associates 2014). Tree CNDDB occurrences have been recorded within approximately 2 miles of the project area (California Department of Fish and Wildlife 2024).

Chaparral and annual grassland are present in the offsite improvement area located west of the project area (ECORP Consulting 2014a) that provide habitat for Blainville's horned lizard. The offsite improvements area to the east has not yet been surveyed but does not appear to support chaparral and annual grassland based on review of aerial photographs.

Northwestern Pond Turtle

Northwestern pond turtle is proposed for listing as threatened under ESA (88 FR 68370) and is a California species of special concern. The species occurs in a wide range of both permanent and intermittent aquatic environments (Jennings et al. 1992), inhabiting the quiet waters of ponds, reservoirs, marshes, or streams with rocky or muddy bottoms and vegetative cover (Stebbins 2003). Northwestern pond turtles occasionally leave the water to bask, and females leave the water from May through July to lay eggs. These turtles can often be found sunning on emergent logs or rocks near the water's edge but quickly retreat to the water when disturbed (Stebbins 2003). They move up to 1,300 feet or more to upland areas adjacent to watercourses to deposit eggs and in cold climates to overwinter (Jennings and Hayes 1994).

Northwestern pond turtles were observed in the seasonal wetland in the northeast corner of the LRVSP project area in 2009 (Kjeldsen Biological Consulting 2009) and in portions of Deer Creek in 2012 (LSA Associates 2014). There are also five recorded occurrences within 5 miles of the project area (California Department of Fish and Wildlife 2024). Upland habitat surrounding the pond and Deer Creek is generally intact and provides suitable areas for egg-laying. Nonnative invasive species, such as red-eared sliders (*Trachemys scripta elegans*) are a threat to northwestern pond turtles, as they may compete for prey and habitat and may transmit disease (Holland 1994). No red-eared sliders were observed during surveys of the LRVSP project area.

Potential northwestern pond turtle habitat in the offsite improvement area west of the project area includes a quarry pond and intermittent streams (ECORP Consulting 2013a). The offsite improvement area to the east of the LRVSP project area has not yet been surveyed but includes a large pond east of Shingle Lime Mine Road and may also support other northwestern pond turtle habitat.

Golden Eagle

Golden eagle is fully protected under the California Fish and Game Code. It is also protected by the MBTA, and BGEPA.

Golden eagle is a year-round resident throughout much of California. The species does not breed in the center of the Central Valley but breeds in much of the rest of the state. Golden eagles typically occur in rolling foothills, mountain areas, sage-juniper flats, and deserts (Zeiner et al. 1990a:142–143). In California, golden eagles nest primarily in open grasslands and oak (*Quercus* spp.) savanna but will also nest in oak woodland and open shrublands. Golden eagles forage in open grassland habitats (Kochert et al. 2002:6). Preferred territory sites include those that have a favorable nest site, a dependable food supply (medium to large mammals and birds), and broad expanses of open country for foraging. Hilly or mountainous country where takeoff and soaring are supported by updrafts is generally preferred to flat habitats (Johnsgard 1990:262). A few pairs of eagle nests were recorded on electrical transmission towers traversing grasslands (Hunt et al. 1999:13).

Oak woodlands in the project area provide suitable nesting habitat for golden eagle and foraging habitat is present in the annual grasslands within and outside of the LRVSP project area. There are no CNDDB records of golden eagle nests within the project area. However, an active nest was recorded in 2014 (CNDDB Occurrence #321) approximately 6 miles northwest of the LRVSP project area (California Department of Fish and Wildlife 2024).

Nesting and foraging habitat for golden eagle occurs in the offsite improvement area both west and east of the project area.

Grasshopper Sparrow

The grasshopper sparrow (*Ammodramus savannarum*) is a California species of special concern. The species breeding range in California is fragmented throughout the state west of the Cascade–Sierra Nevada Crest (Dobkin and Granholm 2008; Vickery 1996). The species nest in shorter, moderately grazed open grasslands but have also been recorded in grassland-like cultivated lands such as alfalfa (Unitt 2008; Grinnell and Miller 1944).

There are no CNDDB records of grasshopper sparrow nesting within 5 miles of the LRVSP project area (California Department of Fish and Wildlife 2024) and grasshopper sparrows were not observed during 2009 or 2012 site visits (Kjeldsen Biological Consulting 2009; LSA Associates 2014). However, the LRVSP project area and the offsite improvement area are within the range of this species and contains suitable grassland habitat for nesting and foraging.

Loggerhead Shrike

The loggerhead shrike is a California species of special concern and a USFWS bird of conservation concern. Loggerhead shrikes use a variety of open grasslands across their range, including grasslands, desert scrub, shrub-steppe, and open savannah (Yosef 1996). Nests are built in trees or shrubs with dense foliage surrounded by open habitat and are usually hidden well. Loggerhead shrikes search for prey from perches and frequently impale their prey on thorns, sharp twigs, or barbed-wire. The nesting period for loggerhead shrikes is March through June (Zeiner et al. 1990a:546).

Loggerhead shrikes were not observed during 2009 or 2012 surveys and there are no CNDDB records of loggerhead shrike nesting within 5 miles of the LRVSP project area (California Department of Fish and Wildlife 2024). However, the project area and the offsite improvement area are within the range of this species and contains suitable grassland habitat for nesting and foraging.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a state-listed threatened species. Swainson's hawks forage in grasslands, grazed pastures, alfalfa and other hay crops, and certain grain and row croplands. Vineyards, orchards, rice, and cotton crops are generally unsuitable for foraging because of the density of the vegetation (Estep 1989; Babcock 1995; Woodbridge 1998). The majority of Swainson's hawks winter in South America, although some winter in the United States. Swainson's hawks arrive in California in early March to establish nesting territories and breed (California Department of Fish and Game 1994). They usually nest in large, mature trees. Most nest sites (87%) in the Central Valley are found in riparian habitats (Estep 1989:35) primarily because trees are more available there. Swainson's hawks also nest in mature roadside trees and in isolated trees in agricultural fields or pastures. The breeding season is from March through August (Estep 1989:12, 35).

Although suitable nesting and foraging habitat for Swainson's hawks is present in the LRVSP project area, Swainson's hawks typically occur in flat terrain and more rarely occur in the foothills. There are no CNDDB records of Swainson's hawk within 5 miles of the project area (California Department of Fish and Wildlife 2024) Swainson's hawks were not observed during site visits in 2009 (Kjeldsen Biological Consulting 2009) or 2012 (LSA Associates 2014). There is a low potential for the species to occur in the project area or offsite areas. However, suitable nesting and foraging habitat is present in the LRVSP project area and the offsite improvement area.

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) is a state-listed threatened species. Tricolored blackbird is a highly colonial species that is largely endemic to California. Tricolored blackbird breeding colony sites require open, accessible water; a protected nesting substrate, including either flooded, thorny, or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony. Tricolored blackbird breeding colonies occur in freshwater marshes dominated by tules and cattails, in Himalayan blackberries (*Rubus armeniacus*), and in silage and grain fields (Beedy and Hamilton 1997:3–4). The breeding season is from late February to early August (Beedy and Hamilton 1999). Tricolored blackbird foraging habitats in all seasons include annual grasslands, dry seasonal pools, agricultural fields (such as large tracts of alfalfa with continuous mowing schedules, and recently tilled fields), cattle feedlots, and dairies. Tricolored blackbirds also forage occasionally in riparian scrub habitats and along marsh borders. Weed-free row crops and intensively managed vineyards and orchards do not serve as regular foraging sites. Most tricolored blackbirds forage within 3 miles of their colony sites but commute distances of up to 8 miles have been reported (Beedy and Hamilton 1997:5).

There are four presumed extant CNDDB records of tricolored blackbird occurring within 5 miles of the LRVSP project area (California Department of Fish and Wildlife 2024). Tricolored blackbirds were not observed in the project area during 2009 (Kjeldsen Biological Consulting 2009) or 2012 (LSA Associates 2014) site visits. Emergent marsh habitat is lacking in the LRVSP project area. However, there is suitable habitat in the riparian scrub adjacent to Deer Creek and its tributaries. In addition, there is potential for suitable habitat to exist in the offsite improvement areas that were not surveyed.

Western Burrowing Owl

Western burrowing owl (*Athene cunicularia*) is a California species of special concern. Western burrowing owl is a year-round resident in the Central Valley, San Francisco Bay region, Carrizo Plain, and Imperial Valley. They occur primarily in grassland habitats but may also occur in landscapes that are highly altered by human activity. Suitable habitat must contain burrows with relatively short vegetation and minimal amounts of shrubs or taller vegetation. Western burrowing owl may also occur in agricultural areas along roads, canals, ditches, and drains. They most commonly nest and roost in California ground squirrel burrows, but may also use burrows dug by other species, as well as culverts, piles of concrete rubble, and pipes. The breeding season is March through August but can begin as early as February. During the breeding season, owls forage near their burrows but have been recorded hunting up to 1.7 miles away. Rodent populations, particularly California vole populations, may greatly influence survival and reproductive success of California burrowing owls (Shuford and Gardali 2008:219, 221).

There are two records of burrowing owl occurrences within 5 miles of the LRVSP project area, (California Department of Fish and Wildlife 2024). Annual grassland in the project area provides potential habitat although few burrows were observed during 2009 site visits (Kjeldsen Biological Consulting 2009). No owls were observed during site visits in the LRVSP project area in 2009 (Kjeldsen Biological Consulting 2009) or 2012 (LSA Associates 2014). There is low potential for the species to be present in the project area. However, suitable breeding and wintering habitat is present in the annual grassland in the LRVSP project area and in the offsite improvement area.

White-Tailed Kite

White-tailed kite is fully protected under the California Fish and Game Code. White-tailed kites generally inhabit low-elevation grassland, savannah, oak woodland, wetlands, agricultural, and riparian habitats. Some large shrubs or trees are required for nesting and for communal roosting sites. Nest trees range from small, isolated shrubs and trees to trees in relatively large stands (Dunk 1995). White-tailed kites make nests of loosely piled sticks and twigs, lined with grass and straw, near the top of dense oaks, willows, and other tree stands. The breeding season lasts from February through October and peaks between May and August. They forage in undisturbed, open grassland, meadows, farmland, and emergent wetlands (Zeiner et al. 1990a:120).

There are no CNDDB occurrences of white-tailed kite within 5 miles of the LRVSP project area (California Department of Fish and Wildlife 2024), and the species was not observed during site visits in 2009 (Kjeldsen Biological Consulting 2009) or 2012 (LSA Associates 2013). However, suitable nesting and foraging habitat occurs in the LRVSP project area. Suitable nesting and foraging habitat is also present in the offsite improvement area.

Other Protected Species

Bats

Pallid bat is a California species of special concern and is considered a high priority species in California by the Western Bat Working Group (2007). It is found throughout most of California at low to middle elevations (6,000 feet). Pallid bats are found in a variety of habitats including desert, brushy terrain, coniferous forest, and non-coniferous woodlands. Daytime roosts include rock outcrops, mines, caves, hollow trees, buildings, and bridges. Night roosts are commonly under bridges but are also in caves and mines (Brown and Pierson 1996). Hibernation may occur during

late November through March. Pallid bats breed from late October through February (Zeiner et al. 1990b:70), and one or two young are born in May or June (Brown and Pierson 1996).

Silver-haired bat (*Lasionycteris noctivagans*) is considered a moderate priority species in California by the Western Bat Working Group (2007). Silver-haired bats occur primarily in the northern portion of California and at higher elevations in the southern and coastal mountain ranges (Brown and Pierson 1996) but may occur anywhere in California during their spring and fall migrations. They are associated with coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats (Zeiner et al. 1990b:54). Silver-haired bats roost in trees almost exclusively in the summer, and maternity roosts typically are located in woodpecker hollows or in gaps under bark. Maternal colonies range from several to about 75 individuals (Brown and Pierson 1996).

Townsend's big-eared bat (*Corynorhinus townsendii*) is a California species of special concern, and a high priority species under the Western Bat Working Group's conservation priority matrix (Western Bat Working Group 2007). Townsend's big-eared bat occurs throughout California, but distribution appears to be limited by the availability of cavern-like roost structures. Townsend's big-eared bats have been found in a wide variety of habitats from desert to riparian and coastal woodland, but they are found in greatest numbers in areas with cavern-forming rock or abandoned mines (Western Bat Working Group 2005). Townsend's big-eared bats roost in dome-like spaces in caves or mines, where they roost hanging in the open from the ceiling. They have also been known to use cavern-like spaces in abandoned buildings or bridges, and in the basal hollows in large coast redwood trees (Mazurek 2004:60). Mating occurs in fall and spring, and pups are born in late spring to early summer (Pierson and Rainey 1998:2). Maternity roost size varies and may contain only a few or up to several hundred individuals. The species is believed to be relatively sedentary, hibernating in caves and mines near summer maternity roosts, though seasonal movements are not well understood. Townsend's big-eared bats may have hibernated historically in aggregations of thousands of individuals (Pierson and Rainey 1998:1). They are highly sensitive to roost disturbance.

Western red bat is a California species of special concern and is considered a high priority species in California by the Western Bat Working Group (2007). It occurs throughout much of California at lower elevations. It is found primarily in riparian and wooded habitats but also occurs seasonally in urban areas (Brown and Pierson 1996). Western red bats roost in the foliage of trees that are often on the edge of habitats adjacent to streams, fields, or urban areas. This species breeds in August and September, and young are born in May through July (Zeiner et al. 1990b:60).

Hoary bat (*Lasurius cinerius*) is considered a moderate priority species in California by the Western Bat Working Group (2007). Hoary bats occur throughout California but are thought to have a patchy distribution in the southeastern deserts (Zeiner et al. 1990b:62). Hoary bats are found primarily in forested habitats, including riparian forests, and may occur in park and garden settings in urban areas. Day roost sites are in the foliage of coniferous and deciduous trees (Brown and Pierson 1996). Woodlands with medium to large trees with dense foliage provide suitable maternity roost sites (Zeiner et al. 1990b:62). Mating occurs in the fall, and after delayed fertilization, young are born May–June (Zeiner et al. 1990b:62; Brown and Pierson 1996).

Western small-footed myotis is considered a high priority species in California by the Western Bat Working Group (2007). It occurs throughout much of California except for the northwest and coastal areas of the state. Western small-footed myotis are particularly associated with coniferous forests

and rocky xeric habitats and they forage over a wide variety of habitats. They typically roost in rock crevices in mines, caves, and occasionally in buildings, bridges, and other human-made structures.

The open grassland and woodland edges in the LRVSP project area provide suitable foraging habitat for bat species, while the abandoned buildings on the property provide suitable roosting habitat. No evidence of bat roosts (e.g., guano, urine stains) was observed during inspections of the buildings.

Suitable habitat for colonial and solitary roosting bats is present within the offsite improvement areas west of the Project area. The offsite improvement area west of the project area has not been surveyed, but oak woodland and riparian forest in addition to human-made structures such as caves, mines, or buildings that may be present would provide suitable habitat for roosting bats. Acoustic surveys for bats were conducted in the spring and fall of 2012 in the VMVSP project area, west of the LRVSP project area (Wyatt 2013). Two California species of concern were detected during the surveys: pallid bat and western red bat. Both of these species are also identified as high-priority species by the Western Bat Working Group (2007). Five other bat species were also confirmed within the project area: California myotis (*Myotis californicus*), hoary bat, western small-footed myotis, canyon bat (*Parastrellus hesperus*), and Mexican free-tailed bat (*Tadarida brasiliensis*). Three additional species (big brown bat [*Eptesicus fuscus*], Yuma myotis [*Myotis yumanensis*], and silver-haired bat) were identified as "potentially detected" because inadequate data were available to identify these species conclusively. Silver-haired bats are more commonly found in higher elevations and, therefore, would be expected only infrequently in lower elevations, such as the VMVSP project area.

American Badger

American badger (*Taxidea taxus*) is a California species of special concern. In California, American badgers occur throughout the state except in humid coastal forests of northwestern California in Del Norte and Humboldt Counties. American badgers occur in a wide variety of open, arid habitats but most commonly are associated with grasslands, savannas, and mountain meadows. They require sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground (Williams 1986:66–67). Badgers dig burrows, which are used for cover and reproduction. The species mates in summer and early autumn, and young are born in March and early April (Zeiner et al. 1990b:312).

Suitable foraging habitat for American badger is present in the LRVSP project area and the offsite improvement area. However, the patch size of the grasslands is likely too small to support badger dens. There are no CNDDB records for occurrences of American badger within 5 miles of the project area but there is potential for them to occur in both the project area and the offsite improvement area.

Ringtail

Ringtails are found throughout most of California except for the San Joaquin Valley and portions of the southern deserts (California Department of Fish and Wildlife 2014). Ringtails occur in various riparian habitats and brush stands of most forest and shrub habitats usually within 0.5 mile of water, including such habitat in deserts. They use hollow trees, logs, snags, cavities in talus and other rocky areas for daytime shelter. Denning habitat is similar to sheltering habitat but can include abandoned burrows of other mammals, woodrat nests, and human-made structures (California Department of Fish and Wildlife 2014; NatureServe 2024). Ringtails change dens often (NatureServe 2024). Breeding occurs between February and May, but mainly in March and April, and litters of one to four are usually born in May and June (California Department of Fish and

Wildlife 2014; NatureServe 2024). Young are weaned by the end of summer (NatureServe 2024). Ringtails are nocturnal and feed primarily on arthropods, small mammals, and fruits (NatureServe 2024).

Ringtails are not tracked in the CNDDB and are not listed under ESA or CESA. However, the species is fully protected under the California Fish and Game Code. There is suitable habitat for the species in the riparian habitat adjacent to Deer Creek and its tributaries in the LRVSP project area and in the offsite improvement areas and ringtails have been reported to occur in the region (ECORP Consulting 2014b).

Special-Status Fish

Deer Creek provides potential habitat for a large number of fish species including special-status fish. However, the LRVSP project area is outside of the known range of special-status anadromous fish species. Anadromous salmonids have never been documented in Deer Creek in any of the sampling efforts that have occurred over the past 12 years, and there are no historical records that indicate that of special-status fish have ever been present in Deer Creek. Therefore, special-status fish would not be affected by the proposed project and are not discussed further.

Invasive Plant Species

Invasive plants in the project area were identified based on the California Department of Food and Agriculture *Pest Ratings of Noxious Weed Species and Noxious Weed Seed* (California Department of Food and Agriculture 2010) and the California Invasive Plant Council's California Invasive Plant Inventory (California Invasive Plant Council 2018, 2024). The list of plant species observed provided in Appendix E identifies which species are included on either of these lists.

3.3.2 Environmental Impacts

Methods of Analysis

The impact analysis for biological resources was conducted by evaluating the potential changes to existing biological resources as established through the various studies and database searches and based on the anticipated project construction and operation activities, listed below, which could have direct and indirect effects of varying degrees on sensitive biological resources present in the project area.

- Vegetation removal.
- Grading and fill placement during construction.
- Blasting (rocks)
- Temporary stockpiling and sidecasting of soil, construction materials, or other construction wastes.
- Soil compaction, dust, and water runoff from the construction site into adjacent areas.
- Introduction or spread of invasive plant species into adjacent open space areas.
- Runoff of herbicides, fertilizers, diesel fuel, gasoline, oil, raw concrete, or other toxic materials used for project construction, operation, and maintenance into sensitive biological resource areas (e.g., riparian habitat, wetlands).

Construction and future operation-related activities associated with the proposed project could result in temporary or permanent impacts on biological resources. In assessing the magnitude of possible effects, the following assumptions were used in the impact analysis for biological resources.

- All construction, staging (including vehicle parking), and access areas would be restricted to the direct impact areas depicted in Figure 3.3-2.
- Oak mitigation planting activities within the designated open space portion of the project area could result in short-term temporary impacts associated with installation of oak saplings and irrigation lines. However, planting activities would avoid all sensitive habitats, including waters of the United States.
- Based on the results of blooming-period special-status plants surveys of the LRVSP project area in 2013, two special-status plants, Bisbee Peak rush-rose (CNPS Rare Plant Rank 3.2) and Layne's ragwort (federally listed threatened, state-listed rare, and CNPS Rare Plant Rank 1B.2) are known to occur in the project area. No other special-status plants were found and are, therefore, considered absent from the project area. Project implementation is not anticipated to have potential impacts on any special-status plants other than Bisbee Peak rush-rose and Layne's ragwort.
- In the offsite improvement area east of the project area, which was added to the project after the 2012 and 2013 surveys, focused special-status plant and wildlife surveys and a delineation of waters of the United States have not yet been conducted. Therefore, this impact analysis assumes that these areas could support special-status species and sensitive habitats, including regulated wetlands and drainages.
- Loss of annual grassland and chaparral vegetation would not be considered significant impacts from a botanical standpoint, because these habitats are common in the project region and beyond and not considered sensitive community types by local, state, or federal agencies. Annual grassland and chaparral vegetation also reestablish more easily after disturbance than riparian or wetland communities. However, the loss of annual grassland and chaparral habitats could be significant for some special-status wildlife species, and these impacts are discussed below.
- Habitats, including oak woodland, riparian woodland, chaparral, annual grassland, and wetlands and other waters, that are within the Open Space land use designation would generally not be directly affected by project construction. One exception to this avoidance would be for minimal grading for trail construction and transitional grading between development and open space areas.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as the County ORMP.
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Impacts and Mitigation Measures

Summary of Impacts within the Lime Rock Valley Specific Plan Project Area

Figure 3.3-2 illustrates the impact areas in relation to biological resources for the LRVSP project area. For ease of reference, Table 3.3-5 summarizes effects on biological resources. Effect findings, including significance and available mitigation, are discussed below.

Table 3.3-5. Permanent Direct Impacts on Biological Resources within the LRVSP Project Area

Biological Resource	Permanent Impacts (acres)[a]	Permanent Impacts (trees/inches)
Oak Woodland[b]	82	
Individual Native Oaks	--	233/4,545 inches
Heritage Oak Trees	--	124/7,334 inches
Riparian Woodland	0.3	
White-Leaf Manzanita Chaparral (wildlife habitat)	162.9	
Annual Grassland (wildlife habitat)	98.7/99.9[c]	
Wetlands		
Seasonal Wetland	0	
Seasonal Wetland Seep	0.012	
Seasonal Wetland Pond	0.524	
Total Wetlands Impacts	0.536	
Other Waters		
Perennial Stream	0.042	
Intermittent Stream	0.216/0.254[c]	
Ephemeral Stream	0.108	
Pond	0	
Total Other Waters Impacts	0.366/0.404 [c]	

[a] Acreages of onsite impact on wetlands and other waters of the United States are based on the USACE-verified delineation (U.S. Army Corps of Engineers, pers. comm., 2015).

[b] Oak impacts are based on the conceptual layout. In accordance with the ORMP, oak woodland/savannah impact acreage would be quantified based on mapping of woodland habitat. Per

the requirements of the ORMP, all of a project's oak woodland impacts must be mitigated at a 1:1 ratio where 50% or less of onsite oak woodlands are impacted, at a 1.5-to-1 ratio where 51-75% are impacted, and at a 2-to-1 ratio where 76-100% are impacted.

[c] Acreages are identified for the project without/with the proposed onsite detention basin. The basin is shown in Figure 2-12.

Impact BIO-1: Loss of oak woodland (less than significant with mitigation)

Oak woodland occurs throughout the LRVSP project area, and implementation of the LRVSP would permanently remove oak woodland for construction of the proposed project elements, including low-density residential, roads, a bike path, and gravel trails. Based on calculations using aerial photograph interpretation to assess oak canopy, the proposed project would retain a total of approximately 183 acres (69%) of the total oak woodland onsite. The project would meet the retention, replacement, in-lieu fees, or conservation easement requirements under the ORMP. The proposed project would remove 82 acres (31%) of the 265 acres of existing oak woodlands within the proposed development footprint, and 4,545 inches of individual oak trees and 7,334 inches of Heritage Oak trees not growing in oak woodland habitat. Impacts on oak woodlands and individual oaks are as assessed under the ORMP. Mitigation strategies based on the criteria from the ORMP have been prepared (Appendix F, *Oak Resources Technical Report*), and the results are summarized in the impact discussion below. Implementation of this approach would reduce impacts to a less-than-significant level and would be consistent with County requirements. Impacts on oak woodland in the proposed offsite improvement areas are discussed under Impact BIO-18.

Prior to submittal of the first small tentative subdivision map to the County, as directed by LRVSP Policy 5.46, the project applicant has committed to preparing an OSMP to guide the conservation and protection of oak woodland and wildlife uses within designated open space in the project area in perpetuity (described in Section 5 of the LRVSP). The OSMP would include installation and maintenance of interpretive signs designating these areas as open space for the protection of sensitive natural resources with restricted uses defined (i.e., off-road vehicles prohibited, pet/wildlife interaction education).

Permanent Impacts

Using the criteria in the ORMP, the overall project area has a total of 265.4 acres of oak woodland, 82 acres (31%) of which are within the impact area of the project footprint. A total of 4,545 inches of individual native oak trees and a total of 7,334 inches of Heritage Trees not growing in oak woodland habitat would also be impacted by the project.

Under the ORMP, the project would be required to mitigate all oak woodland impacts at a 1:1 ratio where 50% or less of onsite oak woodlands are impacted. Mitigation for oak woodlands can be accomplished using one or more of the following options:

1. Offsite deed restriction or conservation easement acquisition and/or acquisition in fee title by a land conservation organization for purposes of offsite oak woodland conservation;
2. In-lieu fee payment;
3. Replacement planting onsite within an area subject to deed restriction or conservation easement;
4. Replacement planting offsite within an area subject to a conservation easement; or

5. A combination of options 1 through 4, above.

Mitigation for removal of individual native oak trees is based on an inch-for-inch replacement standard. Mitigation for Heritage Trees is based on a replacement standard of 3:1 (inches) ratio. Impact mitigation requirements for individual native oak trees and Heritage Tree include several options:

1. Replacement planting onsite within an area subject to a deed restriction or conservation easement;
2. Replacement planting offsite within an area subject to a conservation easement or acquisition in fee title by a land conservation organization;
3. In-lieu fee payment; or
4. A combination of options 1 through 3 above.

Implementation of Mitigation Measure BIO-1d would comply with the ORMP requirements and reduce and compensate for impacts to oak woodland, individual trees, and Heritage Trees to a less-than-significant level.

Temporary and Indirect Impacts

Temporary impacts on oak woodland could result from construction activities adjacent to the retained areas of woodland as well as from activities to plant replacement trees as required under the ORMP. Movement of construction equipment could affect trees to be retained by encroaching on the root zones or causing damage to the tree trunks and limbs. LRVSP Policy 5.34 requires that oak trees be retained in the project area are protected during and after construction as outlined in the Oak Resources Technical Report (Appendix F). The Oak Resources Technical Report fulfills the requirements of this policy and includes guidelines for protection fencing, oak woodland avoidance, tree canopy and root zone maintenance prior to and during construction, irrigation, and additional guidelines (see Appendix F).

Potential indirect effects on the retained oaks could occur in open space areas that are downslope of the proposed development area. Altered drainage patterns in the open space area could adversely affect the retained oaks. In particular, runoff from residential landscape irrigation during the dry summer months could promote growth of fungal root diseases in oaks and increase tree mortality. LRVSP Policies 5.32, 5.33, 5.34, and 5.35 would address the potential indirect effects of development on retained oaks and ensure these temporary and indirect impacts would be less than significant.

Summary

Oak woodland is protected by policies in the County General Plan and County Code of Ordinance. CDFW considers oak woodland to be important wildlife habitat. The permanent loss of potential temporary impacts on, and potential indirect impacts on oak woodland canopy and oak woodland habitat as a result of the proposed project would be significant without mitigation.

Under the ORMP, the project avoids 183 acres (69%) of oak woodland within the Open Space/Avoided areas and would incorporate measures to retain additional oak woodland within the development footprint. As previously noted, 82 acres (31%) of oak woodland is within the development footprint. The project would be required to mitigate all oak woodland impacts at a 1:1 ratio, because 50% or less of onsite oak woodlands are impacted. Since the replacement plantings cannot account for more than 50% of the oak woodland mitigation requirement, half of the project's

mitigation requirement would consist of replacement plantings onsite. The remaining half of the project's oak woodland impact mitigation would be implemented in the form of an in-lieu fee payment to the County.

The project would also be required to replace individual native oak trees based on an inch-to-inch replacement standard and Heritage Trees based on a 3:1 ratio standard.

LRVSP policies would reduce potential temporary and indirect impacts on oak trees. Implementation of Mitigation Measures BIO-1a, BIO-1b, BIO-1c, and BIO-1d would further reduce temporary construction impacts on oak woodland by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, periodic site visits during construction, and avoidance or minimization of construction disturbances on retained oak woodland. Mitigation Measure BIO-1d would reduce indirect impacts on oak woodland resulting from drainage alteration to a less-than-significant level by ensuring that runoff would not be directed from constructed areas into the oak woodland. Mitigation Measure BIO-1e would ensure continued viability and/or replacement of retained oaks. Because the proposed project would avoid, minimize, and compensate for impacts on oak woodland through compliance with the ORMP, it would not threaten to eliminate a plant community.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

The project construction contractor shall install orange construction barriers or other similar barriers as discussed in the Oak Resources Technical Report (Appendix F) to protect environmentally sensitive areas as one of the first orders of work. These sensitive areas shall be protected by a barrier to avoid disturbance during construction. The protected areas shall be designated as environmentally sensitive areas and clearly identified on the construction plans. The barrier shall be installed before construction activities are initiated, maintained throughout the construction period, and removed when construction is completed. Sensitive biological resources that occur adjacent to construction areas include special-status plant and wildlife habitats, oak woodland and riparian woodland to be retained as open space, and wetlands and other waters of the United States to be retained. The barrier shall be removed within 72 hours of completion of work.

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Prior to beginning construction activities, the project applicant shall employ a qualified biologist to develop and conduct environmental awareness training for construction employees. The training shall describe the importance of onsite biological resources, including oak woodland, riparian woodland, and mature trees to be retained; special-status wildlife habitats; potential nests of special-status birds; and roosting habitat for special-status bats. In addition, construction employees shall be educated about invasive plant identification and the importance of controlling and preventing the spread of invasive plant infestations. The biologist shall also explain the importance of other responsibilities related to the protection of wildlife during construction such as inspecting open trenches and looking under vehicles and machinery prior to moving them to ensure there are no lizards, snakes, small mammals, or other wildlife that could become trapped, injured, or killed in construction areas or under equipment.

The environmental awareness program shall be provided to all construction personnel to brief them on the life history of special-status species in or adjacent to the project area, the need to avoid impacts on sensitive biological resources, any terms and conditions required by state and federal agencies, and the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the project, the contractor's superintendent shall ensure that the personnel receive the mandatory training before starting work. An environmental awareness handout that describes and illustrates sensitive resources to be avoided during project construction and identifies all relevant permit conditions shall be provided to each person.

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

The project applicant shall employ a qualified biologist to conduct periodic site visits during construction as necessary in and adjacent to all sensitive biological resources in the construction area. The frequency of site visits shall range from weekly to monthly, depending on the biological resource, and may be done concurrently with other monitoring that may be occurring on site (e.g., California red-legged frog, SWPPP compliance). The biological monitor shall assist the construction crew as needed to comply with all project implementation restrictions and guidelines. The biological monitor also will be responsible for ensuring that the contractor maintains the staked and flagged perimeters of the construction area and staging areas adjacent to sensitive biological resources and shall inspect the barriers to ensure that the barriers are intact. The monitor shall assess any adverse effects on sensitive biological resources resulting from violations of the barrier mitigation requirements and notify the County and the regulatory agency with jurisdiction over the affected sensitive resource. Work shall stop until the barriers are reestablished and the County and jurisdictional resource agency approve the resumption of work. The monitor shall provide the County with a monitoring log for each site visit, which shall be provided to interested agencies upon request.

Mitigation Measure BIO-1d: Avoid and minimize potential disturbance of oak woodland habitat and compensate for loss of oak woodland and individual trees

Demonstration of compliance with the ORMP and tree preservation and replacement plan and measures below shall be incorporated in all grading and improvement plans for the project. Compliance with these construction measures shall be monitored by a qualified biologist and reported as indicated in Mitigation Measure BIO-1c.

- The potential for long-term loss of woody vegetation shall be minimized by pruning vegetation rather than removing entire trees or shrubs in areas where complete removal is not required. Any trees or shrubs that need to be trimmed shall be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting shall be limited to the minimum area necessary within the construction zone. To protect nesting birds, no pruning or removal of woody vegetation shall be performed between February 1 and August 31 without preconstruction bird surveys.
- Operation or parking of vehicles, digging, trenching, slope cuts, soil compaction, grading, paving, or placement of fill shall be prohibited within at least 6 feet outside the driplines of retained trees.
- All construction, staging (including vehicle parking), and access areas shall be restricted to the direct impact areas depicted in Figure 3.3-2.

- Runoff from the development area shall be directed in such a way as to prevent drainage into the open space area. Drainage systems shall be designed to prevent runoff from flowing into oak woodlands and direct it into the storm drainage system, which shall discharge runoff into existing onsite drainages. Retaining walls shall be installed at the edge of development areas where fill is placed to avoid ponding of water around adjacent retained oak trees.

In accordance with the ORMP at the time the tree removal permits applications are submitted, in-lieu fees shall be paid at the time of approval of the tree removal permits and any deed restrictions or conservation easements shall occur at the time applications for permits that would result in tree removal are submitted. The project applicant shall implement the following measures, and shall adhere to LRVSP Policy 5.30, 5.32, and 5.34 during construction of each project phase to protect and minimize effects on preserved trees that are adjacent to construction activities.

Mitigation for oak woodlands can be accomplished using one or more of the following options:

1. Offsite deed restriction or conservation easement acquisition and/or acquisition in fee title by a land conservation organization for purposes of offsite oak woodland conservation;
2. In-lieu fee payment;
3. Replacement planting onsite within an area subject to deed restriction or conservation easement;
4. Replacement planting offsite within an area subject to a conservation easement; or
5. A combination of options 1 through 4, above.

In accordance with requirements of the California PRC 21083.4, replacement planting shall not account for more than 50% of the oak woodland mitigation requirement. Therefore, up to half of the project's oak woodland impact mitigation requirement may consist of replacement planting onsite. The replacement planting area must be suitable for tree planting, shall not conflict with current or planned land uses, and shall be large enough to accommodate replacement plantings at a density equal to the density of oak woodlands impacted, up to a maximum density of 200 trees per acre. The remaining portion of the project's oak woodland impact mitigation requirement would be implemented in the form of an in-lieu fee payment to the County. Assuming the project shall mitigate 50% of the impacted 82 acres with replanting, under the in-lieu fee for the remaining mitigation requirement would equate to $339,685 for 41 acres of woodland impact (50% of 82 acres) at $8,285 per acre, as required by the ORMP.

Mitigation for removal of individual native oak trees is based on an inch-for-inch replacement standard. Up to 4,545 inches of individual oak trees could be affected. Mitigation for Heritage Trees is based on a replacement standard of 3:1 (inches) ratio. Up to 7,334 inches of Heritage Trees could be affected. This equates to the requirement of replanting 26,547 inches of oak trees. Replacement trees are required to be monitored and maintained for a period of seven years, calculated from the day of planting.

Impact mitigation requirements for individual native oak trees and Heritage Tree include the following options:

1. Replacement planting onsite within an area subject to a deed restriction or conservation easement;

2. Replacement planting offsite within an area subject to a conservation easement or acquisition in fee title by a land conservation organization;
3. In-lieu fee payment; or
4. A combination of options 1 through 3 above.

The total replacement trees must have a combined diameter equal to that of the removed non-Heritage Trees, and a combined diameter equal to 3:1 of the removed Heritage Trees. Replacement tree species must be in the same proportion as those removed. Replacement plantings must be inspected, maintained and documented consistent with requirements for Mitigation Maintenance, Monitoring, and Reporting per the ORMP. Fifty (50) percent of mitigation requirements shall be met through onsite plantings. Currently, the in-lieu fee program requires a payment of $153 per inch of impact for individual oak trees and $459 per inch for Heritage Trees. Using the per-inch mitigation fee option for fifty (50) percent would result in a fee of $347,769 (2,273 inches x $153 per inch) for individual oaks and $1,683,153 (3,667 inches x $459 per inch) for Heritage Trees. The total fee would be $2,030,922.

Mitigation Measure BIO-1e: Maintain retained oaks in development areas

For trees conserved in residential lots, maintenance, care, and replacement of dead trees shall be managed in accordance with the LRVSP Tree Survey, Preservation and Replacement Plan, which shall be reviewed and approved by the County and an architectural control committee at the tentative map stage, and enforced through the Covenants, Conditions, and Restrictions (CC&Rs) of a homeowners association.

Impact BIO-2: Loss of riparian woodland (less than significant with mitigation)

Riparian woodland habitat occurs in the project area within proposed land use designations for open space, residential, and roads. Riparian habitat in the residential and road land use designations would be permanently removed for project construction. Riparian habitat in the open space land use designation would be retained but could be indirectly affected by project construction activity and by project operation.

Up to 0.3 acre of riparian woodland would be permanently removed for construction of low-density residential development and roads in the project area and a proposed gravel trail in the open space area (Figure 2-6). Riparian habitat adjacent to construction areas could also be temporarily damaged during construction as a result of movement of equipment. Impacts on riparian habitat in the proposed offsite improvement areas are discussed below under Impact BIO-18.

The riparian woodland retained in the designated open space areas could be subject to indirect effects during and after construction. Construction activity adjacent to preserved riparian woodland could alter the topography and indirectly affect surface and groundwater flow that supports the riparian habitat. To protect riparian habitat outside of the proposed development area, the current County standards for development require a minimum setback of 50 feet (County General Plan Policy 7.3.3.4). Any additional setbacks to be used within the LRVSP project area would be determined during the permitting process in consultation with the resource agencies, including CDFW for the streambed alteration agreement and USACE for the CWA Section 404 Individual Permit.

Local, state, and federal agencies recognize riparian habitats as sensitive natural communities. Impacts on riparian woodland in the project area would be significant. Implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c would avoid temporary construction impacts on riparian woodland by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction. Implementation of the required construction setbacks would avoid the potential indirect impacts on riparian woodland. Mitigation Measure BIO-2 would compensate for unavoidable permanent loss of riparian woodland and reduce these impacts to a less-than–significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-2: Compensate for permanent loss of riparian woodland

The project applicant shall compensate for the loss of up to 0.3 acres of riparian woodland that cannot be avoided to ensure no net loss of habitat functions and values. Compensation shall be at a minimum of 1:1 (e.g., 1:1 = 1 acre restored/created/enhanced or credits purchased for every 1 acre removed). Final compensation ratios shall be based on site-specific information and determined through coordination with the appropriate state and federal agencies during the permitting process. Compensation may be a combination of mitigation bank credits and onsite habitat restoration and shall be implemented as determined by the appropriate state and federal agencies during the permitting process. Permanent loss of riparian woodland shall be compensated for by implementing one or a combination of the following options.

- The project applicant shall purchase offsite mitigation bank credits for riparian woodland to allow for economy of scale and higher quality habitat due to large patch size and shall provide written evidence to the resource agencies that compensation has been established through the purchase of mitigation credits.
- The project applicant shall employ a qualified restoration biologist to prepare a riparian restoration and monitoring plan that involves restoring or enhancing onsite riparian woodland, potentially along the perennial creek adjacent to the proposed bike trail. The riparian restoration and monitoring plan shall be reviewed by the County and incorporated into the tentative map. The project applicant and the County shall ensure implementation of the riparian restoration and monitoring plan. The LRVSP restoration plan shall include a species list and number of each species, planting locations, and maintenance requirements. The number of plantings shall be adequate to ensure that the required mitigation ratio shall be reached by the end of the monitoring period, allowing for mortality of up to 25% of the plantings. Plantings shall consist of cuttings taken from local plants, or plants grown from local seed. Planted tree species shall be based on those removed from the project area and shall include California buckeye, valley oak, arroyo willow. Native understory species, such as buttonwillow, creeping spikerush, sedge species, California wild grape, or other suitable species, shall be planted. Plantings shall be monitored annually for 10 years or as required in the project permits. For each monitoring period, the riparian restoration and monitoring

plan shall include a minimum percentage of planting survival to be considered successful. This percentage shall be established in conjunction with the regulatory agencies, but shall be in the range of 75–90%. If the survival criterion is not met in any monitoring year or at the end of the monitoring period, planting shall be repeated after mortality causes have been identified and remedial measures have been implemented, and the monitoring period shall be extended. The project applicant shall implement the restoration plan, maintain plantings for 5 years (including weed removal, irrigation, and herbivory protection) during which annual success criteria monitoring shall occur. As feasible, existing native vegetation from the affected sites should be harvested and maintained for replanting after construction. Progress reports shall be provided to the County at the end of each monitoring period.

Impact BIO-3: Loss of jurisdictional wetlands, including seasonal wetland, seasonal wetland seep, and seasonal wetland pond (less than significant with mitigation)

Several types of wetlands regulated by USACE under CWA Section 404 occur in the project area. Wetlands in the LRVSP project area that are proposed for development would be directly affected and filled as part of project construction. Wetlands that are within the open space land use designation would be retained but could be indirectly affected by adjacent construction. Impacts on jurisdictional wetlands in the proposed offsite improvement areas are discussed below under Impact BIO-19.

Based on the verified delineation of wetlands in the project area (U.S. Army Corps of Engineers, pers. comm., 2015), project construction in the LRVSP project area would have direct permanent impacts on up to 0.536 acre of wetlands, as detailed below.

- No seasonal wetlands are located within areas proposed for development, therefore, no direct impacts would occur on seasonal wetlands.
- Up to 0.012 acre of seasonal wetland seep would be filled for construction of low-density residential development and roads.
- Up to 0.524 acre of seasonal wetland pond would be filled for construction of low-density residential development.

Temporary direct impacts on wetlands could occur during construction activities in wetlands that would be temporarily affected during construction but returned to pre-project conditions after construction is completed (e.g., where a wetland could be driven on during construction but would not be permanently filled as part of the project footprint).

Earth-moving activities in the construction footprint could result in indirect impacts on wetlands that are outside of the construction footprint due to erosion and sedimentation into the nonconstruction areas. To protect wetlands outside of the proposed development area, the current County standards for development would require a minimum setback of 50 feet from the wetland edge. Additional setbacks for the LRVSP project area would be determined during the Section 404 permitting process in consultation with USACE.

Direct and indirect impacts on jurisdictional wetlands would be considered significant because of the substantial historic losses of wetlands and the importance of wetlands for wildlife habitat, water quality, flood protection, and other functions. Wetlands are regulated by USACE and Regional Water Boards, requiring permits under CWA Sections 404 and 401, respectively. LRVSP Policy 5.11

requires that construction, maintenance and monitoring and compensation of wetlands comply with USACE requirements pursuant to the issuance of a Section 404 permit. However, in addition to implementing the measures required as part of the CWA permits, the project applicant would implement Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands. These mitigation measures would require barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction. LRVSP Policy 5.12 requires preparation of a Wetland Mitigation and Monitoring Plan (WMMP) which must include detailed information on the habitats present within conservation and mitigation areas, the long term management and monitoring of these habitats, legal protection for the conservation and mitigation areas, and funding mechanism information. In addition, the project applicant would implement Mitigation Measure BIO-3a to avoid and minimize direct and indirect impacts on wetlands, and Mitigation Measure BIO-3b to compensate for direct impacts on wetlands to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

To the extent possible, the project applicant shall avoid and minimize impacts on waters of the United States, including wetlands, by implementing the following measures. These measures shall be incorporated into contract specifications and implemented by the construction contractor and compliance shall be monitored by a qualified biologist and reported as indicated in Mitigation Measure BIO-1c.

- The project shall be designed, to the extent possible, to avoid direct and indirect impacts on waters of the United States, including wetlands.
- All construction, staging (including vehicle parking), and access areas shall be restricted to the direct impact areas depicted in Figure 3.3-2.
- A SWPPP shall be prepared and implemented during construction and shall include appropriate BMPs for reducing construction impacts on waters of the United States.
- Within waters of the United States, including wetlands, that shall be preserved as part of the proposed project, construction activities shall be avoided in saturated or ponded natural wetlands and drainages during the wet season (spring and winter) to the maximum extent feasible. Where such activities are unavoidable, protective practices such as use of padding or vehicles with balloon tires shall be employed.
- Exposed drainage banks shall be stabilized immediately following completion of construction activities. Other waters of the United States shall be restored in a manner that encourages vegetation to reestablish to its preproject condition and reduces the effects of erosion on the drainage system.

- Any trees, shrubs, debris, or soils that are inadvertently deposited below the OHWM of streams shall be removed in a manner that minimizes disturbance of the drainage bed and bank.
- In-stream construction within the OHWM of natural drainages shall be restricted to the low-flow period (generally April through October).

Mitigation Measure BIO-3b: Compensate for loss of jurisdictional wetlands

The project applicant shall compensate for the loss of up to 0.072 acre of seasonal wetland seep and 0.524 acres of seasonal wetland pond habitat to ensure no net loss of habitat functions and values. The compensation shall be provided at a minimum of 1:1 ratio or as permitted by the USACE (1 acre restored or created for every 1 acre filled), but final compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies as part of the permitting process for the project. Compensation may be a combination of mitigation bank credits and restoration/creation of habitat and shall be implemented before or immediately after completion of each phase of project construction. Permanent loss of wetland habitat shall be compensated for by implementing one or a combination of the following options.

- The project applicant shall purchase offsite mitigation bank credits for the affected wetland type (seasonal wetland seep and seasonal wetland pond, or similar seasonal wetland habitat) at a USACE-approved mitigation bank to allow for economy of scale and higher quality habitat due to large patch size. The project applicant shall provide written evidence to the County and the resource agencies that compensation has been established through the purchase of mitigation credits.
- The project applicant shall employ a qualified restoration biologist to develop a wetland restoration plan that involves creating or enhancing the affected wetland type (seasonal wetland seep and seasonal wetland pond) within open space in the project area or at an offsite location. The plan shall be based on the specific development plan and the status of wetlands at the time of construction. The project applicant and the County shall coordinate with USACE and Regional Water Board for plan approval and shall ensure implementation of the wetland restoration plan. Potential restoration sites shall be evaluated to determine whether this is a feasible option. If it is determined that onsite restoration is feasible, a restoration plan shall be developed that describes where and when restoration shall occur and who shall be responsible for developing, implementing, and monitoring the restoration plan. The plan shall be provided to the County prior to the issuance of a grading permit. The wetland restoration plan shall also include a species list and number of each species, planting locations, and maintenance requirements. The number of plantings shall be adequate to ensure that the required mitigation ratio shall be reached by the end of the monitoring period, allowing for mortality of up to 25% of the plantings. Plantings shall be similar to those removed from the project area and shall consist of inoculum taken from the affected wetlands, or plants grown from local material obtained within the project watershed. The vegetative cover of wetland plantings shall be monitored annually for 3 years or as required in the project permits, and compared to nearby undisturbed reference wetlands. Progress reports shall be provided to the County at the completion of each monitoring period. If vegetative cover of wetland plants is equivalent to reference sites at the end of the monitoring period, the revegetation shall be considered successful. If the survival criterion is not met in any monitoring year or at the end of the monitoring period,

planting and monitoring shall be repeated after mortality causes have been identified and remedial measures have been implemented, and the monitoring period shall be extended to account for the required number of monitoring years for all plantings. Mitigation sites shall be protected in perpetuity in a conservation easement.

Impact BIO-4: Loss of other waters of the United States, including perennial creek, intermittent stream, ephemeral stream, and stock pond (less than significant with mitigation)

Waters of the United States and waters of the state that are regulated by USACE under CWA Section 404, and waters of the state that are regulated by the Regional Water Board (RWQCB) under CWA Section 401, and CDFW under California Fish and Game Code Section 1602 occur in the project area. Other waters in the LRVSP project area that are proposed for development would be directly affected and filled as part of project construction. Other waters that are within the open space land use designation would be retained but could be indirectly affected by adjacent construction. Impacts on jurisdictional wetlands in the proposed offsite improvement areas are discussed below under Impact BIO-19.

Based on the verified delineation of other waters of the United States in the project area (U.S. Army Corps of Engineers, pers. comm., 2015), project construction in the LRVSP project area would have direct permanent impacts of up to 0.366 acre on the other waters or 0.404 acre with the proposed detention basin, as detailed below.

- Up to 0.042 acre of perennial stream for roads.
- Up to 0.216 acre of intermittent stream for low-density residential and roads, and an additional 0.038 acre with the proposed detention basin.
- Up to 0.108 acre of ephemeral stream for low-density residential, park, and roads.

Temporary impacts on other waters of the United States could occur during construction activities in streams that would be temporarily affected during construction but returned to pre-project conditions after construction is completed (e.g., for culvert improvements and bridge construction). Oak mitigation planting activities associated with installation of oak saplings and irrigation lines could result in short-term temporary impacts on other waters of the United States that occur in the potential onsite oak mitigation areas.

Earthmoving activities in the construction footprint could result in indirect impacts on other waters of the United States that are outside of the construction footprint due to erosion and sedimentation into the areas not under construction. To protect other waters outside of the proposed development area, a minimum setback from the OHWM of intermittent streams and perennial streams would be established. Actual setbacks to be used within the LRVSP project area may be determined in consultation with applicable regulatory agencies during the permitting process.

Direct and indirect impacts on other waters of the United States would be considered significant because of the substantial historic losses of open water and the importance of other waters for wildlife habitat, water quality, flood protection, and other functions. Waters of the United States are regulated by the USACE. Waters of the State are regulated by Regional Water Boards. These agencies require permits under CWA Sections 404 and 401, respectively. However, in addition to implementing the measures required as part of the CWA permits, the project applicant would implement Mitigation Measures BIO-1a, BIO-1b, and BIO-1c, to avoid temporary construction impacts on other waters of the United States by requiring barriers to protect sensitive areas,

environmental awareness training for construction employees, and periodic site visits during construction; Mitigation Measure BIO-3a to avoid and minimize direct and indirect impacts on other waters of the United States; and Mitigation Measure BIO-4 to compensate for direct impacts on waters of the United States. Implementation of the measures would reduce project impacts on other waters of the United States to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

Mitigation Measure BIO-4: Compensate for loss of other waters of the United States

The project applicant shall compensate for the loss of up to 0.042 acre of perennial stream, 0.254 acre of intermittent stream, and 0.108 acre of ephemeral streams to ensure no net loss of habitat functions and values. The compensation shall be provided at a minimum ratio of 1:1 (1 acre restored or created for every 1 acre permanently affected), but final compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies as part of the permitting process for the project. Compensation may be a combination of mitigation bank credits and restoration/creation of habitat and shall be implemented before or immediately after completion of each phase of project construction.

Permanent loss of other waters of the United States shall be compensated for by implementing one or a combination of the following options.

- Purchase appropriate mitigation credits at a locally approved mitigation bank. Out-of-kind compensation also could be used based on the vegetation type in the creek (i.e., seasonal wetland). Written evidence shall be provided to the County and the resource agencies that compensation has been established through the purchase of mitigation credits.
- Compensate out-of-kind for loss of drainages, and ponds by implementing other onsite wetland mitigation or purchasing appropriate mitigation credits.

Impact BIO-5: Potential loss of special-status plants (less than significant with mitigation)

Populations of two special-status plant species are known to occur in the LRVSP project area, Layne's ragwort, a federally listed threatened and state-listed rare species, and Bisbee Peak rush-rose, a CNPS California Rare Plant Rank 3.2 species, which is considered locally rare. Special-status plant surveys of the project area are several years old, and there is potential for additional species to be present. Additionally, CDFW and/or USFWS would likely require updated surveys prior to finalizing permits for the proposed project. Impacts on special-status plants in the proposed offsite improvement areas are discussed below under Impact BIO-20.

The presence of additional special-status plant species that could be affected by the proposed project would be a potentially significant impact. Implementation of Mitigation Measure BIO-5a

would provide current data for the presence or absence of special-status plant species in the project area and implementation Mitigation Measure BIO-5c for compensatory mitigation would reduce the potential impact on additional special-status plant to a less-than-significant level.

The location of Layne's ragwort is within the proposed open space area and would be buffered from residential, road, and trail development by at least 100 feet. The preliminary utility plan, however, shows a proposed sewer line extending through the approximate location of the Layne's ragwort population (Figure 2-8). Excavation required for installation of the proposed sewer line could remove part or all of the Layne's ragwort plants. This would be a significant impact. Implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c, to avoid temporary construction impacts on Layne's ragwort by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction, and Mitigation Measure BIO-5b, which would avoid impacts on Layne's ragwort, would reduce this impact to a less–than-significant level.

Bisbee Peak rush-rose occurs in the proposed low-density residential development and open space area, and up to 87% of the Bisbee Peak rush-rose occupied habitat would be permanently removed for construction of residential development in the LRVSP project area. Bisbee Peak rush-rose plants in the open space land use designation would be retained but could be indirectly affected by project construction activity, including a proposed gravel trail (Figure 2-6), and by project operation. Bisbee Peak rush-rose is recognized by CNPS and CDFW as a locally rare species and is included on the list of Pine Hill gabbro-endemic plants identified by El Dorado County. Loss of 87% of the occupied habitat in the project area would be a significant impact.

Implementation of Mitigation Measure 5c to compensate for direct impacts on Bisbee Peak rush-rose would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barrier fencing around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-5a: Conduct floristic surveys in the project area for special-status plants during appropriate identification periods

The project applicant will employ a qualified botanist to survey the project area, after final design of the areas is complete and prior to start of any construction activities, to confirm the locations of Layne's ragwort and Bisbee Peak rush-rose plants and document the presence of any additional special-status plants. The botanist will consult with the appropriate resource agency regarding special-status species survey methods during drought periods, if needed, but will primarily follow the CDFW botanical survey guidelines (California Department of Fish and Wildlife 2018). All plant species observed will be identified to the level necessary to determine whether they qualify as special-status plants or are plant species with unusual or significant range extensions. The guidelines also require that field surveys be conducted when special-status plants that could occur in the area are evident and identifiable, generally during the reported blooming period. The guidelines additionally recommend visiting reference populations of special-status species that may occur in the study area. Therefore, as feasible, the

surveys will include site visits of reference populations of special-status plant species with potential to occur in the project area to ensure that they are identifiable during the survey period. This is particularly important for any annual plant species that has a long-lived seedbank and is known to not germinate when conditions are not conducive (e.g., during a drought). To account for different special status–plant identification periods, one or more series of field surveys may be required in spring and summer (April and June). A survey report documenting the methods and results of the study will be prepared and submitted to the County for review and approval.

If any special-status plants are identified during the surveys, the botanist will photograph and map locations of the plants, document the location and extent of the special-status plant. Requirements for compensatory mitigation will be based on the results of these surveys and are discussed in Mitigation Measure BIO-5c.

Mitigation Measure BIO-5b: Avoid impacts on Layne's ragwort plants through project design

The preliminary utility plan shall be modified to avoid all direct and indirect impacts on Layne's ragwort plants located in the proposed open space area, if feasible. A minimum avoidance buffer of 100 feet shall be incorporated into the revised sewer line location to ensure that no direct or indirect impacts on the Layne's ragwort plants shall occur during installation of the sewer line. Avoidance fencing, as described in Mitigation Measure BIO-1a, shall be erected around the Layne's ragwort population during construction and shall be removed when construction of the sewer line is complete. If total avoidance is not feasible, the project applicant shall implement compensation for the loss of Layne's ragwort as described in Mitigation Measure BIO-5d.

Mitigation Measure BIO-5c: Compensation for impacts on Bisbee Peak rush-rose, unavoided Layne's ragwort, and any other special-status plants

Final project design shall minimize the area of impact on the existing Bisbee Peak rush-rose population in the LRVSP project area.

A qualified restoration biologist shall prepare a mitigation plan for replacement of Bisbee Peak rush-rose, Layne's ragwort, and any other special-status plants found through surveys required under Mitigation Measure BIO-5a if plants cannot be completely avoided. The compensatory mitigation acreage shall be based on the current extent of occupied habitat for all special-status plant species that shall be affected by project construction. The plan shall be based on the specific development plan at the time of construction. The loss of occupied Bisbee Peak rush-rose, Layne's ragwort, and other special-status plant habitat shall be compensated onsite at a ratio of 2 acres created for each 1 acre lost. Proposed open space in the project area includes over 120 acres of chaparral habitat similar to the locations of occupied Bisbee Peak rush-rose and Layne's ragwort habitat, except that the occupied habitat has been disturbed by grading and/or burning. The plan shall be provided to the County prior to the issuance of a grading permit.

Prior to any construction activity in the occupied Bisbee Peak rush-rose, Layne's ragwort, or other special-status plant habitat, seed shall be collected from the existing plants for at least two growing seasons in order to accumulate a sufficient seed stock for replanting a mitigation area. The mitigation plan shall include methods for creating habitat by grading and/or cutting existing chaparral vegetation for Bisbee Peak rush-rose and Layne's ragwort or suitable habitat

for other unavoided special-status plants and distributing the collected seed in the created habitat areas. The mitigation plan shall also include any maintenance requirements necessary for the success of the mitigation plantings.

Monitoring of the mitigation areas shall be conducted annually for a period of 5 years, or as determined in cooperation with CDFW. Progress reports shall be provided to the County at the completion of each monitoring period. Success criteria for the mitigation area shall include a final replacement area at the end of 5 years of occupied habitat at least twice as large as the area of occupied habitat removed and with at least as many individual plants as the number removed by the project.

Impact BIO-6: Potential mortality or disturbance of monarch butterfly within the LRVSP project area (less than significant)

Up to 145.4 acres of annual grassland, some of which could support caterpillar host plants, would be converted to urban uses during construction of the project. If monarch butterflies are present in the project area during construction, clearing and grubbing, excavation, and other construction activities could result in mortality of adults or larvae from being crushed or buried by equipment. Adult monarch butterflies could be struck by vehicles and construction equipment traveling along access roads during construction if foraging or flying through the area. Construction could also disrupt roosting or foraging activities. The project area is not located within the overwintering range of monarch butterfly and would therefore not affect any critical overwintering habitat. Although there would be a loss of potential breeding and migratory habitat in the project area, the project area would include the preservation of 335 acres of open space and 8 acres of recreational use (see Chapter 2, *Project Description*, and Figure 3.3-2). The proposed project would not substantially reduce the number or restrict the range of the species or cause the population to drop below self-sustaining levels. Therefore, the proposed project would have a less-than-significant impact on monarch butterfly.

Impact BIO-7: Potential mortality or disturbance of California red-legged frog within the LRVSP project area (less than significant with mitigation)

No California red-legged frogs were observed in the LRVSP project area during site visits in 2009 (Kjeldsen Biological Consulting 2009) or 2012 (LSA Associates 2014). However, there is potential aquatic habitat for the species in sections of Deer Creek and its tributaries. In addition, uplands throughout the project area support grasslands that would provide upland habitat for the species, although few small mammal burrows were reported during 2009 surveys (Kjeldsen Biological Consulting 2009). Overall, there is a low likelihood that California red-legged frogs are present within the project area given the lack of a nearby source population (closest confirmed population is 22 miles to the northeast), and the presence of predators and competitors to California red-legged frogs including American bullfrogs, nonnative predatory fish, and crayfish. Protocol-level surveys have not been conducted within the project area to confirm presence or absence of the species. Up to 0.042 acres of aquatic habitat could be affected by road construction and associated upland grassland habitat for California red-legged frog would be converted to urban/residential land uses. If present in the project area, California red-legged frogs could be killed, injured, or disturbed by activities that remove suitable aquatic or upland habitat. Because California red-legged frog is a federally listed species, the species is rare, and populations within the Sierra Nevada foothills are uncommon and isolated, this impact would be significant. As described above under Impact BIO-1, the project applicant would implement general protection measures for biological resources,

including Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction. The project applicant also would implement Mitigation Measure BIO-3a to avoid and minimize direct and indirect impacts on wetlands. In addition to these general protection measures, the project applicant would implement Mitigation Measure BIO-6 to avoid and minimize direct and indirect impacts on California red-legged frogs and their habitat. With the implementation of these measures, the proposed project would avoid and minimize direct and indirect impacts on California red-legged frogs and their habitat and would not substantially reduce the number or restrict the range of the species or cause the population to drop below self-sustaining levels. Therefore, the proposed project would have a less-than-significant impact on California red-legged frog.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

Mitigation Measure BIO-7: Conduct preconstruction survey and implement California red-legged frog avoidance and minimization measures

The project applicant shall employ a qualified biologist to conduct preconstruction surveys for the species. If presence of California red-legged frog is confirmed during preconstruction surveys, the project applicant shall implement the following measures prior to and during ground-disturbing activities associated with construction to avoid and minimize potential effects on California red-legged frog.

- Before construction begins, a qualified biologist (in possession of a 10(a)(1)(A) permit) shall locate appropriate relocation areas and prepare a relocation plan for California red-legged frogs that may need to be moved prior to or during construction. The project applicant shall submit this plan to USFWS for approval a minimum of 30 days prior to the start of construction.
- Prior to disturbance or filling of suitable aquatic breeding habitat for California red-legged frog, visual and dip-net surveys (non-protocol) shall be conducted, under the discretion of USFWS, to determine if California red-legged frog adults, tadpoles, or egg masses are present. If any of these life stages are identified, they will be relocated to a USFWS-approved offsite location according to the relocation plan (described above). Relocation activities would constitute take under the ESA and must be authorized by USFWS under ESA Section 7 or Section 10.
- Immediately prior to construction, a qualified biologist shall conduct a preconstruction survey for California red-legged frog within areas proposed for ground disturbance. The biologist shall carefully search all obvious potential hiding spots for California red-legged frogs, such as large downed woody debris, the perimeter of pond or wetland habitat, and the

riparian corridor associated with streams and drainages. Preliminary results of the preconstruction survey shall be provided to the County within 48 hours of completion.

- A qualified-approved biologist shall train all project staff regarding habitat sensitivity, identification of special-status species, and required practices before the start of ground-disturbing activities. The training shall include the general measures that are being implemented to conserve this species as they relate to the project, the penalties for noncompliance, and the boundaries of the approved work area. Upon completion of training, employees shall sign a form stating that they attended the training and understand all the conservation and protection measures.
- A qualified biologist shall monitor initial ground-disturbing activities (i.e., grading, vegetation removal). The qualified biologist shall complete a daily log summarizing activities and environmental compliance.
- If a California red-legged frog is encountered during preconstruction surveys or during construction, activities shall cease and USFWS shall be contacted immediately for direction on how to proceed. If the individual(s) cannot or do not move offsite on their own, a USFWS-permitted biologist (in possession of a 10(a)(1)(A) permit) shall trap and move the individuals in accordance with the relocation plan (described above).
- The qualified biologist shall have the authority to halt construction activities if any of the project requirements or agency conditions are not being fulfilled.
- Construction disturbances and other types of project-related disturbance to California red-legged frog shall be minimized to the maximum extent practicable and confined to the designated project site.
- Potential habitat outside the construction area but within the project area (i.e., open space) shall be delineated with high visibility flagging or fencing to prevent encroachment of construction personnel and equipment into these areas during project work activities. At no time will equipment or personnel be allowed to adversely affect areas outside the project site.
- Because dusk and dawn are often the times when California red-legged frogs are most actively foraging and dispersing, all construction activities adjacent to potentially occupied habitat should cease 30 minutes before sunset and should not begin prior to 30 minutes before sunrise.
- To prevent inadvertent entrapment of California red-legged frogs during construction, all excavated, steep-walled holes or trenches more than 6 inches deep shall be provided with one or more escape ramps constructed of earth fill or wooden planks and shall be inspected by a qualified biologist prior to being filled.
- Work crews or an onsite biological monitor shall inspect open trenches, pits, and under construction equipment and material left onsite in the morning and evening to look for amphibians that may have become trapped or are seeking refuge.
- No canine or feline pets shall be permitted at the construction site to avoid harassment, killing, injuring of California red-legged frogs.
- No monofilament plastic mesh or line shall be used for erosion control.

- All vehicle parking shall be restricted to previously determined areas or existing roads within the designated work area.
- All workers shall ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area are deposited in covered or closed trash containers to avoid attracting predators. The trash containers shall be secured and covered or removed from the project area at the end of each working day.

Impact BIO-8: Potential mortality or disturbance of foothill yellow-legged frog within the LRVSP project area (less than significant with mitigation)

Foothill yellow-legged frogs were not observed during site assessments of the LRVSP project area in 2009 (Kjeldsen Biological Consulting 2009), 2012, 2019, or 2020 (LSA Associates 2014, 2020). However, the nearest presumed extant record (CNDDB occurrence #273) is approximately 7 miles north of the LRVSP project area (California Department of Fish and Wildlife 2024) and portions of Deer Creek and its tributaries in the LRVSP project area provide potential foraging and dispersal habitat for adult frogs. If foothill yellow-legged frogs are present in work areas during construction within or adjacent to Deer Creek and its tributaries, frogs could be directly and indirectly affected by construction activities.

As described above, the project applicant would implement general protection measures for biological resources, including Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction. The project applicant also would implement Mitigation Measure BIO-3a to avoid and minimize direct and indirect impacts on Deer Creek and ensure that in-stream construction be restricted to the low-flow period (generally April through October). In addition, Mitigation Measure BIO-8 would document the presence of and minimize potential impacts on foothill yellow-legged frog individuals. Implementation of these measures would reduce potential impacts on foothill yellow-legged frog to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

Mitigation Measure BIO-8: Avoid and minimize construction-related impacts on foothill yellow-legged frog

If avoidance is not feasible, prior to any construction activities within or adjacent to Deer Creek or Marble Creek, a survey for foothill yellow-legged frogs shall be conducted by a qualified biologist within 48 hours of the commencement of construction activities and results shall be reported to the County. If foothill yellow-legged frogs are found within the impact area, they

shall be relocated downstream of the construction area. This biologist shall monitor all construction activities within and immediately adjacent to Deer and Marble Creeks.

Impact BIO-9: Potential mortality or disturbance of northwestern pond turtle within the LRVSP project area (less than significant with mitigation)

Northwestern pond turtles have been documented within the LRVSP project area in the seasonal wetland in the northeast corner of the project area, and in Deer Creek (Kjeldsen Biological Consulting 2009, LSA Associates 2014). Suitable aquatic and upland (overwintering, nesting) habitat for pond turtles would be removed by construction of the residential housing and construction of a road. Northwestern pond turtles may be killed, injured, or disturbed by these activities. Potential direct impacts include could include mortality or injury by equipment, entrapment in open trenches or other project facilities, and removal or disturbance of aquatic or upland nesting habitat. Construction activities (such as grading and movement of heavy equipment) could result in the destruction of pond turtle nests containing eggs or young individuals if affected areas are being used for egg deposition. Loss of individual turtles, nesting sites, or eggs in the project area could diminish the local population and lower reproductive potential, which could contribute to the further decline of this species. This impact would be significant. Implementation of general protection measures described above—Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction—in addition to Mitigation Measure BIO-9 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-9: Conduct preconstruction surveys for northwestern pond turtle and exclude turtles from the work area

To the greatest extent possible, suitable habitat will be completely avoided and activities will be conducted within paved roads, farm roads, road shoulders, and similarly disturbed and compacted areas. If the construction activity cannot fully avoid effects on suitable habitat, the project applicant will implement the following measures to avoid and minimize impacts on northwestern pond turtles.

- Initiate construction and conduct initial ground disturbance in suitable upland habitat within 300 feet of suitable aquatic habitat prior to the start of nesting season (August 1–February 28) and avoid northwestern pond turtle upland habitat during periods of nesting and nestling emergence (between March 1–July 31). Suitability of aquatic and upland habitat characteristics will be determined by a USFWS-approved biologist. Once initial ground disturbance removing suitable habitat within a construction site has been conducted and exclusionary fencing is in place and maintained, work within the cleared area can occur throughout the year.

- At least 30 days prior to any ground-disturbing activities that could result in injury or mortality of northwestern pond turtle, the project proponent will prepare and submit a relocation plan for USFWS's written approval. The relocation plan will contain the name(s) of the biologist(s) to relocate northwestern pond turtles or their nests, the method of relocation, a map, and a description of the proposed release site(s) a minimum of 300 feet outside of the work area or at a distance otherwise agreed to by USFWS and written permission from the landowner to use their land as a relocation site. Possible relocation sites include perennial ponds within the open space portion of the project area or Carson Creek downstream of the project area where northwestern pond turtles have been previously documented. Any capture and handling of turtles will be done by a USFWS-approved biologist wearing clean, new disposable surgical style (nitrile, etc.) gloves.
- Within 72 hours prior to the initiation of any vegetation clearing, ground-disturbing activities, and exclusion fence installation or modification, a USFWS-approved biologist will conduct a preconstruction survey within suitable aquatic and upland habitat in the entire work site for the presence of northwestern pond turtles or nests. These surveys will consist of walking the worksite limits. The biologist will investigate all potential areas that could be used by northwestern pond turtle for feeding, basking, nesting, or other essential behaviors. If there is a lapse in construction of 7 days or more for work areas surrounded by exclusion fencing, these preconstruction surveys will be repeated before activities resume.
- When there is northwestern pond turtle habitat within 300 feet of construction activities, exclusion fencing will be installed along the perimeter of construction sites to protect northwestern pond turtle habitat and minimize the potential for turtles to enter the construction work area. The perimeter of construction sites (except for work sites within areas of open water) within 300 feet of suitable northwestern pond turtle aquatic habitat will be fenced with exclusion fencing no more than 14 days prior to the start of construction activities (e.g., staging, vegetation removal, grading) in a given area. To the greatest extent feasible, exclusion fencing will be installed prior to the start of nesting season (March 1). The placement of exclusion fencing will be determined, in part, by the locations of suitable habitat for the species. A conceptual fencing plan will be submitted to USFWS prior to the start of construction, and the approved exclusion fencing will be shown on the final construction plans. The project applicant will include the exclusion fence specifications, including installation and maintenance criteria, in the bid solicitation package special provisions. The exclusion fencing will remain in place for the duration of construction and will be regularly inspected and fully maintained. Where openings need to be maintained, such as for a road, fencing will be installed to direct turtles away from the work area to the extent practicable (e.g., fencing will flare out and turn back toward the river and adjacent riparian). Where construction access is necessary, gates will be installed in the exclusion fence and fencing will direct animals away from the work area to the extent practicable (e.g., fencing will flare out and turn back toward suitable habitat).
- The biological monitor and construction manager will be responsible for checking the exclusion fencing around the work areas each day of construction to ensure that they are intact and upright. Repairs to the exclusion fence will be made within 24 hours of discovery of damage. If exclusionary fencing is found to be compromised, the suitable habitat inside the fencing will be surveyed in advance of any activity that may result in take of the species. Following repairs, the biologist will search all potential areas that could be used by

northwestern pond turtle for feeding, basking, nesting, or other essential behaviors, including along exclusion fencing and beneath vehicles before the vehicles are moved.

- For work sites where exclusion fencing cannot be placed around the entire perimeter, the USFWS-approved biological monitor will help guide access and construction work around wetlands, ponds, and other sensitive habitats capable of supporting northwestern pond turtle to minimize habitat disturbance and risk of injuring or killing northwestern pond turtles.
- The USFWS-approved biologist will conduct clearance surveys prior to the start of construction each day and regularly throughout the workday when construction activities are occurring that may result in injury or mortality of northwestern pond turtle. Surveys will be conducted in the same manner as the preconstruction surveys.
- If a northwestern pond turtle is encountered in a construction or restoration area, all personnel onsite will be notified, and activities within a minimum of 25 feet of the individual will cease immediately, the construction manager and USFWS-approved biologist will be notified, and the biologist will observe and follow within 10 feet of the individual turtle to ensure it has safely left the area. Depending on site-specific conditions, such as the use of heavy equipment or other activities that may cause harm to the individual turtle, as determined by the biologist, a larger protective buffer may be established. The turtle will be allowed to leave the area of its own volition out of harm's way. If the turtle does not move out of the area on its own, and it is determined by the biologist, in coordination with the construction manager, that relocating the turtle is necessary to prevent harm, the turtle may be captured and relocated to suitable habitat a minimum of 300 feet outside the work area in accordance with the relocation plan, prior to resumption of construction activity.
- Equipment will be stored in designated staging area areas at least 300 feet away from northwestern pond turtle aquatic habitat to the extent practicable.
- If a work site is to be temporarily dewatered by pumping during the northwestern pond turtle active season, intakes will be completely screened with wire mesh not larger than 5 millimeters to prevent juvenile pond turtle and other aquatic species from entering the pump system. Any turtles found in the dewatered area will be relocated according to the USFWS-approved relocation plan.

For proposed activities that will occur within suitable northwestern pond turtle aquatic habitat during the northwestern pond turtle inactive season (October 1–February 28), the project applicant will implement the following additional avoidance and minimization measures.

- All aquatic northwestern pond turtle habitat will be dewatered prior to the start of the inactive season (October 1) to the extent that the area is no longer suitable northwestern pond turtle habitat, as defined by the USFWS-approved biologist. Dewatering is necessary because aquatic habitat provides overwintering habitat for northwestern pond turtle; dewatering serves to remove the attractant and increase the likelihood that northwestern pond turtle will move to other available habitat. Pump intakes will be completely screened with wire mesh not larger than 5 millimeters to prevent juvenile pond turtle and other aquatic species from entering the pump system. Dewatering will be limited to the immediate construction area. The USFWS-approved biologist will be onsite during dewatering activities to salvage and relocate any turtles that cannot escape on their own according to the USFWS-

approved relocation plan. Any deviation from this measure will be done in coordination with and with approval of USFWS.

- Following dewatering of aquatic habitat, all potential impact areas that provide suitable aquatic or upland northwestern pond turtle habitat will be surveyed for northwestern pond turtle by the USFWS-approved biologist. If northwestern pond turtles are observed, they will be allowed to move of their own accord or relocated in accordance with the approved relocation plan.
- Once habitat is deemed free of northwestern pond turtles, exclusion fencing will be installed around the construction site so no turtles may reenter prior to or during construction.

Impact BIO-10: Potential mortality or disturbance of Blainville's horned lizard within the LRVSP project area (less than significant with mitigation)

Potential habitat (chaparral and interspersed patches of bare ground) for Blainville's horned lizard is present within the LRVSP project area (Kjeldsen Biological Consulting 2009, LSA Associates 2014) and sign of horned lizard presence (pellets/scat) was observed during 2012 surveys (LSA Associates 2014). Horned lizard pellets were observed in the firebreaks in the chaparral on the south side of the project area (Figure 3.3-1). Overall, there is a high potential for the species to occur onsite based on the suitable chaparral habitat, extensive bare ground, presence of numerous native ant colonies (preferred prey), and observations of horned lizard scat. Approximately 163 acres of suitable chaparral habitat for horned lizard would be removed by construction of residential housing and associated roads in the western portion of the project area. The project would protect within open space approximately 122 acres of suitable horned lizard chaparral habitat.

If horned lizards are present within areas proposed for development, they could be killed, injured, or disturbed by construction activities. Additionally, horned lizards potentially occurring in adjacent open space areas would be exposed to increased predation by domestic animals such as cats and dogs. Existing extant populations of horned lizards in the Sierra foothills (including El Dorado County) are scattered and are becoming increasing fragmented and threatened by encroaching development (Jennings and Hayes 1994:132). Loss of individual horned lizards could diminish the local population and lower reproductive potential, which could contribute to the further decline of this species both locally and regionally. Therefore, this impact would be significant.

Implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c, requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction and Mitigation Measures BIO-10a and 10b to avoid and minimize impacts on this species would reduce this impact. In addition, the proposed project would protect approximately 122 acres of suitable habitat for horned lizard.

Prior to submittal of the first small tentative subdivision map to the County, as directed by LRVSP Policy 5.46, the project applicant has committed to preparing an OSMP to guide the conservation and protection of oak woodland and wildlife uses within designated open space in the project area in perpetuity (described in Section 5 of the LRVSP). The OSMP would include installation and maintenance of interpretive signs designating these areas as open space for the protection of sensitive natural resources with restricted uses defined (i.e., off-road vehicles prohibited, pet/wildlife interaction education). Implementation of Mitigation Measure BIO-10b requires that the OSMP also include specific provisions requiring that domestic animals be on leash, pet and

human food should not be left outside, and that trash containers are closed at all times. This would help reduce the potential for domestic animal predation.

With the implementation of these collective measures, the proposed project would avoid and minimize impacts on Blainville's horned lizard and would not substantially reduce the number or restrict the range of the species or cause the population to drop below self-sustaining levels. Therefore, the proposed project would have a less-than significant impact on Blainville's horned lizard.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-10a: Avoid and minimize impacts on Blainville's horned lizard

Where suitable habitat (chaparral) for Blainville's horned lizard is identified within the designated work area, the project applicant shall implement the following measures to ensure that construction activities avoid and minimize impacts on these species.

- The project applicant shall retain a qualified biologist to conduct preconstruction surveys immediately prior to (within 24 hours of) ground-disturbing activities (including equipment staging, vegetation removal, grading). If Blainville's horned lizards are found during the survey, work shall not begin until they are moved out of the work area to a suitable location approved by the project biologist or within the designated open space area.
- No monofilament plastic mesh or line shall be used for erosion control.
- Where applicable, barrier fencing (sediment control material or similar) material shall be used to exclude Blainville's horned lizard from the work area. Installation of barrier fencing shall be consistent with Mitigation Measure BIO-1a.
- Work crews or an onsite biological monitor shall inspect open trenches, pits, and under construction equipment and materials left onsite for horned lizards each morning and evening prior to the start and end of the construction day.
- All construction, staging (including vehicle parking), and access areas shall be restricted to the direct impact areas depicted in Figure 3.3-2.

Mitigation Measure BIO-10b: Include measures in the open space management plan identifying homeowner responsibilities to help reduce potential for domestic animal predation on wildlife

The County shall ensure the OSMP includes requirements to help reduce the potential for domestic pet predation on wildlife species. Specific actions should be developed by a qualified wildlife biologist. Such requirements could include, but would not be limited to, keeping pets on leash in open space and woodland areas, ensuring human and pet food and trash sources are not accessible to wildlife, and others as recommended by the wildlife biologist.

Impact BIO-11: Potential mortality or disturbance of nesting special-status and non–special-status birds within the LRVSP project area (less than significant with mitigation)

Special-status birds that may nest in the oak and riparian woodland habitats in and adjacent to the LRVSP project area include white-tailed kite, golden eagle, and Swainson's hawk. Burrowing owl and grasshopper sparrow may nest in ruderal areas or annual grassland in or adjacent to the project area. Loggerhead shrikes may nest in scattered shrubs and trees in more open portions of the project area. Tricolored blackbirds may nest in blackberry brambles or riparian vegetation along drainages in the project area. The oak woodland provides high-quality nesting habitat for many species of special-status and non–special-status birds and raptors which are likely to nest throughout this natural community including white-tailed kite, golden eagle, and red-tailed hawk.

Vegetation removal and other construction activities during the breeding season (generally February 1 through August 31) could result in the mortality or disturbance of nesting raptors and other birds in and adjacent to the construction area. Planting activities during the breeding season within the areas proposed for open space protection could also disturb nesting birds. Disturbances that result in the incidental mortality of adults, loss of fertile eggs or nestlings, or other events that lead to nest abandonment would be considered a significant impact and are prohibited under the MBTA and California Fish and Game Code Sections 3503 and 3503.5. Swainson's hawks are also listed under CESA, and white-tailed kite and golden eagle are fully protected species under California Fish and Game Code Section 3511.

There is one record of a nesting Swainson's hawk (state-threatened species) approximately 7 miles west of the LRVSP project area (California Department of Fish and Wildlife 2024) however, the current breeding range of Swainson's hawks does not extend into the project area. Based on the absence of known nesting activity within 5 miles of the project area, lack of large expanse foraging areas within the project vicinity, and the existence of larger patches of high-value foraging habitat closer to recorded nest sites, there is a low potential for Swainson's hawks to nest or forage in the project area. Therefore, the loss of potential foraging habitat for Swainson's hawk in the project area is not a significant impact on Swainson's hawk.

Because white-tailed kite and golden eagle are fully protected, removal of trees with active nests and activities that may result in loss of white-tailed kite or golden eagle are prohibited. Removal of nests or suitable nesting habitat (e.g., trees, shrubs, ruderal areas, grassland) and construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Such losses could affect the local population of a special-status species and would be considered a significant effect.

The removal of approximately 100 acres of annual grassland, 37 acres of oak woodland, and patches of riparian woodland would reduce the amount of available nesting habitat for special-status and non–special-status birds. Oak woodland mitigation would also result in the removal of suitable grassland habitat for ground-nesting birds.

Implementation of general protection measures described above—Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction— in addition to Mitigation Measures BIO-11a and BIO-11b would reduce impacts on special-status and non–special-status birds. With the implementation of these collective measures, the proposed project would avoid and minimize impacts on nesting birds and would not substantially reduce the number or restrict the range of listed avian species or cause populations to

drop below self-sustaining levels. Therefore, the proposed project would have a less-than-significant impact on special-status and non–special-status birds.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-11a: Conduct vegetation removal activities outside the breeding season for birds and raptors

To the maximum extent feasible, the project applicant shall conduct all necessary vegetation (trees, shrubs, grasses) removal and pruning during the nonbreeding season for most birds and raptors (generally September 1–January 31). If vegetation removal cannot be accomplished in accordance with this timeframe, there is a high potential that birds or raptors shall nest in the project area and require no-disturbance buffers. If vegetation removal or pruning shall be conducted during the nesting season (February 1–August 31), preconstruction nesting bird surveys shall be required, and additional protective measures shall be implemented (see Mitigation Measure BIO-10b).

Mitigation Measure BIO-11b: Conduct preconstruction nesting surveys for special-status and non–special-status birds and implement protective measures during construction

The project applicant shall retain a qualified wildlife biologist(s) to conduct preconstruction nesting bird surveys prior to the start of construction that would take place between February 1 and August 31. The biologist(s) conducting the surveys shall have knowledge of the relevant species to be surveyed. A minimum of three separate surveys shall be conducted between February 1 and June1. In addition, one survey shall be conducted no more than 48 hours prior to initiating ground-disturbing activities. Surveys shall include a search of all suitable nesting habitat (e.g., trees, shrubs, annual grassland, and emergent wetland vegetation) in the construction area. In addition, a 500-foot area around the project area shall be surveyed for nesting raptors, and a 100-foot buffer area shall be surveyed for other nesting birds, where access is permitted. Areas of private property not accessible during preconstruction surveys shall be surveyed from the property line or existing public roads. If no active nests are detected during these surveys, no additional measures are required. Surveys should be repeated if there is a lapse in construction of more than 10 days or if construction begins in a new area where suitable nesting habitat is present and has not been surveyed within the previous 10 days.

If active nests are found in the survey area, a minimum 50-foot no-disturbance buffer for song birds and a minimum 300-foot buffer for raptors shall be established around the nest sites to avoid disturbance or destruction of the active nest until the end of the breeding season (approximately September 1) or until a qualified wildlife biologist determines that the young have fledged and moved out of the project area (date of fledging varies by species). The extent of the buffers may be reduced by the biologists in coordination with USFWS and/or CDFW and shall depend on the level of noise or construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or

artificial barriers. Suitable buffer distances may vary by species. If construction activities must encroach on established buffers, additional protection measures (developed in coordination with USFWS and/or CDFW) may be necessary to avoid take and could include periodic nest monitoring, installation of visual screens, and restrictions on construction timing to allow birds to resume normal activities during certain portions of the day.

Impact BIO-12: Potential injury, mortality, or disturbance of tree-roosting bats and removal of roosting habitat within the LRVSP project area (less than significant with mitigation)

The proposed project would result in the loss of mature trees, which provide potential roosting habitat (cavities, crevices, furrowed bark, and foliage) for special-status and non–special-status bats (Wyatt 2013)In addition, there is potential for Townsend's big-eared bat to occur within the proposed designated open space areas within the LRVSP project area. Bats may also be present in human-made structures. Tree removal and pruning, noise, removal of old buildings or other structures, or other construction activities could result in the injury, mortality, or disturbance of roosting bats if they are present in cavities, crevices, furrowed bark, or foliage of trees within or adjacent to construction areas. Tree removal or pruning or other disturbances such as removal of buildings or other structures during the maternity season or hibernation period that results in mortality of tree-roosting bats has the potential to affect a large number of bats and could substantially reduce the local populations of these species. This impact would be significant. Implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c, to avoid temporary construction impacts on bats by requiring barriers to protect roosting habitat, environmental awareness training for construction employees, and periodic site visits during construction, in addition, Mitigation Measure BIO-11a and Mitigation Measure BIO-12 to identify bat roosts and implement avoidance and minimization measures would lessen effects on western red bat, pallid bat, and other bat species. With the implementation of these collective measures, the proposed project would avoid and minimize impacts on bats and their habitat and would not substantially reduce the number or restrict the range of these species or cause populations to drop below self-sustaining levels. Therefore, the proposed project would have a less-than-significant impact on special-status and non–special-status bats.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-11a: Conduct vegetation removal activities outside the breeding season for birds and raptors

Mitigation Measure BIO-12: Identify suitable roosting sites for bats and implement avoidance and minimization measures

Prior to tree removal or pruning activities associated with construction, the project applicant shall retain a qualified biologist to examine trees to be removed or trimmed for suitable bat roosting sites. High-quality habitat features (large tree cavities, basal hollows, loose or peeling bark, larger snags, or similar conditions) shall be identified, and the area around these features

shall be searched for bats and bat sign (guano, culled insect parts, staining). Riparian and oak woodlands should be considered potential habitat for solitary foliage-roosting bat species. Specific survey methods for the site shall be developed in coordination with CDFW. A report documenting the results of preconstruction surveys for bats, locations of suitable habitat, and recommended avoidance measures shall be provided to the County and CDFW.

If potential bat roosting sites are identified within or adjacent to construction areas, including areas of tree removal or pruning, the project applicant shall coordinate with CDFW to identify protective measures to avoid and minimize impacts on roosting bats based on the type of roost and timing of activities. These measures would include the following.

- If feasible, all tree removal shall be conducted between September 15 and October 30, which corresponds to a time period when bats have not yet entered torpor or would be caring for nonvolant[1] young.
- Potential roost trees shall be removed in pieces rather than felled all at once.
- Active maternity roosts, whether solitary or colonial, shall remain undisturbed until September 15 or only after a qualified biologist has determined the roost is no longer active.
- If a non-maternity roost tree is located within the construction area and tree removal or pruning must occur between October 30 and August 31, a qualified biologist (familiar with bats) shall be present during tree trimming or pruning activities. To minimize impacts on the bats, tree removal and pruning should occur in the late afternoon or evening when it is closer to the time that bats would normally arouse. Tree removal should begin with removal of limbs to create enough noise and vibration to allow bats time to arouse and leave the tree. The biologists should search downed vegetation for dead or injured bats. The presence of dead or injured bats that are species of special concern shall be reported to CDFW. The biologist shall prepare a biological monitoring report that shall be provided to the County and CDFW.
- Two preconstruction surveys shall be conducted in the buildings and structures in the project area that shall be removed as a result of the project. The first survey shall occur approximately 30 days prior to disturbance and a second survey within 1 week of disturbance. Buildings and structures shall be examined for bats and bat sign (guano, culled insect parts, staining). If evidence of bat use is found, acoustic surveys shall be conducted at those locations to verify presence or absence of Townsend's big-eared bats. These measures shall be undertaken regardless of time of year and shall be conducted by a qualified biologist. If Townsend's big-eared bat is detected, CDFW shall be immediately contacted to determine the appropriate course of action. Maternity colonies shall remain undisturbed until the young are volant (able to fly) and the colony has dispersed, as determined by a qualified biologist.

Impact BIO-13: Potential mortality or disturbance of American badger within the LRVSP project area (less than significant with mitigation)

Construction activities in the LRVSP project area could result in direct effects on American badgers and their grassland habitat. Construction activities would remove potential habitat and could result in the mortality or injury of individuals from construction vehicles or heavy equipment, direct

[1] Nonvolant – young that are not yet flying.

mortality or injury of individuals from den collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, and harassment of individuals by construction personnel.

There is a low likelihood that American badgers would construct dens in the project area, as the area lacks expansive grasslands. However, American badger populations have declined drastically, particularly in the Central Valley, and badgers have been extirpated from many areas in southern California (Williams 1986:66). Loss of individuals in the project area could diminish the local populations of American badger and reduce reproductive potential, contributing to the further decline of this species. This would be a significant impact. Implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c, to avoid temporary construction impacts on badgers by requiring barriers to protect dens, environmental awareness training for construction employees, and periodic site visits during construction, in addition to Mitigation Measure BIO-13 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-13: Implement measures to avoid and minimize potential impacts on American badger

Where suitable habitat is present for American badger in and adjacent to proposed work areas, the following measures shall be implemented.

- To the maximum extent feasible, suitable dens for American badger shall be avoided.
- All project proponents shall retain qualified approved biologists (familiar with identification of the species) to conduct a preconstruction survey for potential American badger dens.
- The preconstruction survey shall be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance, or any activity likely to affect American badger. The biologists shall conduct den searches by systematically walking transects through the project area and a buffer area to be determined in coordination with CDFW. If a potential or known den is found during the survey, the biologist shall measure the size of the den, evaluate the shape of the den entrances, and note tracks, scat, prey remains, and recent excavations at the den site. The biologists shall also determine the status of the dens and map the features.
- Any occupied or potentially occupied badger den shall be avoided by establishing an exclusion zone (i.e., four or five flagged stakes shall be placed 50 feet from the den entrance).
- All construction, staging (including vehicle parking), and access areas shall be restricted to the direct impact areas depicted in Figure 3.3-2.

Impact BIO-14: Potential mortality or disturbance of ringtail within LRVSP project area (less than significant with mitigation)

The proposed project would result in the loss of up to 42.61 acres of open-canopy oak woodland/savannah and 0.286 acres of riparian woodland habitat, some of which may provide suitable shelter and denning habitat (hollow trees, logs, snags) for ringtails. If construction were to occur during the ringtail breeding and maternity period (February through August), the project may also disturb burrows that provide suitable denning habitat. Newborn and young ringtails are especially vulnerable during May through August, when they are unable to leave the maternal den. Removal of suitable shelter or denning habitat, noise, and other construction activities could result in the injury, mortality, or disturbance of ringtails. Mortality of ringtail as a result of project activities would conflict with the California Fish and Game Code. This impact would be significant. With the implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on ringtail by requiring barriers to protect active dens, environmental awareness training for construction employees, and periodic site visits during construction, Mitigation Measure BIO-10a, which would avoid vegetation removal during ringtail breeding season, and BIO-14, the proposed project would avoid and minimize impacts on ringtails and their habitat, and would not substantially reduce the number or restrict the range of the species or cause the population to drop below self-sustaining levels. Therefore, the proposed project would have a less-than-significant impact on ringtail.

Implementation of Mitigation Measure BIO-11a and Mitigation Measure BIO-14 would lessen effects on ringtail to a less-than significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-11a: Conduct vegetation removal activities outside the breeding season for birds and raptors

Mitigation Measure BIO-14: Identify suitable shelter and denning habitat for ringtail and implement avoidance and protective measures

Prior to the start of construction, the project applicant shall retain a qualified wildlife biologist to survey the construction area for suitable burrows and examine trees to be removed for suitable hollow areas that may provide shelter or denning habitat for ringtail. All hollow trees, snags, downed logs, and appropriately sized burrows that shall be removed shall be thoroughly examined. If necessary, a ringtail specialist shall be contracted to confirm the suitability of habitat and determine if suitable habitat is occupied through the use of remote cameras or other non-invasive methods for determining occupancy. Riparian woodlands and areas adjacent to riparian woodlands should be considered suitable habitat and searched for appropriate shelter/denning habitat.

Measures to avoid and minimize impacts on ringtail shall be determined in coordination with CDFW and compliance with these construction measures shall be monitored by a qualified

biologist and reported as indicated in Mitigation Measure BIO-1c. Measures may include the following.

- Avoid or minimize the removal of suitable burrows, trees, logs and snags that may provide shelter or denning habitat for ringtail.
- All construction, staging (including vehicle parking), and access areas shall be restricted to the direct impact areas depicted in Figure 3.3-2.
- Conduct ground-disturbing activities and tree removal in riparian habitat with identified potential denning habitat outside of the period when young are unable to leave the denning site (approximately May through August).
- If an active non-maternal den is identified during the survey(s) described above, construction activities within 50 feet of the den shall be avoided. If the 50-foot buffer from construction activities cannot be maintained, the biologist shall coordinate with CDFW to determine non-invasive methods for encouraging ringtails to voluntarily leave the construction area and avoid harming ringtails.
- If an active maternal den is identified, construction activities within 100 feet of the den shall be avoided until the young are weaned or until they have relocated to another den site on their own.
- The extent of established buffers may be reduced by a qualified biologist in coordination with CDFW and shall depend on the level of noise or construction disturbance, line-of-sight between the den and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers.

Impact BIO-15: Interfere with the movement of resident or migratory wildlife (less than significant with mitigation)

Although the historic land use on the LRVSP project area included an underground limestone mine and active residences, there is minimal existing disturbance and few natural or human-made dispersal barriers to wildlife movements in the LRVSP project area. Undeveloped grassland and woodland areas in the LRVSP project area provide potential breeding, foraging, and refuge habitat for many species of resident and migratory wildlife such as black-tailed deer, wild turkey, squirrels, raccoons, skunks, mice, reptiles, and numerous birds. Extensive undeveloped lands are also present to the west, east, and south of the LRVSP project area, providing opportunities for long-ranging wildlife species, such as coyote, bobcat, mountain lion, and deer to disperse through the project area. U.S. Highway 50 (US 50) is less than 2 miles north of the northern edge of the LRVSP project area, substantially limiting north-south wildlife movements (Sierra Ecosystem Associates 2010).

Based on the conceptual design of the proposed project, the proposed project would retain approximately 69% of the existing oak woodlands (Figure 3.3-2). Because large areas of oak woodland and riparian would remain intact after project construction and because the proposed project is not part of or adjacent to any designated important biological corridors or ecological preserves, no significant impact on wildlife use and migratory corridors for large-ranging wildlife species is anticipated as a result of project development. Open space habitat would however be subject to encroachment by people and domesticated animals, which could cause increased disturbance to and mortality of wildlife in the open space riparian and oak woodland habitat. This impact would be significant.

Prior to submittal of the first small lot tentative subdivision map to the County, the project applicant has committed to preparing an OSMP under LRVSP Policy 5.46 that guides the conservation and protection of oak woodland and wildlife uses within designated open space in the project area in perpetuity (See Impact BIO-1). Compliance with the ORMP (as described under Impact BIO-1, Mitigation Measure BIO-1d) would also ensure that oak habitat affected by the proposed project would be replaced onsite at a 1:1 ratio. Implementation of Mitigation Measure BIO-10b would ensure the OSMP includes requirements to help reduce the potential for domestic animal predation on wildlife such as the installation and maintenance of interpretive signs designating these areas as open space for the protection of sensitive natural resources with restricted uses defined (i.e., off-leash pets and off-road vehicle use would be prohibited).

Protection of open space lands, compensation for the loss of oak woodland habitat, and implementation of Mitigation Measure BIO-1d (avoid and minimize disturbance of oak woodland and compensate for loss of oak woodland and individual trees) and Mitigation Measure BIO-10b would reduce indirect impacts on the movement of resident and migratory wildlife to a less-than-significant level.

Mitigation Measure BIO-1d: Avoid and minimize potential disturbance of oak woodland habitat and compensate for loss of oak woodland and individual trees

Mitigation Measure BIO-10b: Include measures in the open space management plan identifying homeowner responsibilities to help reduce potential for domestic animal predation on wildlife

Impact BIO-16: Conflict with the County General Plan oak protection policies (less than significant with mitigation)

Approximately 265.42 acres of oak woodland occur in the project area (approximately 36% of the project site). As described under Impact BIO-1, the proposed project would retain approximately 183 acres (69%) of the existing oak woodland in open space. Project construction would remove no more than 15% of the existing oak woodland canopy, retaining at least 85%. In addition, compensatory oak plantings at a ratio of at least 1:1 would be installed as part of the oak mitigation plan in the LRVSP Oak Resources Technical Report Appendix F). Further description of the impact on oak woodland is provided under Impact BIO-1. With implementation of the Mitigation Measure BIO-1d, the project would not conflict with the ORMP, and this impact would be less than significant.

In accordance with County General Plan Policy 7.4.5.1, focused tree surveys for landmark and heritage trees would be conducted for each small lot tentative subdivision map submittal, and construction in residential lots would be adapted to avoid impacts on landmark and heritage trees, wherever feasible. In the development areas, maintenance and replacement of preserved trees would be enforced through the tree preservation and replacement plan required under LRVSP Policy 5.32. If any landmark or heritage trees could not be avoided, the oak woodland replacement plantings described in the Oak Resources Technical Report (Appendix F) would compensate for this loss. Because the proposed project would avoid, minimize, and compensate for impacts on oak trees, it would not threaten to eliminate a plant community or reduce the number or restrict the range of a rare or endangered plant.

The project would comply with the ORMP, and permanent impacts would be reduced to a less-than-significant level. LRVSP policies would reduce potential temporary and indirect impacts on oak

trees. Implementation of Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-1d, and BIO-1e would further reduce impacts on oak woodland by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, periodic site visits during construction, avoidance or minimization of construction disturbance on retained oak woodland and maintaining retained oaks.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-1d: Avoid and minimize potential disturbance of oak woodland habitat and compensate for loss of oak woodland and individual trees

Mitigation Measure BIO-1e: Maintain retained oaks in development areas

Impact BIO-17: Potential introduction and spread of invasive plant species (less than significant with mitigation)

Invasive plants are present in the proposed project area. However, construction activities could introduce new invasive plants to the project area or contribute to the spread of existing invasive plants to uninfested areas outside the project area. Invasive plants or their seeds may be dispersed by construction equipment if appropriate prevention measures are not implemented. The introduction or spread of invasive plants as a result of the project could have a significant effect on sensitive natural communities within and outside the project area by displacing native flora.

Introduction or spread of invasive plant species is of concern to CDFW. Therefore, this would be a significant impact. Implementation of Mitigation Measure BIO-17 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-17: Avoid the introduction and minimize spread of invasive plants

To avoid the introduction of new invasive plants and the spread of invasive plants previously documented in the project area, the project applicant shall implement the following measures during construction. Compliance with these construction measures shall be monitored by a qualified biologist and reported as indicated in Mitigation Measure BIO-1c.

- Educate construction supervisors and managers on weed identification and the importance of controlling and preventing the spread of noxious weed infestations.
- Clean construction equipment immediately prior to entering the project site to reduce potential for introducing seeds of invasive plants in the project area.
- Small, isolated infestations shall be treated with approved eradication methods at an appropriate time to prevent and/or destroy viable plant parts or seed.
- Any aggregate or gravel brought to the site must be certified as weed-free.

- Mulch with certified weed-free mulch. Rice straw may be used to mulch upland areas.
- Use native, noninvasive species or nonpersistent hybrids in erosion control plantings to stabilize site conditions and prevent invasive species from colonizing.
- Minimize surface disturbance to the greatest extent feasible.

Impacts on Biological Resources in the Offsite Infrastructure Improvement Areas

The impacts below were analyzed based on information available at the time of this writing for the proposed offsite infrastructure improvement areas shown in Figure 2-13, and a 250-foot study area around the footprint.

Additional impact analysis is provided in this section of the General Plan Policy TC-Xf traffic improvements that would be constructed outside of the offsite infrastructures improvement locations if VMVSP is not constructed first (Figure 2-14 in Chapter 2), specifically, the traffic improvements at the Country Club Drive/Cambridge Road and Cambridge Road/Knollwood Drive intersections that would be constructed as required by County General Plan Policy TC-Xf. The Country Club Drive/Cambridge Road intersection is collocated with the existing 115kV transmission line. The Cambridge Road/Knollwood Drive intersections is located outside of any other offsite infrastructure improvements. Both intersections area located in developed and landscaped areas that do not support sensitive biological species.

Impact BIO-18: Potential loss of sensitive natural communities within the offsite improvement areas (less than significant with mitigation)

Construction of the proposed offsite improvements has the potential to affect sensitive natural communities (Figure 2-13). Based on existing oak woodland and riparian woodland mapping in the proposed VMVSP area to the west of the project area, up to 16.9 acres of oak woodland and 1.6 acres of riparian woodland could be removed for construction of the offsite Lime Rock Valley Road/utilities and Marble Lake Road/Marble Valley Parkway extension/utilities. Depending on the timing of construction and on the approval of the VMVSP, these direct impacts might occur as part of the VMVSP and not be associated with the LRVSP project.

There is no existing mapping of oak or riparian woodland at the interim improvements to US 50/Bass Lake Road Interchange, potable water line/dry utilities extension, or dry utilities tie in to existing 21 kV to the west; along the offsite water transmission/utilities line in Shingle Lime Mine Road to the east; or the offsite interim Phase 1 potable water improvements to the north. However, there would likely be some impacts on oak canopy as a result of these improvements and potential for impacts on riparian woodland.

To the extent feasible, any construction within the offsite improvement areas would remain within existing easements to minimize impacts on sensitive natural communities.

The types of impacts from offsite construction would be similar to those described under Impacts BIO-1 and BIO-2. Impacts on oak and riparian woodland from construction of the offsite improvements would be considered significant impacts. Implementation of Mitigation Measures BIO-1a, BIO-1b, BIO-1c, and BIO-1d would reduce temporary construction impacts by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, periodic site visits during construction, and avoidance or minimization of construction disturbance on retained oak and riparian woodland. Implementation of Mitigation Measure BIO-2 would reduce

temporary and indirect impacts on riparian woodland to a less-than-significant level. Implementation of Mitigation Measures BIO-18a and BIO-18b would reduce direct impacts on oak woodland to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-1d: Avoid and minimize potential disturbance of oak woodland habitat and compensate for loss of oak woodland and individual trees

Mitigation Measure BIO-2: Compensate for permanent loss of riparian woodland

Mitigation Measure BIO-18a: Map sensitive natural communities adjacent to the proposed Shingle Lime Mine Road construction area and Interim Phase 1 Potable Water alignments for the offsite improvements

Based on the methods used in the IHMP for the LRVSP, oak canopy shall be mapped in the additional construction area around the Shingle Lime Mine Road and interim Phase 1 potable water improvements parts of the offsite improvement areas. In addition, riparian woodland and any other sensitive natural communities shall be mapped in these areas. The mapping of sensitive natural communities shall be suitable for calculating the temporary and permanent impacts of the offsite improvements.

Mitigation Measure BIO-18b: Compensate for loss of oak woodland in offsite improvement areas

In accordance with the ORMP, when development entitlement applications are submitted, replacement of removed oak woodland shall be mitigated at a ratio of 1:1 and individual trees will be replaced on an inch-for-inch of diameter basis. Based on the final impact acreages and numbers of oak trees, oak woodland and oak trees shall be planted as mitigation within the designated oak planting areas for the LRVSP project. Prior to construction, the actual oak resource impacts shall be quantified, based on the design details and proposed limits of construction, and a final oak woodland acreage and number of oak trees required for mitigation shall be determined. The planting, maintenance, and monitoring details of this mitigation shall follow those set forth in the ORMP for the oak woodland impacts within the project area and shall be provided to the County prior to issuance of a grading permit.

Impact BIO-19: Potential loss of waters of the United States within the offsite improvement areas (less than significant with mitigation)

Construction of the proposed offsite improvements has the potential to affect waters of the United States that are regulated by USACE under CWA Section 404 and that occur in the offsite improvement areas (Figure 2-13). Installation of transmission pipelines within the proposed offsite improvement areas has the potential to directly affect and fill waters of the United States. Wetlands

and other waters that are adjacent to the offsite improvement areas would be retained but could be indirectly affected by adjacent construction.

Based on the verified delineation of waters of the United States for the proposed VMVSP area to the west of the project area, up to 0.213 acre of wetlands (seasonal wetland and seasonal wetland seep) and 0.281acre of other waters of the United States (drainage ditch, intermittent drainage, and seasonal creek) could be filled for construction of the offsite Lime Rock Valley Road/utilities and Marble Lake Road/Marble Valley Parkway extension/utilities. Depending on the timing of construction and on the approval of the VMVSP, these direct impacts might occur as part of the VMVSP and not be associated with the LRVSP project.

There is no existing delineation of waters of the United States at the interim improvements to US 50/Bass Lake Road Interchange, potable water line/dry utilities extension, or dry utilities tie in to existing 21 kV to the west; along the offsite water transmission/utilities line in Shingle Lime Mine Road to the east; or the offsite interim Phase 1 potable water improvements to the north. However, there is preliminary mapping of seasonal wetland and intermittent drainages in the US 50/Bass Lake Road Interchange area and of intermittent drainage at the west end of the interim Phase 1 potable water improvements to the north (ECORP Consulting 2014b). There could be impacts on waters of the United States and/or waters of the state as a result of the offsite improvements.

To the extent feasible, any construction within the offsite improvement areas would remain within existing easements to minimize impacts on waters of the United States.

Earth-moving activities in the construction footprint could result in indirect impacts on wetlands and other waters of the United States that are outside of the construction footprint as a result of erosion and sedimentation into the nonconstruction areas. To protect wetlands outside of the proposed development area, the current County standards for development would require a minimum setback of 50 feet from wetland edges, 50 feet from the edge of intermittent streams, and 100 feet from perennial streams. Actual setbacks for the project area would be determined in consultation with USACE during the CWA Section 404 permitting process.

The types of impacts from offsite construction would be similar to those described under Impacts BIO-3 and BIO-4. Impacts on wetlands and other waters of the United States are regulated under CWA Sections 404 and 401 by USACE and the Regional Water Boards, respectively, and impacts on streams are additionally regulated under California Fish and Game Code Section 1602, and direct impacts on these resources would require permits from all three agencies. Therefore, impacts on wetlands and other waters of the United States or waters of the state would be significant. However, in addition to implementing the measures required as part of the CWA permits, the project applicant would implement Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction; Mitigation Measure BIO-3a to avoid and minimize direct and indirect impacts on wetlands; Mitigation Measure BIO-3b to compensate for direct impacts on wetlands at a ratio greater than 1:1 or as required under the CWA permits; and Mitigation Measure BIO-4 to compensate for loss of other waters of the United States at a minimum ratio of 1:1 or as required under the CWA permits. Implementation of these measures would reduce impacts of the offsite improvements on wetlands to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-1d: Avoid and minimize potential disturbance of oak woodland habitat and compensate for loss of oak woodland and individual trees

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

Mitigation Measure BIO-3b: Compensate for loss of jurisdictional wetlands

Mitigation Measure BIO-4: Compensate for loss of other waters of the United States

Impact BIO-20: Potential impacts on special-status plant species within the offsite improvement areas (less than significant with mitigation)

Construction of proposed offsite improvements has the potential to directly affect special-status plant species as part of project construction (Figure 2-13). Any special-status plants that are adjacent to the improvement areas would be retained but could be indirectly affected by adjacent construction.

Based on the special-status plant surveys conducted in the proposed VMVSP area to the west of the project area, a small part of a population of Brandegee's clarkia (less than 2%) could be affected by construction of the offsite Lime Rock Valley Road/utilities and Marble Lake Road/Marble Valley Parkway extension/utilities. The majority of the population is located in an area proposed as open space and would not be affected. Brandegee's clarkia is a California Rare Plant Rank 4 species, which means that it is on a watch list and is not currently considered rare. Because of the small number of Brandegee's clarkia plants that could be affected by the road construction, the preservation of most of the mapped population in VMVSP open space, and the low special-status rank of the species, this impact would be less than significant. Depending on the timing of construction and on the approval of the VMVSP, any direct impacts on special-status plants as a result of the offsite improvement construction west of the project area might occur as part of the VMVSP and not be associated with the LRVSP project.

There have been no surveys conducted at the interim improvements to US 50/Bass Lake Road Interchange, potable water line/dry utilities extension, or dry utilities tie in to existing 21 kV to the west; along the offsite water transmission/utilities line in Shingle Lime Mine Road to the east; or the offsite interim Phase 1 potable water improvements to the north to confirm the presence or absence of special-status plants. Based on the preliminary assessment of special-status plant habitat in the proposed offsite improvement areas, up to 14 species have potential to occur (Table 3.3-3).

Direct and indirect impacts on special-status plants could be a significant effect. Implementation of Mitigation Measures BIO-20a and BIO-20b would reduce this impact to a less-than-significant level. In addition, depending on the approach undertaken as part of Mitigation Measure BIO-20b, implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c would contribute to the avoidance of significant impacts on special-status plants.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-20a: Conduct floristic surveys in the offsite improvement areas for special-status plants during appropriate identification periods

The project applicant shall employ a qualified botanist to survey the offsite improvement areas, after final design of the areas is complete and prior to start of any construction activities, to document the presence of special-status plant species. The botanist shall consult with the appropriate resource agency regarding special-status species survey methods during drought periods, if needed, but will primarily follow the CDFW botanical survey guidelines (California Department of Fish and Wildlife 2018). All plant species observed shall be identified to the level necessary to determine whether they qualify as special-status plants or are plant species with unusual or significant range extensions. The guidelines also require that field surveys be conducted when special-status plants that could occur in the area are evident and identifiable, generally during the reported blooming period. The guidelines additionally recommend visiting reference populations of special-status species that may occur in the study area. Therefore, as feasible, the surveys shall include site visits of reference populations of special-status plant species with potential to occur in the project area in order to ensure that they are identifiable during the survey period. This is particularly important for any annual plant species that has a long-lived seedbank and is known to not germinate when conditions are not conducive (e.g., during a drought). To account for different special status–plant identification periods, one or more series of field surveys may be required in spring and summer (April and June). A survey report documenting the methods and results of the study shall be prepared and submitted to the County for review and approval.

If any special-status plants are identified during the surveys, the botanist shall photograph and map locations of the plants, document the location and extent of the special-status plant population. Requirements for compensatory mitigation shall be based on the results of these surveys and are discussed in Mitigation Measure BIO-20b.

Mitigation Measure BIO-20b: Avoid or compensate for substantial effects on special-status plants in the offsite improvement areas

If one or more special-status plants are identified during the preconstruction surveys (Mitigation Measure BIO-20a) in the offsite improvement areas, the project applicant shall redesign or modify proposed project offsite components to avoid direct and indirect effects on special-status plants wherever feasible. If special-status plants can be avoided by redesigning projects, implementation of Mitigation Measures BIO-1a (barriers), BIO-1b (awareness training), and BIO-1c (biological monitor) would avoid significant impacts on special-status plants.

If complete avoidance of special-status plants is not feasible, then, if required by the concerned public resource agency (as determined by the legal status of the plant in question), the project applicant shall prepare a mitigation plan in consultation with the resource agency. The project

applicant shall compensate for the effects of the project on special-status plants by transplanting or seeding replacements within appropriate habitats remaining in onsite open space areas. The conservation area shall be preserved and managed in perpetuity by the County. Detailed information shall be provided to the resource agencies on the location and quality of the plant conservation area, the feasibility of protecting and managing the area in perpetuity, a determination of how the compensation measures shall offset the impact and maintain the regional plant population, and the responsible parties. Other pertinent information also shall be provided, to be determined through future coordination with the resource agencies. If mitigation credits are used, proof of purchase shall be provided to the County.

Impact BIO-21: Potential mortality or disturbance of listed vernal pool branchiopods and their habitat within the offsite improvement areas (less than significant with mitigation)

Installation of infrastructure within the proposed offsite improvement areas has the potential to directly and indirectly affect suitable habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp (Figure 2-9). Focused surveys have not been conducted to document all suitable habitat within areas that would be directly or indirectly affected by infrastructure improvements.

Protocol-level surveys were conducted in offsite improvement areas west of the project area (Figure 2-9) for federally listed branchiopods. No cysts of any federally listed branchiopod species were observed within any of the soil samples and no federally listed branchiopods were observed during dip-net surveys. Therefore, federally listed branchiopods are not expected to occur within this area.

No habitat assessment or protocol-level surveys were conducted in the offsite improvement areas located east or north of the project area, and suitable habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp may be present in these areas.

Direct and indirect impacts on federally listed branchiopods and their habitat would be considered a significant impact. To avoid and minimize indirect effects on wetlands and potential habitat for federally listed branchiopods within offsite improvement areas, the project applicant shall implement Mitigation Measures BIO-1a, BIO-1b, BIO-1c, and BIO 3a. In addition to these general protection measures, the project applicant shall implement Mitigation Measure BIO-21a and Mitigation Measure 21b, as applicable, to reduce potential impacts on vernal pool fairy shrimp and/or vernal pool tadpole shrimp to a less-than-significant level and comply with the ESA.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

Mitigation Measure BIO-21a: Conduct a habitat assessment for federally listed branchiopods in the offsite infrastructure improvement areas

The project applicant shall employ a qualified biologist to conduct a habitat assessment for federally listed branchiopods within the offsite infrastructure improvement areas after the limits of proposed disturbance have been identified. A report documenting the study methods and results shall be provided to the County. All seasonal pools, wetlands, and swales shall be mapped within 250 feet of proposed construction areas identified for infrastructure improvements, including staging areas and access routes. Suitable habitat shall be mapped and described sufficient to determine if these habitats could support vernal pool fairy shrimp or vernal pool tadpole shrimp.

If suitable habitat for vernal pool fairy shrimp or vernal pool tadpole shrimp is identified within 250 feet of proposed infrastructure improvements, the project applicant shall implement Mitigation Measure Bio-21b.

Mitigation Measure BIO-21b: Avoid or compensate for direct and indirect effects on vernal pool fairy shrimp and vernal pool tadpole shrimp and their habitat

If suitable habitat for vernal pool fairy shrimp or vernal pool tadpole shrimp is identified within proposed construction areas for infrastructure improvements or within 250 feet of proposed construction during the habitat assessment (Mitigation Measure BIO-21a), the project applicant shall redesign or modify proposed project components to avoid this habitat to the maximum extent feasible. If avoidance of direct and indirect impacts on this habitat is not feasible, the project applicant shall either retain a USFWS-permitted biologist to conduct protocol-level branchiopod surveys to determine presence/absence of vernal pool fairy shrimp and vernal pool tadpole shrimp or the project applicant shall assume presence of these species.

If the presence of vernal pool fairy shrimp or vernal pool tadpole shrimp is confirmed or inferred for the proposed project, the project applicant shall compensate for direct and indirect effects on occupied or presumed occupied habitat for federally listed branchiopods by purchasing the appropriate mitigation credits from a USFWS-approved conservation area/mitigation bank. Minimum mitigation ratios shall be 2:1 preservation and 1:1 creation for direct effects and 1:1 preservation for indirect effects (within 250 feet of ground disturbance) or as determined by USFWS during ESA Section 7 consultation.

If presence of vernal pool fairy shrimp or vernal pool tadpole shrimp is either inferred or confirmed, ESA consultation with USFWS shall be required to address impacts on the species before any ground-disturbing activities can occur.

Documentation of the completion of ESA consultation shall be provided to the County prior to the issuance of the grading permit.

Impact BIO-22: Potential mortality or disturbance of monarch butterfly and its habitat within offsite infrastructure improvement areas (less than significant)

If monarch butterfly is present in or adjacent to infrastructure improvement construction areas, impacts on this species would be similar to those described above under Impact BIO-6 and are considered less than significant. Construction of the offsite infrastructure improvement areas would not substantially reduce the number or restrict the range of the species or cause the population to drop below self-sustaining levels. Therefore, the proposed project would have a less-than-significant impact on monarch butterfly.

Impact BIO-23: Potential mortality or disturbance of California red-legged frog within the offsite improvement areas (less than significant with mitigation)

California red-legged frogs were not observed during 2009 or 2012 surveys or site visits to the LRVSP project area (Kjeldsen 2009; LSA Associates 2013); however, potential California red-legged frog habitat is present in the offsite improvement area located west of the LRVSP project area (ECORP Consulting 2013a) which includes a quarry pond, intermittent streams and other waters (seasonal wetlands, seasonal wetland swales and seeps), and upland grassland and oak woodland.

The offsite improvement areas to the east and north of the project area have not yet been surveyed but include a large pond east of Shingle Lime Mine Road and may also support other breeding, dispersal, and foraging habitat for California red-legged frog. If California red-legged frogs are present in or adjacent to offsite improvement construction areas, impacts on this species would be similar to those described under Impact BIO-7 and would be significant. Implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction. The project applicant also would implement Mitigation Measure BIO-3a to avoid and minimize direct and indirect impacts on wetlands. In addition to these general protection measures, the project applicant would implement Mitigation Measures BIO-6 to avoid and minimize direct and indirect impacts on California red-legged frogs and their habitat. With the implementation of these measures, the construction of the offsite improvements under the proposed project would avoid and minimize direct and indirect impacts on California red-legged frogs and their habitat and would not substantially reduce the number or restrict the range of the species or cause the population to drop below self-sustaining levels. Therefore, construction of the offsite improvement areas would have a less-than-significant impact on California red-legged frog.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

Mitigation Measure BIO-7: Conduct preconstruction survey and implement California red-legged frog avoidance and minimization measures

Impact BIO-24: Potential mortality or disturbance of foothill yellow-legged frog within the offsite improvement areas (less than significant with mitigation)

Deer Creek is located south of the offsite improvement area, and no other perennial stream foothill yellow-legged frog habitat has been mapped west of the project area (ECORP Consulting 2013a). The offsite improvement areas to the east and north have not yet been surveyed, but a drainage that crosses Shingle Lime Mine Road might be a perennial stream and provide potential habitat for

foothill yellow-legged frog. Although there is considered to be a low likelihood of their presence, individual yellow-legged frogs may occur in the offsite improvement areas.

As described above, the project applicant shall implement BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction. The project applicant also would implement Mitigation Measure BIO-3a to avoid and minimize direct and indirect impacts on Deer and Marble Creeks and ensure that in-stream construction be restricted to the low-flow period (generally April through October). In addition, Mitigation Measure BIO-8 would document the presence of and minimize potential impacts on foothill yellow-legged frog individuals. Implementation of these measures would reduce potential impacts on foothill yellow-legged frog to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

Mitigation Measure BIO-8: Avoid and minimize construction-related impacts on foothill yellow-legged frog

Impact BIO-25: Potential mortality or disturbance of northwestern pond turtle within the offsite improvement areas (less than significant with mitigation)

Suitable habitat for northwestern pond turtle is present within the large quarry pond and intermittent streams in the offsite improvement area located west of the LRVSP project area. The offsite improvement areas to the east and north of the project area have not yet been surveyed but include a large pond east of Shingle Lime Mine Road and may also support other northwestern pond turtle habitat.

If pond turtles are present in or adjacent to offsite infrastructure improvement construction areas, impacts on this species would be similar to those described under Impact BIO-9 and would be significant. Implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction, and Mitigation Measure BIO-9 to conduct preconstruction and exclude pond turtles from work area would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-9: Conduct preconstruction surveys for northwestern pond turtle and exclude turtles from the work area

Impact BIO-26: Potential mortality or disturbance of Blainville's horned lizard within the offsite improvement areas (less than significant with mitigation)

Chaparral and annual grassland are present in the offsite improvement area located west of the project area (ECORP Consulting 2014a) which provide habitat for Blainville's horned lizard. The offsite improvement areas to the east and north have not yet been surveyed and may support chaparral and annual grassland based on review of aerial photographs. As sign of the species has been observed within the LRVSP project area, there is high potential for Blainville's horned lizard to occur within offsite improvement areas.

Construction activities such as grading, paving, and equipment staging could directly affect Blainville's horned lizards and if Blainville's horned lizards are present in or adjacent to offsite infrastructure improvement construction areas, impacts on this species would be similar to those described under Impact BIO-10 and would be significant. Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction, and Mitigation Measures BIO-10a and BIO-10b to avoid and minimize impacts on Blainville's horned lizard would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-10a: Avoid and minimize impacts on Blainville's horned lizard

Mitigation Measure BIO-10b: Include measures in the open space management plan identifying homeowner responsibilities to help reduce potential for domestic animal predation on wildlife

Impact BIO-27: Potential mortality or disturbance of nesting special-status and non–special-status birds within the offsite improvement areas (less than significant with mitigation)

Suitable nesting habitat for special-status (including white-tailed kite, golden eagle, Swainson's hawk, tricolored blackbird, and western burrowing owl) and non–special-status birds may be directly and indirectly affected by installation of infrastructure in the offsite improvement areas. If nesting special-status and non–special-status birds are present in or adjacent to infrastructure improvement construction areas, impacts on these species would be similar to those described under Impact BIO-11 and would be significant. Implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction, and Mitigation Measures BIO-11a and BIO-11b, which require

conducting vegetation removal outside of the breeding season for birds and raptors, and nesting surveys for special-status and non–special-status birds, would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-11a: Conduct vegetation removal activities outside the breeding season for birds and raptors

Mitigation Measure BIO-11b: Conduct preconstruction nesting surveys for special-status and non–special-status birds and implement protective measures during construction

Impact BIO-28: Potential mortality or disturbance of tree-roosting bats and removal of roosting habitat within the offsite improvement areas (less than significant with mitigation)

Suitable habitat for colonial and solitary roosting bats is present within the offsite infrastructure improvement areas. Bats could roost in trees and structures within these areas. If roosting bats are present in or adjacent to infrastructure improvement construction areas, impacts on these species would be similar to those described under Impact BIO-12 and would be significant. Implementation of Mitigation Measures BIO-1a BIO-1b, and BIO-1c to avoid temporary construction impacts on wetlands by requiring barriers to protect sensitive areas, environmental awareness training for construction employees, and periodic site visits during construction; Mitigation Measure BIO-11a to remove vegetation outside the breeding season for birds and raptors; and Mitigation Measure BIO-12 to identify bat roosts and implement avoidance and minimization measures would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-11a: Conduct vegetation removal activities outside the breeding season for birds and raptors

Mitigation Measure BIO-12: Identify suitable roosting sites for bats and implement avoidance and minimization measures

Impact BIO-29: Potential mortality or disturbance of American badger within the offsite improvement areas (less than significant with mitigation)

Suitable foraging habitat for American badger is present in offsite improvement areas; however, the patch size of the grasslands is likely too small to support badger dens. There are no CNDDB records for occurrences of American badger within 5 miles of the LRVSP project area but there is potential for badgers to occur in offsite improvement areas. If badgers were present in or adjacent to offsite infrastructure improvement construction areas, impacts on these species would be similar to those described under Impact BIO-13 and would be significant. Implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c, to avoid temporary construction impacts on badgers by requiring barriers to protect dens, environmental awareness training for construction employees, and periodic site visits during construction, in addition to Mitigation Measure BIO-13 to avoid and minimize impacts on badger would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-13: Implement measures to avoid and minimize potential impacts on American badger

Impact BIO-30: Potential mortality or disturbance of ringtail within the offsite improvement areas (less than significant with mitigation)

Ringtails are not tracked in the CNDDB and are not listed under ESA or CESA. However, there is suitable habitat for the species in the riparian habitat adjacent to Deer Creek and its tributaries in the LRVSP project area and in offsite improvement areas. Ringtails have been reported to occur in the region (ECORP Consulting 2014b). If ringtails are present in or adjacent to offsite infrastructure improvement construction areas, impacts on the species would be similar to those described under Impact BIO-14 and would be significant. With the implementation of Mitigation Measures BIO-1a, BIO-1b, and BIO-1c to avoid temporary construction impacts on ringtail by requiring barriers to protect active dens, environmental awareness training for construction employees, and periodic site visits during construction, Mitigation Measure BIO-11a to remove vegetation outside the breeding season for birds and raptors, and Mitigation Measure BIO-14 to identify suitable ringtail habitat and implement avoidance and protective measures would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-11a: Conduct vegetation removal activities outside the breeding season for birds and raptors

Mitigation Measure BIO-14: Identify suitable shelter and denning habitat for ringtail and implement avoidance and protective measures

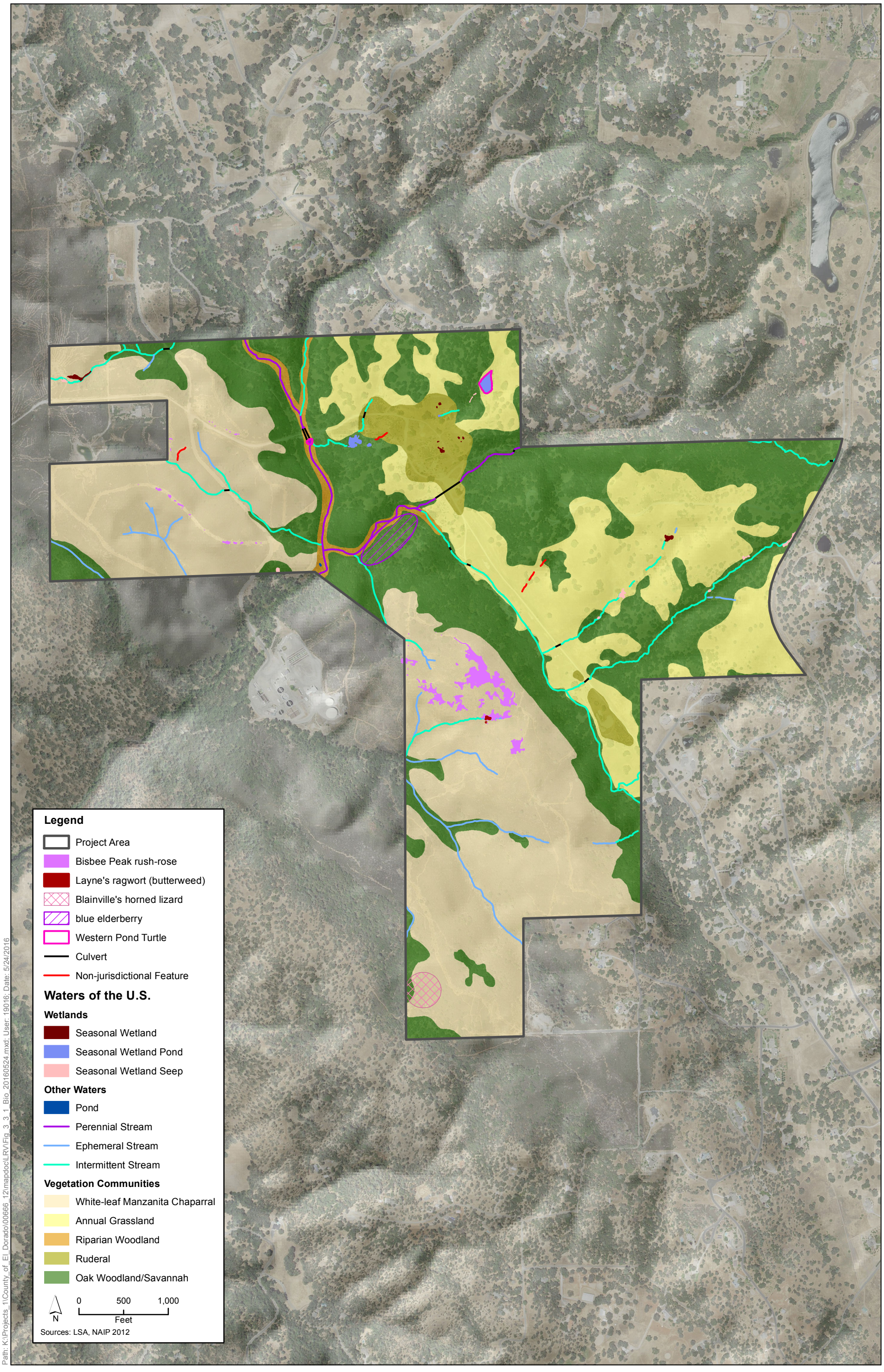


Figure 3.3-1
Biological Resources in the LRVSP Project Area

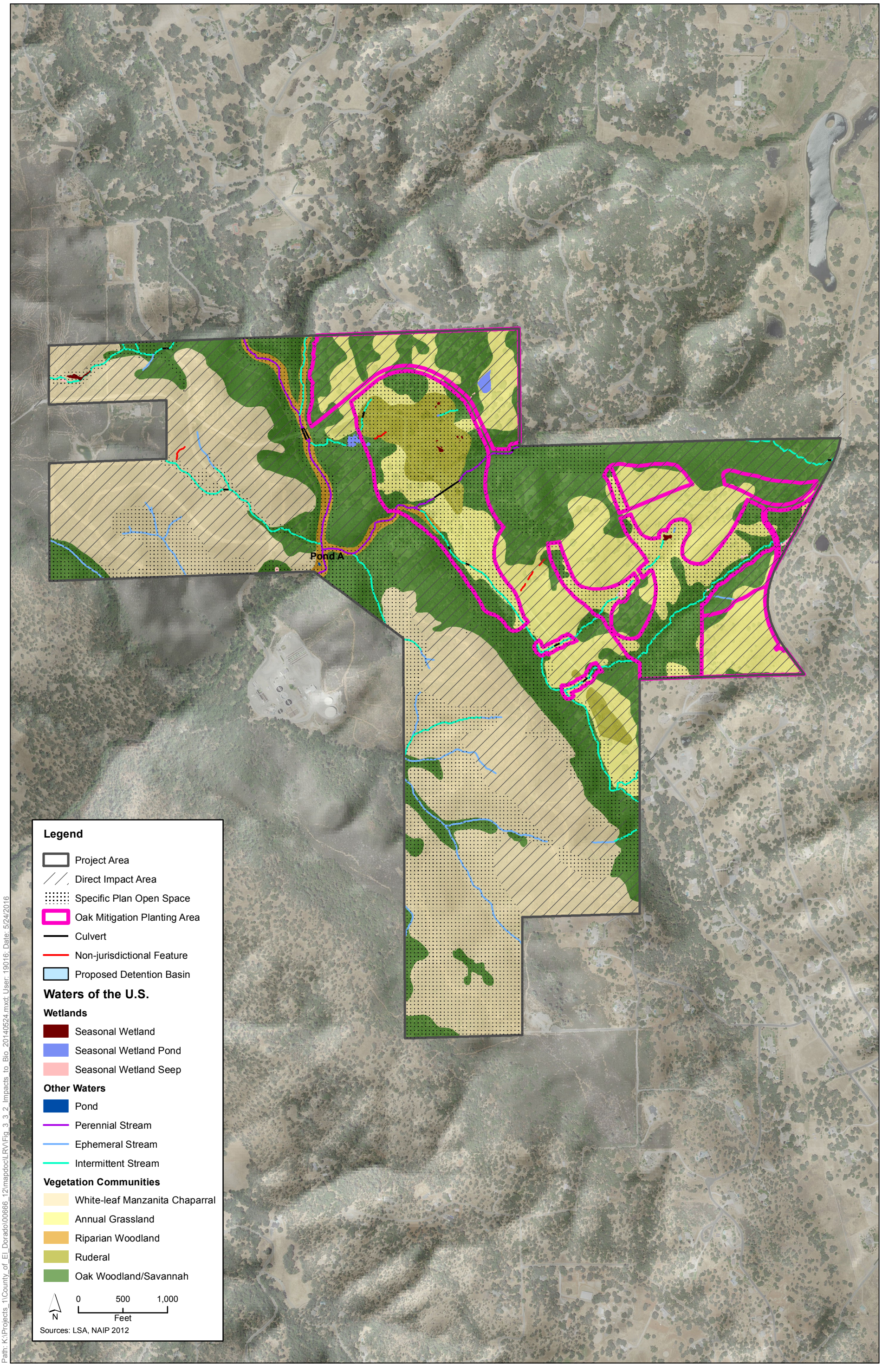


Figure 3.3-2
Biological Resources Impacts in the LRVSP Project Area

3.4 Cultural Resources

This section describes the regulatory and environmental setting for cultural resources. For the purposes of this section, *cultural resources* consist of historic-period and precontact archaeological sites, traditional cultural properties, and built environment resources.

Archaeological resources consist of the physical remains of past human activity that have been preserved below or above ground, but no longer take the form of a standing structure (e.g., a house or building) and can date to any period from the paleolithic to 50 years ago. Archaeological remains may occur in the same place as standing structures but are considered a distinct element (called a *component*) of the larger resource.

Ethnographic landscapes are a type of cultural landscape containing a variety of natural and cultural resources that associated peoples define as heritage resources. Examples include contemporary settlements and sacred religious sites (U.S Department of Interior n.d.).

Traditional cultural properties consist of resources that are associated with the practices or beliefs of a living community and are (a) rooted in that community's history for at least 50 years, and (b) important in maintaining the continuing cultural identity of the community (Parker and King 1998:1).

Built environment resources consist of buildings, structures, objects, sites, or districts. Typically, built environment resources must be 50 years of age or older to qualify as cultural resources. Where these resources form a landscape unified by a coherent historical or design theme, they may qualify as a rural historic landscape (U.S. Department of the Interior 1999:1).

The information presented in this discussion and used for the subsequent analysis of impacts was drawn primarily from the following studies.

- *Cultural Resources Study for the Lime Rock Valley Specific Plan, El Dorado County, California* (Patrick GIS Group 2014).
- *Cultural Resources Inventory Report for The Village of Marble Valley Specific Plan, El Dorado County, California (ECORP Project No. 2012-020)* (ECORP Consulting 2013a).

These studies (in redacted form to protect confidential information), as well as other documents referenced in this section, are available for review during normal business hours at the County Planning and Building Department office: 2850 Fair Lane, Building C.

3.4.1 Existing Conditions

Regulatory Setting

Federal

National Historic Preservation Act

Archaeological and built environment resources (buildings and structures) are protected through the National Historic Preservation Act (NHPA) of 1966, as amended (54 United States Code [USC]

300101 et seq.) and its implementing regulations: Protection of Historic Properties (36 Code of Federal Regulations [CFR] Part 800).

Prior to implementing an *undertaking* (e.g., issuing a federal permit), federal agencies (e.g., U.S. Army Corps of Engineers [USACE]) are required by Section 106 of the NHPA to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places (NRHP). NHPA Section 101(d)(6)(A) allows properties of traditional religious and cultural importance to a tribe to be determined eligible for inclusion in the NRHP. Under the NHPA, a find is significant if it meets the NRHP listing criteria under 36 CFR 60.4, as stated below.

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> a) that are associated with events that have made a significant contribution to the broad patterns of our history, or
>
> b) that are associated with the lives of persons significant in our past, or
>
> c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction, or
>
> d) that have yielded, or may be likely to yield, information important in prehistory or history.

Federal review of projects is normally referred to as the Section 106 process. The Section 106 process normally involves step-by-step procedures that are described in detail in the implementing regulations (36 CFR 800) and summarized here.

- Establish a federal undertaking.
- Delineate the Area of Potential Effects.
- Identify and evaluate historic properties in consultation with the SHPO and interested parties.
- Assess the effects of the undertaking on properties that are eligible for inclusion in the NRHP.
- Consult with the SHPO, other agencies, and interested parties to develop an agreement that addresses the treatment of historic properties and notify ACHP.
- Proceed with the project according to the conditions of the agreement.

Because the proposed project would likely affect waters of the United States, the project applicant will be required to meet the requirements of Section 404 of the Clean Water Act by obtaining a permit from USACE. Therefore, the proposed project is subject to Section 106 of the NHPA as described above.

State

The State of California implements the NHPA through its statewide comprehensive cultural resource preservation programs. The California Office of Historic Preservation (OHP), an office of the California Department of Parks and Recreation (DPR), implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historical Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the state's jurisdiction.

California Environmental Quality Act

CEQA, as codified in Public Resources Code (PRC) Sections 21000 et seq. and implemented through the State CEQA Guidelines (14 California Code of Regulations [CCR] Section 15000 et seq.), is the principal statute governing the environmental review of projects in the state. To be considered a historical resource, a resource must be at least 50 years old. In addition, the State CEQA Guidelines define a *historical resource* as listed below.

a. A resource listed in the California Register of Historical Resources (CRHR).

b. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in an historical resource survey meeting the requirements of PRC Section 5024.1(g).

c. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The CRHR is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The CRHR criteria are based on National Register of Historic Places (NRHP) criteria (PRC Section 5024.1[b]). Certain resources are determined by CEQA to be automatically included in the CRHR, including California properties formally eligible for or listed in the NRHP. To be eligible for listing in the CRHR as an historical resource, a prehistoric or historic-period resource must be significant at the local, state, and/or federal level under one or more of the following criteria.

    1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

    2. Is associated with the lives of persons important in our past.

    3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

    4. Has yielded, or may be likely to yield, information important in prehistory or history [14 CCR Section 4852(b)].

For a resource to be eligible for the CRHR, it must also retain enough integrity to be recognizable as a historical resource and convey its significance. A resource that does not retain sufficient integrity to meet the NRHP criteria may still be eligible for listing in the CRHR.

CEQA requires lead agencies to determine if a proposed project would have a significant effect on important historical resources or unique archaeological resources. If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and State CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the State CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083.2 regarding unique archaeological resources. A *unique archaeological resource* is an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria.

- The resource contains information needed to answer important scientific research questions, and that information is of demonstrable public interest.

- The resource has a special and particular quality such as being the oldest of its type or the best available example of its type.
- The resource is directly associated with a scientifically recognized important precontact or historic event or person [PRC Section 21083.2 (g)].

The State CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (14 CCR Section 15064[c][4]).

Madera Oversight Coalition, Inc. v. County of Madera and Tesoro Viejo, Inc. (2011)

In the past, it was common practice for many CEQA practitioners to provide performance-based mitigation for cultural resources, stipulating that further evaluation and treatment of resources would be performed in the future. The 2011 decision from the *Madera Oversight Coalition, Inc. v. County of Madera and Tesoro Viejo, Inc.* (2011 [199 Cal. App.4th 48, 81]) case determined this practice to be unacceptable under CEQA and required evaluation of cultural resources subject to CEQA to be performed at a level sufficient to characterize the resources prior to environmental impact report (EIR) certification (instead of waiting until preconstruction or construction stages of a project). Additionally, the case determined that if preservation in place, the preferred mitigation under CEQA (14 CCR Section 15126.4[b][3]) is not employed, the EIR should disclose why that is not feasible. Cultural resources evaluations in this EIR have been completed consistent with the Madera Oversight decision.

Discovery of Human Remains

California State Law, Section 7050.5 of the California Health and Safety Code (CHSC) states the following.

(a) Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the [California Public Resources Code (PRC)]. The provisions of this subdivision shall not apply to any person carrying out an agreement developed pursuant to subdivision (l) of Section 5097.94 of the [PRC] or to any person authorized to implement Section 5097.98 of the [PRC].

(b) In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the [California] Government Code [CGC], that the remains are not subject to the provisions of Section 27491 of the [CGC] or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the [PRC]. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.

(c) If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours,

the [Native American Heritage Commission (NAHC)] (California Health and Safety Code Section 7050.5).

Of particular note to cultural resources is subsection (c), requiring the coroner to contact the NAHC within 24 hours if discovered human remains are determined to be Native American in origin. After notification, the NAHC will follow the procedures outlined in PRC Section 5097.98, which include notification of most likely descendants (MLDs), if possible, and recommendations for treatment of the remains. The MLDs will have 24 hours after notification by the NAHC to make their recommendation (PRC Section 5097.98). In addition, knowing or willful possession of Native American human remains, or artifacts taken from a grave or cairn is a felony under state law (PRC Section 5097.99).

Senate Bill 18

California Senate Bill (SB) 18 (Burton, Chapter 905, Statutes of 2004) requires local governments to consult with California Native American Tribes prior to making certain planning decisions and to provide notice to the tribes at certain key points in the planning process. These consultation and notice requirements apply to adoption and amendment of both general plans and specific plans. The principal objective of SB 18 is to preserve and protect cultural places of California Native Americans. SB 18 is unique in that it requires local government consultation with Native American tribes in early stages of land use planning and extends to both public and private lands. The California Civil Code was amended by SB 18 and now allows state-recognized California Native American Tribes to acquire and hold conservation easements. The El Dorado County (County) SB 18 consultation for the proposed project is discussed below under *Native American Consultation* and documentation is presented in Appendix G, *Native American Consultation Documentation*.

Assembly Bill 52

Assembly Bill (AB) 52 (Chapter 532, Statutes of 2014) establishes a formal consultation for California tribes as part of the CEQA process and equates significant impacts on "tribal cultural resources" with significant environmental impacts (PRC Section 21084.2). AB 52 defines a *California Native American Tribe* as a Native American tribe located in California that is on the contact list maintained by the NAHC. AB 52 requires formal consultation with California Native American Tribes prior to determining the level of environmental document if a tribe has requested to be informed by the lead agency of proposed projects. AB 52 also requires that consultation include project alternatives, mitigation measures, or significant effects, if requested by the California Native American Tribe, and that consultation be considered concluded when either the parties agree to measures to mitigate or avoid a significant effect, or the agency concludes that mutual agreement cannot be reached. Under AB 52, such measures will be recommended for inclusion in the environmental document and adopted mitigation monitoring program if determined to avoid or lessen a significant impact on a tribal cultural resource. AB 52 became law on January 1, 2015, but only applies to projects that have a notice of preparation (NOP) or notice of negative declaration/mitigated negative declaration filed on or after July 1, 2015. The NOP for the Lime Rock Valley Specific Plan (LRVSP) EIR was filed on February 20, 2013; therefore, the proposed project is not subject to the requirements of AB 52.

Local

El Dorado County General Plan

The Conservation and Open Space Element of the *El Dorado County General Plan* (County General Plan) (El Dorado County 2017) includes the following goals and policies to protect cultural resources, the full text of which can be found in Appendix B, *Consistency with El Dorado County General Plan Policies*. See Section 3.9, *Land Use Planning and Agricultural Resources*, for an analysis of the proposed project's consistency with County General Plan policies as required under State CEQA Guidelines Section 15125.

- Goal 7.5, *Cultural Resources*, addresses preservation of the County's important resources through protection of cultural heritage, and includes implementing Policies 7.5.1.1, 7.5.1.3, and 7.5.1.6.

The proposed project does not conflict with any of the cultural resources-specific policies in the County General Plan.

Environmental Setting

The archaeological, ethnographic, and historic contexts have been summarized from the technical report *Cultural Resources Study of The Lime Rock Valley Specific Plan, El Dorado County, California* (Patrick GIS Group 2014).

Archaeological Background

The project area is in the Sacramento Valley subregion of the Central Valley archaeological region. In this area, three patterns have been defined: (1) the Windmiller Pattern, from 2500 BC to about 1000 BC; (2) the Berkeley Pattern, from about 1000 BC to AD 400; and (3) the Augustine Pattern, from AD 400 to the historic period (Moratto 2004: 201–214).

The Windmiller Pattern (2500–1000 BC) shows evidence of a mixed economy of game procurement and use of wild plant foods. The archaeological record contains numerous projectile points with a wide range of faunal remains. Hunting was not limited to terrestrial animals, as is evidenced by fishing hooks and spears that have been found in association with the remains of sturgeon, salmon, and other fish. Plants were also used, as indicated by ground stone artifacts and clay balls that were used for boiling acorn mush. Settlement strategies during the Windmiller period reflect seasonal adaptations: habitation sites in the valley were occupied during the winter months, but populations moved into the foothills during the summer (Moratto 2004: 201–207).

The Berkeley Pattern in the project area and the Sacramento–San Joaquin River Delta (Delta) area to the south likely represents Miwok expansion eastward from the San Francisco Bay Area. Southward expansion of Wintuan and Maiduan speakers is indicated in the archaeological record in Phase I of the Augustine Pattern (AD 400–1400) by the appearance of Gunther barbed points, fishing spear points (harpoons), and flanged tubular pipes. The presence of bedrock mortars in the precontact sites within the project area indicates that the sites are affiliated with Phase 2 of the Augustine Pattern (AD 1400 to the historic period) (Moratto 2004: 207–211).

The Augustine Pattern is the archaeological record of a large, dense population, which engaged in intensive hunting, fishing, and gathering (especially of acorns). There was social stratification as indicated by variability in grave goods, a highly developed exchange system, and elaborate

ceremonialism. Technology included shaped mortars and pestles, bone awls, bone fishhooks and gorges, fishing spears, and use of the bow and arrow. Bedrock mortars were intensively used after AD 1400. Nonutilitarian artifacts include abalone ornaments, charmstones, stone pipes, decorated bone ear tubes, and whistles. During Phase 2 of the Augustine Pattern (after AD 1400) there was a further proliferation of settlements, intensification of trade, and achievement of new levels of social and political complexity. Clamshell disk beads were used as a medium of exchange. Shell beads and ornaments were obtained from the San Francisco Bay Area, and obsidian from the eastern Sierra Nevada (Moratto 2004: 211–214).

Ethnographic Background

The Nisenan occupied the project area at the time of Euro-American contact and spoke a Maiduan language (Wilson and Towne 1978:387). The Maiduan family of languages is part of the Penutian stock (Shipley 1978:82–83). Penutian speakers occupied the Central Valley, Central Sierra Nevada, and the San Francisco Bay Area at the time of Euro-American contact. The Nisenan occupied the lower Feather River drainage and the drainages of the Yuba, Bear, and American Rivers. The boundary with the Miwok to the south was near the Cosumnes River. The western boundary was the Sacramento River, and the eastern boundary was the crest of the Sierra Nevada (Wilson and Towne 1978:387; Kroeber 1976:Plate 37).

The principal Nisenan villages and associated smaller settlements controlled resources within a territory containing between 20 and 500 residents (Wilson and Towne 1978:388). Families in each territory controlled specific oak groves and fishing sites. A headman lived in the principal village and arbitrated disputes, directed festivities, provided advice, and consulted with family leaders. His authority was limited, however, absent the support of the family leaders and the shamans (Wilson and Towne 1978:393).

Villages in the foothills were located on ridges and on flats along streams. Houses were conical and covered with brush, bark, and skins. Most villages had bedrock milling stations. Other site types included seasonal camps, quarries, ceremonial grounds, fishing stations, trading sites, and cemeteries (Wilson and Towne 1978:389). Some people lived away from the main village. The dead were cremated along with their property, their houses were moved or destroyed, and the cremated bones and ashes were buried in the cemetery of the deceased's birth village (Wilson and Towne 1978:392).

Acorns were an important part of the Nisenan diet. Large groups left the villages in the fall to gather acorns. While the women and children collected the acorns, the men hunted. Stored in granaries in the village, acorns were shelled, ground in a bedrock mortar, leached with water, and cooked by means of stone-boiling in watertight baskets. Other plant foods were roots, seeds, and berries. Deer, antelope, and rabbits were hunted by groups using drives. Rabbits were also trapped and snared. Rivers provided salmon, sturgeon, eels, and freshwater clams and mussels. Birds and grasshoppers were also captured and eaten (Wilson and Towne 1978:389–390).

Early Nisenan contact with Europeans appears to have been limited to the southern reaches of Nisenan territory. Spanish expeditions began to cross Nisenan territory in the early 1800s. Unlike the Valley Nisenan, Hill Nisenan groups remained relatively unaffected by the European presence until the discovery of gold at Coloma in 1848. In the 2 or 3 years following the gold discovery, Nisenan territory was overrun by settlers from throughout the world. Gold seekers and the settlements established to support them, as well as the disease and violence accompanying them, almost led to extinction of the area's native inhabitants. Nisenan survivors worked as wage laborers

and domestic help, living on the edges of foothill towns. Despite severe depredations, descendants of the Nisenan still live in El Dorado County and maintain their cultural identity.

Historical Background

The early history of the project vicinity is tied directly to the Gold Rush, the economic and agricultural development of El Dorado County, limestone mining, and commerce between Shingle Springs and the mining camps associated with the communities of Clarksville, Green Valley, and Rescue.

With the discovery of gold just east of the project area in 1848, at what is now Shingle Springs, the mining camp developed into a town with permanent homes and a post office by the mid-1850s. Historic mining in the project area likely occurred by 1849 to 1850 and began with gold placer mining within and along Deer Creek that bisects the project from north to south. One of the early settlers in this area was H. E. Blakely, who homesteaded a parcel in the center of the current project area.

Further development came in 1865, when the tracks of the Placerville and Sacramento Railroad reached the town. Spurs to the trunk line were constructed to haul limestone or its byproducts from mining operations in the project area to markets in San Francisco and the San Joaquin Valley.

By the early decades of the twentieth century, the project area became the site of substantial limestone mining operations, beginning with the activities of the El Dorado Lime and Minerals Company. In 1918, the company began mining limestone deposits just south of the sites quarried during an earlier phase of development on the property. Located approximately 3 miles southwest of Shingle Springs, the El Dorado Limestone Company's mine produced high-calcium limestone, which was processed and incorporated into the manufacture of lime by steel mills, glass manufacturers, beet-sugar refineries, and construction companies. The limestone was burned in kilns constructed along the eastern edge of the project area.

From the beginning of the El Dorado Limestone Company's operations in the area through the next four decades, the company and its successors built a complex infrastructure and company-owned town to house the labor force that included both skilled and unskilled laborers. Lime Rock Valley mining operations operated under a stratified organizational system whereby the underground low-skilled laborers lived in modest, yet comfortable, company housing separated from the skilled laborers and management. However, everyone in the community had access to the mine office/store and communal gardens, which included a vineyard. Cold storage was provided by the company with an ice house, and farm animals, including horses and cattle, were kept in a communal barn/corral complex owned by the company. Two railroad spurs provided direct service into the valley, a narrow-gage line from the north, and, in later years, a standard-gage spur from the east. Both spurs connected to the Southern Pacific standard gage railroad that ran between Placerville and Sacramento. Both rail spurs brought in supplies and materials to the community, and auto transport over company-owned roads provided access to Shingle Springs, the nearest community to the mining operations. The mining operations also had their own power supply, providing electricity for the mine and to nearby residences. Telephone service was added to the town in later years.

In 1931, the El Dorado Limestone Company took over mining operations on the property. All of the limestone mines dating from circa 1880 to 1970 on the property are now abandoned. The subject property is presently owned by G3 Enterprises, Inc. of Modesto.

Existing Cultural Resources

Efforts to locate cultural resources consisted of conducting records searches, consulting with the NAHC and Native American representatives, and conducting archaeological surveys and studies. Information pertaining to existing cultural resources was summarized from the *Cultural Resources Study of The Lime Rock Valley Specific Plan, El Dorado County, California* (Patrick GIS Group 2014).

Efforts to locate cultural resources in the offsite improvement areas relied on existing sources, sensitivity analysis, and professional assessment of potential for impacts depending on the location of the improvements. No pedestrian surveys were conducted for the offsite improvement areas because the exact locations of improvements have not yet been established and property access was not obtained. Locations for traffic mitigation measures covered by other studies are primarily those south of U.S. Highway 50 (US 50) associated with interchanges or intersections that are collocated with offsite improvements. ICF conducted a records search to determine sensitivity for areas where General Plan Policy TC-Xf improvements are not collocated with other offsite improvements that could result in impacts on cultural resources. Improvements to the Country Club Drive/Cambridge Road intersection and to the Cambridge Road/Knollwood Drive intersection would not affect cultural resources because of the nature of the improvements.

Records Search

As part of the initial feasibility study done in 2009, Historic Resource Associates (HRA) conducted a records search at the North Central Information Center (NCIC), the repository of the California Historical Resources Information System (CHRIS) responsible for the project area. In July 2013, HRA received the results of an additional records search conducted by NCIC staff for the project area. In September 2013, Patrick GIS Group, Inc. conducted an additional records search at the NCIC for the project area and all areas within 0.25 mile of the project area. The purpose of the records searches was to determine the extent of previous cultural resources studies and locations of previously recorded cultural resources in the project area and vicinity.

In addition, HRA consulted the El Dorado County Library, the Sacramento State University Library, the HRA reference library, and the El Dorado Historical Museum. In August 2012, upon recommendation from the El Dorado County Historical Museum and the El Dorado County Historical Society, HRA contacted the El Dorado County Cemetery Advisory Committee and the El Dorado Pioneer Cemetery Commission regarding potential cemeteries in the project area and vicinity. At the time of preparation of this document, no pioneer cemeteries have been identified in the project area.

Native American Consultation

To comply with SB 18, HRA initiated coordination with the Native American community on behalf of G3 Enterprises, Inc. and El Dorado County in early August 2012. On August 27, 2012, the NAHC responded to HRA's request for a list of Native American representatives and a Sacred Lands File records search, indicating that the search was negative for cultural resources and providing a list of local Native American tribal representatives. Letters and maps describing the proposed project and requesting additional interest or concern regarding the project were sent to the contacts on the list provided.

In a letter dated August 20, 2012, David Keyser of the United Auburn Indian Community (UAIC) (on behalf of Gregory S. Baker) responded to HRA's initial letter. Mr. Keyser acknowledged known cultural resources in the project vicinity, requested copies of reports and a site visit, and

recommended Native American participation during the survey. Mr. Keyser also identified Marcos Guerrero as the Tribal Historic Preservation Officer for the UAIC and stated that further consultation should be conducted through him. Also in response to HRA, in a letter dated August 21, 2012, Daniel Fonseca of the Shingle Springs Band of Miwok Indians (SSBMI) requested further documentation, continued consultation, and a formal meeting.

Formal SB 18 consultation with Native Americans regarding the project has been ongoing since January 2013. The County, as lead agency for the proposed project, initiated contact with the NAHC, which responded and provided a contact list of tribal representatives with whom the County should further consult. Thereafter, all communication with Native American representatives constituted formal consultation and was conducted by the County.

Additional consultation was conducted in April 2013 with the following individuals: Mr. Andrew Godsey of the SSBMI, Mr. Marcos Guerrero of the UAIC, and Mr. Steven Hutchinson of the Wilton Rancheria. On May 16, 2013, a meeting occurred among these Native American representatives, and on July 9, 2013, a site visit was conducted with Mr. Godsey, Mr. Guerrero, Mr. Hutchinson, representatives of the County, and G3 Enterprises, Inc. Based on the site visit, additional site work and mapping was performed, and another meeting and site visit occurred on October 10, 2013. The October field visit was attended by Patrick GIS Group, a G3 Enterprises representative, tribal representatives, and the County. The focus of the meeting was to present the Native American representatives with new maps and concordance tables and the results of the updated survey work completed to date, and to continue dialogue as part of the consultation efforts. As part of the site visit, the group examined two sites: P-9-810 and P-9-5548. As a result of the meeting, both Mr. Guerrero and Mr. Hutchinson orally deferred further consultation to Mr. Godsey and offered to submit letters to that effect. On January 3, 2014, the County facilitated another site visit with Patrick GIS Group (on behalf of G3 Enterprises) and Mr. Godsey. The agenda included a tour of site P-9-1949, review of the revised land use map and discussion regarding the concerns of the Native American community. See Appendix G, *Native American Consultation Documentation*, for documentation of consultation with Native Americans under SB 18.

Fieldwork

HRA conducted fieldwork in 2009 as part of an initial feasibility study, and again in the summer of 2013 as part of the current study. Patrick GIS Group conducted fieldwork in September and October 2013 as part of the current study. The fieldwork consisted of a cultural resources pedestrian survey of the project area, using parallel, 15- to 20-meter transects. In areas of dense vegetation, a cursory survey based on an opportunistic strategy was employed. A moderate portion of the western and southern quadrants were deemed inaccessible because of dense vegetation. Areas designated as Open Space (OS) in the project area were not formally surveyed. Previously recorded resources were reinvestigated and updated, while newly identified resources were documented on Department of Parks and Recreation standard forms (DPR 523).

In November 2013, Patrick GIS Group conducted a subsurface survey (test excavation) at two of the resources identified during the pedestrian survey: P-9-810 and P-9-5548. The purpose of the subsurface survey was to determine the presence or absence of subsurface cultural deposits at the sites. Additional subsurface exploration was carried out by HRA at all non-Native American archaeological sites in the project area, which included surface scrapes, metal detection, and a shovel test pit. No artifacts were collected during any field effort.

In 2019, Patrick GIS Group reviewed the previous fieldwork and results and determined that the methods and results remain current and no additional work related to cultural resources is necessary at this time (Patrick GIS Group, Inc. 2019).

Findings

For brevity, all in-text references to resources will hereafter use only the (abbreviated) P number (e.g., P-9-793).

In total, 30 cultural resources were identified in the project area (Table 3.4-1): the Lime Rock Valley Historic District (LRVHD) consisting of 33 contributing elements (Table 3.4-2); two precontact sites; two historic-era sites; one multicomponent site; and 24 historic-era isolates. Of these, four have been determined eligible for listing in the CRHR: P-9-5550 (the LRVHD) (Criteria 1, 3, 4), and P-9-1949, P-9-3906, and P-9-5549 (Criterion 4). Isolates are not eligible for listing in the CRHR by definition. None of the archaeological resources in the project area meets the requirements for a unique archaeological resource under Section 21083.2.

Table 3.4-1. Known Cultural Resources Sites in the Project Area

Site Number	Description	CRHR-Eligibility	Proposed Land Use Designation
Historic-Period			
P-9-5550; LRVHD	Historic-period district composed of a limestone quarry and processing operation, with both archaeological and built environment resources	Criteria 1, 3, 4	OS, LRL Infrastructure
P-9-3906; CA-ELD-2526	Mining cabin remnants	Criterion 4	OS, LRL
P-9-5549; CA-ELD-3009	Mining cabin remnants, road segment, stone wall, and dam	Criterion 4	OS
Precontact			
P-9-810; CA-ELD-722	Sparse lithic scatter	No	LRL Infrastructure
P-9-5548; CA-ELD-3008	Bedrock mortar	No	OS
Historic-Period and Precontact			
P-9-1949; CA-ELD-1394	Habitation site consisting of a midden, four bedrock mortar features, a lithic scatter and a historic-era rock wall	Criterion 4	OS

LRVD = Lime Rock Valley Historic District.
OS = Open Space.
LRL = Lime Rock Residential-Low.

Table 3.4-2. Elements of Lime Rock Valley Historic District (P-9-5550)

Feature ID	Description	Contributing Element	Contributing Significance	Proposed Land Use Designation
Built Environment				
F03	Dynamite or blasting cap shelter #2	Yes	The three dynamite/blasting caps storage structures are contributing elements to the district and represent an essential component of the underground mining operations. All	OS

Feature ID	Description	Contributing Element	Contributing Significance	Proposed Land Use Designation
			three structures retain integrity of design, materials, workmanship, association, setting, feeling, and location.	
F04	Dynamite shelter #1	Yes	Same as F03.	OS
F05	Mine holding reservoir	Yes	The earthen dam, reservoir/pond, and concrete reservoir represent a significant part of the infrastructure that was needed for the company town to provide a sustainable supply of irrigation and domestic water for its employees and for agriculture/gardens/orchards.	LRL
F07	Dynamite shelter #3	Yes	Same as F03.	OS
F11	Power substation	Yes	The building and the original equipment reflect the demand for electrical power needed to power the underground limestone mining operations. The property is associated with the company-owned town during a period of growth and development associated with the mining operation. The electrical power substation retains integrity of design, materials, workmanship, setting, feeling, location, and association.	OS
F12	Mine manager's residence and garage	Yes	The mine manager's residence represents part of the extensive limestone mining operations in the valley. The residence is associated with the company-owned town during a period of growth and development associated with the mining operation. The property retains moderate integrity of design, materials, and workmanship, but high integrity of feeling, setting, location, and association. The building is compromised by lack of maintenance.	OS
F13	Mine shaft and headframe	Yes	Virtually all the original mining equipment and mine structures were removed from the site in the 1970s. The structure lacks integrity due to extensive mining operations during the 1960s.	OS
F14	Mine office	Yes	The mine office is the centerpiece of the mine operations in the center of the company town along the main road to Shingle Springs. The office is associated with the company-owned town during a period of growth and development associated with the mining operation. Additions appear to be consistent with other buildings in the district and the materials are sympathetic to the period of significance. The property retains moderate integrity of design, materials, workmanship,	OS

Feature ID	Description	Contributing Element	Contributing Significance	Proposed Land Use Designation
			feeling, setting, location, and association, compromised only by later additions during its period of significance.	
F20	Barn	Yes	Rather than performing a function directly related to the mine operation, the barn appears to be associated with the company-owned town and with employees and their respective families who lived and worked at the mine. Besides the mining infrastructure, the company town also included an extensive garden/orchard and maintained livestock, including horses, cattle, and other farm animals, for the employees.	OS
F23	Core shed	Yes	The drill core shed with its extant core samples represents part of the extensive limestone mining operations within the valley. The shed retains integrity of design, materials, workmanship, association, setting, feeling, and location.	OS
F24	Residence #4	Yes	Residence #4 represents expansion of the mining operations during the 1920s and the development of new residential housing for the mine workers. The residence is unoccupied and in poor condition, although it still retains good integrity of design, materials, and workmanship.	OS
F25	Residence and garage #3	Yes	Residence #3 represents expansion of the mining operations during the 1920s and the development of new residential housing for the mine workers. It retains excellent integrity of design, materials, workmanship, feeling, association, setting, and location. The single-car garage also contributes to the property.	OS
F26	Residence and garage #3	Yes	Same as F25.	OS
F27	Residence and garage #2	Yes	Residence #2 represents expansion of the mining operations during the 1920s and the development of new residential housing for the mine workers. It retains excellent integrity of design, materials, workmanship, feeling, association, setting, and location. The single-car garage also contributes to the property.	OS
F28	Residence and garage #2	Yes	Same as F27.	OS
F29	Residence and shed #1	Yes	Residence #1 is nearly a duplicate of Residence #2; Same as F27.	OS
F30	Residence and shed #1	Yes	Same as F29.	OS

Feature ID	Description	Contributing Element	Contributing Significance	Proposed Land Use Designation
F48	Large rock and concrete culvert	Yes	Same as F45.	OS
F34	Lime kiln	Yes	Same as F31 (see below).	LRL
F36	Tin shed pump house	Yes	Same as F31 (see below).	LRL
F37	Chicken coop	Yes	Same as F31 (see below).	LRL
F44	West end of ditch/berm	Yes	Same as F31 (see below).	OS
Archaeological				
F01	Limestone tailings	No	Lacks integrity due to extensive mining operations during the 1960s.	OS, LRL
F02	Limestone tailings and berms	No	Lacks integrity due to extensive mining operations during the 1960s.	OS, LRL
F06	Limestone tailings	No	Lacks integrity due to extensive mining operations during the 1960s.	OS, Infrastructure
F08	Crushed limestone tailings	No	Lacks integrity due to extensive mining operations during the 1960s.	LRL, OS
F09	Crushed limestone tailings	No	Lacks integrity due to extensive mining operations during the 1960s.	LRL
F15	Burnt company cottages	No	Lacks integrity due to intentional destruction of all the worker's cottages. The cottages also appear to have indoor toilets.	LRL, Infrastructure
F16	Burnt company cottages	No	Lacks integrity due to extensive mining operations during the 1960s.	OS
F17	Burnt company cottages	No	Lacks integrity due to extensive mining operations during the 1960s.	OS
F18	Burnt company cottages	No	Lacks integrity due to extensive mining operations during the 1960s.	OS
F19	Burnt company cottages	No	Lacks integrity due to extensive mining operations during the 1960s.	OS
F21	Collapsed icehouse and standing privy	No	The ice house has collapsed and lacks integrity, and the outhouse is relatively recent, ca. 1950s.	OS
F22	Collapsed icehouse and standing privy	No	Lacks integrity due to extensive mining operations during the 1960s.	OS
F45	Mine shaft/ gloryhole	Yes	The mine shaft, mine tailings, and box culvert are associated with the operations of the El Dorado Lime and Minerals Company, their predecessors and/or successors. The shaft may date from the first episode of limestone mining operations in the late nineteenth century. All three features retain integrity of	OS

Feature ID	Description	Contributing Element	Contributing Significance	Proposed Land Use Designation
			design, materials, workmanship, association, setting, feeling, and location.	
F10	Privy	Yes	The privy may provide information regarding those individuals who lived and worked at the facility during its operations from the late nineteenth century through the mid-twentieth century, their consumptive habits, and other data related to subsistence, living standards, domesticity, and hygiene.	LRL
F31	Concrete foundation	Yes	In addition to the built environment buildings, structures, and objects, the district may contain important archaeological data in the form of refuse scatters and buried deposits, such as trash pits and privies which inform us regarding those individuals who lived and worked at the company town during its operations from the late nineteenth century through the mid-twentieth century. Such data could relate to residents' and workers' consumptive habits, subsistence, living standards, domesticity, and hygiene.	LRL
F32	Refuse scatter structure remains	Yes	Same as F31.	LRL
F33	Collapsed fireplace and foundation	Yes	Same as F31.	LRL
F35	Razed/ subterranean lime kiln refuse pit	Yes	Same as F31.	LRL
F38	Warehouse pad	Yes	Same as F31.	Infrastructure
F39	Pipe in situ	No	NA	LRL
F40	Small berms	No	NA	LRL
F41	Rock feature	Yes	Same as F31.	LRL
F42	Rock feature	Yes	Same as F31.	LRL
F43	Rock feature	Yes	Same as F31.	LRL
F47	Raised earthen bed	Yes	Same as F31.	LRL, OS, Infrastructure
F49	Narrow gage RR grade	No	NA	OS, LRL, Infrastructure

OS = Open Space.
LRL = Lime Rock Residential–Low.
NA = Not Applicable.

Offsite Improvement Areas

The offsite improvement area along Shingle Lime Mine Road to the east was not examined for cultural resources. These improvements would be underground utilities located with or adjacent to the road. Based on the disturbed nature of the location of these improvements, the area is of low sensitivity for cultural resources.

Offsite improvement areas associated with the Phase I Interim Water Improvements were not examined for cultural resources. However, these improvements are within disturbed road rights-of-way and, therefore, are of low sensitivity for cultural resources.

Offsite improvement areas to the west that cross the VMVSP project area were examined as part of the technical studies supporting the Draft EIR for that project. As part of that study, records searches, archival research, pedestrian surveys, and archaeological testing and evaluation were conducted. One known precontact archaeological site, which is also a contributing element of the Marble Valley Archaeological District, and 11 known historic-period archaeological sites are located within or adjacent to the proposed offsite improvement areas and are shown in Table 3.4-3. Only one resource, P-9-798 was recommended eligible for listing in the CRHR.

Table 3.4-3. Known Cultural Resources Sites in the Offsite Improvement Areas

Site Number	Description	Individually Eligible for NRHP/CRHR	Contributing Element to District	Direct Impact?
Archaeological Sites				
P-9-794 (CA-ELD-706; MV-13)	Lithic scatter	No	Yes	No
Built Environment Sites				
P-9-809 (CA-ELD-721H)	Sacramento-Placerville Road/Mormon Hill Road/Lincoln Highway	Unknown (some segments eligible)	No	Yes
P-9-792 (EC-12-212)	Marble Creek mining landscape	No	No	Yes
P-9-796 (CA-ELD-708H; MV-16)	Double pot kiln	Yes	No	Yes
P-9-798 (CA-ELD-710H; MV-20)	Pot kiln	No	No	Yes
P-9-1695 (CA-ELD-1278H)	Historic Bass Lake Road	Unknown	No	Yes
P-9-5571 (EC-12-243)	Limestone prospecting area	No	No	No
P-9-5578 (EC-12-315)	Diversion ditch	No	No	Yes
P-9-5591 (EC-12-299)	Historical road grade	No	No	Yes
P-9-5593 (EC-12-297)	Berm and marker	No	No	Yes
P-9-5635 (EC-12-265)	Limestone quarry fill	No	No	Yes
P-9-5637 (EC-12-262)	Pit	No	No	No
P-9-5642 (EC-12-256)	Prospecting pit	No	No	No
P-9-5646 (EC-12-281)	Limestone quarry	No	No	No

NRHP = National Register of Historic Places.
CRHR = California Register of Historic Resources.

A constraints analysis was conducted for the VMVSP offsite improvements, which addresses the sensitivity of the Marble Valley Parkway extension to the Bass Lake Road interchange (ECORP

2013). That study examined the results of records searches and archival research and determined that the archaeological sensitivity of the area was low.

The 2016 NCIC records search showed that two historic-period road alignments (the Sacramento-Placerville Road and historic Bass Lake Road) are located within the General Plan Policy TC-Xf traffic improvement areas (Table 3.4-3). One of these resources, the Sacramento-Placerville Road, includes segments that have been recommended eligible for listing in state and federal registers, and that are contributing elements to the Mormon Hill Historic District, which is located between El Dorado Hills Boulevard and Bass Lake Road. The historic Bass Lake Road has not been evaluated for eligibility for listing in state or federal registers.

3.4.2 Environmental Impacts

Methods of Analysis

This EIR analyzes whether the project would have the potential to adversely affect existing cultural resources. The identified resources have been examined for their significance and the potential for the development under the proposed project to result in impacts on that significance.

CEQA requires an assessment of a project's potential effects on significant historical resources (i.e., those that are listed or eligible for listing in the CRHR or in a local register or survey that meets the requirements of PRC 5020.1[k] and 5024.1[g]). This assessment entails the following steps.

1. Identify potential historical resources.
2. Evaluate the significance of identified historical resources.
3. Evaluate the anticipated effects of a project on all significant historical resources.

Under CEQA, only effects on significant resources are considered potentially significant, so only those impacts require detailed analysis.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

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

Impacts and Mitigation Measures

Impact CUL-1: Cause a substantial adverse change in the significance of a historic period district that is a historical resource as defined in Section 15064.5 (less than significant with mitigation)

One historic district (LRVHD, or P-9-5550) in the project area is recommended eligible for listing in the CRHR, under Criteria 1, 3, and 4. The LRVHD contains both historic built environment resources

and archaeological resources. There are 16 noncontributing and 33 contributing elements to the LRVHD. The 33 contributing elements consist of 22 historic built environment resources and 11 archaeological resources.

Seventeen of the LRVHD contributing built environment resources (F03, F04, F07, F11, F12, F13, F14, F20, F23, F24, F25, F26, F27, F28, F29, F30, and F48) and one of the contributing archaeological resources (F45) would be indirectly affected by the proposed project (Table 3.4-2). Although these resources are all in areas designated OS and would not be directly affected by project activities, they could be indirectly affected by operation of the proposed project in that people introduced into the area may alter or destroy these resources. This would be a significant impact on the LRVHD.

Five of the LRVHD contributing historic built environment resources (F05, F34, F36, F37, and F44) and 10 of the contributing archaeological resources (F10, F31, F32, F33, F35, F38, F41, F42, F43, and F47) would be directly affected by the proposed (Table 3.4-2). These resources are all in areas proposed for low-density residential development (Lime Rock Residential-Low [LRL]). The disturbance, destruction, removal, or demolition of any of these resources would be significant impacts on the LRVHD. Preservation in place of these elements would not be possible because of local topography, safety constraints related to the mine setback for road construction and impacts on oak canopy.

Where feasible, contributing elements to the LRVHD, regardless of their individual eligibility, would be preserved by OS designations through project design to retain the integrity of LRVHD. In addition, LRVSP Policy 5.33 would ensure that a qualified cultural resources professional would conduct studies to identify and evaluate cultural resources for NRHP/CRHR eligibility, identify impacts, and propose mitigation in compliance with Section 106 of the NHPA. Where it is not feasible and LRVHD elements are affected, implementation of Mitigation Measure CUL-1 would reduce both direct and indirect impacts on the LRVHD to a less-than-significant level. This mitigation measure has been modeled on those in the technical report (Patrick GIS Group 2014).

Mitigation Measure CUL-1: Avoid impacts on the Lime Rock Valley Historic District where possible and implement appropriate measures where avoidance is not possible

In addition to LRVSP Policy 5.33, the following measures to avoid and mitigate impacts shall be implemented prior to issuance of grading permits and shall be incorporated into the tentative map.

Avoidance Measures:

- Avoid impacts on district elements adjacent to construction activities using avoidance fencing.
- Protect contributing elements of the LRVHD from vandalism due to the increase in people in the vicinity by discouraging foot traffic in the area. Methods to achieve this goal could include using fencing or walls, or landscaping using native plants such as blackberries or poison oak to redirect foot traffic away from sensitive areas.

Mitigation Measures to be implemented by qualified archaeologists retained by the applicant may include the following measures:

- Conduct data recovery excavations for areas with archaeological deposits.
- Prepare photographic and spatial documentation of district elements.

- Interview former residents and workers of the El Dorado Limestone Company to create an oral history.
- Develop an interpretive display for a local museum and/or historical society.

Specific details regarding these measures will be developed in consultation with USACE and shall be incorporated into a treatment plan that shall be equivalent to a Historic Properties Treatment Plan (HPTP), in compliance with LRVSP Policy 5.33 to be part of a memorandum of agreement among USACE, the project applicant, and the SHPO in compliance with Section 106 of the NHPA, as required.

Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource that is a historical resource pursuant to Section 15064.5 (less than significant with mitigation)

There are three archaeological resources that have been recommended individually eligible for listing in the CRHR (P-9-1949, P-9-3906, and P-9-5549). Archaeological resources that are contributing elements to the LRVHD are addressed above in Impact CUL-1.

Archaeological resources P-9-1949 and P-9-5549 are located in areas that are proposed to be designated OS in the LRVSP and would not be directly affected by project construction. LRVSP Policy 5.34 requires that publicly accessible trails and facilities in OS areas be located to ensure the integrity and preservation of historical and cultural resources as specified in the *Open Space Management and Wildfire Protection Plan*. However, the resources could be indirectly affected by project construction or operation of the proposed project, in that people introduced into the area may alter or destroy these resources. This would be a significant impact on the resources. Implementation of Mitigation Measure CUL-2a would reduce indirect impacts to a less-than-significant level by restricting public access to the sites and thereby reducing the potential for disturbance, damage, or vandalism of the sites. This mitigation measure has been modeled on the mitigation measures in the technical report (Patrick GIS group 2014).

P-9-1949 is directly adjacent to an area designated LRL, and the subsurface extent of the site is not known. If development encroaches on the known surface boundaries of the site, excavation associated with project construction could result in disturbance or destruction deposits associated with this historic resource. This would be a significant impact. Implementation of Mitigation Measure CUL-2b would reduce this impact to a less-than-significant level. This mitigation measure has been modeled on the mitigation measures in the technical report (Patrick GIS Group 2014).

The large majority of P-9-3906 is in an area designated OS, with a small margin located in an area designated LRL. Construction of the proposed project in this area could result in disturbance of the remains of the cabin and disturbance or destruction of associated archaeological deposits. This would directly affect a portion of the resource, thereby resulting in a direct impact on P-9-3906 as a whole. This impact would be significant. If feasible, impacts on P-9-3906 would be avoided through project design, which would be incorporated into tentative maps. If avoidance is not feasible, implementation of Mitigation Measure CUL-2c would reduce the direct impact to a less-than-significant level by ensuring that data is recovered from the resource. This mitigation measure has been modeled on the mitigation measures in the technical report (Patrick GIS Group 2014).

Additionally, there is always the possibility that buried resources with no surface components are located in the project area. Construction of the proposed project could result in impacts on buried cultural resources. If those resources are eligible for listing in the CRHR or the NRHP, disturbance or

destruction would be a significant impact. Implementation of Mitigation Measure CUL-2d to monitor ground-disturbing activity and stop construction when resources are encountered would reduce this impact to a less-than-significant level by providing a process by which buried resources can be evaluated and appropriately treated.

Mitigation Measure CUL-2a: Avoid and minimize potential indirect impacts on P-9-1949 and P-9-5549

To mitigate potential indirect impacts on archaeological resources P-9-1949 and P-9-5549, such as vandalism, inadvertent disturbance, or destruction due to the presence of people, the project applicant shall work with Native American representatives, as appropriate, and the County to develop measures that shall limit public access to the sites. These measures may include capping the site using clean fill or fencing (and interpretive signing as appropriate) or hiding the resources by planting undesirable plants (poison oak, blackberries) over the sites. Avoidance measures shall be implemented prior to construction and development within 100 feet of these resources so that the sites shall be protected during construction and operation of the proposed project in the vicinity.

Mitigation Measure CUL-2b: Avoid and minimize impacts on resource P-9-1949 and implement appropriate measures if avoidance is not feasible

The following measures to avoid and mitigate impacts shall be implemented prior to issuance of grading permits and be incorporated into the tentative map.

- If development encroaches on the resource the project applicant shall retain a qualified archaeologist to conduct testing to ensure that no subsurface manifestation of the resource is located in an area of construction. If subsurface deposits are present and cannot be avoided through project design, a data recovery plan shall be prepared, approved by the County, and implemented. The data recovery plan shall include research issues and questions, field methods, and a curation agreement for any materials recovered during excavation and shall be equivalent to an HPTP suitable for use in Section 106 consultation should it arise.
- When construction is proposed within 50 feet of the resource the applicant shall ensure that exclusion fencing (also known as environmentally sensitive area fencing) is erected to prevent construction impacts.

Mitigation Measure CUL-2c: Avoid and minimize impacts on resource P-9-3906 and implement appropriate measures if avoidance is not feasible

The following measures to avoid and minimize impacts shall be implemented prior to issuance of grading permits and shall be incorporated into the tentative map.

- Avoidance measures to be implemented in areas where the site is not directly affected:
    - Establish an environmentally sensitive area around the perimeter of the site based on information in the site record and a visual inspection of the area by a qualified archaeologist. The environmentally sensitive area shall be fenced during and prior to any ground disturbance, creating at least a 100-foot buffer.

    - An archaeological monitor shall be present during clearing and vegetation removal within 100 feet of the resource as determined by the surface inventory or by test excavations.

- Mitigation measures to be implemented by qualified archaeologists retained by the project applicant may include the following measures:
    - Conduct subsurface testing to determine extent of the subsurface component of the site if construction encroaches within 100 feet of the known boundaries of P-9-3906.
    - Conduct controlled archaeological excavation to recover data if testing indicates the presence of an intact subsurface deposit. A data recovery plan shall be prepared to guide excavation and shall include research issues and questions, field methods, and a curation agreement for any materials recovered during excavation.

These measures shall also be incorporated into a treatment plan that shall be equivalent to an HPTP suitable for use in Section 106 consultation should it arise.

Mitigation Measure CUL-2d: Implement cultural resources training and monitoring during ground-disturbing activities and halt work if previously unrecorded cultural resources are encountered

The project applicant shall retain a qualified archaeologist, who meets the Secretary of the Interior's standards, to train construction personnel prior to the start of ground-disturbing activities and to monitor ground-disturbing construction activities in previously undisturbed sediments within 100 feet of all previously recorded resources as documented in the technical report. The archaeologist shall observe the ground-disturbing activities to ensure that no cultural material is present or disturbed during those activities. If potential cultural material is observed, all work within 100 feet of the find shall cease and the archaeologist shall assess the significance of the find. If the find is determined to be associated with the LRVHD, P-9-1949, or P-9-3906, it shall be treated in accordance with the site-specific treatment plans required in Mitigation Measures CUL-1, CUL-2b, and CUL-2c to preserve the resource. If the resource is not associated with the LRVHD, P-9-1949 or P-9-3906 and is determined to be significant, a site-specific treatment plan shall be developed by the County in consultation with the SHPO and other appropriate agencies. The treatment plan shall include research issues and questions, field methods, and a curation agreement for any materials recovered during excavation and shall be equivalent to an HPTP suitable for use in Section 106 consultation should it arise. The plan shall be reviewed and approved by the County and implemented prior to the continuation of work in that area. If the find is determined not to be significant, no further mitigation is warranted.

Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries (less than significant with mitigation)

No human remains are known to be located in or near the project area. However, the possibility always exists that unmarked burials may be unearthed during project construction. This impact would be significant but would be reduced to a less-than-significant level by implementing Mitigation Measure CUL-3.

Mitigation Measure CUL-3: Perform archaeological construction monitoring during ground-disturbing activities and stop work if human remains are encountered

The project applicant shall retain a qualified archaeologist, who meets the Secretary of the Interior's standards, to conduct construction monitoring during ground-disturbing construction activities in previously undisturbed sediments within 100 feet of all previously recorded precontact resources as documented in the technical report. The archaeologist shall observe the ground-disturbing activities to ensure that no human remains are present or disturbed during those activities. In the event that human remains are discovered, all work shall cease in the vicinity (within a minimum of 100 feet) of the find, and the County coroner shall be notified immediately. If the coroner determines the remains to be Native American in origin, the coroner shall be responsible for notifying the NAHC, which shall appoint an MLD (PRC Section 5097.99). The archaeological consultant, project applicant, County, and MLD shall make all reasonable efforts to develop an agreement for the dignified treatment of human remains and associated or unassociated funerary objects (CCR Title 14 Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The MLD shall have 24 hours after notification by the NAHC to make a recommendation (PRC Section 5097.98). If the MLD does not agree to the reburial method, the proposed project shall follow PRC Section 5097.98(b), which states that "the landowner or his or her authorized representative shall reinter the human remains, and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

Impact CUL-4: Result in disturbance to or destruction of cultural resources as a result of offsite infrastructure and General Plan Policy TC-Xf improvements (less than significant with mitigation)

As described in Chapter 2, *Project Description*, and shown in Figure 2-9, the LRVSP would include offsite infrastructure improvements to the east and west of the project area. The specific locations of the offsite improvements are not currently known, but corridors have been identified. No studies have been conducted within the eastern offsite improvement area. Construction of offsite improvements could result in disturbance or destruction of known or unknown cultural resources. If those resources were listed in or eligible for listing in the CRHR or the NRHP, this would be a significant impact. Implementation of Mitigation Measures CUL-2d and CUL-3, which require monitoring during construction, and CUL-4a, which requires preconstruction surveys of the offsite areas, would reduce this impact to a less-than-significant level.

The offsite improvement area to the west has been examined for cultural resources as part of the VMVSP environmental review (ECORP Consulting 2013a, 2013b). There are seven cultural resources located in the proposed offsite improvement area and another five sites located immediately adjacent (Table 3.4-3) to the improvement area. None of the sites that would be directly affected by the offsite improvements is a historical resource for the purposes of CEQA. The proposed project could result in indirect impacts on one historical resource, P-9-794, a precontact lithic scatter that is considered a contributing element to the Marble Valley Archaeological District. It is anticipated that improvements along this alignment shall be completed for the development of the VMVSP. However, if construction of the proposed project precedes these improvements, implementation of Mitigation Measure CUL-4b would reduce impacts on P-9-794 to a less-than-significant level. Construction of offsite infrastructure improvements, as well as offsite traffic

improvements required under General Plan Policy TC-Xf could result in disturbance to or destruction of known or unknown cultural resources. If those resources were listed in or eligible for listing in the CRHR or the NRHP, this would be a significant impact. Because the LRVHD is recommended eligible for listing in the CRHR, disturbance or destruction of the LRVHD would be a significant impact. Implementation of Mitigation Measures CUL-2d, CUL-3, and CUL-4a require monitoring during construction and that work stop in the event of discovery of previously unknown cultural resources. Mitigation Measure CUL-4a requires preconstruction surveys of the offsite improvement areas and evaluation and treatment of resources, consistent with the requirements of LRVSP Policy 5.33. These mitigation measures would reduce any impacts on unknown cultural resources in offsite improvement areas to a less-than-significant level. Implementation of Mitigation Measure CUL-4b would also reduce impacts on archaeological sites adjacent to offsite improvement areas to a less-than-significant level.

Mitigation Measure CUL-2d: Implement cultural resources training and monitoring during ground-disturbing activities and halt work if previously unrecorded cultural resources are encountered

Mitigation Measure CUL-3: Perform archaeological construction monitoring during ground-disturbing activities and stop work if human remains are encountered

Mitigation Measure CUL-4a: Perform cultural resources surveys of the offsite improvement areas and address any eligible resources in accordance with State CEQA Guidelines Section 15126.4

When the locations of offsite improvements are finalized, the project applicant shall retain qualified cultural resources professionals, who meet the Secretary of Interior's standards, to conduct studies to determine whether cultural resources are located in the area that would be affected by the construction and operation of the improvements. These studies shall include, as appropriate, a records search, archival research, contacting NAHC and interested parties, and pedestrian inventories. Recommendations made for avoidance and minimization shall be considered by the County and implemented, as necessary. These measures could include monitoring and presence/absence testing in sensitive areas, or training for construction personnel. Any resources that are located shall be evaluated for eligibility for listing in the CRHR or NRHP. If resources found eligible cannot be avoided through project design, mitigation measures shall be designed in consultation with the County, the SHPO, and other appropriate agencies or parties. These mitigation measures may include data recovery, site capping, interpretation, or other means.

Mitigation Measure CUL-4b: Avoid and minimize impacts on archaeological sites adjacent to offsite improvements

The following measures to minimize and avoid impacts on known archaeological sites shall be implemented prior to issuance of grading permits and shall be incorporated into the tentative map.

- Establish an environmentally sensitive area around the perimeter of the site based on information in the site record and a visual inspection of the area by a qualified archaeologist; the environmentally sensitive area shall be fenced and monitored for avoidance.

- An archaeological monitor shall be present during clearing and vegetation removal within 50 feet of the resource.

3.5 Geology, Soils, Minerals, and Paleontological Resources

This section identifies existing conditions and discusses the regulatory setting for geology and soils, minerals, and paleontological resources in the project area and analyzes the potential for the proposed project to affect these resources. Information presented in the discussion and subsequent analysis was primarily drawn from the following sources. The following studies, as well as other documents referenced in this section, are available for review during normal business hours at the El Dorado County (County) Community Development Agency office: 2850 Fair Lane, Building C, Placerville, CA. Specific reference information is provided in the text.

- *Summary of Additional Geotechnical Review, El Dorado Limestone Mine, Planned Lime Rock Valley Development, Shingle Springs, California* (Kleinfelder 2016).
- *Review of Kleinfelder's April 1, 2016 Summary of Additional Geotechnical Review, El Dorado Limestone Mine, Planned Lime Rock Valley Development, Shingle Springs, California* (Michael Baker International 2016).
- *Geotechnical and Geological Risk Assessment, Planned Lime Rock Valley Development at El Dorado Limestone Mine, Shingle Springs, California* (Kleinfelder 2014).
- *Lime Rock Valley, Shingle Lime Mine Road, Shingle Springs, California, Geologic and Geotechnical Sections of the Environmental Impact Report* (Youngdahl Consulting Group 2013a).
- *Lime Rock Valley, Shingle Lime Mine Road, Shingle Springs, California, Anticipated Conditions of Geologic and Geotechnical Conditions* (Youngdahl Consulting Group 2013b).
- *El Dorado Limestone Mine Development Setbacks, Shingle Lime Mine Road, Update of Preliminary Recommendations* (Youngdahl Consulting Group 2013c).
- *El Dorado Limestone Mine Development Setbacks, Shingle Lime Mine Road, Preliminary Recommendations* (Youngdahl Consulting Group 2009a).
- Soils information from the *Soil Survey of El Dorado Area, California* (Rogers 1974).
- Regional geologic maps and fault maps prepared by the California Department of Conservation's California Geological Survey (formerly the Division of Mines and Geology) and the U.S. Geological Survey (USGS).
- Soils information made available by the Earth System Science Center at Pennsylvania State University, based on soils mapping by the U.S. Department of Agriculture, Soil Conservation Service (now the Natural Resources Conservation Service [NRCS]).

3.5.1 Existing Conditions

Regulatory Setting

Geology and Soils

Federal

Clean Water Act 402/National Pollutant Discharge Elimination System

The Clean Water Act (CWA) is discussed in detail in Section 3.8, *Hydrology, Water Quality, and Water Resources*. However, because CWA Section 402 is directly relevant to excavation, additional information is provided below.

Section 402 mandates that certain types of construction activity comply with the requirements of the U.S. Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) program. USEPA has delegated to the State Water Resources Control Board (State Water Board) the authority for the NPDES program in California, where it is implemented by the state's nine Regional Water Quality Control Boards (Regional Water Boards). Construction activity disturbing 1 acre or more must obtain coverage under the state's General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (see *Construction Activities Storm Water Construction General Permit,* below). Construction General Permit applicants are required to prepare a Notice of Intent (NOI), prepare a stormwater pollution prevention plan (SWPPP), and implement and maintain best management practices (BMPs) to avoid adverse effects on receiving water quality as a result of construction activities, including earthwork.

Because the proposed project would result in the disturbance of an area greater than 1 acre, the project applicant would need to obtain coverage under the NPDES Construction General Permit and obtain an NPDES stormwater permit from the Central Valley Regional Water Quality Control Board (Central Valley Water Board).

Additionally, the County is in the process of implementing requirements of the State Water Board's NPDES General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4) Order No. 2013-0001-DWQ (as amended by Order WQ 2015-0133-EXEC, Order WQ 2016-0069-EXEC, WQ Order 2017-XXXX-DWQ, Order WQ 2018-0001-EXEC, and Order WQ 2018-0007-EXEC. The proposed project qualifies as a "Regulated Project" as defined in Section E.12 of the Order and, therefore, would be required to comply with the standards provided in the Order. The Section E.12 requirements are described in Section 3.8, *Hydrology, Water Quality, and Water Resources*, under *NPDES General Municipal Stormwater Permit*.

U.S. Geological Survey National Landslide Hazard Program

To fulfill the requirements of Public Law 106-113, USGS created the National Landslide Hazards Program to reduce long-term losses from landslide hazards by improving understanding of the causes of ground failure and suggesting mitigation strategies. The Federal Emergency Management Agency (FEMA) is the responsible agency for the long-term management of natural hazards.

State

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) (Public Resources Code [PRC] 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults (Earthquake Fault Zones). It also defines criteria for identifying active faults, giving legal weight to terms such as *active*, and establishes a process for reviewing building proposals in and adjacent to Earthquake Fault Zones.

Under the Alquist-Priolo Act, faults are zoned and construction along or across them is strictly regulated if they are *sufficiently active* and *well-defined*. A fault is considered sufficiently active if one or more of its segments or strands show evidence of surface displacement during the Holocene time (defined for purposes of the Alquist-Priolo Act as referring to approximately the last 11,000 years). A fault is considered well-defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment (Bryant and Hart 2007).

Seismic Hazards Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC 2690–2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act: the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones.

Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites in Seismic Hazard Zones until appropriate site-specific geologic or geotechnical investigations have been carried out, and measures to reduce potential damage have been incorporated into the development plans. Geotechnical investigations conducted within Seismic Hazard Zones must incorporate standards specified by California Geological Survey Special Publication 117a, *Guidelines for Evaluating and Mitigating Seismic Hazards* (California Geological Survey 2008).

Construction Activities Storm Water Construction General Permit (Order No. 2022-0057-DWQ)

Dischargers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre but are part of a larger common plan of development that, in total, disturbs 1 or more acres, are required to obtain coverage under the Construction General Permit. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

Coverage under the Construction General Permit is obtained by submitting permit registration documents to the State Water Board that include a risk level assessment and a site-specific SWPPP

identifying an effective combination of erosion control, sediment control, and non-stormwater BMPs. The Construction General Permit requires that the SWPPP define a program of regular inspections of the BMPs and, in some cases, sampling of water quality parameters. The Central Valley Water Board administers the NPDES stormwater permit program in El Dorado County.

Municipal Separate Storm Sewer System Program

USEPA defines an MS4 as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, country, or other public body having jurisdiction over stormwater, that is designed or used for collecting or conveying stormwater. As part of the NPDES program, USEPA initiated a program requiring that entities having MS4s apply to their local Regional Water Board for stormwater discharge permits. The program proceeded through two phases. Under Phase I, the program initiated permit requirements for designated municipalities with populations of 100,000 or more to obtain NPDES permit coverage for their stormwater discharges. Phase II expanded the program to municipalities with populations less than 100,000, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges.

Generally, Phase I MS4s are covered by individual permits and Phase II MS4s are covered by a general permit. Each regulated MS4 is required to develop and implement a stormwater management program (SWMP) to reduce the contamination of stormwater runoff and prohibit illicit discharges. El Dorado County is a Phase II Small MS4 Traditional Renewal Permittee under MS4 Order No. 2013-0001-DWQ.

California Building Standards Code

California's minimum standards for structural design and construction are given in the California Building Standards Code (CBSC) (24 California Code of Regulations). The CBSC is based on the International Building Code (IBC), which is used widely throughout United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for California conditions with numerous, more-detailed, or more-stringent regulations. The CBSC requires that "classification of the soil at each building site will be determined when required by the building official" and that "the classification will be based on observation and any necessary test of the materials disclosed by borings or excavations." In addition, the CBSC states that "the soil classification and design-bearing capacity will be shown on the (building) plans, unless the foundation conforms to specified requirements." The CBSC provides standards for various aspects of construction, including excavation, grading, and earthwork construction; fills and embankments; expansive soils; foundation investigations; and liquefaction potential and soil strength loss. In accordance with California law, certain aspects of the proposed project would be required to comply with all provisions of the CBSC.

Local

El Dorado County General Plan

To protect public health and the environment from geologic and seismic hazards, the Public Health, Safety, and Noise Element (El Dorado County 2019) of the *El Dorado County General Plan* (County General Plan) (El Dorado County 2004a) includes the following goal, objectives, and policies, the full text of which can be found in Appendix B, *Consistency with El Dorado County General Plan Policies*.

See Section 3.9, *Land Use Planning and Agricultural Resources*, for an analysis of the proposed project's consistency with County General Plan policies as required under State CEQA Guidelines Section 15125.

- Goal 6.3*, Geologic and Seismic Hazards,* addresses minimizing threats to life and property from seismic and geologic hazards through development regulations and building and site standards and ongoing evaluation of seismic hazards and includes Objective 6.3.1, *Building and Site Standards*, and implementing policy 6.3.1.1; and Objective 6.3.2, *County-Wide Seismic Hazards*, and implementing Policy 6.3.2.5.

In addition, the Conservation and Open Space Element (El Dorado County 2017) includes the following relevant goal, objectives, and policies, the full text of which can be found in Appendix B, *Consistency with El Dorado County General Plan Policies*.

- Goal 7.1*, Soil Conservation,* addresses conservation and protection of the County's soil resources and protection of natural drainage patterns and includes Objective 7.1.2, *Erosion/Sedimentation*, and implementing Policies 7.1.2.1 and 7.1.2.2; and Objective 7.3.4, *Drainage*, and implementing Policies 7.3.4.1 and 7.3.4.2.

Compliance with El Dorado County Code of Ordinances Chapter 110.16, Uniform Building Code, would ensure the project would be consistent with County General Plan policies related to geology.

Geotechnical Investigations

Local jurisdictions typically regulate construction activities through a multistage permitting process that may require a site-specific geotechnical investigation. The purpose of the investigation is to provide a basis for the development of appropriate construction design. The site-specific geotechnical investigation is to be based on adequate test borings or excavations in the area where construction would occur and prepared by a civil engineer who is registered with the State.

The County's *Design and Improvement Standards Manual* (Volume III: Grading, Erosion, and Sediment Control, Section D: Grading Permit Application Submittal Requirements) describes when geotechnical and other similar reports are required (El Dorado County 2007). The County also requires investigation of the soils underlying proposed areas of grading in conformance with the mandates of the IBC and CSBC.

As part of tentative map approval, El Dorado County requires that areas having expansive clays and seasonably wet areas be identified by a geotechnical engineer. Such areas, if deemed to be potential construction hazards, would be subject to further evaluation and identification to determine appropriate mitigation measures (El Dorado County Community Development Department 1998).

Grading, Erosion, and Sediment Control Ordinances

The County Grading, Erosion, and Sediment Control Ordinance (Grading Ordinance) (Chapter 110.14 of the County Code) establishes provisions for public safety and environmental protection associated with grading activities on private property. Section 110.14.090 of the Grading Ordinance, which has incorporated the recommended standards for drainage BMPs from the High Sierra Resource Conservation and Development Council BMP guidelines handbook, prohibits grading activities that would cause flooding where it would not otherwise occur or would aggravate existing flooding conditions. The Grading Ordinance also requires all drainage facilities, aside from those in subdivisions that are regulated by the County's Subdivision Ordinance, be approved by the County Department of Transportation. Pursuant to the ordinance, the design of the drainage facilities in the

County must comply with the *County of El Dorado Drainage Manual* (Drainage Manual) (El Dorado County 1995).

El Dorado County Subdivision Ordinance

The County's Subdivision Ordinance (El Dorado County Code Title 120) requires the submission of drainage plans prior to the approval of tentative maps for proposed subdivision projects. The drainage plans must include an analysis of upstream, onsite, and downstream facilities and pertinent details, as well as details of any necessary offsite drainage facilities. The tentative map must include data on the location and size of proposed drainage structures. In addition, drainage culverts consistent with the drainage plan may be required in all existing drainage courses, including roads.

El Dorado County Design and Improvement Standards Manual

The County's Design and Improvement Standards Manual was adopted in 1990 and provides required erosion and sediment control measures that are applicable to subdivisions, roadways, and other types of developments. Specifically, Volume III: Grading, Erosion, and Sediment Control, describes the criteria for when an erosion and sediment control plan is required. When required, erosion and sediment control plans must comply with the adopted County SWMP (El Dorado County 2004b) and the NPDES MS4 Order.

El Dorado County Drainage Manual

The Drainage Manual provides standard procedures for future designs of drainage improvements. The Drainage Manual supersedes the stormwater drainage system design standards in the County's *Design Improvements Standards Manual*. The Drainage Manual requires that a hydrologic and hydraulic analysis be submitted for all proposed drainage facilities. The analysis must include an introduction/background, location map/description, catchment description/delineation, hydrologic analysis, hydraulic and structural analysis, risk assessment/impacts discussion, unusual or special conditions, conclusions, and technical appendices. This analysis is usually required on projects undergoing discretionary review. However, under the Building Code and Grading Ordinance, the County also reviews ministerial development, including required drainage plans, to ensure that appropriate runoff design and controls are in place.

El Dorado County Code of Ordinances

The County has adopted the 2016 CBSC as the basis for the County Building Code (El Dorado County Code of Ordinances Section 110.16.010). The County's enforcement of its Building Code ensures the proposed project would be consistent with the CBSC.

Minerals

Federal

No federal regulations related to mineral resources apply to the proposed project because there are no federally owned lands in the project area.

State

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA) (PRC 2710–2719) is the principal legislation addressing mineral resources in California. SMARA was enacted in response to land use conflicts between urban growth and essential mineral production. The stated purpose of SMARA is to provide a comprehensive surface mining and reclamation policy that will encourage the production and conservation of mineral resources while ensuring that adverse environmental effects of mining are prevented or minimized; that mined lands are reclaimed and residual hazards to public health and safety are eliminated; and that consideration is given to recreation, watershed, wildlife, aesthetic, and other related values.

SMARA provides for the evaluation of an area's mineral resources using a system of mineral resource zone (MRZ) classifications that reflect the known or inferred presence and significance of a given mineral resource. MRZ classifications are based on available geologic information, including geologic mapping and other information on surface exposures, drilling records, and mine data, and socioeconomic factors, such as market conditions and urban development patterns. The MRZ classifications are defined as follows.

- **MRZ-1.** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2.** Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- **MRZ-3**. Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
    - **MRZ-3a**. Areas containing known mineral deposits that may qualify as mineral resources. Further exploration work within these areas could result in the reclassification of specific localities into the MRA-2 categories.
    - **MRZ-3b**. Areas containing inferred mineral deposits that may qualify as mineral resources. Land classified MRZ-3b represents areas in geologic settings which appear to be favorable environments for the occurrence of specific mineral deposits. Further exploration work could result in the reclassification of all or part of these areas into the MRZ-3a or MRA-2 categories.
- **MRZ-4**. Areas where available information is inadequate for assignment into any other MRZ.

SMARA governs the use and conservation of a wide variety of mineral resources. However, certain resources and activities are exempt from the provisions of SMARA. Subject to certain conditions, exempted activities include excavation and grading conducted for farming, onsite construction, or recovery from flooding or other natural disaster.

Local

The County Surface Mining and Reclamation Ordinance (Chapter 8.36 of the County Code) recognizes the SMARA MRZ designations and identifies requirements related to mining and mine reclamation. Additionally, the County has designated general plan land uses and zoning on sites with previous or potential mines. The project area is not identified as an Important Mineral Resource Area in the County General Plan, and there is no mineral resources (-MR) overlay.

Paleontological Resources

Federal

No federal regulations related to paleontological resources apply to the proposed project because there are no federally owned lands in the project area. There is one National Natural Landmarks Program site in El Dorado County, but it is at Lake Tahoe, outside of the project area.

State

California Public Resources Code

Several sections of the PRC protect paleontological resources. Section 5097.5 prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission. Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

Local

El Dorado County General Plan

The Conservation and Open Space Element (El Dorado County 2017) of the County General Plan (El Dorado County 2004a) includes a goal and policies to protect cultural resources; this goal and these policies also address paleontological resources. The full text of the goal and policies can be found in Appendix B, *County of El Dorado Drainage Manual,* which provides an analysis of the project's consistency with County General Plan policies as required under State CEQA Guidelines Section 15125.

- Goal 7.5, *Cultural Resources*, addresses preservation of the County's important resources through protection of cultural heritage, and includes implementing Policies 7.5.1.3 and 7.5.1.6.

Environmental Setting

Geology and Soils

Regional Geologic Framework

The project area is in the western portion of the Sierra Nevada geomorphic province, which is a linear, tilted fault block almost 400 miles long that extends from northern Butte County to the Mohave Desert. In stark contrast to its steep eastern slope, its western slope is gentle. This western slope is deeply incised by rivers and disappears beneath the sediments of the Central Valley. The upper elevation Sierra Nevada comprises massive granites shaped by glaciation, such as those seen in Yosemite. Lower in the Sierra Nevada is the northwest-trending Mother Lode, which is made up of metamorphic rock containing gold-bearing veins. The Sierra Nevada disappears to the north beneath the Cenozoic volcanic rock of the Cascade Ranges (California Geological Survey 2002:2).

Geologic Setting of Western El Dorado County

A north–northwest-trending belt of metamorphic rocks—the Western Sierra Nevada Metamorphic Belt—extending from Mariposa northward to Lake Almanor underlies the western slope of the

Sierra Nevada, including western El Dorado County. This belt consists of accumulations of seafloor rocks and marine sedimentary and volcanic rocks (formed by crystallization of magma at or near the Earth's surface) of various types. These rocks have been buried and recrystallized at depth under elevated temperatures and pressures to produce the belt and range in age from about 160 to 300 million years old. Within the County, the belt is intruded by numerous small to moderately large bodies of igneous rock (the 165-million-year-old Pine Hill Intrusive Complex and the slightly younger granitic intrusions of the Sierra Nevada batholith and small dikes) (California Geological Survey 2000:4).

The structural framework of the Western Sierra Nevada Metamorphic Belt is dominated by a group of north–northwest-trending faults, also referred to as *fault zone*s, which mark the boundaries of different packages of rocks along the length of the belt. These packages of rocks, called *terranes*, are believed to have been emplaced along the western margin of the North American continent at various times when a convergent plate tectonic setting existed (when the oceanic plate was sliding under the continental plate). Throughout the metamorphic belt, including western El Dorado County, the faults are locally characterized by long bands and isolated lenses of serpentinite, schist containing the minerals talc and chlorite, quartz vein complexes, and highly sheared country rock. The faults cut across western El Dorado County from north to south and include segments of the Bear Mountains and Melones fault zones, a probable segment of the Calaveras-Shoo Fly Thrust, and several other unnamed structures (California Geological Survey 2000:4).

Project Area Topography

The project site comprises a series of sloping hills surrounding the main valley (Lime Rock Valley) and a minor valley associated with the corridor of Deer Creek, a perennial stream that flows north to south through the property. The elevation of the site ranges from 1,280 feet above mean sea level (MSL) at the northeast corner to 880 feet where Deer Creek exits the property. The central portion of the project area was previously used for subterranean mining of limestone rock from 1918 to the 1970s. The mine is reported to have achieved depths of up to 1,130 feet below the ground surface using shrinkage slope techniques (Youngdahl Consulting Group 2013a). Figure 2-1 shows the regional location of the proposed project.

Slopes, percentage of coverage, and approximate acreage are listed in Table 3.5-1 and are shown in Figure 3.5-1.

Table 3.5-1. Project Area Slope Information

Percent Slope (%)	Percent Coverage (%)	Approximate Acreage (acres)
0–10	19.2	141.0
10–20	42.7	318.4
20–30	24.9	182.9
>30	13.3	97.7
Total	100	740

Source: G3 Enterprises 2020.

Consistent with County General Plan Policy 7.1.2.1, non-development areas have been established where the slope is steeper than 30% (G3 Enterprises 2020).

Project Area Geology

The project area has been mapped by several geologists at a regional scale (Jennings 1977; California Division of Mines and Geology 1984; California Geological Survey 2001, 2011; Wagner et al. 1981). According to these maps, there are five main geologic units in the project area: Quaternary alluvium, limestone, ultramafic bedrock, metavolcanic rocks, and metasedimentary rocks. Metavolcanic rocks underlie the majority of the eastern portion of the project area. The western edge of the project area is underlain by ultramafic bedrock. A linear vein of limestone deposits occurs in the central portion of the metavolcanic rocks. In addition, metasedimentary rocks are present in the eastern corners of the project area. Alluvial, or stream deposits, of Quaternary age occur within drainages in the project area. These units are not depicted on regional maps because of their narrow width.

The description of these units is from the California Geological Survey (2001) and Wagner et al. (1981). The locations of these units are shown in Figure 3.5-2.

- Limestone (ls): likely Paleozoic age; the metavolcanic rock in the area typically consists of a chaotic mixture of metasedimentary and volcanic units with lesser amounts of gabbroic and ultramafic crystalline intrusive rocks, slates, cherts and moderate to thin limestone lenses
- Ultramafic Rocks (um): Paleozoic to Mesozoic age; partly to completely serpentinized; locally includes gabbroic and other rocks; intrusive igneous rock formation
- Metavolcanic (mv): likely Paleozoic age; metamorphosed mafic pyroclastic and flow rock; referred to as Foothill Melange Ophiolite Terrane
- Metasedimentary (ms): likely Paleozoic age; metamorphosed sedimentary rock; included in the Foothill Melange Ophiolite Terrane
- Quaternary Alluvium (Qal): alluvial or stream deposits of Quaternary age (either Pleistocene age [i.e., greater than 11,000 years old] or Holocene age [i.e., younger than 11,000 years old]) that occur within drainages

Soils

Surface Soils

The soils[1] in the project area have been mapped by the U.S. Department of Agriculture, Soil Conservation Service (now the NRCS) and are described in both the *Soil Survey of El Dorado, California* (Rogers 1974) and NRCS's online soil mapping tool, Web Soil Survey (U.S. Department of Agriculture, Natural Resources Conservation Service 2012). Soils in the project area are shown in Figure 3.5-3.

According to the soil survey, there are five individual soil map units that occupy the project area. These include the Auburn silt loam, 2 to 30% slopes (which covers roughly 11% of the project area and has small occurrences in the northern and central portion of the project area); the Auburn very rocky silt loam, 2 to 30% slopes (which covers roughly 33% of the project area and has small

[1] In context of this analysis, *soil* and *topsoil* are synonymous. *Topsoil* is typically referred to as the soil on the surface (the surface layer, or A horizon). In this analysis, topsoil should not be conflated with Williamson Act or agricultural discussions, thresholds, and impacts. No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is present on the project site. Refer to Chapter 3.9, *Land Use Planning and Agricultural Resources*, for additional information.

occurrences in the northern and central portion of the project area); quarries (which covers roughly 2% of the project area and has small occurrences in the north-central portion of the project area); serpentine rock land (which covers roughly 49% of the project area and is the dominant soil map unit in the project area); and Sobrante silt loam, 3 to 5% slopes (which covers roughly 5% of the project area and has one small occurrence in the southern portion of the project area).

Table 3.5-2 summarizes the soil characteristics for the project area.

Table 3.5-2. Detailed Soil Characteristics of the Project Area

Soil Map Unit	Shrink-Swell Potential	Erosion Hazard (Factor K)[a]	Runoff Rate
Auburn silt loam, 2–30% slopes	Low	0.49	Slow to medium
Auburn very rocky silt loam, 2–30% slopes	Low	0.49	Slow to medium
Quarries	NA[b]	NA[b]	NA[b]
Serpentine rock land	NA[b]	NA[c]	Very rapid
Sobrante silt loam, 3–15% slopes	Low to moderate	0.43	Slow to medium

Source: Rogers 1974; U.S. Department of Agriculture, Natural Resources Conservation Service 2012.

[a] Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

[b] Properties too variable to be determined.

[c] Serpentine rock land is highly resistant to erosion. Factor K has not been determined by the U.S. Department of Agriculture, Natural Resources Conservation Service (2012).

The Auburn soils are relatively shallow (14 to 18 inches to lithic bedrock) and well drained. Their parent material is Amphibolite schist. Typically, the surface layer in these soils is silt loam about 14 inches thick. Unweathered bedrock (typically metabasic rock) occurs at depth below 14 inches (U.S. Department of Agriculture, Natural Resources Conservation Service 2012).

Serpentine rock land consists of highly resistant serpentine and other ultrabasic rock formations. The parent material is Serpentinite. The depth of the soil material is only about 4 inches, below which is lithic bedrock (Rogers 1974:31).

Sobrante silt loam soils are well-drained soils that are underlain by fine-grained metamorphic rocks at a depth of 22 to 36 inches. The parent material is residual materials weathered from metamorphic rock. Typically, the surface layer is silt loam about 5 inches thick. The subsoil, about 19 inches thick, is silt loam and clay loam (U.S. Department of Agriculture, Natural Resources Conservation Service 2012).

According to the *Soil Survey of El Dorado, California* (Rogers 1974), the Sobrante silt loam, 3 to 15% slopes soil map unit has low to moderate shrink-swell potential. However, the materials encountered in Youngdahl Consulting Group's explorations were generally non-plastic (rock, sand, and non-plastic silt) (Youngdahl Consulting Group 2013a). The non-plastic materials are generally considered to be non-expansive. However, clay materials were observed at various locations at the bedrock, which could potentially expand and contract (Youngdahl Consulting Group 2013a).

Subsurface Conditions

A subsurface exploration program conducted by Youngdahl Consulting Group (2013a) included the excavation of 16 exploratory test pits. Native subsurface soil conditions vary over the extent of the project area and include sands, silts, and clays. In general, the test pits on the northwest portion of the project area encountered surface soils consisting of sandy silts in a soft to medium stiff and slightly moist to moist condition from the surface to depths approaching 2 to 4 feet. The test pits on the eastern portion of the project area generally encountered surface soils consisting of silty sand in a loose to medium dense and slightly moist to moist condition from the surface to depths approaching 2 to 4 feet.

Underlying some of the silty materials is a 0.5- to 2-foot-thick layer of clay in a stiff and moist to very moist condition. The clay soils were present as a rind layer over the underlying bedrock materials. These underlying bedrock materials generally consisted of metasedimentary and metavolcanic rock and were encountered to the maximum depth explored in each test pit (2.5 to 13 feet).

Some fills encountered on the project site are expected to be removed and reworked during the development of the site. These fills appear to be generally derived from native site soils and spoils related to the past limestone mining operation. Some of the existing fill soils were observed to be in a loose/soft and slightly moist to moist condition from the surface to depths approaching 1 foot and were mixed with powderized limestone. A limestone rock fill slope was observed for the north–south creek crossing and exceeded depths of 25 feet. Other road fills approaching depths of 20 feet were observed along the east–west main access road. Several large stockpiles are located along the north–south access road near the middle of the project area.

Soil Corrosion Potential

The soils in the project area are not anticipated to have corrosive characteristics and standard testing for corrosive soils is proposed for future design level studies (Youngdahl Consulting Group 2013b).

Naturally Occurring Asbestos

Naturally occurring asbestos, which is addressed in Section 3.2, *Air Quality*, has been identified in several areas in the general vicinity of the project area.

Seismicity and Faults

Primary Seismic Hazards

Surface Rupture and Faulting

The purpose of the Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) is to regulate development near active faults to mitigate the hazard of surface rupture. Faults in an Alquist-Priolo Earthquake Fault Zone are typically active faults. As defined under the Alquist-Priolo Act, an *active fault*[2] is one that has had surface displacement within the Holocene epoch (the last 11,000 years); a *late Quaternary fault* is a fault that has undergone displacement during the past 700,000 years; a

[2] Two types of active faults are recognized: active faults along which historic (last 200 years) displacement has occurred, and active faults exhibiting Holocene fault displacement (during past 11,700 years) without historic record.

Quaternary fault (age undifferentiated) is one that has had surface displacement at some point during Quaternary time (the last 1.6 million years); and a *pre-Quaternary fault* is one that has had surface displacement before the Quaternary period.

The project area is not identified as being located in an Alquist-Priolo Earthquake Fault Zone (Bryant and Hart 2007). There is no evidence of recent (i.e., Holocene) faulting within the project area and no active faults are mapped to cut at or near the project area (California Geological Survey 2015; El Dorado County 2004c; Youngdahl Consulting Group 2013a). Furthermore, review of aerial photographs does not indicate the presence of lineations or other features that would suggest the presence of recent faulting on or trending toward the project area. The nearest mapped active and early Quaternary faults pertinent to the project area are summarized in Table 3.5-3.

Table 3.5-3. Active/Early Quaternary Faults within a 100-Kilometer Radius of the Project Area

Fault Name	Status	Distance/Direction
Dunnigan Hills Fault	Late Quaternary	75 km W
North Tahoe Fault	Active	98 km E
West Tahoe Fault	Active	85 km E
Bear Mountains Fault Zone–East	Late Quaternary	4 km NE
Bear Mountains Fault Zone–West	Late Quaternary	6 km W
Maidu Fault	Quaternary (age undifferentiated)	10 km NE
Melones Fault–West	Late Quaternary	8 km E
Melones Fault–East	Late Quaternary	12 km E

Source: Youngdahl Consulting Group 2013a.
E = east.
km = kilometer.
NE = northeast.
W = west.

Eight faults and/or fault zones were identified as potential seismic sources within a 100-kilometer radius of the project area. Those expected to have the greatest effect due to their proximity to the project area are faults associated with the Foothills fault system (Bear Mountains Fault Zone–East, Bear Mountains Fault Zone–West, Maidu Fault, Melones Fault–West, and Melones Fault–East). The Foothills fault system runs along the western flank of the Sierra Nevada. Many areas of late Cenozoic faulting and some areas of Quaternary faulting have been identified along this system. The most recent event on the Foothills fault system was the 1975 Oroville earthquake (magnitude 5.6 on the Richter Magnitude Scale, described under *Ground-Shaking Hazard*).

The closest Foothills system fault is the western branch of the Bear Mountain fault zone trending nearly north–south passing through the west side of the community of El Dorado Hills to the west of the project area (Figure 3.5-4). The majority of the Bear Mountain fault zone is considered pre-Quaternary, due to the lack of evidence supporting Quaternary displacement. The closest potentially active portion of the Bear Mountain fault zone is approximately 4 to 6 kilometers to the northeast, a distance unlikely to affect the project area with respect to surface fault rupture. Consequently, the project area is not likely to be affected by surface fault rupture.

Ground-Shaking Hazard

The intensity of ground shaking that occurs as a result of an earthquake is partly related to the size of the earthquake, its distance from the subject location, and the response of the geologic materials in the area. As a rule, the greater the energy released from the fault rupture (the earthquake *magnitude*) and the closer the fault rupture (*epicenter*) to the site, the greater the intensity of ground shaking. Geologic and soil units comprising unconsolidated, clay-free sands and silts can reach unstable conditions during ground shaking, which can result in extensive damage to structures built on such soils (see *Liquefaction and Associated Hazards*). When various earthquake scenarios are considered, ground-shaking intensities will reflect both the effects of strong ground accelerations and the consequences of ground failure.

Earthquake magnitude is generally expressed in the Richter Magnitude Scale or as moment magnitude. The scale used in the Richter Magnitude Scale is logarithmic so that each successively higher Richter magnitude reflects an increase in the energy of an earthquake of about 31.5 times. Moment magnitude is the estimation of an earthquake magnitude by using seismic moment, which is a measure of an earthquake size using rock rigidity, amount of slip, and area of rupture. Earthquake energy is most intense at the fault epicenter; the farther an area from an earthquake epicenter, the less likely that ground shaking will occur there.

Ground shaking is described using two methods: ground acceleration as a fraction of the acceleration of gravity, expressed in units of "g," and the Modified Mercalli scale, which is a more descriptive method involving 12 levels of intensity denoted by Roman numerals. Modified Mercalli intensities range from I (shaking that is not felt) to XII (total damage).

The project area is in a region of California characterized by low historical seismic activity and low ground-shaking hazard. The *El Dorado County Multi-Jurisdiction Hazard Mitigation Plan* (El Dorado County 2004c) shows the project area as occurring in a low severity zone for shaking intensity. Farther to the east and west, the ground-shaking hazard increases, coinciding with the increase in abundance of associated faults and fault complexes (California Geological Survey 2008). The most severe ground motion would be expected to occur if there were to be significant activity along the Foothills fault system (Fugro West 2008).

Secondary Seismic Hazards

Liquefaction and Associated Hazards

Liquefaction is a phenomenon in which the strength and stiffness of unconsolidated sediments are reduced by earthquake shaking or other rapid loading. Poorly consolidated, water-saturated fine sands and silts having low plasticity and, when located within 40 feet of the ground surface, are typically considered to be the most susceptible to liquefaction. Soils and sediments that are not water-saturated and that consist of coarser or finer materials are generally less susceptible to liquefaction. Geologic age also influences the potential for liquefaction. Sediments deposited within the most recent millennia are generally more susceptible to liquefaction than older Holocene sediments; Pleistocene sediments are even more resistant; and pre-Pleistocene sediments are generally immune to liquefaction (California Geological Survey 2008).

Two potential ground failure types associated with liquefaction in the region are lateral spreading and differential settlement (Association of Bay Area Governments 2001). Lateral spreading involves a layer of ground at the surface being carried on an underlying layer of liquefied material over a gently sloping surface toward a river channel or other open face. Differential settlement (also called

ground settlement and, in extreme cases, ground collapse) occurs as soil compacts and consolidates after the ground shaking ceases, when the layers that liquefy are not of uniform thickness, which is a common problem when the liquefaction occurs in artificial fills. Settlement can range from 1 to 5%, depending on the cohesiveness of the sediments (Tokimatsu and Seed 1984).

Based on the geologic age of the earth materials, average relative density of the subsurface material, the relatively shallow depth to rock, the absence of a permanently elevated groundwater table (see Section 3.8, *Hydrology, Water Quality, and Water Resources*), and low anticipated ground-shaking hazard for the project area, the potential for liquefaction, dynamic compaction, or seismically induced settlement or bearing loss is considered low.

Seismically Induced and Static Slope Failures

No indication of slope instability on the project site was observed (Youngdahl Consulting Group 2013b). Additionally, due to the absence of permanently elevated groundwater table, the relatively low seismicity of the area, and the relatively shallow depth to rock, the potential for seismically induced slope instability is considered negligible.

Other Geologic Hazards

The central portion of the project area was previously used for subterranean mining of limestone rock from 1918 to the 1970s. The mine is reported to have achieved depths of up to 1,130 feet below the ground surface using shrinkage stop techniques. Common identifications of subterranean mine failures typically include sinkholes and large systems of surface cracking that may affect localized portions or the entire mine area.

Several other geologic and seismic hazards (land subsidence, volcanic activity, tsunami, seiche, and mudflow) that could be experienced in the larger region are unlikely to affect the project area. These hazards are not likely to affect the proposed project and, therefore, are not discussed in this EIR. Radon and naturally occurring asbestos are discussed in Section 3.2, *Air Quality.*

Minerals

The information in this section is based on California Geological Survey (2001), except where noted. El Dorado County contains, and has produced, a wide variety of mineral resources because of its diverse geology. These mineral resources include gold, limestone, crushed rock, sand and gravel, chromite, copper, diamonds, mercury, slate, talc and soapstone, asbestos, clay, silica, tungsten, and other minerals in minor amounts. Mercury, slate, talc, soapstone, asbestos, silica, and tungsten occur in minor amounts and none occur within the vicinity of the project area. There are no crushed rock, sand, or gravel resources mapped in the project area, and there are no local quarries or mines for these materials.

Gold occurs within bedrock and as placer in river deposits (alluvium). There are no bedrock-associated gold deposits in the project area and vicinity. *Placer gold* is gold that has weathered out of the underlying bedrock and then been transported by streams or rivers. This transported gold (placer) may then be found within river deposits (alluvium) either within an active streambed or in river terraces. Extensive placer gold deposits associated with large Tertiary-age rivers are found in El Dorado County to the north of, but not close to, the project area. Deer Creek, which flows in a southerly and then southwesterly direction through the project area, has potential placer gold deposits along its southernmost 0.25 mile within the project area. Placer mining also occurred in

Carson Creek in El Dorado Hills. A minor amount of diamonds have been found in placer gold deposits in western El Dorado County but their bedrock origin has not been located. The project area was likely explored by miners during the Gold Rush. Placer mining occurred along Deer Creek within the project area in the 1800s, following the Gold Rush (Youngdahl 2009b).

Limestone is a marine sedimentary rock and occurs in linear bands or small linear outcrops throughout western El Dorado County. These marine rocks are associated with the terranes moved here by oceanic plates. This limestone has been mined for a wide variety of uses. Some of this mining was by quarrying at the surface while other mines were subterranean excavating relatively expansive tunnels that allowed removal of overlying limestone blocks via sloping. There is a narrow limestone rock unit bisecting the project area in a northwest-to-southeast direction (Figure 3.5-1), and this unit previously had a limestone mine in it. Full-scale limestone mining operation at the project site began in 1918 and continued until the late 1970s when the mine was closed.

Chromite is a metal associated with ultramafic rocks or contact zones of intrusive igneous rocks. Historically, El Dorado County ranks third in the state for chromite production, primarily from mines near Folsom Lake. There are three closed chromite mines on the west side of Cameron Park to the north of US 50, and there are three closed chromite mines on the north side of El Dorado Hills. No chromite is currently produced in California (California Geological Survey 2014). These mines were active in the early part of the 1900s and then briefly during World War II. They have not been active since.

Copper was historically produced in El Dorado County from contact zones of intrusive igneous rocks. The closest historic copper mine is outside the south boundary of the project area in the vicinity of Deer Creek (possibly the Boston Mine) (Youngdahl Consulting Group 2013b). Copper mines excavated along the narrow copper-bearing veins and, while deep and long, they did not create large tunnels because the adjacent rock had no value. Consequently, copper mines have little potential to allow collapse of overlying bedrock, and the obstruction or closure of mine entries is the common safety procedure (Youngdahl Consulting Group 2013b). No copper is currently produced in California (California Geological Survey 2014).

The project area is mapped as MRZ-1 for limestone and construction materials, indicating that there are no significant mineral resources present. It is mapped as MRZ-3a for volcanogenic processes, indicating that there are known mineral deposits that may qualify as mineral resources but require further exploration and analysis to be reclassified. The project area is mapped as MRZ-4 for gold deposits (hydrothermal) and primarily MRZ-4 for gold deposits (metasomatic) indicating that information is inadequate for assignment to any other MRZ. A small area is mapped as MRZ-3b for gold deposits (metasomatic) indicating that the area may contain mineral deposits. The area is mapped as MRZ-3a for gold deposits (placer) along Deer Creek, indicating that the area contains known mineral resources, but they would require further exploration to be reclassified.

Paleontological Resources

Paleontological Sensitivity

Paleontological sensitivity is a qualitative assessment that takes into account the paleontological potential of the stratigraphic units present, the local geology and geomorphology, and any other local factors that may be germane to fossil preservation and potential yield. According to the Society of Vertebrate Paleontology (2010:2), paleontological sensitivity is based on two factors: (1) the potential for a geological unit to yield abundant or significant vertebrate fossils or to yield

significant invertebrate, plant, or trace fossils, and (2) the potential importance of the data to contribute to further understanding of paleontology. Table 3.5-4 defines paleontological sensitivity ratings.

Table 3.5-4. Paleontological Sensitivity Ratings

Potential	Definition
High	Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data.
Undetermined	Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources.
Low	Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule.
No	Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require neither protection nor impact mitigation measures relative to paleontological resources.

Source: Society of Vertebrate Paleontology 2010.

Paleontological Sensitivity of Potentially Affected Units

The paleontological sensitivity of geologic units in the project area ranges from high to none. Although the two main geologic units in the project area (metavolcanic and ultramafic rocks) are unlikely to contain paleontological resources, El Dorado County is well known for abundant fossils found at two limestone cave localities, Hawver Cave and Cool Cave (University of California Museum of Paleontology 2013a). More recently, as part of its work identifying and cataloging fossils from the California Pleistocene, the University of California Museum of Paleontology curated a wealth of fossils from a third location called Crystal Cavern 1 (University of California Museum of Paleontology 2014; Werning 2013). In addition, Quaternary alluvium, which occurs in drainages in the project area, may also contain fossils. The description of these units below, as it relates to their paleontological sensitivity, is from the California Geological Survey (2001) and location of each unit is shown in Figure 3.5-2.

Ultramafic Rocks

Ultramafic rocks of Paleozoic to Mesozoic age occur in much of the western half of the project area. This unit is an intrusive igneous rock and, therefore, has no potential to contain fossils.

Metavolcanic

Metavolcanic rock of likely Paleozoic age occurs over much of eastern half of the project area. This unit is a metamorphosed volcanic rock. Because the degree of metamorphism is not known, the paleontological sensitivity of this unit is unknown. There are no records of fossils from this unit (University of California Museum of Paleontology 2013b).

Limestone

There are two limestone deposits in the north-central portion of the project area. In addition, limestone may underlie other rock units in the project area.

Recently, the University of California Museum of Paleontology began curating fossils from a third cave location called Crystal Cavern 1. With the addition of these fossils, the museum now has records of more than 3,500 fossils from these localities, including several species of ground sloth and rodents, rabbit, cougar, birds, deer, bison, coyote, lizard, frog, and toad (University of California Museum of Paleontology 2014).

There are two general types of cave fossils: fossils formed in the rock itself (i.e., deposited while the rock was forming, such as fish fossils found in limestone) and fossils that formed as a result of accumulation in the cave (Santucci et al. 2001). Examples of the latter include fossils of animals that used the cave, such as bats and bears; animals that were killed by predators and then brought to the cave, such as deer; or animals that fell into the cave and were unable to escape.

In El Dorado County, most limestone deposits are generally isolated, lens-shaped bodies that are less than a few thousand feet long and a few hundred feet wide (California Geological Survey 2001:18). Although many of these deposits likely do not contain caves, there is at least one cave near the project area, located on the edge of a former mine pit and now filled with water (Youngdahl Consulting Group 2012:2).

Given the wealth of fossils found in limestone caves in El Dorado County, this unit is considered sensitive for paleontological resources.

Metasedimentary

Two localized outcrops of metasedimentary rock of Paleozoic age occur along the northeast edge of the project area. This unit is a metamorphosed sedimentary rock. Because the degree of metamorphism is not known, the paleontological sensitivity of this unit is unknown. There are no records of fossils from this unit (University of California Museum of Paleontology 2013c).

Quaternary Alluvium

Alluvial, or stream deposits, of Quaternary age occur within drainages in the project area.

Alluvial deposits of Pleistocene age (i.e., greater than 11,000 years old, deposited during the early Quaternary) are considered to have high sensitivity for paleontological resources because California's Pleistocene nonmarine strata have yielded a wealth of stratigraphically important vertebrate fossils. There is at least one record of a mastodon fossils found in Quaternary alluvium (gravel) in El Dorado County (University of California Museum of Paleontology 2013a).

Alluvial deposits of early to middle Holocene age (i.e., 11,000 to 5,000 years old) may be considered sensitive for paleontological resources, while deposits that are of late Holocene age (i.e., less than

5,000 years old) are not considered sensitive for paleontological resources because of their young age. However, given the difficulty in distinguishing Pleistocene and Holocene deposits and the absence of detailed mapping of Quaternary deposits in the project area, all Quaternary alluvial deposits should be considered sensitive for paleontological resources.

3.5.2 Environmental Impacts

Methods of Analysis

Geology, Soils, and Seismicity

Impacts related to geology, soils, and seismicity were assessed based on technical reports prepared for the proposed project, other available data (maps, soil surveys), and professional judgment. This analysis focuses on the proposed project's potential to result in the risk of personal injury, loss of life, and damage to property as a result of existing geologic conditions in the project area.

The geology, soils, and seismicity impact analysis assumes that the project applicant would conform to the latest NPDES requirements and County and other plan policies, standards, and ordinances. The analysis also assumes that, per direction from El Dorado County, as noted in the *Regulatory Setting*, geotechnical analyses would be performed in the project area. Site-specific, design-level geotechnical investigations were performed to evaluate the potential for the presence of soft and/or loose soils, unstable slopes, surface fault rupture, ground shaking, liquefaction hazard, slope stability, and expansive soils. Additional site-specific analysis would occur prior to final design as required by County standards and the CBSC.

Minerals

For mineral resources, the proposed project's potential to affect access to mineral resources was evaluated by examining the project footprint compared to resource locations as mapped by the California Geological Survey (2001).

Paleontological Resources

To analyze paleontological resources, the primary source of information used was the paleontological database at the University of California, Berkeley. Effects on paleontological resources were analyzed qualitatively on a large-scale level, based on professional judgment and the Society of Vertebrate Paleontology (SVP) guidelines below.

SVP's *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* provides standard guidelines that are widely followed to analyze paleontological resources (Society of Vertebrate Paleontology 2010). These guidelines reflect the accepted standard of care for paleontological resources. The SVP guidelines identify two key phases in the process for protecting paleontological resources from project impacts.

- Assess the likelihood that the project area contains significant nonrenewable paleontological resources that could be directly or indirectly impacted, damaged, or destroyed as a result of the project.
- Formulate and implement measures to mitigate potential adverse impacts.

An important strength of the SVP approach to assessing potential impacts on paleontological resources is that the SVP guidelines provide some standardization in evaluating a project area's paleontological sensitivity. Table 3.5-5 summarizes the SVP recommended treatments to avoid adverse effects in each paleontological sensitivity category.

Table 3.5-5. Society of Vertebrate Paleontology's Recommended Treatment for Paleontological Resources

Sensitivity Category	Mitigation Treatment
High or Undetermined	• An intensive field survey and surface salvage prior to earth moving, if applicable. • Monitoring by a qualified paleontological resource monitor of excavations. • Salvage of unearthed fossil remains and/or traces (e.g., tracks, trails, burrows). • Screen washing to recover small specimens, if applicable. • Preliminary survey and surface salvage before construction begins. • Preparation of salvaged fossils to a point of being ready for curation (i.e., removal of enclosing matrix, stabilization and repair of specimens, and construction of reinforced support cradles where appropriate). • Identification, cataloging, curation, and provision for repository storage of prepared fossil specimens. • A final report of the finds and their significance.
Low or No	Rock units with low or no potential typically will not require impact mitigation measures to protect fossils.

Source: Society of Vertebrate Paleontology 2010.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving (1) 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); (2) strong seismic ground shaking; (3) seismic-related ground failure, including liquefaction; or (4) landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Result in fracturing and/or erosion from special construction methods that could result in unstable geologic or soil conditions.
- Be located on expansive soil, as defined in Section 1803.5.3 of the 2016 CBSC, creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

- 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.
- 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.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Impacts and Mitigation Measures

Impact GEO-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving (1) 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); (2) strong seismic ground shaking; (3) seismic-related ground failure, including liquefaction; or (4) landslides (less than significant)

The project area is not identified as being located in an Alquist-Priolo Fault Zone (Bryant and Hart 2007). There is no evidence of recent (i.e., Holocene) faulting in the project area and no active faults are mapped to cut at or near the project area (California Geological Survey 2015; El Dorado County 2004c; Youngdahl Consulting Group 2013a). Furthermore, review of aerial photographs does not indicate the presence of lineations or other features that would suggest the presence of recent faulting on or trending toward the project area. Accordingly, the project area is not subject to surface rupture hazard. This impact would be less than significant.

The ground-shaking hazard in the project area is low. Nonetheless, a large earthquake on a nearby fault could cause minor ground shaking in the vicinity of the project area, potentially resulting in an increased risk of structural loss, injury, or death. Liquefaction and related hazards such as lateral spreading and differential settlement have the potential to compromise the structural integrity of proposed new facilities and cause injury to construction workers and residents. However, based on the geologic age of the earth materials, average relative density of the subsurface material, groundwater conditions, and anticipated ground-shaking hazard for the project area, the potential for liquefaction, dynamic compaction, or seismically induced settlement or bearing loss is considered less than significant.

In addition to the low hazard of surface fault rupture and ground shaking and related hazards, these impacts are considered less than significant because the project applicant is required to incorporate IBC and CBSC standards into the project design for applicable features to minimize the potential fault rupture and ground-shaking hazards on associated project features. Structures must be designed to meet the regulations and standards associated with the most current CBSC at the time of development, and compliance would need to be demonstrated to the satisfaction of the County before building permits are issued. Finally, the soils in the project area would be classified as Site Class C in accordance with Table 20.3-1 of ASCED 7-10. This would ensure that these impacts remain less than significant.

Because the proposed project would be phased over several years, the geotechnical studies would be updated, as necessary, prior to construction activities, and the seismic design parameters would be based on the building codes in effect at that time.

Due to the absence of a permanently elevated groundwater table, the relatively low seismicity of the area, and the relatively shallow depth to rock, the potential for seismically induced slope instability is considered negligible. This impact would be less than significant.

In brief, due to the absence of a permanently elevated groundwater table, the relatively low seismicity of the area and the relatively shallow depth to rock, the potential for seismically induced damage due to liquefaction, surface ruptures, and settlement is considered negligible. For the abovementioned reasons, mitigation (other than conformance to IBC and CBSC standards) for these potential hazards is not typically practiced in the geographic vicinity of the project area (Youngdahl Consulting Group 2013b).

It is also important to note that environmental impact analyses under CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents unless the project might cause or risk exacerbating environmental hazards or conditions that already exist (CCR Section 15126.2[a]). In those specific instances, it is the project's impact on the environment and not the environment's impact on the project that compels an evaluation of how future residents or users may be affected by exacerbated conditions (California Building Industry Association v. Bay Area Air Quality Management District [2015] 62 Cal. 4th 369). Project construction and operation would not create new seismic events or exacerbate existing seismic hazards, because the project improvements would involve limited excavation that would not alter existing geologic, seismic, and fault conditions in the region.

Impact GEO-2: Result in substantial soil erosion or the loss of topsoil (less than significant)

Grading, excavation, removal of vegetation cover, and loading activities associated with construction could temporarily increase erosion, runoff, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at the construction sites and staging areas.

However, as required by CWA Section 402, a SWPPP would be developed by a qualified engineer or erosion control specialist and implemented before construction. The SWPPP would be kept onsite during construction activity and made available upon request to representatives of the Central Valley Water Board. The SWPPP would identify pollutant sources that may affect the quality of stormwater associated with construction activity and identify, construct, and implement stormwater pollution prevention measures to reduce pollutants in stormwater discharges during and after construction. The SWPPP would include a description of potential pollutants, the management of dredged sediments, and hazardous materials present on the site during construction (including vehicle and equipment fuels). The SWPPP also would include details of how the sediment and erosion control practices (i.e., BMPs) would be implemented. Implementation of the SWPPP would comply with state and federal water quality regulations.

In addition to the SWPPP, adherence to the NPDES MS4 Order and applicable El Dorado County Grading Ordinance, Subdivision Ordinance, Design and Improvement Standards Manual, and Drainage Manual would all minimize any effects from erosion, runoff, and sedimentation by implementing BMPs (e.g., vegetation, geotextiles, mulch and retaining walls) to prevent or reduce soil erosion. This impact would be less than significant.

Impact GEO-3: Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse (less than significant with mitigation)

Slope Stability

According to Youngdahl Consulting Group (2013a), no indication of slope instability on the project site was observed. The soil and rock conditions observed during Youngdahl Consulting Group's work are common for the area, and there were no unstable soils encountered that are anticipated to remain in place following construction grading of the project site. As such, any non-standard grading, improvement, or design recommendations would not be required (Youngdahl Consulting Group 2013b). Additionally, due to the absence of a permanently elevated groundwater table, the relatively low seismicity of the area, and the relatively shallow depth to rock, the potential for seismically induced slope instability would be less than significant.

Mine Collapse

The central portion of the project area was previously used for subterranean mining of limestone rock from 1918 to the 1970s. The mine is reported to have achieved depths of up to 1,130 feet below the ground surface using shrinkage stop techniques. Common identifications of subterranean mine failures typically include sinkholes and large systems of surface cracking that may affect localized portions or the entire mine area.

Analyses of potential mine collapse scenarios were performed by Youngdahl Consulting Group (Youngdahl Consulting Group 2009a, 2013c) and geotechnical and geological risk assessments were performed by Kleinfelder (Kleinfelder 2014).

Kleinfelder (2016) prepared an analysis that summarized these previous studies, incorporating worst-case assumptions and providing recommendations for minimization and mitigation. Assuming the worst-case scenario, Kleinfelder determined that surface expression of any mine subsidence would be limited to the area 1,000 feet south of the northern extent of the mine workings and that the mine workings in that area would fail above the 470-foot level; using these assumptions, Kleinfelder's analysis recommended a setback of 594 feet (Figure 3.5-5). The Kleinfelder (2016) study was peer-reviewed by a California-registered professional geologist (Michael Baker International 2016). These setbacks have been incorporated into the project design and would be fenced so that no public access would be possible. Prohibiting construction within these setbacks will ensure that project construction would not increase the risk of failure or collapse. Therefore, safety impacts associated with mine collapse would be less than significant.

Areas outside the setbacks are not expected to be affected by a mine failure or collapse. Areas within the setbacks may still be subject to subterranean mine failures including sinkholes and large systems of surface cracking that may affect localized portions or the entire mine area (PMC 2014). Implementation of Mitigation Measure GEO-3a, which incorporates the recommendations of the Kleinfelder (2016) analysis and peer review recommendations, would allow for monitoring of the area, maintenance of the fencing and signage, and remediation and stabilization should a collapse occur. With implementation of Mitigation Measure GEO-3a, this impact would be less than significant.

In addition to the mine in the central portion of the project area, there is a mapped copper mine located south of the project area that is believed to be called the Boston Mine. Youngdahl Consulting

Group (2013b) suggested that this mine location was not field-checked during the development of the Mineral Land Classification Map and that the mine location is actually located south of Deer Creek. Because copper mines follow narrow veins and do not result in the excavation of large volumes of rock, the potential for collapse is minimal. However, if this or other mines are located in the project area and have shafts, large vents, or adits open to the surface, they could pose a hazard resulting in people falling or becoming trapped. This would be considered a significant impact. Implementation of Mitigation Measures GEO-3b and GEO-3c would ensure that if this mine or any other mine is in the proposed project's construction activities area, this impact would be less than significant.

Mitigation Measure GEO-3a: Form a Geological Hazard and Abatement District and implement an investigation and monitoring program for mine and setback area

The County shall require the applicant to form a Geological Hazard and Abatement District (GHAD) covering the open space over the underground mine and the setback area prior to recordation of the first small lot map. The property shall be owned by the GHAD in fee title, and the Board of Directors of the GHAD shall either be the members of the El Dorado County Board of Supervisors, or a GHAD Board of Directors elected by the Lime Rock residents, as directed by the El Dorado County Board of Supervisors. The GHAD would be funded initially through a reserve fund that the County shall require of the applicant at the formation of the GHAD. Assessments shall be collected to keep the reserve fund at an adequate level to fund the ongoing maintenance and operation. The primary purpose of the GHAD shall be to mitigate the site in case of partial or complete collapse of the mine. Additionally, the GHAD shall be responsible for property maintenance, operation, and administration, fencing and signage replacement, monitoring and reporting, ground water testing, and other tasks as necessary.

The GHAD shall retain a geotechnical consultant to conduct an investigation for signs of existing subsidence and analyze the potential for future subsidence within the setback areas. In particular, the main focus of the investigation shall be whether any depressions or sinkholes have formed. Groundwater measurements shall be required annually for the first 5 years. If measurements indicate a relatively stable groundwater level, then a reduction in frequency of the measurements should be considered. Reporting of ground observations and any groundwater level measurements should be done at least annually and more frequently should signs of potential subsidence be observed or groundwater levels decline significantly (Michael Baker International 2016). More frequent boundary inspections shall be conducted to ensure that fences and signage are in good repair.

Mitigation Measure GEO-3b: Incorporate standard practices for abandoning relatively small hard rock mine features

Construction contracts and grading plan notes shall include a statement that shafts, vents, adits, caves, voids, or other features associated with historic hard rock mining may be present in the project area. If a shaft, vent, adit, cave, or void is encountered during field surveying, grading, or construction, work shall stop immediately. A qualified archaeologist shall be retained to record the feature, assess the significance of the feature and determine if it is associated with a historic district. If the feature is associated with a known historic district or cultural resources site, it shall be treated in accordance with treatment plans prepared for that site. If the feature is not associated with a known cultural resource, Mitigation Measure CUL-2c shall be implemented. Resources that pose a hazard shall be closed, sealed, or fenced after they have been recorded.

The project applicant shall implement standard practices for abandoning small hard rock mine features, including the design and construction of a structural concrete (or another appropriate sealing material) cap of the feature. If such rock mine features are detected, the project applicants shall implement this measure in consultation with a qualified engineer before ground-disturbing activities continue. If features are discovered post-construction, the features shall be properly closed to prevent entry according to a plan prepared by a qualified engineer.

Mitigation Measure GEO-3c: Develop and implement reporting process for mine features discovered by residents, visitors, and employees

The Lime Rock Valley Homeowners' Association shall develop and maintain a mechanism that shall allow Lime Rock Valley occupants and visitors to report findings of unidentified mine pits, shafts, adits, or related features. These reported features shall be closed or fenced by the homeowners' association as indicated in Mitigation Measure GEO-3b.

Impact GEO-4: Result in fracturing and/or erosion from special construction methods, increasing the potential for additional development constraints beyond those that currently exist (less than significant with mitigation)

According to Youngdahl Consulting Group (2013a), the depth to bedrock in the project area is shallow. Shallow depth to bedrock and the presence of steeper slopes could require special construction methods such as blasting that could result in fracturing and/or erosion, which could increase sedimentation during construction and could result in the need for additional use of engineered materials to retain local stability and to provide adequate foundation for construction activities. This would be a significant impact. In addition to complying with applicable state and federal agency blasting regulations,[3] implementation of Mitigation Measure GEO-4 would ensure that this impact would be less than significant.

Mitigation Measure GEO-4: Incorporate mitigation measures identified in the geotechnical report and use standard engineering practices to mitigate for increased fracturing and/or erosion

Where hard rock cuts in fractured rock are proposed, the orientation and direction of ripping will likely play a large role in the rippability of the material. Upon completion of the final grading plan and County approval of the plan, the project applicant's soil scientists or engineers shall be responsible for conducting a final geotechnical evaluation of hard rock areas to determine where blasting would likely be used. The final geotechnical evaluation shall specifically address the impacts of any special site preparation techniques on rock or soils present on or adjacent to the project area. Specific mitigation shall be developed prior to construction and implemented to minimize the potential fracturing and/or erosion impacts. The project applicants shall select one or more of these measures in consultation with a qualified engineer before excavation/blasting activities begin.

[3] The following is a partial list of agencies that have regulations pertaining to blasting: California Department of Industrial Relations, Occupational Safety and Health Division for use of explosives; the U.S. Department of Transportation and California Highway Patrol for transport of explosives; the U.S. Bureau of Alcohol, Tobacco, and Firearms for storage of explosives; conditions of a permit issued by the El Dorado County Sheriff's Office.

Impact GEO-5: Be located on expansive soil, as defined in Section 1803.5.3 of the 2016 CBSC, creating substantial risks to life or property (less than significant)

The materials encountered in Youngdahl Consulting Group's explorations were generally non-plastic (rock, sand, and non-plastic silt). The non-plastic materials are generally considered to be non-expansive. However, according to the *Soil Survey of El Dorado, California* (Rogers 1974), the Sobrante silt loam, 3 to 15% slopes soil map unit has low to moderate shrink-swell potential. Expansive soils have the potential to compromise the structural integrity of project features, which would be a significant impact. However, per CBSC requirements and County Standards (El Dorado County Code of Ordinances Section 110.16.010), the project applicant's soil scientists or engineers would be responsible for conducting a final geotechnical evaluation of unconsolidated sediments of the project area to determine whether they are susceptible to shrink-swell behavior prior to grading and construction activities. This study would be submitted to the County prior to any soil disturbance. Subsurface borings at regular intervals within the project footprint or other methods determined by a geotechnical engineer are recommended. Based on subsurface conditions, the project applicant's soil scientists or engineers would design the specific project elements to accommodate the effects of expansive soils. If expansive soils are determined to be present at any location where project activities would occur, corrective actions would be taken. Corrective actions may include excavation of potentially problematic soils during construction and replacement with engineered backfill, ground treatment processes, and direction of surface water and drainage away from foundation soils. The project applicants would select one or more of these measures in consultation with a qualified engineer before grading activities begin, ensuring that this impact would be less than significant.

Impact GEO-6: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater (no impact)

The project would be connected to EID sewer lines, not septic systems. Therefore, there would be no impact. No mitigation is required.

Impact GEO-7: 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 (less than significant)

Table 3.5-6 displays the MRZs identified by the California Geological Survey (2001). The project area is mapped as MRZ-1 for limestone and construction materials, indicating that there are no significant mineral resources present. It is mapped as MRZ-3a for volcanogenic processes, indicating that there are known mineral deposits that may qualify as mineral resources but require further exploration and analysis to be reclassified. The project area is mapped as MRZ-4 for gold deposits (hydrothermal) and primarily MRZ-4 for gold deposits (metasomatic) indicating that information is inadequate for assignment to any other MRZ. A small area is mapped as MRZ-3b for gold deposits (metasomatic) indicating that the area may contain mineral deposits. The area is mapped as MRZ-3a for gold deposits (placer) along Deer Creek, indicating that the area contains known mineral resources, but they would require further exploration to be reclassified. Placer gold mining was known to have occurred in the project area following the Gold Rush. There are no aggregate sources mapped in the project area.

There is one former limestone mine in the project area that has been closed since the 1970s and the current owners have chosen not to reopen this mine. Additionally, there is little production of these

minerals (e.g., copper, chromite) in the entire state, indicating limited economic viability. With respect to gold, there is no known information that would suggest the project area has recently been under consideration for gold exploration or gold mining development that would cause a reconsideration of its MRZ classification. The current owners of the project area have not sought this MRZ reclassification. Consequently, there are no existing or potential resources that would be of value to the region or residents of the state, and the impact would be less than significant.

Table 3.5-6. Mineral Resources for the Project Area

Mines and Prospects	Limestone	Construction Materials	Gold Deposits (Hydrothermal)	Volcanogenic Processes	Gold Deposits (Placer)	Gold Deposits (Metasomatic)	Aggregate Resource Areas
El Dorado—limestone (159)	MRZ-1	MRZ-1	MRZ-4	MRZ-3a	MRZ-4	MRZ-4	None

Source: California Geological Survey 2001: Plates 2–9, Appendix A.

Impact GEO-8: 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 (no impact)

The County General Plan does not identify any locally important mineral resources and there is no MR zoning overlay at the project area. Also, the project area does not contain any mineral resources that have not been considered in the County General Plan (see discussion under Impact GEO-7). Since there are no locally important mineral resources or recovery sites identified in these plans, there would be no impact.

Impact GEO-9: Directly or indirectly destroy a unique paleontological resource (less than significant with mitigation)

If fossils are present in the project area, they could be damaged during earth-disturbing construction activities, such as excavation for foundations, fills, and road work. Units with potential to contain paleontological resources are the limestone deposits and the Quaternary alluvium (high sensitivity for paleontological resources), the volcanic units (unknown to low sensitivity for paleontological resources), and possibly, the metasedimentary unit (unknown sensitivity for paleontological resources). Substantial damage to or destruction of significant paleontological resources as defined by the SVP (2010) would be a significant impact. Implementation of Mitigation Measures GEO-9a, GEO-9b, and GEO-9c, which require training of personnel to recognize fossil material and work stoppage if fossils or caves are encountered, would reduce this impact to a less-than-significant level.

Mitigation Measure GEO-9a: Educate construction personnel in recognizing fossil material

Prior to construction, the project applicant shall ensure that all construction personnel receive training provided by a qualified professional paleontologist who is experienced in teaching non-specialists to ensure that construction personnel can recognize fossil materials in the event any are discovered during construction.

Mitigation Measure GEO-9b: Stop work if substantial fossil remains are encountered during construction

If substantial fossil remains (particularly vertebrate remains) are discovered during earth-disturbing activities, activities shall stop immediately until a state-registered professional geologist or qualified professional paleontologist can assess the nature and importance of the find to determine if the find meets CEQA guidelines criteria of a unique paleontological resource, and a qualified professional paleontologist can recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The project applicant shall be responsible for ensuring that recommendations regarding treatment and reporting are implemented.

Mitigation Measure GEO-9c: Stop work if a cave or void is encountered

If a cave or void is encountered during earth-disturbing activities, such as excavation, activities shall stop immediately until a state-registered professional geologist or qualified professional paleontologist can assess the nature and importance of the cave or void and a qualified professional paleontologist can recommend appropriate treatment, if necessary. Treatment may include preparation and recovery of fossil materials, if present, so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The project applicant shall be responsible for ensuring that recommendations regarding treatment and reporting are implemented.

Impact GEO-10: Impacts on geological, mineral, and paleontological resources resulting from offsite improvements, and General Plan Policy TC-Xf traffic improvements (less than significant with mitigation)

Whether or not VMVSP is approved and constructed prior to the LRVSP, impacts on geological resources resulting from offsite improvements would be identical to those described above for the project area only. All relevant IBC and CBSC standards would be incorporated into offsite improvements and General Plan Policy TC-Xf improvement areas project design for applicable features to minimize the potential fault rupture and ground-shaking hazards on associated project features. The most recent CBSC seismic design parameters at the time of construction would also be implemented. A SWPPP, adherence to the applicable El Dorado County Grading Ordinance, Subdivision Ordinance, Design and Improvement Standards Manual, and Drainage Manual would all minimize any effects from erosion, runoff, and sedimentation. If special construction methods, such as blasting, are necessary, Mitigation Measure GEO-4 would be implemented.

The MRZs within the offsite improvement areas, including the General Plan Policy TC-Xf traffic improvement areas, are the same as within the main project area as listed in Table 3.5-7. There are no former mines in the offsite improvement areas. Consequently, there would be no existing or potential resources that would be of value to the region or residents of the state, and the impact would be less than significant. Similarly, the County General Plan does not identify any locally important mineral resources in the offsite improvement areas. Because there are no locally important mineral resources or recovery sites identified for the offsite improvement areas in these plans there would be no impact.

If fossils are present in the offsite improvement areas, or General Plan Policy TC-Xf traffic improvement areas, they could be damaged during earth-disturbing construction activities related

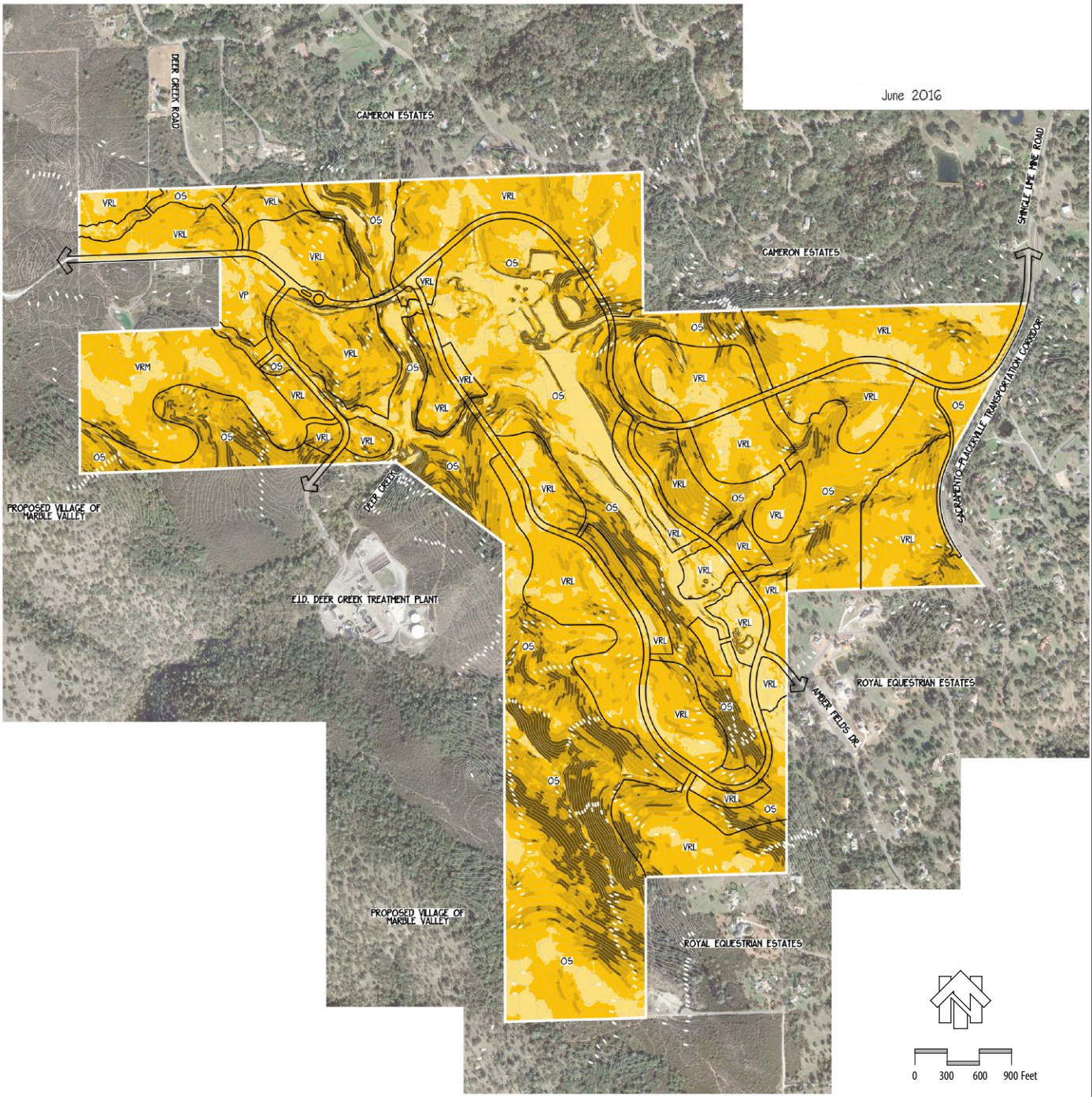
to offsite improvements, such as trenching and grading, associated with the new water lines. Units with potential to contain paleontological resources in the offsite improvement areas are the Quaternary alluvium and the limestone deposits (high sensitivity for paleontological resources), the metavolcanic unit (low sensitivity for paleontological resources), and the metasedimentary unit (unknown sensitivity for paleontological resources). Substantial damage to or destruction of significant paleontological resources as defined by the SVP (2010) would be a significant impact. Implementation of Mitigation Measures GEO-9a, GEO-9b, and GEO-9c would reduce this impact to a less-than-significant level.

Mitigation Measure GEO-4: Incorporate mitigation measures identified in the geotechnical report and use standard engineering practices to mitigate for increased fracturing and/or erosion

Mitigation Measure GEO-9a: Educate construction personnel in recognizing fossil material

Mitigation Measure GEO-9b: Stop work if substantial fossil remains are encountered during construction

Mitigation Measure GEO-9c: Stop work if a cave or void is encountered



SLOPES TABLE				
Number	Minimum Slope	Maximum Slope	Area (AC)	Color
1	0.00%	10.00%	141.0	
2	10.00%	20.00%	314.2	
3	20.00%	30.00%	182.9	
4	30.00%	Vertical	97.7	

Source: G3 Enterprises, 2016.

Graphics ... 00668.12 (7-19-2016)

Figure 3.5-1
Slope Map

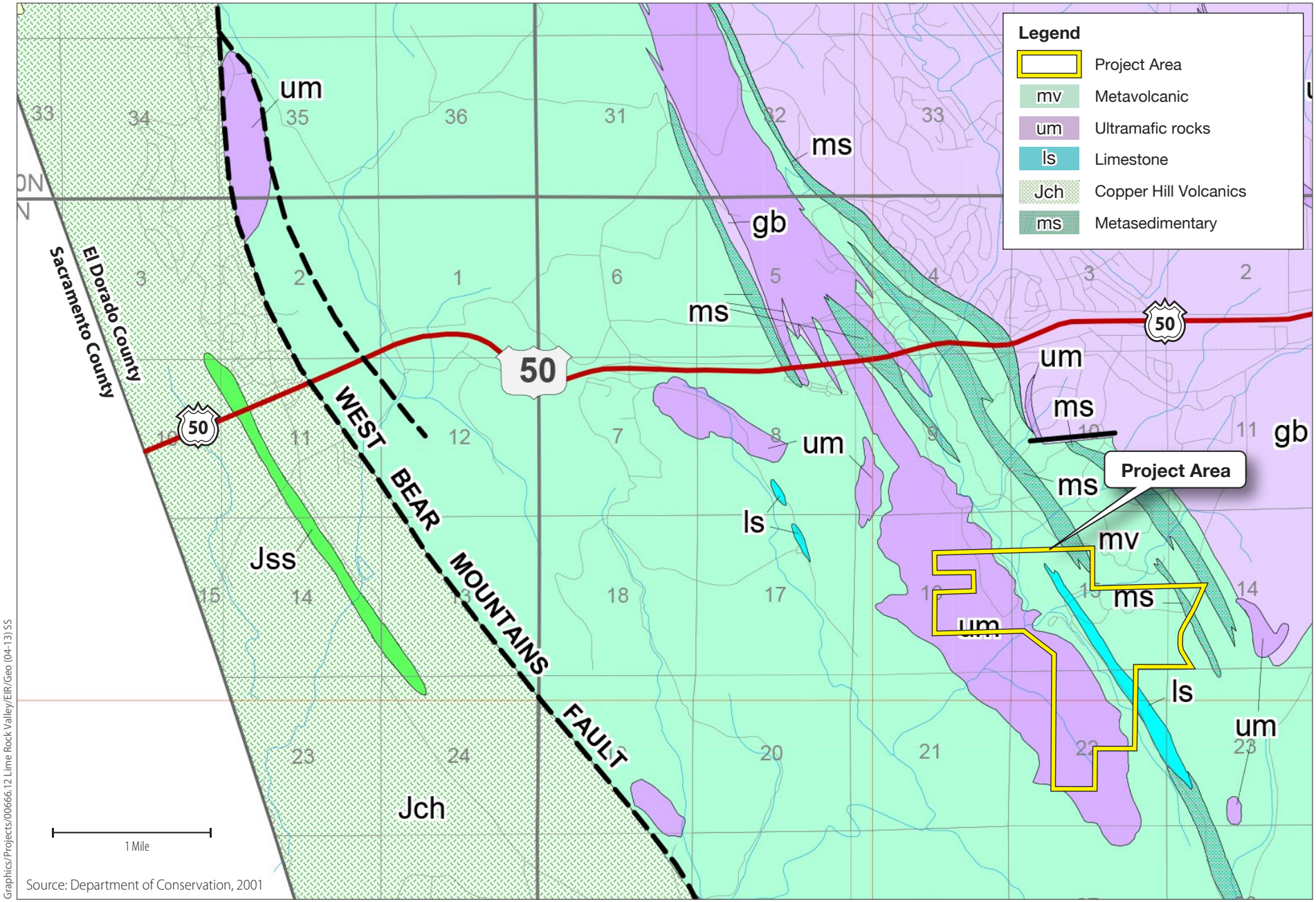


Figure 3.5-2
Geologic Map of the Project Area
Lime Rock Valley

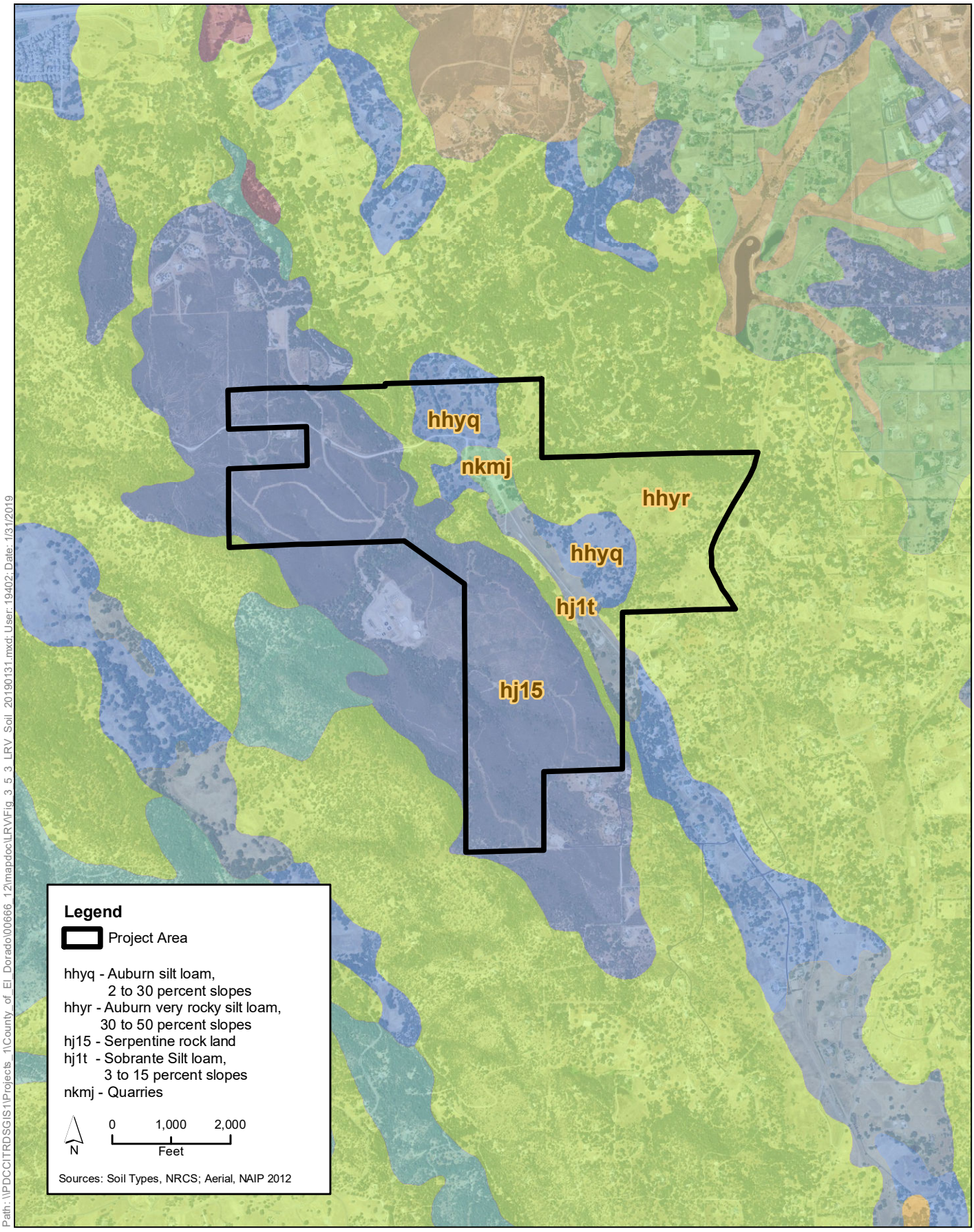
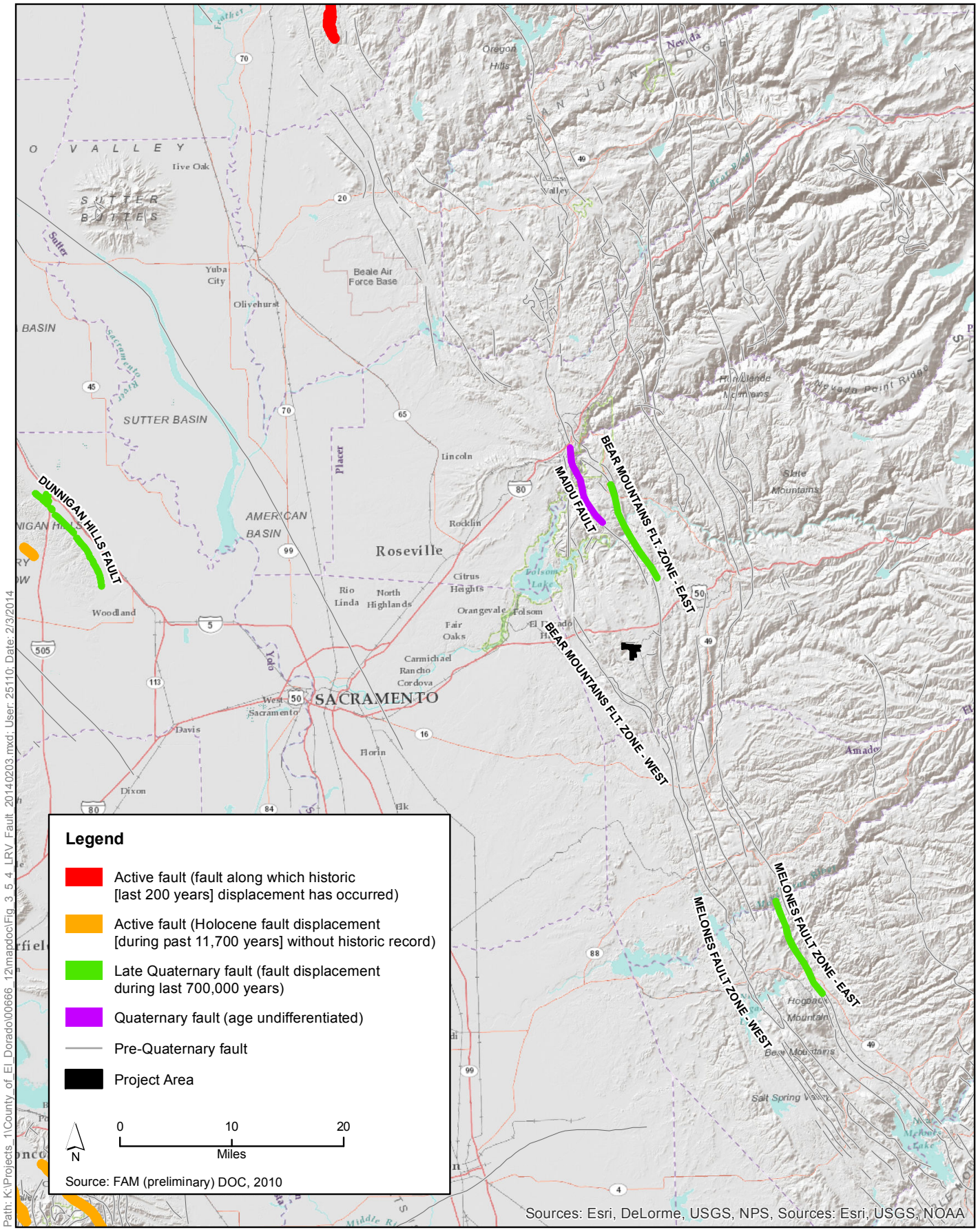
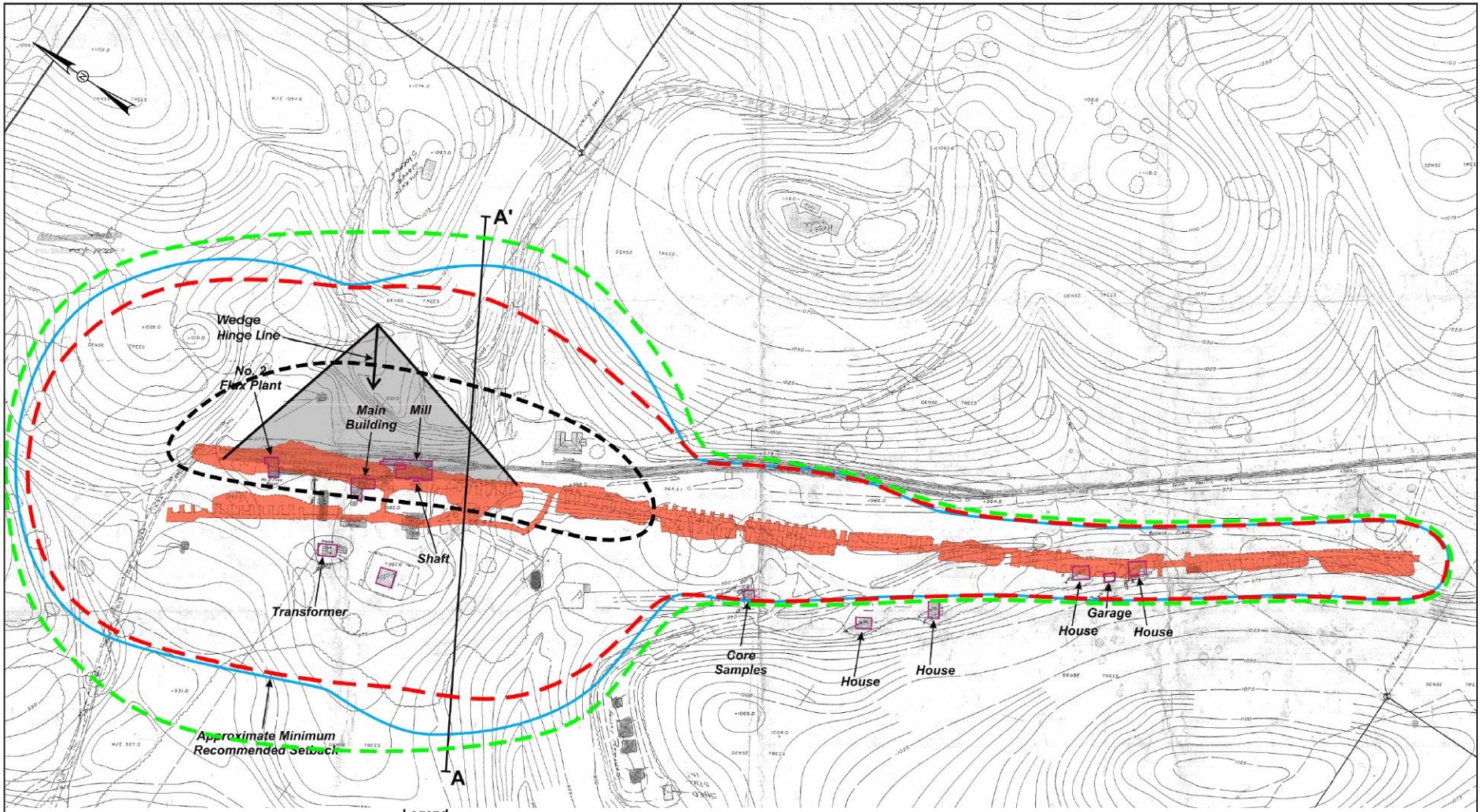


Figure 3.5-3
Soils in the Delineation Area



Path: K:\Projects_1\County_of_El_Dorado\00666_12\mapdoc\Fig_3_5_4_LRV_Fault_20140203.mxd; User: 25110; Date: 2/3/2014

Figure 3.5-4
Faults in the Region



Graphics ... 00666.12 (6-29-2016)

Source: Kleinfelder 2015.

Figure 3.5-5
Proposed Setback Boundary

3.6 Greenhouse Gas Emissions

GHGs are gaseous compounds that limit the transmission of Earth's radiated heat out to space. GHGs are an important consideration for construction of the LRVSP because these emissions can contribute to global climate change. Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (e.g., ozone precursors), which are primarily pollutants of regional and local concern. Given the long atmospheric lifetimes of GHGs, GHGs emitted by many sources worldwide accumulate in the atmosphere. No single emitter of GHGs is large enough to trigger global climate change on its own. Rather, climate change is the result of the individual contributions of countless past, present, and future sources. Thus, GHG impacts are inherently cumulative, and the study area for impacts on GHGs includes the entire global sand state atmospheres.

This section discusses applicable GHG regulations as they pertain to the LRVSP and defines key GHG emissions and their current concentrations within the study area. It describes the GHG impacts, if any, that would result from implementation of the LRVSP and provides mitigation for significant impacts, where feasible. Impacts related to air quality are described in Section 3.2, *Air Quality*.

3.6.1 Existing Conditions

Regulatory Setting

This section summarizes international, federal, state, and local regulations related to GHG emissions and climate change that are applicable to the LRVSP.

International

In 2015, the 21st session of the Conference of Parties (COP21) took place in Paris, France. The session included representatives from 196 parties to the United Nations Framework Convention on Climate Change. The outcomes from the Paris Agreement at COP21 include, but are not limited to, limiting global temperature increase well below 2 degrees Celsius (°C), establishing binding commitments by all parties to make nationally determined contributions (NDC), pursuing domestic policies aimed at achieving NDCs, and requiring regular reporting by all countries on their emissions and progress made toward implementing and achieving their NDCs. At the 27th session of the Conference of Parties (COP27) in November 2022, parties in the Paris Agreement agreed to revisit and strengthen their NDCs by the end of 2023.

The Under2 Coalition is an international coalition of jurisdictions that signed the Global Climate Leadership Memorandum of Understanding (Under2 MOU), which aims to limit global warming to 2°C, limit GHGs to below 80–95% below 1990 levels, and/or achieve a per-capita annual emissions goal of less than 2 metric tons by 2050. The Under2 MOU has been signed or endorsed by 135 jurisdictions (including California) that represent 32 countries and 6 continents.

Federal

President Joe Biden recently signed several federal Executive Orders (EO) related to GHG emissions and climate resiliency. EO 13990, signed in January 2021, set a national goal of achieving a 50 to

52% reduction from 2005 levels in economy-wide net GHG pollution by 2030. EO 14057, signed in December 2021, requires federal agencies to develop strategic processes for achieving, among other things, carbon-free electricity by 2030 and 100% zero-emission vehicle acquisitions by 2035. President Joe Biden has also signed two bills—the Infrastructure Investment and Jobs Act (2021) and Inflation Reduction Act (2022)—that provide funding for infrastructure improvements that will reduce GHG emissions and bolster resilience to climate change. Despite these actions, there is currently no federal law or legislatively mandated national GHG-reduction target.

State

California has adopted statewide legislation addressing various aspects of climate change and GHG-emissions mitigation. The legislation establishes a broad framework for the state's long-term GHG-reduction and climate change–adaptation program. Various California Governors have also issued several EOs related to the state's evolving climate-change policy. Summaries of key policies, regulations, and legislation at the state level that are relevant to the LRVSP are described below.

Statewide GHG Emission Targets and the Climate Change Scoping Plan

Executive Order S-03-05

California EO S-3-05 set forth a series of target dates by which statewide emissions of GHGs need to be progressively reduced, as follows.

- By 2010, reduce GHG emissions to 2000 levels (approximately 457 million metric tons of carbon dioxide [CO_2] equivalent [CO_2e]).
- By 2020, reduce emissions to 1990 levels (approximately 427 million metric tons CO_2e).
- By 2050, reduce emissions to 80% below 1990 levels (approximately 85 million metric tons CO_2e).

State EOs are binding only on state agencies. Accordingly, California EO S-3-05 guides state-agency efforts to control and regulate GHG emissions but has no direct binding effect on local government or private actions. The Secretary of the California Environmental Protection Agency is required to report to the Governor and California State Legislature biannually on the impacts of global warming on California, mitigation and adaptation plans, and progress made toward reducing GHG emissions to meet the targets established in EO S-3-05.

Assembly Bill 32

AB 32 (Health and Safety Code § 38500 et seq.) codified the state's 2020 GHG-emissions target by requiring that the state's global warming emissions be reduced to 1990 levels by 2020. Since adoption of the act, CARB, the California Public Utilities Commission (CPUC), California Energy Commission (CEC), and the Building Standards Commission have been developing regulations that will help meet the goals of AB 32 and EO S-03-05. The 2008 Climate Change Scoping Plan for AB 32 (2008 Scoping Plan) identified specific measures to reduce GHG emissions to 1990 levels by 2020 and required CARB and other state agencies to develop and enforce regulations and other initiatives for reducing GHGs. Specifically, the 2008 Scoping Plan articulates a key role for local governments, recommending that they establish GHG-reduction goals for both their municipal operations and the community consistent with those of the state. The First Update to the AB 32 Scoping Plan (2014 First Update) was released in February 2014 and includes revised GHG-reduction estimates based

on updated statewide GHG inventories. The update also discusses the need for continued GHG-reduction progress post-2020 (CARB 2014).

Senate Bill 32 and Assembly Bill 197

Senate Bill (SB) 32 required CARB to ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by 2030. The companion bill, AB 197, created requirements to form a Joint Legislative Committee on Climate Change Policies, required CARB to prioritize direct emission reductions and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit, required CARB to prepare reports on sources of GHGs and other pollutants, established 6-year terms for voting members of CARB, and added two legislators to CARB as nonvoting members.

Pursuant to SB 32, CARB updated the 2008 Scoping Plan to address implementation of GHG-reduction strategies to meet the 2030 reduction target. The 2017 Scoping Plan Update (2017 Scoping Plan), approved in December 2017, continued the discussion from the 2008 Scoping Plan and 2014 First Update of identifying scientifically backed policies within six of the state's economic sectors to reduce GHGs. The 2017 Scoping Plan included various elements, such as doubling energy-efficiency savings, increasing the low carbon fuel standard (LCFS) from 10 to 18%, adding 4.2 million zero-emission vehicles on the road, implementing the Sustainable Freight Strategy, implementing a post-2020 Cap-and-Trade program, creating walkable communities with expanded mass transit and other alternatives to traveling by car, and developing an Integrated Natural and Working Lands Action Plan to protect land-based carbon sinks.

Executive Order B-55-18

EO B-55-18 acknowledged the environmental, community, and public health risks posed by future climate change and further recognized the climate stabilization goal that 196 parties adopted under the Paris Agreement. Based on the worldwide scientific agreement that carbon neutrality must be achieved by the mid-twenty-first century, EO B-55-18 established a new state goal to achieve carbon neutrality as soon as possible, and no later than 2045, and to achieve and maintain net negative emissions thereafter. The EO charged CARB with developing a framework for implementing and tracking progress toward these goals. This EO extended EO S-3-05 but is only binding on state agencies.

Assembly Bill 1279

AB 1279 (Health and Safety Code Section 38562.2) codified the state's 2045 GHG emissions target expressed under EO B-55-18. The bill required California to achieve net-zero GHG emissions (i.e., reach a balance between the GHGs emitted and removed from the atmosphere) no later than 2045 and to achieve and maintain net-negative GHG emissions from then on. It also mandated an 85% reduction in statewide anthropogenic (i.e., human-made) GHG emissions (from 1990 levels) by 2045. AB 1279 recognized that meeting these targets would require direct GHG-emission reductions and removal of CO2 from the atmosphere, as well as a nearly complete transition from fossil fuels. As such, the bill directed CARB to work with relevant state agencies to ensure that Scoping Plan updates include measures that put California on a trajectory to achieve these targets. It also tasked CARB with implementing strategies that facilitate CO2-removal solutions and carbon capture, utilization, and storage technologies. To evaluate the state's progress, AB 1279 required that CARB report progress toward these targets annually to the California State Legislature. The bill directed that CARB, by 2035, must assess the feasibility and tradeoffs of reducing statewide anthropogenic

GHG emissions to 85% below 1990 levels by 2045 and report its findings to the California State Legislature.

Pursuant to EO B-55-18 and AB 1279, CARB updated the 2017 Scoping Plan to address implementation of GHG-reduction strategies to meet the 2045 reduction target. The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan), approved in November 2022, built on GHG-reduction measures detailed in the previous Scoping Plans and included additional measures to capture and store atmospheric carbon through the state's natural and working lands, using a variety of mechanical approaches. By incorporating GHG-emissions reduction and carbon-capture methods, the 2022 Scoping Plan identified a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 (CARB 2022a).

Vehicle Efficiency, Vehicle Miles Traveled, and Zero-Emissions/Low-Carbon Vehicle Standards

Executive Order S-01-07, Low Carbon Fuel Standard

California EO S-01-07 mandated: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020 (achieved); and (2) that a LCFS for transportation fuels be established in California. The EO initiated a research and regulatory process at CARB. In 2018, CARB passed amendments to the LCFS that set a target of reducing fuel-carbon intensity by 20% by 2030, compared to a 2010 baseline.

Assembly Bill 1493

With the passage of AB 1493, also known as Pavley I, in 2002, California launched an innovative and proactive approach to dealing with GHG emissions and climate change at the state level. AB 1493 required CARB to develop and implement regulations to reduce automobile and light-truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with model year 2009. Although litigation challenged these regulations, and USEPA initially denied California's related request for a waiver, the waiver request was granted. In 2012, additional strengthening of the Pavley I standards (referred to as the Advanced Clean Cars measure) was adopted for vehicle model years 2017–2025. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025.

Advanced Clean Cars II

In August 2022, CARB voted to approve the Advanced Clean Cars II proposal, which would dramatically reduce emissions from passenger cars for model years 2026 through 2035. This goal requires an increasing proportion of new vehicles to be zero-emission vehicles, with the goal of 100% zero-emissions for new vehicles sold by 2035 (CARB 2022b).

Advanced Clean Truck Regulation

As discussed in Section 3.2, Air Quality, CARB adopted the Advanced Clean Truck Regulation in October 2020 to accelerate a large-scale transition of zero-emission medium- and heavy-duty vehicles. The regulation requires the sale of zero-emission medium- and heavy-duty vehicles as an increasing percentage of total annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b–3 truck sales, 75% of Class 4–8 straight truck sales, and 40% of truck tractor sales. By 2045, every new medium- and heavy-duty truck sold in California will be zero-emission.

Senate Bill 375, Sustainable Communities Strategy

SB 3751 (September 2008) provided a planning process that coordinated land use planning, regional transportation plans (RTP), and funding priorities to help California meet the GHG reduction goals established in AB 32. SB 375 required that RTPs developed by MPOs include an SCS. The goal of the SCS is to reduce regional VMT through land use planning and consequent transportation patterns. CARB first released the regional targets in September 2010 and updated them in March 2018.

SACOG is the MPO for the Sacramento region, including the County's western slope. SACOG adopted its SB 375–compliant 2020 MTP/SCS in November 2019 (SACOG 2019a). SB 375 also includes provisions for streamlined CEQA review for certain types of mixed-use and transit priority projects that meet the specific criteria that SB 375 established. Per State CEQA Guidelines Section 15183.5, quantified plans, such as the MTP/SCS EIR, "may be used in the cumulative impacts analysis of later projects." More specifically, "later project-specific environmental documents may tier from and/or incorporate by reference" the "programmatic review" conducted for the GHG-reduction plan. Section 15183.5 also states,

> An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project.

Environmental documents prepared for projects that are consistent with the MTP/SCS EIR are not required to reference, describe, or discuss the following in their GHG impact analysis.

1. Growth-inducing impacts
2. A reduced-density alternative to address impacts on transportation or climate change of increased car and truck VMT induced by the project
3. Any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network

No areas within the County have sufficient transit service to qualify for transit priority project streamlining introduced under SB 375 (SACOG 2019a). However, mixed-use projects consistent with the MTP/SCS may qualify for CEQA streamlining and tier from the MTP/SCS EIR for their project-level GHG emissions analysis.

Senate Bill 743

SB 743 (July 2020) required revisions to the CEQA Guidelines that establish new impact-analysis criteria for the assessment of a project's transportation impacts. The intent behind SB 743 and revising the CEQA Guidelines was to integrate and better balance the needs of congestion management, infill development, active transportation, and GHG-emissions reduction. OPR recommends that VMT serve as the primary analysis metric, replacing the existing criteria of delay and level of service. In 2018, OPR released a technical advisory outlining potential VMT significance thresholds for different project types. For example, it would be reasonable to conclude that residential and office projects demonstrating a VMT level that is 15% less than existing (i.e., 2015–

[1] California Government Code Sections 14522.1, 14522.2, 65080, 65080, 65080.01, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, and 65588, and Public Resources Code Sections 2161.3, 21155, and 21159.28.

2018 average) conditions. With respect to retail land uses, any net increase of VMT may indicate a significant transportation impact.

Electricity Generation and Building Efficiency

Senate Bills 1078, 107, 100, and 1020

SB 1078 (2002) and SB 107 (2022),2 California's Renewables Portfolio Standard (RPS), obligated investor-owned utilities, energy service providers, and community choice aggregations to procure an additional 1% of retail sales per year from eligible renewable sources until 20% is reached, no later than 2010 (achieved). CPUC and CEC are jointly responsible for implementing the program. SB X1-2 (2011)3 set forth a target of procuring 33% of retail sales by 2020 (achieved).

SB 1004 (2008) and SB 1020 (2022)5 strengthened and extended California's RPS. Specifically, California utilities are required to generate 44% of their electricity from renewables by 2024 (SB 100), 50% by 2026 (SB 100), 52% by 2027 (SB 100), 60% by 2030 (SB 100), 90% by 2035 (SB 1020), 95% by 2040 (SB 1020), and 100% by 2045 (SB 100/SB 1020). SB 1020 also requires state agencies to rely on 100% renewable energy and zero-carbon resources to serve their own facilities by 2035.

California Energy Efficiency Standards for Residential and Non-Residential Buildings, Green Building Code, Title 24 Update

California has adopted aggressive energy-efficiency standards for new buildings and is continuously updating its standards. In 2008, the California Building Standards Commission adopted the nation's first "green" building standards, which included standards for many aspects of the built environment apart from energy efficiency. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code (24 CCR). Part 11 established voluntary standards that became mandatory under the 2010 edition of the Code. These standards involved sustainable site development, energy efficiency (in excess of California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

On May 9, 2018, CEC adopted the 2019 Building Energy Efficiency Standards, which took effect on January 1, 2020. The 2019 standards mandate higher efficiency levels and rooftop solar-photovoltaic (PV) systems for all new residential buildings constructed in 2020 and beyond. The 2019 standards will result in residential buildings that are, on average, 7% more energy efficient than residential buildings built under the 2016 standards (i.e., 53% of solar-PV systems are included). Nonresidential buildings will be 30% more energy efficient because the standards will update indoor and outdoor lighting to make maximum use of light-emitting diode (LED) technology.

The 2022 Building Energy Efficiency Standards, adopted on August 1, 2022, and effective January 1, 2023, strengthened and expanded the prior standards. Among other things, the 2022 standards

[2] Public Resources Code Sections 25620.1, 25740, 25470.5, 25741, 25742, 25743, 25744.5, 25746, and 25751 and Public Utilities Code Sections 387, 399.11, 399.12, 399.13, 399.14, 399.15, 399.16, 635, and 2854.

[3] Fish and Game Code Section 705; Public Resources Code Sections 25519.5, 25740, 25740.5, 25741, 25741.5, 25742, 25746, 25747, and 25751; and Public Utilities Code Sections 399.11, 399.12, 399.13, 399.14, 399.15, 399.16, 399.17, 399.18, 399.19, 399.20, 399.26, 399.30, 399.31, 454.5, 910, 911, and 1005.1.

[4] De León, Statutes of 2018, Public Utilities Code Sections 399.11, 399.15, and 399.30.

[5] Clean Energy, Jobs, and Affordability Act of 2022, Statutes of 2022, Public Utilities Code Sections 454.59 and 739.13.

established "electric-ready" requirements for new homes, expanded solar-PV and battery-storage requirements, strengthened ventilation standards, and encouraged the use of electric heat pumps.

Senate Bill 350, De Leon (Clean Energy and Pollution Reduction Act of 2015)

SB 350 was approved by the California State Legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require the following by 2030: (1) an RPS of 50% (superseded by SB 100, as described above); and (2) a doubling of energy efficiency (i.e., electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. These mandates will be implemented by future CPUC and CEC actions.

Resource Conservation

Assembly Bill 939 and Assembly Bill 341

To minimize the amount of solid waste that must be disposed of in landfills, the California State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all counties and cities were required to divert 25% of all solid waste from landfill facilities by January 1, 1995, and 50% by January 1, 2000. Through other statutes and regulations, this 50% diversion rate also applies to state agencies. In order of priority, waste-reduction efforts must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal.

In 2011, AB 341 modified the California Integrated Waste Management Act and directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. The resulting Mandatory Commercial Recycling Regulation required that, on and after July 1, 2012, certain businesses that generate 4 cubic yards or more of commercial solid waste per week must arrange for recycling services. To comply with this requirement, businesses may either separate recyclables and self-haul them, or subscribe to a recycling service that includes mixed-waste processing. AB 341 also established a statewide recycling goal of 75%; under AB 939, the 50% disposal reduction mandate still applies for counties and cities.

Assembly Bill 1826

AB 1826 (2014) required businesses and public entities that generate 4 cubic yards or more of commercial solid waste and multifamily residential buildings of five units or more to arrange for organic-waste (e.g., food and lawncare waste) recycling services and for local jurisdictions to implement organic-waste recycling programs. AB 1826 targeted the organic-waste stream to reduce GHGs and use the waste for more beneficial purposes, such as compost, mulch, and biofuel production. The law phased in requirements over time and exempted rural counties. In 2020, CalRecycle reduced the threshold to 2 cubic yards of solid waste.

Senate Bill X7-7

SB X7-7, the Water Conservation Act of 2009, set an overall goal of reducing per-capita urban-water use by 20% by December 31, 2020 (achieved). The state was required to make progress toward this goal by reducing per-capita water use by at least 10% by December 31, 2015 (achieved). SB X7-7 was an implementing measure of the AB 32 Scoping Plan Water Sector, which will continue to be implemented beyond 2020. Reduction in water consumption reduces the energy necessary and the

associated emissions to convey, treat, and distribute the water; it also reduces emissions from wastewater treatment.

Senate Bill 1386

SB 1386 (2003) declared it to be state policy that the protection and management of natural and working lands, as defined, is an important strategy in meeting the state's GHG-reduction goals and required all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.

Short-Lived Climate Pollutants

Senate Bill 605 and Senate Bill 1383

SB 605 (2003) directed CARB, in coordination with other state agencies and local air districts, to develop a comprehensive Short-Lived Climate Pollutant (SLCP) Reduction Strategy. SB 1383 (2016) directed CARB to approve and implement the SLCP Reduction Strategy to achieve the following reductions in SLCPs.

- 40% reduction in methane (CH_4) below 2013 levels by 2030
- 40% reduction in hydrofluorocarbon (HFC) gases below 2013 levels by 2030
- 50% reduction in anthropogenic black carbon below 2013 levels by 2030

The bill also established the following targets for reducing organic waste in landfills and CH_4 emissions from dairy and livestock operations.

- 50% reduction in organic waste disposal from the 2014 level by 2020
- 75% reduction in organic waste disposal from the 2014 level by 2025
- 40% reduction in CH_4 emissions from livestock manure management operations and dairy manure management operations below the dairy sector's and livestock sector's 2013 levels by 2030

Final regulations to achieve the GHG-reduction goals expressed in SB 1383 were codified under CCR Title 14, Division 7, Chapter 3, and CCR Title 27, Division 2, Chapters 2, 3, and 4, in November 2020. The regulation went into effect on January 1, 2022.

Short-Lived Climate Pollutant Reduction Strategy

CARB adopted the SLCP Reduction Strategy in March 2017 as a framework for achieving the CH_4, HFC, and anthropogenic black carbon–reduction targets set by SB 1383. The SLCP Reduction Strategy included 10 measures to reduce SLCPs, which fit within a wide range of ongoing planning efforts throughout the state, including CARB's and CalRecycle's rulemaking on organic-waste diversion (discussed above).

Cap-and-Trade Program

CARB adopted the Cap-and-Trade program in October 2011. The California Cap-and-Trade program is a market-based system with an overall emissions limit for affected emission sources. Affected sources include in-state electricity generators, hydrogen production, petroleum refining, and other large-scale manufacturers, suppliers, and distributors of fuel. The original Cap-and-Trade program

set a compliance schedule through 2020. AB 398 (2017) extended the program through 2030 and required CARB to make refinements, including establishing a price ceiling. Revenue generated from the Cap-and-Trade program is used to fund various programs. AB 398 established post-2020 funding priorities to include: (1) air toxics and criteria pollutants; (2) low- and zero-carbon transportation; (3) sustainable agricultural practices; (4) healthy forests and urban greening; (5) short-lived climate pollutants; (6) climate adaptation and resiliency; and (7) climate and clean energy research.

Local

California's Scoping Plans do not provide an explicit role for local air districts in implementing AB 32, SB 32, and AB 1279, but they do state that CARB will work actively with air districts in coordinating emissions reporting, encouraging and coordinating GHG reductions, and providing technical assistance in quantifying reductions. The ability of air districts to control emissions (both criteria pollutants and GHGs) is provided primarily through permitting, but also through CARB's role as CEQA lead or commenting agency, the establishment of CEQA thresholds, and the development of analytical requirements for CEQA documents. EDCAQMD currently has not adopted rules, regulations, or significance thresholds for GHGs in accordance with the State CEQA Guidelines.

Environmental Setting

The unique chemical properties of GHGs enable them to become well-mixed within the atmosphere and transported over long distances. Consequently, unlike other resource areas that are primarily concerned with localized project impacts (e.g., within 1,000 feet of the project site), the global nature of climate change requires a broader analysis approach. The following subsections provide background information about global climate change and principal GHGs associated with implementation of the LRVSP. Potential impacts of climate change on the study area are also identified.

Climate Change

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

Increases in fossil-fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution. Rising atmospheric concentrations of GHGs in excess of natural levels result in increasing global surface temperatures—a phenomenon commonly referred to as global warming. Higher global surface temperatures, in turn, result in changes to Earth's climate system, including increased ocean temperature and acidity, reduced sea ice, sea level rise, variable precipitation, and increased frequency and intensity of extreme weather events (IPCC 2007). Large-scale changes to Earth's system are collectively referred to as climate change.

The World Meteorological Organization and United Nations Environment Programme established the Intergovernmental Panel on Climate Change (IPCC) to assess scientific, technical, and

socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC estimates that human-induced warming reached approximately 1°C above pre-industrial levels in 2017, increasing at 0.2°C per decade. Under the current NDCs of mitigation from each country until 2030, global warming is expected to rise to 3°C by 2100, with warming to continue afterward (IPCC 2018a). Large increases in global temperatures could have substantial adverse effects on the natural and human environments worldwide and in California.

Greenhouse Gas Emissions and Reporting

The principle anthropogenic (i.e., human-made) GHGs contributing to global warming are CO_2, CH_4, nitrous oxide (N_2O), and fluorinated compounds, including sulfur hexafluoride (SF_6), HFCs, and perfluorocarbons (PFCs). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic sources.

The primary GHGs of concern associated with the project are CO_2, CH_4, and N_2O. Minor amounts of HFCs, which are considered high global warming potential (GWP) GHGs, may also be generated by leaking air conditioners and refrigerators. Principal characteristics of these pollutants are discussed below.

- **Carbon dioxide** enters the atmosphere through fossil-fuel (i.e., oil, natural gas, and coal) combustion, solid-waste decomposition, plant and animal respiration, and chemical reactions (e.g., cement manufacturing). CO_2 is also removed from the atmosphere (or *sequestered*) when plants absorb it as part of their biological carbon cycle.
- **Methane** is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal solid-waste landfills.
- **Nitrous oxide** is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- **Hydrofluorocarbons** are human-made chemicals used in commercial, industrial, and consumer products and have high GWPs. HFCs are generally used as substitutes for ozone-depleting substances in automobile air conditioners and refrigerants.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method of comparing GHG emissions is the GWP methodology defined in the IPCC (2007) reference documents. IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2e, which compares the gas in question to that of the same mass of CO_2 (CO_2 has a global warming potential of 1 by definition).

Table 3.66-1 lists the GWP of CO_2, CH_4, N_2O, and HFCs and their lifetimes in the atmosphere.

Table 3.66-1. Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gas	Global Warming Potential (100 years)	Lifetime (years)
CO_2	1	–
CH_4	25	12
N_2O	298	114

Greenhouse Gas	Global Warming Potential (100 years)	Lifetime (years)
HFCs	124 to 14,800	1–270

Source: CARB 2019a.
CH_4 = methane; CO_2 = carbon dioxide; HFCs = hydrofluorocarbons; N_2O = nitrous oxide.

All GWPs used for CARB's GHG inventory and to assess attainment of the state's 2020 and 2030 reduction targets are considered over a 100-year timeframe (as shown in Table 3.66-1). However, CARB recognizes the importance of SLCPs and reducing these emissions to achieve the state's overall climate-change goals. SLCPs have atmospheric lifetimes on the order of a few days to a few decades, and their relative climate-forcing impacts, when measured in terms of how they heat the atmosphere, can be tens, hundreds, or even thousands of times greater than that of CO_2 (CARB 2017a). In recognition of their short-term lifespan and warming impact, SLCPs are measured in terms of CO_2e using a 20-year time period. The use of GWPs with a time horizon of 20 years better captures the importance of the SLCPs and provides a clearer perspective on the speed at which SLCP-emission controls will affect the atmosphere relative to CO_2-emission controls. The SLCP Reduction Strategy, discussed in Section 3.3.1.1., *Regulatory Setting*, addresses the three primary SLCPs: CH_4, HFC gases, and anthropogenic black carbon. CH_4 has a lifetime of 12 years and a 20-year GWP of 72. HFC gases have lifetimes of 1.4 to 52 years and a 20-year GWP of 437 to 6,350. Anthropogenic black carbon has a lifetime of a few days to weeks and a 20-year GWP of 3,200 (CARB 2017a).

Greenhouse Gas Reporting

A *GHG inventory* is a quantification of all GHG emissions and sinks[6] within a selected physical and/or economic boundary. GHG inventories can be performed on a large scale (e.g., for global and national entities) or on a small scale (e.g., for a building or person). Although many processes are difficult to evaluate, several agencies have developed tools to quantify emissions from certain sources. Table 3.6-2 outlines recent global, national, and statewide GHG inventories to help contextualize the magnitude of potential project-related emissions.

Table 3.6-2. Global, National, and State Greenhouse Gas Emission Inventories

Emissions Inventory	CO_2e (metric tons)
2017 IPCC Global GHG Emissions Inventory	53,500,000,000
2020 USEPA National GHG Emissions Inventory	5,222,000,000
2020 CARB State GHG Emissions Inventory	369,200,000

Sources: IPCC 2018b; USEPA 2022; CARB 2023.
CARB = California Air Resources Board; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; IPCC = Intergovernmental Panel on Climate Change; USEPA = U.S. Environmental Protection Agency.

3.6.2 Environmental Impacts

This section describes the impact analysis related to GHG emissions for the LRVSP. It describes the methods used to quantify GHG emissions and discusses the thresholds used to evaluate whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, when necessary.

[6] A *GHG sink* is a process, activity, or mechanism that removes a GHG from the atmosphere.

Methods of Analysis

This section is partially based on the Air Quality and GHG Technical Report (Ascent 2024) provided in Appendix C. Please refer to Appendix A for further information about the emissions quantification and analysis method.

Construction

Construction of the proposed project would generate short-term emissions of CO_2, CH_4, N_2O from mobile and stationary construction-equipment, employee-vehicle, and haul-truck exhaust. Water consumption for dust control would also generate indirect GHG emissions associated with water pumping and conveyance. HFCs may be generated by leaking air conditioners in on-road vehicles.

GHG emissions from construction were estimated using CalEEMod, version 2022.1. Modeling inputs included project-specific land use types and sizes and construction phasing, timing and activities included in Chapter 2, *Project Description*, and summarized in the Air Quality and GHG Technical Report (Appendix C). Model defaults for all other assumptions were used for construction-emissions modeling. Buildout of the project was assumed to occur over an extended period, beginning in 2027, with full buildout anticipated around 2045.

Construction of the proposed project would result in the permanent conversion of oak woodlands, riparian woodland, white-leaf chaparral, grasslands, and wetlands. Removal of this vegetation would reduce the carbon-sequestrating capacity of the land and stored carbon in soil and above and below ground biomass. The resulting CO_2 loss was quantified using CalEEMod and the U.S. Department of Agriculture – Forest Service's i-Tree Planting Calculator (i-Tree), as described in the Air Quality and GHG Technical Report (Appendix C).

Operation

Operation of the proposed project would generate long-term emissions of GHGs. Primary sources of emissions would include vehicle exhaust, energy usage, water consumption, waste and wastewater generation, and area sources. Landscaping equipment and hearths are also area sources of GHG emissions. Energy sources include the combustion of natural gas, as well as the use and generation of electricity. Waste generation results in fugitive CH_4 and N_2O emissions from the decomposition of organic matter. Water consumption results in indirect GHG emissions from the conveyance and treatment of water. HFCs would be generated by leaking air conditioners and refrigerators.

Operational CO_2, CH_4, N_2O, and HFC emissions were estimated using CalEEMod, version 2022.1, and a combination of project-specific information and model defaults. Modeling inputs included land use types, sizes, and other project details (e.g., VMT), as described in the Air Quality and GHG Technical Report (Appendix C). For purposes of analysis, full buildout is assumed to occur by 2045. Additionally, operational modeling was conducted for project operations in 2030 to align with the statewide milestone year in SB 32 (discussed further in the *Thresholds of Significance*).

Pursuant to the County's General Plan and County Code of Ordinance, the proposed project is required to mitigate all native oak tree impacts at a 1:1-inch ratio and all heritage oak trees at a 3:1-inch ratio. Sequestered CO_2 resulting from tree replanting was quantified using i-Tree and the methods described in the Air Quality and GHG Technical Report (Appendix C).

Thresholds of Significance

CEQA Guidelines

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

4. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

1. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

State CEQA Guidelines do not indicate what amount of GHG emissions would constitute a significant impact on the environment. Instead, they authorize the lead agency to consider thresholds of significance that other public agencies have previously adopted or recommended or that experts recommend, provided that the decision of the lead agency to adopt such thresholds is supported by substantial evidence (State CEQA Guidelines Section 15064.4(a) and 15064.7(c)). A summary of the CEQA guidance regarding the analysis of GHG emissions is provided below.

CEQA Guidelines Section 15064.4(a)

State CEQA Guidelines Section 15064.4(a) indicates that CEQA requires a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project, compare estimated emissions to a threshold that the lead agency deems appropriate (with evidence to support this threshold), and assess the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. This guideline gives the lead agency discretion about whether to quantify GHG emissions resulting from a project and/or rely on a qualitative analysis or performance-based standards.

State CEQA Guidelines Section 15064.4(a) does not indicate what amount of GHG emissions would constitute a significant impact on the environment. Instead, it authorizes the lead agency to consider thresholds of significance that other public agencies have previously adopted or recommended or that experts recommend, provided that the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

CEQA Guidelines Section 15064.4(b)

State CEQA Guidelines Section 15064.4(b) requires a lead agency to consider the following factors.

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether the project GHG emissions exceed a threshold of significance that the lead agency determines applies to the project.
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The lead agency must include substantial evidence linking statewide goals, strategies, and plans to the project's findings and significance of impacts (added in response to *Center for Biological Diversity et al. vs. California Department of Fish and Wildlife, the Newhall Land and Farming Company*; see below).

CEQA Guidelines Section 15064.4(c)

State CEQA Guidelines Section 15064.4(c) states that a lead agency may choose a model or methodology to estimate GHG emissions that it considers most appropriate. The lead agency must support its selection of a model or methodology with substantial evidence and explain the limitations of the model or methodology.

CEQA Guidelines Section 15183.5

State CEQA Guidelines Section 15183.5 outlines measures that lead agencies can take to analyze and mitigate the significant effects of GHG emissions at a programmatic level, such as in a General Plan, Long-Range Development Plan, or in a separate plan (e.g., a climate action plan [CAP]) to reduce GHG emissions, so that later, project-specific environmental documents may tier from the prior analysis to determine significance.

Summary of Relevant Court Decisions

The Courts have ruled on various matters related to GHG analyses in CEQA documents, which has helped define acceptable practices for adequate analysis of GHG emissions under CEQA, including setting thresholds, properly defining level of significances, and identifying mitigation measures. The Courts' decisions highlight that, depending on the circumstances of a given project, there are multiple ways to evaluate GHG-emissions impacts in CEQA documents. CEQA gives the lead agency discretion to quantify GHG emissions resulting from a project and/or rely on a qualitative analysis or performance-based standards, but the lead agency must support its decisions with substantial evidence and explain any limitations associated with the analysis. In addition, a lead agency's analysis should consider a timeframe that is appropriate for the project and must reasonably reflect evolving scientific knowledge and the current state regulatory schemes.

In the 2015 California Supreme Court decision in the *Center for Biological Diversity et al. vs. California Department of Fish and Wildlife, the Newhall Land and Farming Company* (November 30, 2015, Case No. S217763) (hereafter Newhall Ranch) the Court identified several potential approaches for determining significance of project-level GHG emissions. The decision affirmed that "thresholds only define the level at which an environmental effect 'normally' is considered significant; they do not relieve the lead agency of its duty to determine the significance of an impact independently." In the 2018 Court of Appeals decision in *Golden Door Properties/Sierra Club vs. County of San Diego* (September 28, 2018, 27 Cal.App.5th 892) (hereafter Golden Door I), the Court reinforced the message from the Newhall Ranch decision that analyses need to provide substantial evidence to support significance thresholds selected for use in the CEQA analysis. Both the Newhall Ranch and Golden Door I decisions demonstrated that use of statewide emission-reduction goals is one of the various potential thresholds and methodologies for evaluating project- or plan-level GHG emissions consistent with CEQA, use of statewide emission reduction goals is a "permissible criterion of significance" so long as substantial evidence and reasoned explanation is provided to close the analytical gap between the level of effort required at one scale (e.g., state level) to the level of effort required at another scale (e.g., proposed plan level). Other relevant cases have reinforced the discretion of lead agencies to select thresholds, provided they stay in line with the state of the science.

With respect to GHG mitigation, *Golden Door Properties, LLC v. County of San Diego* 50 Cal. App. 5th 467 (2020) (henceforth referred to as Golden Door II) added a level of increased rigor for the use of GHG credits as CEQA mitigation. In its decision, the California Fourth District Court of Appeal found

that the Supplemental EIR prepared by San Diego County for its CAP violated CEQA because it relied on a mitigation measure that was improperly deferred and lacked enforceable performance criteria. San Diego County's mitigation measure for its CAP would reduce GHG emissions associated with its proposed General Plan amendment to net zero. The Court specifically questioned the use of GHG credits not approved by CARB and, in particular, those that could originate outside of California. The Court also criticized the measure's sole reliance on San Diego County staff to assess future GHG-credit feasibility and enforcement. Although the Court's Golden Door II decision did not object to the use of GHG credits as CEQA mitigation, it underscored the need for such mitigation to include enforceable performance standards and objective criteria to ensure that the GHG reductions from GHG credits are achieved.

Following are some of the Court's suggested approaches for analyzing GHG impacts under CEQA.

- **Consistency with a Qualified GHG Emissions Reduction Plan.** Use of a GHG emission–reduction plan is consistent with State CEQA Guidelines Sections 15183.5 or 15064.4 for a geographic area.
- **Performance Based.** Performance-based thresholds relate the required level of reduction at the project level to the statewide burden required to meet California's GHG goals.
- **Quantitative Thresholds.** Use of a quantitative threshold (e.g., the Bay Area Air Quality Management District's Bright Line threshold) identifies the level above which a project may contribute a significant amount of GHG emissions.
- **CEQA Streamlining.** Certain land use projects (e.g., residential, mixed-use, transit priority projects) could use SB 375's expressed allowance for tiering GHG emissions generated by light-duty vehicles from the environmental analysis conducted for the regional RTP/SCS.
- **Compliance with Regulatory Programs**. This approach would include an assessment of the project's compliance with regulatory programs designed to reduce GHGs from emissions-generating activities (e.g., energy consumption, transportation, water usage). To the extent that a project's design features comply with or exceed the regulations outlined in the Scoping Plans and adopted by CARB or other state agencies, the lead agency could appropriately rely on their use as showing that the project is reducing emissions consistently with state reduction targets and, thus, that emissions are less than significant.

Under any methodology, if GHG emission impacts were still significant after the adoption of all feasible mitigation measures and consideration of project alternatives, then the lead agency may adopt a statement of overriding considerations with the appropriate findings.

Applicability of Available Thresholds

The following sections discuss the threshold approaches that the Courts recommended and CEQA supports and analyze their applicability to the operational-emissions analysis for the proposed project.

Compliance with a Qualified Greenhouse Gas–Reduction Strategy

OPR acknowledges that the California State Legislature encourages lead agencies to tier or streamline their environmental documents whenever feasible and that GHG emissions may be best analyzed and mitigated at the programmatic level (OPR 2018a). A qualified plan may be used in the cumulative-impact analysis for later projects when the analysis "identifies those requirements

specified in the plan that apply to the project." For a GHG-reduction plan to be considered a qualified plan, it must meet certain criteria established under State CEQA Guidelines Sections 15183.5(b) and 15064.4, also specified above. Consequently, if a project is consistent with a local CAP that was created to meet that area's fair-share reductions toward the AB 32 GHG target for 2020, then the project would be considered consistent with statewide GHG reduction goals for 2020. Additionally, if a CAP were adopted that was consistent with the state's overall goals for post-2020, including the downward trajectory as clarified in SB 32 and EO S-03-05, and a project is consistent with that CAP, then the project would be considered consistent with the state's post-2020 GHG-emission strategy. State CEQA Guidelines Section 15183.5 also specifies that the project's CEQA analysis "must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project."

The County does not have an adopted CAP or similar program-level GHG-reduction document. Therefore, compliance with a qualified GHG-reduction strategy, such as a CAP, is not appropriate for evaluating GHG impacts from the LRVSP.

Performance Based

Performance-based thresholds are based on a percentage reduction from a projected future condition; for example, reducing future business-as-usual (BAU) emissions to meet the SB 32 target (40% below 1990 levels) through a combination of state measures, project design features (e.g., renewable energy), or mitigation.

Based on the Court's reasoning in the Newhall Ranch decision, relating a given project to the achievement of state reduction targets may require adjustments to CARB's statewide BAU model to not only isolate new development emissions, but also consider unique geographic conditions and operational characteristics that may affect the performance of reduction measures in certain locations. To date, this type of adjustment to the statewide BAU target has not been performed and, therefore, is not appropriate for the proposed project's analysis. The primary value of a performance-based target, as indicated in the Newhall Ranch decision, is that it can provide a scenario by which to evaluate the effectiveness of a project's reduction efficiency relative to an unmitigated condition. As such, future-year targets can be used to benchmark performance, using either statewide or regional emission targets, to determine a project's fair share of mitigation. Accordingly, use of a BAU threshold is not appropriate for evaluating GHG impacts from the LRVSP.

Quantitative Thresholds

Numerical Bright Line

Numerical Bright Line thresholds identify the point at which additional analysis and mitigation of project-related GHG-emission impacts is necessary. Currently, Bright Line thresholds have been developed for commercial projects, residential projects, and stationary source projects. Commercial and residential Bright Line thresholds are typically based on a market-capture rate or a gap analysis,[7] which is tied back to statewide reduction targets. These Bright Line thresholds reflect regional or local land use conditions, particularly residential and commercial density and access to

[7] A *gap analysis* demonstrates the reductions needed at the residential and commercial land use levels to achieve state targets. *Capture* is the process of estimating the portion of projects that would result in emissions that exceed a significance threshold and would be subject to mitigation.

transit. For example, SMAQMD's adopted Bright Line threshold for 2020 of 1,100 metric tons of CO_2e and their post-2020 operational threshold, which is also 1,100 metric tons of CO_2e, captures land use conditions present in Sacramento County. It does not reflect conditions in other areas of the state, including the County.

A numerical Bright Line value based solely on County emissions sources does not exist. Although development conditions in Sacramento County may be similar to those in the County, SMAQMD's adopted thresholds identify projects that would result in sufficiently low GHG emissions to be less than cumulatively considerable without mitigation. These thresholds, albeit potentially appropriate for a single project-level analysis, were not devised to include emissions associated with an entire specific plan (e.g., the proposed project). Consequently, SMAQMD's numeric thresholds are not appropriate for evaluating GHG impacts from the LRVSP.

Efficiency Based

Another type of quantitative threshold is an efficiency-based threshold. Efficiency-based thresholds represent the GHG efficiency needed for development to achieve California's GHG-emissions targets. Although the Newhall Ranch decision did not specifically recommend the efficiency-based approach, the ruling did note that numerical threshold approaches may be appropriate for determining significance of GHG emissions and emphasized the consideration of GHG efficiency. Efficiency-based thresholds allow lead agencies to analyze projects of various types, sizes, and locations equally and determine whether a project is consistent with the state's reduction goals. Efficiency-based thresholds for a residential project can be expressed on a per-capita basis, for an office project on a per-employee basis, or for a mixed-use project on a per service population (i.e., the sum of jobs and residents) basis.

CARB (2017b) recommends statewide efficiency targets of no more than 6 metric tons of CO_2e per capita by 2030 and no more than 2 metric tons of CO_2e per capita by 2050. These targets were derived based on total statewide emissions from all emission categories (including emissions from stationary and industrial sources) and the reductions needed to achieve California's 2030 statewide target under SB 32 and the EO S-3-05 reduction goal of 80% below 1990 levels by 2050. CARB's 2050 efficiency target is consistent with the Under2 MOU, which commits signatories to reducing their GHG emissions to 2 metric tons CO_2e per capita by 2050. CARB's per-capita efficiency metrics are useful benchmarks for assessing the proposed project's consistency with the emissions levels defined by California, as needed to achieve the state's fair share–reduction contribution to limit global warming to below 2°C (i.e., the Paris Agreement).

Because CARB's per-capita efficiency targets are based on statewide emissions, they represent an average efficiency that does not specifically consider the unique geographic and project-specific features that could influence emissions reductions achieved by the LRVSP. The targets also do not isolate the required emissions reductions from new development only, which are needed to meet state goals. Tailoring CARB's per-capita targets to local project conditions is not possible with the available data published in the 2017 Scoping Plan or the 2022 Scoping Plan. Accordingly, per the Court's guidance provided in the Newhall Ranch ruling, CARB's efficiency targets are not appropriate thresholds for independently evaluating the significance of project-generated GHG emissions. However, as noted above, the targets are useful benchmarks for assessing the proposed project's consistency with the state's overall reduction trajectory and CARB's efficiency thresholds, and therefore are presented for informational purposes.

CEQA Streamlining

SB 375 included provisions for streamlined CEQA review for certain types of mixed-use and transit priority projects that meet the bill's specific criteria. According to State CEQA Guidelines Section 15183.5, quantified plans, such as the RTP/SCS EIR, "may be used in the cumulative impacts analysis of later projects."

Projects eligible for CEQA streamlining under SB 375 must be consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in the SCS. The proposed project is not included in the growth scenario for the MTP/SCS (SACOG 2019b). However, the project is identified within a "Potential Developing Communities" area under SACOG's 2025 Blueprint Pathway, which will inform the next iteration of the MTP/SCS, known as the 2025 Blueprint. The 2025 Blueprint Pathway currently includes a potential buildout of 670 housing units for the proposed project (SACOG 2024). The project includes up to 800 housing units, and is thus not eligible for CEQA streamlining under SB 375.

Compliance with Regulatory Programs

If the project complies with or exceeds those programs adopted by CARB or other state agencies, then a lead agency could rely on regulatory compliance to show less-than-significant GHG impacts. However, such analysis is only applicable within the area governed by the regulations. For example, consistency with regulations addressing building efficiency would not suffice to determine that the project would not have significant GHG emissions from transportation.

The Newhall Ranch decision specifically mentioned consistency with both the SCS (per SB 375) and AB 32 as potential mechanisms for evaluating significance. A lead agency could assess project-level consistency with AB 32 in whole or part by evaluating whether the project complies with applicable policies in the 2008 Scoping Plan, which did not consider deeper reductions needed to meet the state's 2030 target under SB 32 or 2045 target under AB 1279. Accordingly, exclusively relying on consistency with the 2008 Scoping Plan and related programs to evaluate emissions generated by land use development projects constructed after 2020 would not fully consider a project's potential GHG impacts on the state's long-term reduction trajectory.

Additional guidance on GHG-reduction strategies and thresholds for operational emissions has been provided at the state level through the 2017 and 2022 Scoping Plans, OPR, and CARB. The 2017 and 2022 Scoping Plans outlined GHG-reduction strategies by the emission sector (i.e., water, transportation, and energy) required to meet the state's 2030 and 2045 targets, respectively. OPR (2018a) guidance specifies that a "land use development project that produces low VMT, achieves applicable building energy efficiency standards, uses no natural gas or other fossil fuels, and includes Energy Star appliances where available, may be able to demonstrate a less-than-significant greenhouse gas impact associated with project operation." Furthermore, CARB (2019b) guidance specified per-capita VMT reduction targets that would be needed statewide to meet long-term mobile-source GHG-reduction targets, considering increased vehicle efficiency and reduced carbon content in vehicle fuels.

To the extent the LRVSP policies comply with or exceed applicable policies outlined in the 2017 and 2022 Scoping Plans and other regulations adopted by CARB or other state agencies, the proposed project could appropriately rely on their use as showing compliance with performance-based standards adopted to fulfill the statewide goal for reducing GHG emissions. The project's compliance with regulatory programs was therefore used to evaluate the significance of GHG emissions.

LRVSP Threshold Approach

Based on the available threshold concepts recommended by air districts and the Courts, GHG emissions from the project are evaluated on a sector-by-sector (e.g., energy, water) basis using the most-applicable regulatory programs, policies, and thresholds that EDCAQMD, CARB, and OPR recommend, as described above (in the subsection *Compliance with Regulatory Programs*). The buildout year for the proposed project is assumed to be 2045. Accordingly, the analysis focuses on the state's 2030 and 2045 GHG-reduction targets and the plans, policies, and regulations adopted pursuant to achieving the necessary reductions. Emissions generated at full buildout are used as an indicator for long-term emissions reduction progress and evaluated as they relate to the proposed project's impacts on the state's long-term goal under AB 1279. Where applicable, guidance from CARB, OPR, and other agencies related to long-term emissions-reduction requirements is incorporated into the analysis.

- **Mobile Sources.** CARB's 2017 and 2022 Scoping Plans recognized that although vehicle technologies and low-carbon fuels will continue to reduce transportation-sector emissions, VMT reductions are necessary to achieve California's long-term GHG-reduction target. As discussed in Section 3.14, *Transportation and Circulation*, the County's Board of Supervisors adopted VMT thresholds of significance for purposes of analyzing transportation impacts under CEQA. The County's VMT thresholds consider the VMT performance of residential and office components of a project separately, using the efficiency metrics of VMT per capita and VMT per employee, respectively. The County VMT thresholds of significance are summarized below for each of these components.
    - **Residential**: 15% below baseline unincorporated countywide VMT per capita
    - **Commercial Office**: 15% below baseline unincorporated countywide VMT per employee
    - **Commercial Retail**: No net increase in VMT

    The County's VMT thresholds are consistent with CARB's per-capita VMT reduction target needed statewide to meet long-term climate change planning goals. Accordingly, use of County's VMT thresholds are applicable to the project. The 2022 Scoping Plan also outlined project attributes related to transportation electrification and VMT reduction. Projects that incorporate these attributes "are considered to be consistent with the Scoping Plan or other plans, policies, or regulations adopted for the purposes of reducing GHGs" (CARB 2022a). Mobile-source emissions would therefore be considered less than significant if the project: (1) achieves the County's VMT thresholds; and (2) meets 2022 Scoping Plan criteria for transportation electrification and VMT reduction.

- **Energy, Water, Waste, Area, High-GWP GHG, and Construction/Land Use Sources.** CARB's 2017 and 2022 Scoping Plans, which rely heavily on state programs (e.g., Title 24 and SB 100), outlined strategies required to reduce statewide GHG emissions in order to achieve California's SB 32 and AB 1279 reduction targets. Projects that implement applicable strategies from the 2017 and 2022 Scoping Plans would be consistent with the state's GHG-reduction framework and requirements for these sectors. Accordingly, a sector-by-sector review of the respective project features and sustainability measures included in the LRVSP is provided to evaluate consistency with the 2017 and 2022 Scoping Plans. This assessment also considers OPR (2018a) guidance related to the long-term reduction of statewide emissions. Accordingly, energy, water, waste, area, high-GWP GHG, and construction/land use source emissions would be considered

> less than significant if the project is consistent with all applicable 2017 and 2022 Scoping Plan strategies and supporting regulations and guidance.

Analyzing the proposed project's consistency with regulatory requirements and agency expectations for new development on a sector-by-sector basis is consistent with SMAQMD's published GHG threshold guidance (Ramboll 2020). CARB also recommends this approach as a pathway for analyzing project-level GHG-emission impacts of new residential and mixed-use development projects (CARB 2022a). The 2022 Scoping Plan specifically notes,

> absent consistency with an adequate, geographically specific GHG reduction plan…the first approach the State recommends for determining whether a proposed residential or mixed-use residential development would align with the State's climate goals is to examine whether the project includes key project attributes that reduce operational GHG emissions while simultaneously advancing fair housing (CARB 2022a).

Project consistency with applicable project attributes noted in the 2022 Scoping Plan has been incorporated into the sector-by-sector regulatory analysis, as noted above.

Although SMAQMD's guidance is specific to Sacramento County, it identifies BMPs that new development must implement to avoid conflicting with long-term state GHG-reduction goals. These BMPs are consistent with guidance from other agencies, such as CARB (2019b) and OPR (2018a), and include prohibiting natural-gas infrastructure, ensuring projects are electric-vehicle ready, and achieving VMT reductions consistent with SB 743. SMAQMD's GHG guidance and recommended BMPs have been incorporated into the sector-by-sector regulatory analysis, to extent that they are applicable to the LRVSP.

As discussed above, operational emissions are also evaluated against CARB's per-capita targets. This analysis assesses the project's consistency with the state's overall reduction trajectory and is presented for informational purposes and is not the basis for the CEQA impact conclusion, which is compliance with regulatory programs. The informational benchmarks are shown in Table 3.6-3.

Table 3.6-3. Informational Greenhouse Gas Efficiency Benchmarks

			Project Benchmarks	
Type	Unit	Source Data	Partial Build (2030)	Full Build (2045)
CARB Statewide	Metric tons CO_2e per person	6.0 (2030)	6.0	N/A
AB 1279 Carbon Neutrality Goal	Metric tons per any unit	0.0 (2045)	N/A	0.0

Source: California Air Resources Board 2017b.

Impacts and Mitigation Measures

Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (significant and unavoidable)

Construction of the proposed project would generate direct emissions of CO_2, CH_4, and N_2O from mobile and stationary construction-equipment exhaust, as well as from employee-vehicle and haul-truck exhaust. Indirect emissions would also be generated by electricity used to pump and convey water to the project site for dust control. Permanent conversion of natural lands would result in a

one-time loss of carbon-sequestration capacity. A small amount of HFCs may be generated by leaking air conditioners in on-road vehicles. Emissions from these sources were quantified using the methods described above in *Methods for Analysis*, and in the Air Quality and GHG Technical Report (Appendix C) (Ascent 2024).

Table 3.6-4 presents estimated construction emissions. The emissions results do not account for potential GHG benefits of air quality mitigation (see Section 3.2, *Air Quality*). For example, Mitigation Measure AQ-2b would likely result in GHG-emissions benefits. However, because the measure outlines a performance standard for NO_X reduction, as opposed to identifying specific equipment controls, GHG-emission reductions cannot currently be quantified.

Table 3.6-4. Estimated Construction Greenhouse Gas Emissions (metric tons per year)

Year	CO_2e
Year 1	1,008
Year 2	984
Year 3	350
Year 4	349
Year 5	340
Year 6	339
Year 7	969
Year 8	960
Year 9	953
Year 10	336
Year 11	335
Year 12	332
Year 13	947
Year 14	333
Year 15	333
Year 16	332
Total Construction Emissions	9,199
One-Time Sequestration Loss	(+) 18,622
Total Construction Emissions with One-Time Sequestration Loss	27,821

Source: Ascent 2024.
Notes: CO_2e = carbon dioxide equivalent.

As shown in Table 3.6-4, construction of the LRVSP would generate 9,199 metric tons of CO_2e during the construction period. Permanent land conversion would result in an additional one-time loss of 18,622 metric tons CO_2e. Total construction generated emissions inclusive of land-use change related emissions would be 27,821 metric tons CO_2e.

Operation of the LRVSP would generate direct and indirect GHG emissions. Sources of direct emissions include motor-vehicle trips, natural-gas combustion, and landscaping activities. Electricity generation and consumption, waste and wastewater generation, water use, and refrigeration and air conditioning units would generate indirect emissions. Conversely, tree planting would reduce GHG emissions through carbon sequestration.

Operational emissions were quantified for two analysis years, 2030 and 2045. Emissions in 2030 were modeled to align with CARB milestone years for GHG-reduction planning efforts at the state level. Emissions in 2045 were modeled because that is the assumed the first operational year at full buildout. Table 3.6-5 presents the modeled operational emissions for the two analysis years. The table does not include emissions benefits achieved by LRVSP polices, but does reflect adopted state regulations, to the extent that they were included in the models used to estimate emissions and designed to reduce GHG emissions (see Appendix C).

Table 3.66-4. Estimated Operational GHG Emissions (metric tons per year, unless otherwise stated)

Operational Year	CO_2 [a]	CH_4	N_2O	HFCs	CO_2e
Emissions [b]					
2030 (Partial Operation)	1,094	1	0	2	1,148
2045 (Full Build)	7,434	6	0	3	7,685
Emissions per Capita [c]					
2030 (Partial Operation)	–	–	–	–	2.0
2045 (Full Build)	–	–	–	–	3.3
Informational Statewide Benchmarks					
2030 (Partial Operation)	–	–	–	–	6.0
2045 (Full Build)	–	–	–	–	0.0

Source: Ascent 2024.

[a] Accounts for average annual sequestration benefits from tree planting (see Appendix C).

[b] Accounts for reductions achieved by the Renewables Portfolio Standard.

[c] Assumes a partial 2030 population of 584 residents and a full build population of 2,336 residents.

CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalents; GHG = greenhouse gas; N_2O = nitrous oxide; HFCs = hydrofluorocarbons.

Partial operational emissions in 2030 are estimated to be 1,148 metric tons CO_2e, which equates to 2.0 metric tons CO_2e per capita. Estimated operational emissions at full build in 2045 are 7,685 metric tons CO_2e. These emissions equate to 3.3 metric tons CO_2e per capita. These emissions at full build exceed CARB's statewide per-capita benchmark. As noted above, the emissions analysis presented in Table 3.66-4 do not include benefits achieved by LRVSP policies. The LRVSP includes a comprehensive set of strategies that will improve energy efficiency, reduce water consumption and waste generation, and encourage alternative transportation. Although several policies encourage voluntary adoption of actions that will reduce GHG emissions, others identify mandatory targets that will be incorporated into the project design and achieved as a condition of project approval.

Table 3.6-5 summarizes emissions with implementation of the following mandatory LRVSP policies, as described in Appendix C.[8]

- **Policy 7.15,** Install Energy Star appliances.
- **Policy 7.33,** Reduce residential indoor water use.
- **Policy 7.37,** Expand recycled water use.
- **Policy 7.38,** Install irrigation controllers.

[8] Additional mandatory policies outlined in the LRVSP would be implemented, but to avoid potential double-counting with the quantified policies identified above, emissions benefits were not quantified.

- **Policy 7.42**, Reduce turf.
- **Policies 7.45** and **7.46**, Prohibit wood-burning devices.

Table 3.6-5. Estimated Operational GHG Emissions with Implementation of Quantified Mandatory LRVSP Policies (metric tons per year, unless otherwise stated)

Operational Year	CO_2 [a]	CH_4	N_2O	HFCs	CO_2e
Emissions [b]					
2030 (Partial Operation)	984	1	0.1	2	1,044
2045 (Full Build)	6,796	5	0.3	3	7,009
Emissions per Capita [c]					
2030 (Partial Operation)	–	–	–	–	1.8
2045 (Full Build)	–	–	–	–	3.0
Informational Statewide Benchmarks					
2030 (Partial Operation)	–	–	–	–	6.0
2045 (Full Build)	–	–	–	–	0.0

Source: Ascent 2024

[a] Accounts for average annual sequestration benefits from tree planting (see Appendix A).

[b] Emissions account for reductions achieved by the Renewables Portfolio Standard and LRVSP Policies 7.15, 7.33, 7.37, 7.38, 7.42, 7.45, and 7.46.

[c] Assumes a partial 2030 population of 584 residents and a full build population of 2,336 residents.

CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalents; GHG = greenhouse gas; N_2O = nitrous oxide; HFCs = hydrofluorocarbons.

Partial operational emissions in 2030 with quantifiable mandatory LRVSP policies are estimated to be 1,044 metric tons CO_2e, which equates to 1.8 metric tons CO_2e per capita. Estimated operational emissions at full build in 2045 with quantifiable mandatory LRVSP policies are 7,009 metric tons CO_2e. These emissions equate to 3.0 metric tons CO_2e per capita. The analysis demonstrates that the quantified mandatory LRVSP policies would improve the average GHG efficiency of developed land uses. The LRVSP would achieve additional GHG reductions by incorporating voluntary policies that encourage renewable energy, alternative transportation, and passive heating and cooling. However, these strategies were not quantified because the exact number of installed systems and affected structures are currently unknown. Operational emissions would, therefore, likely be lower than those presented in Table 3.6-5. Although LRVSP policies would reduce emissions, GHGs would exceed the informational efficiency benchmarks at full build.

The following sections present the sector-by-sector analysis of GHG impacts, consistent with OPR and CARB guidance.

Area Sources

Area source-GHG emissions from the LRVSP would be generated by landscaping-related fuel-combustion sources, such as lawn mowers, and hearths (e.g., fireplaces).

CARB has not developed any relevant measures in its Scoping Plans or other regulations related to area source emissions. CARB adopted emissions standards for small off-road engines (i.e., landscape equipment) in 1990. EO N-79-20 set a goal to transition off-road engines to 100% zero-carbon by 2035. CARB intends to consider specific standards for small engines, including regulatory and incentive approaches and a major shift to zero-emission equipment. However, to date, adopted

CARB emission standards are aimed at reducing smog-forming pollutants. No standards have been adopted pursuant to reducing GHG emissions from small off-road engines.

Under SB 563, CARB has developed the Woodsmoke Reduction Program, which offers incentives toward the voluntary replacement of existing uncertified residential wood-burning devices used for space heating with cleaner and more efficient alternatives. Replacement options include stoves that are natural gas, propane, electric, ductless mini-split heat pumps, and wood (with emissions controls). The program is maintained through the Greenhouse Gas Reduction Fund

The LRVSP includes policies that will directly reduce GHG emissions and fossil-fuel consumption from area sources. For example, LRVSP Policy 7.5 requires electrical outlets be provided along the front and rear exterior walls in all residential land use designations to allow for the use of electric landscaping tools. LRVSP Policies 7.45 and 7.46 prohibit wood-burning stoves and fireplaces and require all fireplaces be natural-gas fired. Although the emissions benefits achieved by LRVSP Policy 7.5 cannot be quantified because it is unknown how many people will elect to use electric landscaping equipment, LRVSP Policies 7.45 and 7.46 are estimated to reduce operational area source emissions by 676 metric tons CO_2e (i.e., 53%) per year at full build (Ascent 2024).

Achieving the state's long-term climate change target under AB 1279 will inevitably require the transition away from fossil fuel–powered energy sources, including, but not limited to, landscaping equipment and hearths. Recognizing this, OPR (2018a) guidance recommends that land use development projects strive to avoid fossil fuels. SMAQMD's GHG guidance for Sacramento County also includes a BMP for projects to be designed and construction without natural-gas infrastructure (Ramboll 2020). To avoid conflicting with the state's 2030 GHG target and longer-term goals, SMAQMD recommends this BMP for all new developments in Sacramento County.[9] Finally, the 2022 Scoping Plan identifies the use of all-electric appliances without any natural-gas connections or use of fossil fuels for space heating, water heating, or indoor cooking as a key project attribute for consistency with the state's climate goals (CARB 2022a). Use of fossil-fueled landscaping equipment and natural-gas hearths on the project site would generate GHG emissions and may, therefore, conflict with the state's emission-reduction trajectory.

Energy Sources

GHGs are emitted directly from buildings through the combustion of any type of fuel (e.g., natural gas for cooking). GHGs can also be emitted indirectly from the generation of electricity.

The 2017 and 2022 Scoping Plans outlined strategies to reduce energy demand and fossil-fuel use, while increasing energy efficiency and renewable-energy generation. These strategies include transitioning to cleaner fuels, implementing greater efficiency in existing buildings, and electrifying end uses. Several of these strategies are reflected in state laws and regulatory programs. For example, SB 100 requires a doubling of energy efficiency by 2030. SB 100 and SB 1020 also set a target of 100% carbon-free electricity by 2045. The 2019 Title 24 standards mandated higher efficiency levels and rooftop solar-PV systems for all new residential buildings constructed in 2020

[9] Based on Sacramento County's 2030 GHG target and estimated 2030 GHG emissions for the residential and commercial sectors, there is "no remaining emissions budget for natural gas from new development." In other words, for Sacramento County to achieve its 2030 GHG target for the residential and commercial sectors, new development must be constructed without natural gas infrastructure and "existing developments will need to reduce their natural gas use" (Ramboll 2020). This conclusion is specific to Sacramento County; a similar analysis has not been conducted for El Dorado County.

and beyond. The 2022 Title 24 standards established "electric-ready" requirements for new homes. Future standards are expected to result in zero-net energy for newly constructed commercial buildings. The CEC also enforces the Appliance Efficiency Regulations contained in Title 20 of the CCR. The regulations establish water- and energy-efficiency standards for both federally regulated and non-federally regulated appliances.

Objective 7.4 in the LRVSP requires all development within the plan area be energy efficient and encourages the onsite generation of renewable energy. The LRVSP includes 12 policies to achieve this objective through a mix of voluntary and mandatory strategies. For example, LRVSP Policy 7.11 encourages all buildings be oriented to reduce heating and cooling needs, whereas LRVSP Policies 7.12 and 7.13 encourage cool roofing and energy-efficient glazing. LRVSP Policies 7.19 targets high-efficiency lighting throughout the plan area, and LRVSP Policy 7.20 encourages onsite renewable-energy generation by requiring that buildings be prewired for future solar-PV systems and removing any restrictions on future installations. LRVSP Policy 7.21 requires solar water-heating systems in commercial and multifamily buildings and encourages their installation in single-family homes and swimming pools.

The LRVSP's robust energy efficiency and renewable energy policies are consistent with the 2017 Scoping Plan's overall goal of reducing building energy emissions to meet the state's 2030 GHG-reduction target. To meet the state's 2045 climate-neutrality goal (i.e., AB 1279), OPR (2018a) recommends all-electric buildings. Similarly, as noted above, SMAQMD's GHG guidance shows that for Sacramento County to meet its 2030 GHG target for the building energy sector, new development must be constructed without natural-gas infrastructure (Ramboll 2020). Because SB 100 obligates utilities to supply 100% carbon-free electricity by 2045, all electric buildings that do not consume any natural gas would not generate any emissions. The 2022 Scoping Plan identifies no natural-gas connections or fossil-fuel consumption for space heating, water heating, or indoor cooking as key project attributes for consistency with the state's climate goals (CARB 2022a). Although the LRVSP encourages energy efficiency and onsite renewable energy, not all buildings will be designed without natural-gas appliances. The continued consumption of fossil fuels by LRVSP buildings would generate energy emissions and could conflict with the state's long-term emissions-reduction trajectory.

Mobile Sources

GHG emissions associated with on-road mobile sources would be generated from worker, visitor, and delivery vehicles accessing the project area.

Federal, state, and local regulatory efforts target three elements of emissions reduction from mobile sources: vehicle fuel efficiency, the carbon content of fuels, and VMT. Most adopted programs and regulations focus on fuel efficiency (e.g., Pavley I Standard, Advanced Clean Cars) and reducing the carbon intensity of transportation fuels (e.g., LCFS). Vehicle electrification is also rapidly becoming part of the state's approach to reducing mobile source emissions (e.g., Title 24). The proposed project does not include any features that would conflict with these programs. Rather, LRVSP Policy 7.3 requires dedicated parking for plug-in electric vehicles (PEV) and installation of Level 2 PEV charging stations in all Residential-Low and Residential-Medium designations. LRVSP Policy 7.2 also requires dedicated parking for low-emitting and fuel-efficiency vehicles within these designations. Finally, LRVSP Policy 7.4 encourages PEV prewiring in private garages and other enclosed off-street parking spaces in all Village Residential Low and Village Residential Medium designations.

As discussed *Existing Conditions*, California adopted SB 375 to integrate transportation planning, regional housing allocation, and GHG reduction through reductions in VMT. The GHG-reduction targets that CARB adopted and that MPOs incorporated into their RTP/SCS were expected to achieve much of the required VMT reduction needed for the state to meet its long-term GHG-reduction targets. However, additional GHG reduction, specifically through further reductions in VMT, is needed to meet the state's climate-change objectives (CARB 2019b).

SB 743 was intended to help close the VMT- and emissions-reduction gap. There is a nexus between SB 743 and the state's goals to reduce mobile source GHG emissions; one of the criteria under SB 743 for determining the significance of the transportation impacts of a project is a reduction in GHG emissions. In response to SB 743 and the related changes to the State CEQA Guidelines, OPR released its *Technical Advisory on Evaluating Transportation Impacts in CEQA* (SB 743 Technical Advisory) (OPR 2018b). The advisory indicates that "achieving 15% lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals" (OPR 2018b). This reduction goal is consistent with CARB (2019b) analysis, which demonstrated that a 14.3% reduction of VMT per capita by 2050 (compared to a 2015–2018 average) would be needed statewide to meet their GHG-planning goals. SMAQMD's GHG guidance for Sacramento County also recognizes that, to show consistency with SB 743, large projects should reduce their VMT according to the SB 743 Technical Advisory targets (Ramboll 2020).

As discussed above and in Chapter 3.14, *Transportation and Circulation*, EDCTC completed the *El Dorado County and City of Placerville SB 743 Implementation Plan* (July 19, 2019) to support the County and the City of Placerville with implementation of SB 743, including setting thresholds of significance. These thresholds are described above in *Thresholds of Significance* and are consistent with OPR and CARB recommendations for analyzing transportation impacts and mobile source GHG emissions. Tables 3.14-3 and 3.14-4 in Chapter 3.14 compare the results of the VMT analysis for the LRVSP to the County's thresholds. The tables indicate that the project's VMT per capita for the residential component would exceed the County's VMT thresholds.

LRVSP objectives and policies are consistent with state goals to reduce VMT and promote alternative forms of transportation. For example, Objective 7.3 seeks to reduce trips and VMT by promoting enhanced mobility options for residents and employees. LRVSP Policy 7.9 requires the Master Owners' Association create or participate in a Transportation Management Association and prepare a multi-strategy Transportation Management Plan (TMP) for the Plan Area. The TMP will provide employees of local retail, office, and other commercial businesses and the residents within the plan area with programs and direct assistance in using alternative modes of travel. LRVSP Section 7.4.2 identifies example strategies that may be incorporated into the TMP, including carpooling encouragement, ride-matching assistance, telecommuting, flexible scheduling, bicycle and end-trip facilities, discounted transit passes, and school ridesharing or enhanced bus programs. Because the exact suite of strategies for the TMP have not been finalized, VMT and emissions benefits from LRVSP Policy 7.9 cannot be quantified at this time. However, research shows that providing commuter trip-reduction programs can reduce VMT by 4 to 26%, depending on the program details (CAPCOA 2021).

Additional VMT reductions may also be achieved by LRVSP Policy 7.1, which requires bicycle parking in all Village Park designations. LRVSP Policy 4.6 also requires the development of a cohesive pedestrian network of public sidewalks and street crossings that make walking a convenient and safe way to travel. The policy provides direct links between streets and major

destinations, such as future transit stops, schools, parks, and shopping centers, when feasible. Finally, LRVSP Policy 3.10 requires the construction of trails and multi-use trails to encourage people to walk and bike instead of using a vehicle.

According to CAPCOA (2021), pedestrian sidewalk enhancements can reduce VMT by up to 6.4%, relative to conditions without these improvements. While the exact benefits of these policies and practices for the LRVSP cannot be precisely quantified, it is unlikely they will reduce residential per-capita VMT to levels that would be below the County's threshold. Moreover, as shown in Table 3.6-7, the LRVSP is not consistent with all project attributes identified in the state's 2022 Scoping Plan that aim to reduce mobile source GHG emissions. Accordingly, mobile source emissions associated with the LRVSP could conflict with the state's long-term emission reduction trajectory.

Table 3.6-7. Consistency of the LRVSP with the 2022 Scoping Plan Key Project Attributes for Transportation Electrification and VMT Reduction

Priority Area	Key Project Attribute	Project Consistency Analysis (prior to mitigation)
Transportation Electrification	Provides EV charging infrastructure that, at a minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval	**Not Consistent.** LRVSP Policy 7.4 encourages dedicated off-street parking for PEVs and installation of Level 2 PEV-charging stations in each dedicated PEV-parking space. However, the policy does not require a mandatory commitment.
VMT Reduction	Is located on infill sites that are surrounded by existing urban uses and reuses or redeveloped previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer)	**Consistent.** The proposed project is underutilized land that is presently served by existing utilities and essential public services.
	Does not result in the loss or conversion of natural and working lands	**Not Consistent.** The LRVSP would result in permanent losses of riparian woodland, white-leaf chaparral, grasslands, and wetlands.
	Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or Is in proximity to existing transit stops (within a half mile), or Satisfies more detailed and stringent criteria specified in the region's Sustainable Communities Strategy (SCS)	**Not Consistent.** The LRVSP does not meet the SB 375 SCS criteria. The LRVSP does not consist of transit-supportive densities and is not within a half mile from existing transit stops.
	Reduces parking requirements by: Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or	**Not Consistent.** The LRVSP does not meet the parking requirements.

Priority Area	Key Project Attribute	Project Consistency Analysis (prior to mitigation)
	Providing residential parking supply at a ratio of less than one parking space per dwelling unit; or For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	
	At least 20% of units included are affordable to lower-income residents	**Not Consistent.** The LRVSP does not include any affordable units.
	Results in no net loss of existing affordable units	**Consistent.** The LRVSP will develop underutilized open space and does not result in a net loss of existing affordable units.

Waste

Solid-waste emissions result from CH_4 associated with the decomposition of the waste and CO_2 emissions associated with the combustion or flaring of CH_4. Solid waste may be disposed of in landfills or diverted for recycling, composting, reuse, or other means to avoid landfilling.

The 2017 and 2022 Scoping Plans aimed to reduce waste emissions by diverting waste away from landfills through waste reduction, re-use, composting (i.e., organics diversion), and material recovery. SB 1383 established minimum standards for organic-waste collection, hauling, and composting. The bill also set a statewide target of 75% organic-waste diversion from landfills by 2025.

SMAQMD's GHG guidance notes that existing and new development must comply with all applicable CalRecycle requirements. Therefore, "through regulatory compliance, new developments are assumed to achieve their 'fair share' of reductions for the solid waste sector" (Ramboll 2020). LRVSP Objective 7.6 encourages recycling and composting in both private residences and public spaces. LRVSP Policy 7.31 requires onsite compositing and recycling within common landscaped areas in the project area. The emphasis on composting and the provision of composting services is consistent with the 2017 and 2022 Scoping Plans and would support the overall goals of AB 341 and SB 1383 in reducing landfilled waste and associated CH_4 emissions.

Water and Wastewater

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required for these processes depends on the volume and sources of water. Additional wastewater emissions include CH_4 and N_2O, although these are generated by wastewater treatment at individual WWTPs. The project does not include any new WWTPs.

The 2017 and 2022 Scoping Plans outlined objectives and goals to reduce GHGs in the water sector, including using and reusing water more efficiently through greater water conservation, drought-tolerant landscaping, stormwater capture, and water recycling. Regulations have further targeted water supply and water conservation through building and landscaping efficiency (e.g., CCR Title 24). The Water Conservation Act of 2009 sets an overall goal of reducing per-capita urban-water use by 20% by December 31, 2020, which has been achieved.

The LRVSP does not include any features that would conflict with state measures and programs. The LRVSP includes twelve policies directly related to water conservation. For example, LRVSP Policy 7.33 requires indoor residential water use be reduced by 20% from the current Plumbing Code in effect at the time of construction. LRVSP Policies 7.35 and 7.36 require low-flow faucets and encourage waterless urinals and toilets. LRVSP Policy 7.37 supports recycled-water use, whereas LRVSP Policies 7.38 through 7.42 target outdoor water use through hydrozoning techniques, native plantings, reductions in turf, and installation of efficient irrigation controls. These policies are consistent with the 2017 and 2022 Scoping Plans' water measures and the state's regulatory programs within the water sector.

High Global Warming Potential Greenhouse Gases (HFCs)

HFCs are synthetic gases that may be used in residential refrigeration and air conditioning units, as well as in on-road vehicle air conditioning units. Emissions of HFCs occur as a result of wear, faulty maintenance, and leakage at the end of a product's lifetime.

The 2017 and 2022 Scoping Plans assume implementation of the SLCP Reduction Strategy and attainment of the state's SLCP reduction targets for HFCs. The SLCP Reduction Strategy identifies four state strategies that will develop grants and incentives for alternatives to HFCs, as well as evaluate the feasibility of a new ban on HFCs in new nonresidential refrigeration units, air conditioning (nonresidential and residential) units, and residential refrigerators and freezers. Both existing and new development, including development in the LRVSP, would be required to comply with state regulations for minimizing HFCs that are in place at the time of construction.

Construction/Land Use Change

The 2017 Scoping Plan identifies increasing carbon sequestration as crucial to achieving the state's long-term climate-change strategy, outlines objectives to maintain natural lands as a resilient carbon sink, and sets a goal to reduce GHG emissions from natural and working lands by at least 15 to 20 million metric tons of CO_2e by 2030. SB 1386 also identifies the protection and management of natural and working lands as a key strategy toward meeting the state's 2030 GHG-reduction target. However, SB 1386 is directed to state agencies, departments, boards, and commissions and not local jurisdictions, such as the County. No specific policies, directives, or regulations have been adopted that must be implemented in the County. Finally, the 2022 Scoping Plan specifically includes no net loss or conversion of natural and working lands as a required project attribute for project consistency with the scoping plan.

As discussed in Section 3.3, *Biological Resources*, oak woodland is protected by policies in the County's General Plan and Code of Ordinance. Accordingly, the proposed project is required to mitigate all native oak tree impacts at a 1:1-inch ratio and all heritage oak trees at a 3:1-inch ratio. The total amount of CO_2 sequestered as a result of the tree planting over a 30-year tree life period is estimated to be 18,810 metric tons of CO_2e (Ascent 2024). As shown in Table 3.6-6, permeant conversion of natural lands would result in 18,622 metric tons of CO_2. Thus, the proposed project would have a net positive land use change effect and would not conflict with the state's land use and sequestration goals.

With respect to construction equipment emissions, USEPA and the NHTSA have adopted standards for CO_2 emissions and fuel consumption from heavy- and medium-duty vehicles. The 2019 California Green Building Standards Code (CALGreen Code) contains mandatory requirements aimed at reducing construction waste, making buildings more efficient in their use of materials and energy,

and reducing environmental impacts during and after construction. For example, residential projects must recycle and/or salvage for reuse a minimum of 65% of nonhazardous construction and demolition debris or meet local construction and demolition waste-management ordinance requirements, whichever is more stringent (CALGreen Code §§ 4.4081.1 and 5.408.1). In addition, 100% of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing for nonresidential projects must be reused or recycled (CALGreen Code § 5.408.3).

The LRVSP includes the following policies that would help reduce construction-related GHG emissions.

- Policy 7.22 requires a 20% reduction in cement use, which would reduce embodied energy associated with construction.
- Policy 7.23 requires cement and concrete be made with recycled products, which would conserve virgin materials and may reduce manufacturing energy.
- Policy 7.24 requires efficient framing techniques, which would reduce the amount of lumber used and waste generated during construction.
- Policy 7.25 requires use of sustainably sourced, regional, bio-based, and reused materials, which may reduce hauling requirements and transportation mileage.
- Policy 7.26 requires a construction waste management plan to increase recycling and divert landfilled waste, which would reduce CH_4 emissions from waste decomposition.
- Policy 7.27 requires a minimum of 65% of the non-hazardous construction waste generated be recycled or salvaged for reuse, which would reduce CH_4 emissions from waste decomposition.
- Policy 7.28 requires topsoil displaced during grading be placed in a designated area for future reuse, which may reduce hauling requirements and transportation mileage.
- Policy 7.29 requires 100% of trees, stumps, rocks and associated vegetation and soils resulting from land clearing to be reused or recycled.

Although these policies would reduce emissions associated with construction, given the potential 17-year construction period and the state's long-term goals to eliminate fossil-fuel combustion, construction activities may conflict with the state's emission-reduction trajectory.

Conclusion

Operation of the LRVSP could conflict with the state's emissions-reduction goals and trajectory, specifically within the area, energy, mobile, and construction sectors. Although the LRVSP has a diverse suite of strategies that target emissions from these sectors, many of the measures are voluntary, and there is no guarantee that the action would be incorporated into the project design of all future development.

Because the regulatory changes to meet the 2045 emissions reduction target are still being developed, the extent to which the proposed project's emissions and resulting impacts would be mitigated through implementation of statewide (and nationwide) changes is not known. The calculation of post-2030 emissions cannot consider future federal or state actions that may be taken to achieve long-term reductions, beyond the Pavley I standards and SBs 100/1020.

The achievement of long-term GHG-reduction targets will require substantial change in terms of how energy is produced and consumed, as well as other substantial economy-wide changes, many of

which can only be implemented by the federal and state governments. Given that the proposed project includes development and emissions sources that may be inconsistent with the state's long-term reduction trajectory, LRVSP would result in a potentially significant impact on GHG emissions. Accordingly, Mitigation Measures GHG-1 through GHG-2, TRA-2, AQ-2b, and AQ-2c are required to mitigate the LRVSP's GHG impact.

The purpose of Mitigation Measures GHG-1, GHG-2, TRA-2, AQ-2b, and AQ-2c is to require project-specific GHG-emission reductions consistent with the California GHG-reduction targets required in SB 32 for 2030, and to support long-term reductions consistently with the need to eventually reach carbon neutrality statewide (AB 1279). The actions within the measures are either recommended by SMAQMD or EDCAQMD or are consistent with the major strategies for GHG reductions reflected in Appendix B of CARB's 2017 Scoping Plan and Appendix D of CARB's 2022 Scoping Plan. Because the LRVSP already contains numerous policies that will reduce emissions, Mitigation Measures GHG-1 and GHG-2 reflect additional commitments that can be made to further reduce emissions.

Mitigation Measures GHG-1, AQ-2b, and AQ-2c would reduce GHG emissions during construction through implementation of BMPs that will reduce fossil-fuel combustion and support electric-powered (or alternatively fueled) equipment and vehicles. Mitigation Measure GHG-2 outlines feasible GHG reduction strategies that can be individually or collectively implemented to reduce operational GHG emissions within the area, energy, and mobile source sectors. The measure includes required revisions to several LRVSP policies, as well as a menu of onsite and offsite strategies (including GHG credits). Various combinations of onsite and offsite strategies could be pursued to optimize total costs or community co-benefits. The project applicant will be responsible for determining the overall mix of strategies necessary to ensure the performance standard to mitigate the significant GHG impact is met, as discussed further below.

Table 3.6-8 summarizes estimated operational emissions with implementation quantifiable revisions to LRVSP Policies 7.4 and 7.20, which are required by Mitigation Measure GHG-2. Reductions from revisions to LRVSP Policy 7.2, which is also required by Mitigation Measure GHG-2, could not be quantified at this time. This is because specific details required to quantify emissions reductions are not currently available. The table also includes reductions achieved by TRA-2, which is discussed further in Chapter 3.14, *Transportation and Circulation.*

Table 3.6-6. Estimated Full Build Operational GHG Emissions with Implementation of Mitigation Measure TRA-2 and Quantifiable Revisions to LRVSP Policies Required by Mitigation Measure GHG-2 (metric tons per year, unless otherwise stated) [a]

Operational Year	CO_2 [a]	CH_4	N_2O	HFCs	CO_2e
Emissions [b]					
2030 (Partial Operation)	507	1	0.1	1	562
2045 (Full Build)	4,726	5	0.2	3	4,923
Emissions per Capita [c]					
2030 (Partial Operation)	–	–	–	–	1.0
2045 (Full Build)	–	–	–	–	2.1
Informational Statewide Benchmarks					
2030 (Partial Operation)	–	–	–	–	6.0
2045 (Full Build)	–	–	–	–	0.0

Source: Ascent 2024.

[a] Accounts for average annual sequestration benefits from tree planting (see Appendix C).

[b] Emissions account for reductions achieved by the RPS, LRVSP Policies 7.15, 7.33, 7.37, 7.38, 7.42, 7.45, and 7.46, Mitigation Measure TRA-2, and revisions to LRVSP Policies 7.4 and 7.20 per Mitigation Measure GHG-2.

[c] Assumes a partial 2030 population of 584 residents and a full build population of 2,336 residents.

CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalents; GHG = greenhouse gas; N_2O = nitrous oxide; HFCs = hydrofluorocarbons.

As shown in Table 3.6-8, Mitigation Measure TRA-2 and revisions to LRVSP policies will reduce GHG emissions, but the majority of reductions achieved by Mitigation Measure GHG-2 will be through onsite and offsite strategies. Selected strategies will be identified and implemented through a GHG reduction plan that will be prepared by the applicant, pursuant to Mitigation Measure GHG-2. The following sections evaluate the potential for required LRVSP policy revisions and onsite and offsite strategies included in Mitigation Measure GHG-2, as well as Mitigation Measure TRA-2, to address conflicts with the state's emission-reduction goals and trajectory within the mobile, energy, and area. The analysis also evaluates the potential for required construction mitigation (i.e., Mitigation Measure GHG-1, AQ-2b, and AQ-2c) to address the potentially significant impact within the construction sector.

Mobile Sources

Mitigation Measure TRA-2 requires adding 22,000 square feet of commercial retail land use to the LRVSP and implementing a Commute Trip Reduction (CTR) program. As shown in Table 3.14-6 in Chapter 3.14, the mitigation would reduce VMT per capita to 14.5 by full buildout, which would satisfy the County's long-term 2040 threshold. However, the VMT per capita would exceed the near-term 2018 baseline threshold.

As discussed above, the plan is also not consistent with all project attributes identified in the state's 2022 Scoping Plan that aim to reduce mobile-source GHG emissions. Specifically, the project attributes related to electric-vehicle charging, SCS consistency, parking restrictions, land use conversion, and provision of affordable housing. Mitigation Measure GHG-2 requires revision to LRVSP Policy 7.4 to require electric-vehicle readiness and revision to LRVSP 7.2 to limit off-street parking requirements to maximum allowable parking ratios. With implementation of Mitigation Measure TRA-2, the LRVSP would partially achieve the SB 375 SCS criteria for a "Mixed-Use Residential Project." While at least 75% of total building square footage is residential use, the LRVSP is not expressly consistent with building intensity (i.e., growth scenario) of the MTP/SCS (refer to the *CEQA Streamlining* section for additional information). The LRVSP would also develop natural lands and does not propose affordable housing. Accordingly, the proposed project may conflict with the state's emission-reduction trajectory within the mobile source sector.

Beyond the LRVSP policy revisions, Mitigation Measure GHG-2 identifies offsite strategies that may be pursued by the applicant, as feasible, to reduce VMT and support the state's and El Dorado County Transit Authority's (EDCTA) mobile source goals to expand transit. However, although the project developers can provide financial and administrative assistance to EDCTA to develop high-quality transit service within the plan area, the implementation of transit-improvement projects depends on coordination and partnership with EDCTA, which the applicant cannot fully control.

Energy Sources

Required revision to LRVSP Policy 7.20 under Mitigation Measure GHG-2 bolsters renewable-energy resources through mandates for onsite generation. Mitigation Measure GHG-2 also identifies all-electric buildings as a potential onsite strategy. In order to meet the state's 2045 climate-neutrality

goal (AB 1279), OPR (2018a) recommends all-electric buildings, and the 2022 Scoping Plan identifies all-electric design as a key project attribute for plan consistency. Because SBs 100 and 1020 obligate utilities to supply 100% carbon-free electricity by 2045, all electric buildings that do not consume any natural gas would not generate any emissions. Accordingly, if all-electric design selected and fully implemented as an onsite strategy pursuant to Mitigation Measure GHG-2, the LRVSP would not conflict with the 2017 and 2022 Scoping Plans or the state's long-term statewide-reduction trajectory for energy sources.

Although all-electric buildings have been designed and constructed throughout California, the Ninth Circuit Court of Appeals ruled that the federal Environmental Policy and Conservation Act (EPCA) preempts local natural-gas bans for new development (*California Association of Restaurants vs. City of Berkeley [2023] 65 F.4th 1045*). While the Court's ruling only applies to local ordinances, like Berkley's natural-gas ban, it could constrain the County's ability to impose all-electric design requirements for new development. Given this legal uncertainty, the County recognizes that its authority to require all-electric buildings may be restricted. The ability to lawfully require all-electric buildings is one of many considerations that will be made by the project applicant and the county in developing the final GHG reduction plan for the project.

Beyond all-electric design, Mitigation Measure GHG-2 identifies several other onsite and offsite strategies that would reduce building energy consumption. For example, where feasible, buildings may be achieve Leadership in Energy and Environmental Design (LEED) Silver certification or higher. LEED Silver certification cannot be expressly mandated for all structures because final building design will depend on individual buyer preferences at the point of sale. The specific components and feasibility of plan-wide LEED certification are thus not currently known, particularly for custom lots. Accordingly, the project may conflict with the state's emissions-reduction trajectory within the energy source sector.

Area Sources

Mitigation Measure GHG-2 identifies onsite strategies that may be pursued by the applicant to reduce area source emissions. For example, the applicant may encourage use of electric-powered landscaping equipment in place of conventional diesel equipment. Although this strategy will support reductions in area source emissions, it is important to recognize that project developers do not have authority to mandate use of electric equipment among residents. Accordingly, the project may conflict with the state's emissions-reduction trajectory within the area source sector.

Construction

Mitigation Measure GHG-1 would reduce construction-generated GHG emissions by requiring use of alternative fuels and minimizing vehicle-idling time, among other BMPs. Additional commitments for electric-powered (or alternatively fueled) equipment may be pursued through Mitigation Measure AQ-2b and newer onsite trucks through Mitigation Measure AQ-2c.

Although these measures and actions would reduce emissions associated with construction, given the potential 16-year construction period, construction activities may conflict with the state's emissions-reduction trajectory.

Summary

Although required LRVSP policy revisions and onsite and offsite strategies included in Mitigation Measure GHG-2, as well as implementation of Mitigation Measures TRA-2, GHG-1, AQ-2b, and AQ-2c

will achieve GHG benefits, the LRVSP would conflict with the state's emission-reduction goals and trajectory within the area, energy, mobile, and construction sectors. It is therefore likely that procurement of GHG credits will be a required component of the project GHG reduction plan to achieve the necessary GHG reductions to mitigate the project's significant GHG impact. Mitigation Measure GHG-2 identifies GHG credits as the third priority strategy after onsite and offsite strategies.

The performance standard that must be achieved by the selected strategies under Mitigation Measure GHG-2 is to reduce project area, construction, and building natural-gas (energy) sector emissions to achieve a no net increase in project-related GHG emissions from these sectors, consistent with CARB and OPR recommendations to eliminate fossil fuel–combustion emissions. The performance standard also requires mobile-source emissions be reduced to achieve the requisite reductions needed to achieve compliance with the 2022 Scoping Plan land use conversion and affordable-housing project attributes. As discussed above, the LRVSP is not included in the growth scenario for the MTP/SCS, and thus does not achieve the 2022 Scoping Plan SCS consistency project attribution. This inconsistency is because of planning assumptions within the MTP/SCS. Achieving consistency with the project attribute would either require a reduction in development to meet the programmed MTP/SCS growth scenario for the project, or an amendment to the MTP/SCS. Because the project is not included in the growth scenario for the MTP/SCS, the growth projection is zero, or the No Project Alternative. Amending the MTP/SCS would depend on coordination and partnership with SACOG, which the applicant cannot fully control. Thus, there is no mitigation to address the project inconsistency with the 2022 Scoping Plan SCS project attribute.

The required level of GHG reduction needed to achieve consistency with the 2022 Scoping Plan land use conversion and affordable-housing project attributes is calculated as follows.

- *Land Use Conversion*: In general, compact development in infill areas has more-efficient travel patterns, resulting in lower VMT and GHG emissions (CARB 2022a). Developing natural or working lands, particularly those not proximate to existing residential and commercial services, can increase the average distance and number of per-capita vehicle trips compared to the same development in a more-urbanized area. Although the project traffic and associated emissions analysis accounts for these geographic and land use considerations, land conversion is unavoidable for the proposed project's location. The resulting conflict with the 2022 Scoping Plan is tied to the location-based VMT effect of constructing project land uses in an undeveloped area compared to a developed area. SACOG (2021) has mapped existing VMT throughout the SACOG region. Results are presented using hexagon (HEX) geography, which displays VMT per resident and per job over a hexagon grid.[10] Because it is undeveloped, much of the LRVSP plan area is not mapped. The mapped and adjacent HEXs include FJ-129 through FN-133 (non-inclusive), which have an average per capita VMT of 31.32. The nearest developed area to the LRVSP plan area is north of U.S. 50 in eastern Cameron Park, which includes HEXs FI-125 through FJ-128 (non-inclusive) with average per capita VMT of 28.95. If land uses proposed under the LRVSP were developed in these HEXs, the project would not require land conversion and would thus be consistent with the 2022 Scoping Plan land conversion project attribute. Accordingly, the amount of project emissions related to the land use inconsistency was calculated based on the percent change in per capita VMT between the nearest HEXs that would not require land use conversion and the LRVSP plan area HEXs. This value (7.5%) was multiplied by project mobile source GHG emissions from residential VMT.

[10] LRVSP does not propose any commercial uses. Thus, work-tour, or VMT per job, metrics are not applicable.

It is worth nothing that this calculation approach likely overestimates the influence of land use conditions on project VMT and mobile-source GHG emissions. The SACOG HEX data are based on without-project conditions. Over time, with implementation of the LRVSP and other future regional and local projects, the plan area HEXs and surrounding area will mature and contain a mixture of residential, commercial, retail, and recreational uses. This densification and diversity of land use types will contribute to shorter vehicle trips and more vehicle trips made by alternative modes of transportation. Accordingly, the per-capita VMT and per-job VMT for the LRVSP plan area will likely be lower than represented by the current SACOG data; thus, the delta in per-capita VMT and per-job VMT compared to developed areas (i.e., no land conversion) would be less.

- *Affordable Housing*: In certain locations, affordable housing can reduce VMT by providing lower-income families greater opportunity to live closer to job centers and transit options. Research cited by CARB in the 2022 Scoping Plan indicates that location-efficient variables, such as development density, proximity to transit, and availability of localized amenities, are necessary for affordable housing strategies to deliver VMT reduction (California Housing Partnership Corporation and TransForm 2014; Newmark and Hass 2015). Restricting housing to below-market rates in areas without proximate supporting services will not achieve the same success as providing affordable housing in location-efficient, transit-rich areas. As shown in Figure 2-2, the plan area is south of U.S. 50 and currently removed from services and major throughfares. However, once constructed, the project land uses will be internally connected and adjacent to the proposed VMVSP, which includes 475,000 square feet of non-residential uses and 87 acres of public facilities/recreational use. Mitigation Measure TRA-2 will also support up to 22,000 square feet of commercial uses within the plan area.

As shown in Table 3.2-7, the 2022 Scoping Plan affordable-housing project attribute requires 20% of units be designated affordable. The project design does not support this designation. Accordingly, the amount of project emissions related to the affordable housing inconsistency was calculated based on the expected percent reduction in GHGs that would be achieved if 20% of proposed residential units were designated affordable. This value (5.7%) was calculated using CAPCOA (2021) and multiplied by project mobile source GHG emissions.

In addition to compliance with the 2022 Scoping Plan project attributes for mobile sources, this analysis also recognizes the County's VMT thresholds. As discussed above under *Mobile Sources*, implementation of the VMVSP would exceed the County's baseline per capita VMT threshold even with implementation of Mitigation Measure TRA-2. The traffic implications of this exceedance are assessed in Chapter 3.14, *Transportation*. With respect to GHGs, the per capita VMT threshold can be translated to a project-specific emissions level based on the project buildout population and average vehicle emissions intensity. Specifically, the County's baseline VMT threshold is 19.3 miles per person per day, which based on a project population of 2,336 persons, yields 45,085 miles per day. Applying the average emissions intensity for the countywide light-duty vehicle fleet from EMFAC2021 (191 grams CO_2e per mile), the resulting emissions level required to meet the County's baseline VMT threshold is 9 metric tons CO_2e per day or 3,144 metric tons CO_2e per year.

Mobile source emissions from implementation of the VMVSP are 5,441 metric ton CO_2e prior to mitigation. Implementation of Mitigation Measure TRA-2 will reduce mobile source emissions to 3,749 metric ton CO_2e. Mitigation Measure GHG-2 requires revision to LRVSP Policy 7.4 to provide EV charging, which will further reduce mobile source emissions to 3,401 metric ton CO_2e. (Ascent 2024.) This mitigated value exceeds the emissions level required to meet the County's near-term

VMT threshold. Thus, additional mobile source GHG reductions are required to comply with the County's VMT goals.

Emissions reductions required to achieve the 2022 Scoping Plan land use change and affordable housing project attributes are estimated to equate to 449 metric tons CO_2e at full build. Achieving these reductions through implementation of Mitigation Measure GHG-2 would reduce project mobile source GHG emissions to 2,952 metric tons CO_2e at full build, which is below the emissions level required to meet the County's near-term VMT threshold. Thus, consistency with the County's near-term VMT threshold is achieved through the performances standard set for compliance with 2022 Scoping Plan under Mitigation Measure GHG-2.

Table 3.6- 3.6-9 presents estimated operational mobile, area, construction, and building natural-gas emissions subject to the reduction commitment under Mitigation Measure GHG-2. Area, mobile, and natural-gas source emissions have been forecasted over a 30-year operational analysis period. The forecast holds annual emissions quantified under full-build conditions constant over time. This approach likely overestimates future area-source emissions because it does not account for improvements in engine technology or regulations that will reduce the carbon intensity of landscaping equipment**.** Specifically, AB 1346, which was signed by Governor Newsom on October 9, 2021, directs CARB to adopt regulations requiring new small off-road engines used primarily for landscaping to be zero-emission by 2024. Accordingly, it is likely that state regulation will reduce the carbon intensity of future landscaping equipment, although the precise amount and impact on LRVSP emissions cannot currently be quantified at this time. The analysis likewise does not account for project-level mobile-source benefits from regulations and policies adopted after publication of the analysis models—principally, the Advanced Clean Truck and Advanced Clean Cars II regulations, which ban the sale of fossil fuel–powered heavy vehicles and passenger cars/trucks, respectively, beyond certain future dates.

Table 3.6-9. Project Mobile, Area, Construction, and Building Natural Gas Sector Emissions Subject to Reduction under Mitigation Measure GHG-2 (metric tons CO_2e)

Year	Construction [a]	Operations	Total [b]
Construction Year 1	1,008	0	1,008
Construction Year 2	984	150	1,134
Construction Year 3	350	299	649
Construction Year 4	349	449	798
Construction Year 5	340	589	929
Construction Year 6	339	736	1,075
Construction Year 7	969	883	1,852
Construction Year 8	960	1,030	1,990
Construction Year 9	953	1,177	2,130
Construction Year 10	336	1,324	1,660
Construction Year 11	335	1,472	1,807
Construction Year 12	332	1,619	1,951
Construction Year 13	947	1,766	2,713
Construction Year 14	333	1,913	2,246
Construction Year 15	333	2,060	2,393
Construction Year 16	332	2,207	2,539

Year	Construction [a]	Operations	Total [b]
Full Build (Operational Year 1)	0	2,355	2,355
Operational Years 2–30	0	68,281	68,281
Total	9,199	88,310	97,510

Source: Based on Ascent 2024.

[a] Excludes emissions from one-time sequestration loss because these would be offset through long-term increases in carbon sequestration from project tree planting.

[b] Includes all area-source and building natural gas emissions, which, per Mitigation Measure GHG-2, must be reduced to achieve a no-net increase in project-related GHG emissions, as well as the project share of mobile source–emission reductions needed to achieve compliance with the 2022 Scoping Plan land use conversion and affordable-housing project attributes. Emissions reductions required to achieve these project attributes exceed the level required to reduce mobile source emissions to the level required to meet the County's near-term VMT threshold. Thus, compliance with the 2022 Scoping Plan project attributes achieves the per capita VMT threshold. Partial operational emissions for construction Years 2 through 16 were scaled from the 2030 and full-build estimates based on the number of development acres constructed in the year prior.

The analysis utilizes a 30-year operational-analysis period consistent with CARB-approved analyses for AB 900 projects, which are considered "environmental leadership development projects" (Murphy 2019). Although regulations are likely to reduce emissions from area sources to net zero within this period (2040 to 2070), there is the possibility GHG emissions from these sources could persist beyond the analysis period considered in this document. Specifically, the operational lifetime of commercial and residential land uses constructed under the plan is expected to exceed 30 years. Uncertainty is associated with characterizing future-market conditions, regulations, technologies, and consumer choices, and the degree of that uncertainty increases dramatically the further into the future the forecast extends. The confidence in emissions projections beyond 30 years is limited and would be speculative. Accordingly, this analysis uses a 30-year analysis period for the consideration of future GHG emissions.

Total construction and operational area-, mobile-, and building natural gas-source emissions over the 30-year analysis period are estimated to be 97,510 metric tons CO_2e. This represents the project's maximum total mitigation commitment, which may be recalculated and achieved on a phase-by-phase basis, as described under Mitigation Measure GHG-2. The mitigation obligation may therefore change over time as the project is implemented, regulations change, and new control technologies become available and effective.

Should GHG credits be pursued as a strategy, Mitigation Measure GHG-2 outlines specific and enforceable standards to obtain such credits. A GHG credit enables development projects to compensate for their GHG emissions and associated environmental impacts by financing reductions in GHG emissions elsewhere. GHG credits are classified as either compliance or voluntary. In California, compliance credits can be purchased by covered entities subject to the state's Cap-and-Trade regulation to meet predetermined regulatory targets. The emissions associated with this project are not covered by the Cap-and-Trade regulation; thus, the Cap-and-Trade offsets cannot be used for this project. Voluntary credits are not associated with the Cap-and-Trade regulation and are purchased with the intent to voluntarily meet carbon-neutral or other environmental obligations.

Successful GHG credit programs require not only established accounting protocols to monitor, report, and document reductions, but also independent verification of the reported reductions to ensure their credibility and accuracy. GHG credit "protocols" outline the accounting rules and requirements for monitoring, quantifying, and reporting GHG credits. Numerous GHG credit protocols currently exist internationally, nationally, and state-wise. However, only those maintained

by *accredited* registries provide technically sound methods to assure GHG credits achieve real GHG reductions. Accredited registries develop high-quality protocols and oversee registration and retirement of GHG credits.

CARB (2021a) currently recognizes the following three registries as accredited under the Cap-and-Trade regulation: American Carbon Registry (ACR), Climate Action Reserve (CAR), and Verra (formally Verification Carbon Standard). The Cap-and-Trade regulation requires all GHG credits be real, additional, quantifiable, permanent, verifiable, and enforceable, pursuant to and as defined in 17 CCR 95802(a). CARB (2021b) has approved six protocols that establish the accounting procedures to verify that GHG credits for the Cap-and-Trade program achieve these standards. In its Golden Door decisions, the Court emphasized the need for GHG credits pursued as CEQA mitigation to meet these six criteria and also originate from a CARB approved protocol or a "protocol [that is] consistent with CARB requirements under title 17, section 95972, subdivision (a)(1)–(9) of the California Code of Regulations." The ACR, CAR, Verra, and other accredited registries (e.g., Gold Standard) maintain many programs that are equally as rigorous and enforceable as the six CARB-approved protocols for the Cap-and-Trade program (i.e., they meet the requirements of 17 CCR 95972) (AEP Climate Change Committee 2020). CARB approval of their six protocols merely distinguishes them for use in the Cap-and-Trade system and associated compliance market. CARB's regulations are not legally applicable to the voluntary GHG credit market, and CARB has no authority to enforce standards for the voluntary GHG credit market.

Salient to the discussion of GHG credits as CEQA mitigation is geographic location. As discussed above, climate change is a global problem, and GHGs are global pollutants. Some GHGs can reside in the atmosphere for 1,000 of years, becoming well-mixed and transported internationally (Gulev et al. 2021). For this reason, achieving a 1-metric-ton reduction in GHGs in California is functionally equivalent to a 1-metric-ton reduction in GHGs anywhere else in the world. In its Golden Door decisions, the Court expressed concern with use of international GHG credits. However, their concern was not with the science underpinning the cumulative nature of GHGs, but rather with potential uncertainty regarding enforcement of GHG credits in foreign countries. There is no doubt that the quality of GHG credits depends on the protocol and registry by which they are certified. Requirements of GHG credit protocols, such as for credits to meet the six criteria established in 17 CCR 95802, apply regardless of the credit's location. This is evidenced by the Cap-and-Trade regulation itself, which permits out-of-state and even outside-U.S. compliance credits.[11]

Although CARB does have certain enforcement authority pursuant to the covered entities regulated under the Cap-and-Trade regulation in regard to compliance offsets, the procurement of GHG credits on the voluntary market is a commercial transaction subject to the same laws and securities as any business agreement. Moreover, GHG credits resulting from GHG offsets are the result of projects that have already occurred. Therefore, the reduction has already been achieved.

In developing Mitigation Measure GHG-2 and considering use of GHG credits to meet the performance standard (97,510 metric tons CO_2e), the County has thoroughly and thoughtfully considered the current scientific, regulatory, and legal framework for effective GHG mitigation and use of GHG credits. The measure reflects best practices for carbon accounting and use of GHG credits to compensate for the GHG impacts of future development. Specifically, Mitigation Measure GHG-2 articulates the following.

[11] This map identifies recent CARB compliance credits, many of which are located throughout the United States and internationally in Canada: https://webmaps.arb.ca.gov/ARBOCIssuanceMap/.

- **Achievable and Enforceable Performance Standards**. The measure requires total GHG emissions from construction and operational GHG emissions from project area source, building natural gas, and mobile sources (proportional share inconsistent with 2022 Scoping Plan project attributes) over a 30-year analysis period be reduced to net zero (i.e., no net increase over baseline). The County recognizes that project-generated construction emissions would occur over many years, with long-term operation of new development occurring annually thereafter. Mitigation Measure GHG-2 provides the flexibility to reduce emissions using phased approach that is commensurate with buildout of the plan. This requires development of a plan that outlines the schedule of implementation, identifies the GHG reduction commitment of each phase, and tracks achieved reductions relative to the overall performance-standard measure. The measure requires that the applicant develop the phasing plan prior to County approval of the tentative map, parcel map, or planned development permit.
- **Objective Criteria to Ensure that GHG Credits Achieve Real GHG Reductions**. Under 17 CCR 95972, all GHG credits purchased pursuant to Mitigation Measure GHG-2 must originate from a CARB-approved protocol, or a protocol that is equal to or more rigorous than CARB requirements. Implicit in this requirement is that all credits be real, permanent, quantifiable, verifiable, enforceable, and additional. These protocols also have criteria and procedures to ensure permanence of GHG credits, where applicable. All GHG credits must also originate from a CARB-approved registry (currently ACR, CAR, or Verra).
- **Consideration of Geographic Priorities**. Mitigation Measure GHG-2 requires GHG credits in geographies closest to the County be prioritized first over international, national, and state-wide credits. Although the geographic location of a GHG credit is irrelevant from a scientific standpoint, the County recognizes that GHG credit projects can achieve valuable co-benefits (e.g., improved air quality, reduced traffic congestion, improved energy security and/or resilience). When achieved locally in the County, these co-benefits directly benefit the community. The measure includes reasonable cost-containment standards with respect to geographic prioritization to ensure that the measure remains implementable. Local credits must be pursued if they are available and are of equal or lesser cost compared to the settlement price of the latest Cap-and-Trade auction.[12]
- **Strict Accounting of GHG Credit Types and their Expected Reduction Benefit Relative to Project Emissions**. The measure allows both GHG offsets and forecasted mitigation units (FMUs). *Offsets* are a type of GHG credit resulting from an emission-reduction project that has already occurred and is subject to rigorous monitoring and verification. Emission reductions achieved by GHG offsets have therefore already occurred or are already occurring (but would not have existed without a credit market). *FMUs* are a type of GHG credit resulting from a project that will occur in the future. FMUs are subject to the same rigorous monitoring and verification as GHG offsets. However, the ex-ante nature of FMUs requires additional consideration of resulting GHG reductions for the purposes of CEQA mitigation. Specifically, Mitigation Measure GHG-2 requires that any GHG credits from FMUs be funded and implemented within 5 years of emission of the project GHG emissions that they will mitigate. This is to account for the fact that CO_2 emissions (which will be the most-common project GHG-emissions type) reach their peak radiative effect on the atmosphere within the first 10 years of emissions (Ricke and Caldeira 2014). The measure further requires that any use of FMUs that result in a time lag between project emissions and their

[12] Auctions under the Cap-and-Trade program happen quarterly. Settlement prices for the past 13 auctions range from $14.90 per metric ton to $23.69 per metric ton (CARB 2021c).

reduction by GHG credits be compensated through a prorated surcharge of additional FMUs proportional to the effect of the delay. Given the current and accelerating effects of climate change, the 5-year time restriction and FMU surcharge is necessary to ensure that Mitigation Measure GHG-2 appropriately compensates for any lag in temporal radiative forcing should FMUs be used as GHG credits.

- **Standards for Verification and Independent Review to Assure Transparency**. The measure requires that an independent, third-party entity verify that all GHG credits meet the performance standards of the measure (including adherence to the geographic prioritization scheme). The verifier must be approved by the ANSI National Accreditation Board or CARB.

The County recognizes that GHG credits are a tradable market commodity. Demand for voluntary GHG credits is driven by companies and individuals that take responsibility for reducing their own emissions, as well as entities that purchase pre-compliance GHG credits before emissions reductions are required by regulation. Recent studies predict that the voluntary carbon market will grow substantially over the next 30 years, expanding by 5 to 10 times the current (2020) levels by 2030 and 10 to 30 times the current levels by 2050 (Trove Research et al. 2021). As demand for voluntary GHG credits increase, so will costs, with the same study predicting costs to rise above $50 per ton by 2040 (Trove Research et al. 2021). High-quality credits meeting the standards discussed above will be priced at a premium and will likely exceed this average estimate.

The potential for significant cost escalation in future markets creates economic uncertainty that must be considered and disclosed. Equally, opportunities to secure GHG credits meeting the extremely stringent requirements of Mitigation Measure GHG-2 may be constrained by competing markets and demand. Unforeseen circumstances (e.g., emission reversal) may also impede long-term implementation of Mitigation Measure GHG-2. Finally, as noted above, the performance standard for Mitigation Measure GHG-2 is calculated for a 30-year analysis period for operational sources. Although regulations are likely to reduce area- and energy-source emissions to net zero within this period (2042 to 2072), there is the possibility that GHG emissions from these sources could persist beyond the analysis period considered in this document. Ultimately, due to the plan-level nature of this analysis, coupled with the unknowns surrounding the future reduction technologies and the affordability of purchasing GHG credits, inherent uncertainty exists about the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts. Consequently, although all identified impacts except consistency with the 2022 Scoping Plan SCS project attribute could be reduced to a less-than-significant level with implementation of Mitigation Measure GHG-2, this document takes a conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that impacts on GHG emissions would be potentially significant and unavoidable.

Mitigation Measure TRA-2: TDM strategies to reduce the impact of the residential component.

Mitigation Measure AQ-2b: Implement BMPs to reduce construction-related exhaust emissions during early construction.

Mitigation Measure AQ-2c: Require advanced off-road engines and newer onsite on-road trucks.

Mitigation Measure GHG-1: Implement BMPs to reduce construction-generated GHG emissions.

The project applicant will require contractors, as a condition of contract, to reduce construction-related GHG emissions through the following measures. These BMPs are consistent with SMAQMD's (2021) recommended measures to reduce construction-generated GHG emissions.

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 3 minutes (5-minute limit is required by the state airborne toxics control measure [CCR Title 13 §§ 2449(d)(3) and 2485]). Provide clear signage at the entrances to the site that explains this requirement for workers.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications, and train equipment operations in proper use of equipment. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.
- Perform onsite material hauling with trucks equipped with on-road engines, as feasible.
- Ensure that alternatively fueled (e.g., biodiesel, electric, CARB approved low carbon fuel, such as renewable diesel) construction vehicles/equipment comprise at least 15% of the fleet.
- Encourage and provide carpools, shuttle vans, transit passes and/or secure bicycle parking for construction-worker commutes.
- Reduce electricity use in the construction office by using compact fluorescent bulbs, powering off computers every day, and replacing heating and cooling units with more-efficient ones.
- Recycle or salvage nonhazardous construction and demolition debris (goal of at least 75% by weight).
- Use locally sourced or recycled materials for construction materials (goal of at least 20% based on costs for building materials and volumes for roadway, parking lot, sidewalk and curb materials). Use wood products certified through a sustainable forestry program, as feasible.
- Minimize the amount of concrete for paved surfaces or utilize a low-carbon concrete option.
- Use SmartWay-certified trucks for deliveries where the haul distance exceeds 100 miles and a heavy-duty Class 7 or Class 8 semi-truck or 53-foot or longer box-type trailer for hauling. SmartWay-certified trucks are outfitted at point of sale or retrofitted with equipment that significantly reduces fuel use and emissions.

Mitigation Measure GHG-2: Develop and implement a GHG reduction plan to reduce construction and operational area, mobile, and building natural gas GHG emissions.

Measure Performance Standards

Prior to the County issuing approval of a small-lot tentative map, parcel map, and/or PD permit, the building permit applicant will submit a plan for County approval for reducing GHG emissions from: (a) construction; (b) operational GHG emissions from project area sources and building natural-gas combustion over a 30-year analysis period; and (c) operational GHG emissions from

the share of project mobile sources over a 30-year analysis period inconsistent with the 2022 Scoping Plan (or future scoping plans) land use change and affordable housing project attributes.

Emissions from the 17-year construction period and from these operation sources over a 30-year analysis period have been quantified in this DEIR. Total construction-sector, project area source, building natural gas, and mobile source emissions over the 30-year analysis period are estimated to be 97,510 metric tons CO_2e. This yields a reduction commitment of up to 97,510 metric tons of CO_2e needed to achieve a no-net increase in project-related GHG emissions from these sources. Although this inventory could be used exclusively to inform the required mitigation commitment, the methods used to quantify emissions in the DEIR were conservative. Accordingly, this DEIR likely overestimates actual GHG emissions that would be generated by the project. The project applicant may therefore reanalyze GHG emissions for any phase of the project to update the required reduction commitment to achieve net zero.

Any updated emissions analysis conducted for the project must be performed using EDCAQMD-, CARB-, or the USEPA-approved emissions models and quantification methods available at the time of the reanalysis. The analysis must use the latest-available engineering data for the project, inclusive of any required mitigation measures identified in the DEIR that will reduce GHG emissions. Consistently with the methodology used in this DEIR, emission factors may account for enacted regulations that will influence future-year emissions intensities (e.g., fuel efficiency standards for on-road vehicles). The building permit applicant will retain a qualified professional firm to conduct any revised emissions modeling. The building permit applicant will submit updates to the project emissions inventory and/or GHG credit commitment to the County for review and approval, which will include third-party review by a qualified consultant of the County's selection and be subject to building permit applicant reimbursement of consultant costs.

Plan Development

Developing a fixed and rigid implementation strategy up-front to cover 17 years of construction followed by project operation will be restrictive and will potentially preclude the project applicant from pursing future reduction technologies that could be economically or environmentally superior to options that are currently available.

Given the constraints associated with developing a fixed and rigid reduction plan to cover all project emissions subject to this measure, the plan may be developed and implemented over multiple phases. A phased approach provides implementation and management flexibility and enhances plan quality and accuracy because each subsequent emissions inventory can better account for the latest regulations and reduction technologies. The first phase of the plan must identify the expected future phases, schedule for reducing GHG emissions, and needed quantity of GHG reductions remaining after each phase to attain the performance standard of this measure.

GHG Reduction Strategies

Each phase of the plan will identify the GHG reduction strategies that will be implemented during that phase to achieve the performance standard. Strategies that could be used in formulating the plan are summarized below. GHG reduction strategies must be verifiable and feasible to implement. The plan will identify the entity responsible for implementing each strategy (if not the project applicant) and the estimated GHG reduction that will be achieved by implementation of the strategy. If the selected strategies are shown to exceed total net emissions of that phase, the estimated surplus can be applied as a credit in future phase(s), as explained below.

Revisions to LRVSP policies (A) are required and must be incorporated into the plan. Following policy revisions, the project applicant will prioritize selected strategies as: (B) onsite strategies; (C) offsite strategies; and (D) GHG credits. The order of priority for the location of selected strategies will be: (1) within the plan area; (2) within communities surrounding the plan area (e.g., Cameron Park); (3) throughout Northern California; (4) in the State of California; (5) in the United States; and (6) outside of the United States. If using offsite strategies or GHG credits, the plan must present substantial evidence to explain why higher priority strategies were deemed infeasible as defined under CEQA.

It is possible that some of the strategies could independently achieve the performance standard for the project. Various combinations of strategies could also be pursued to optimize total costs or community co-benefits. The project applicant will be responsible for determining the overall mix of strategies necessary to ensure the performance standard to mitigate the significant GHG impact is met.

The list of strategies presented in this section is not exclusive. The project applicant may include additional or new strategies to reduce GHG emissions to the extent that they become commercially available and cost effective and earn a track-record for reliability in real-world conditions.

A. Revisions to LRVSP Policies: The following LRVSP policy revisions will be included as specific requirements of future small-lot tentative maps, parcel maps, and/or PD permits.

   (1) **Parking**: LRVSP Policy 7.2 will be revised as follows: Off-street parking, if any, in the Village Park designation shall include a minimum number of dedicated public parking spaces for Low-Emitting and Fuel-Efficient Vehicles, in accordance with CALGreen Nonresidential Tier 1 Voluntary Measures, as well as shared vehicles. Limit off-street parking requirements in all plan area designations to maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet).

   (2) **Electrical Vehicle Charging**: LRVSP Policy 7.4 will be revised as follows: Off-street parking in private garages or other dedicated off-street parking spaces in all Village Residential – Low and Village Residential - Medium designations shall provide dedicated parking for plug-in electric vehicles (PEVs) and install minimum Level 2 PEV charging stations in each dedicated PEV parking space, in accordance with CalGreen Tier 1 Voluntary Measures. Installation of 220/240 volt garage circuits to support PEVs will be required in all residential buildings.

   (3) **Onsite Solar Energy**: LRVSP Policy 7.20 will be revised as follows: All Residential-Low and Residential-Medium developments will be required to install rooftop solar power to meet minimum baseload electricity needs (expected average system size is 4 kilowatts). Where applicable, rooftop solar-PV arrays or solar water-heating systems will be installed in accordance with the State Fire Marshal's safety regulations and guidelines.

B. Onsite Strategies: Strategies to reduce onsite operational emissions may include but are not limited to the following:

   (1) The building permit applicant will use commercially reasonable standards to achieve all-electric buildings design. All water heaters in new residential developments will be either solar or electrically powered. The building permit applicant will ensure that all residential and nonresidential development meet the State's Zero Net Energy standards, if and when

adopted. Concurrently with submittal of the building permit application, the building permit applicant will submit documentation to the County demonstrating compliance with this mitigation measure. The County will ensure compliance prior to issuance of certificate of occupancy.

(2) The building permit applicant will use commercially reasonable standards to achieve use of natural alternatives to HFCs for building air conditioning equipment. Natural refrigerants include ammonia, CO_2, or hydrocarbons. The County will require all development to meet CARB regulations restricting HFCs, if and when adopted. Concurrently with submittal of the building permit application, the applicant will submit documentation to the County demonstrating compliance with this mitigation measure. The County will ensure compliance prior to issuance of certificate of occupancy.

(3) The building permit applicant will use commercially reasonable standards to achieve LEED Silver certification or higher through specific committed measures in the use of recycled and sustainable materials in construction, water efficiency, and efficiency of energy use. The United States Green Building Council is a private 501(c)3, non-profit organization which promotes sustainability in building design, construction, and operation. The U.S. Green Building Council developed the LEED program, which provides a rating system that awards points for new construction based on energy use, materials, water efficiency, and other sustainability criteria. LEED has certification systems for both commercial and residential use. Concurrently with submittal of the building permit application, the applicant will submit to the County a copy of the LEED project registration for participating residential sites. Final LEED certification from Green Business Certification, Inc., will be provided to the County. The County will ensure compliance prior to issuance of certificate of occupancy. If LEED Silver certification were not achieved, then the building permit applicant must explain the circumstances that prevented certification.

(4) The building permit applicant will provide education for residential and commercial tenants concerning electric-powered landscaping equipment. Prior to receipt of any certificate of final occupancy, the building permit applicant will work with EDCAQMD to develop electronic correspondence to be distributed by email to new residential and commercial tenants that encourages the purchase of electric-powered equipment to reduce GHG and criteria pollutant emissions.

C. Offsite Strategies: Strategies to reduce offsite emissions may include but are not limited to the following:

(1) The applicant will partner with EDCTA to support funding for high-quality transit service within the plan area. Where bus service is provided, the applicant will consider provision of transit amenities to increase ridership, including bus shelters and park-and-ride lots. The applicant may also fund or contribute funding to alternatively fueled transit buses, including electric buses.

(2) The applicant will partner with PG&E to fund or contribute to an energy efficiency improvement program to achieve reductions in residential and commercial natural gas and electricity usage. Potential building improvements may include energy efficient appliances, energy efficient boilers, installation of alternative water heaters in place of natural gas storage tank heaters, installation of induction cooktops in place of gas ranges, or installation of cool roofs or green roofs.

(3) The applicant will partner with PG&E to fund or contribute to community solar, wind, or other renewable energy projects or programs. This could include providing funding to support utility programs that will allow homeowners to install solar photovoltaic systems at zero or minimal up-front cost. All projects installed under this measure must be designed for high performance (e.g., optimal full-sun location, solar orientation) and additive to utility RPS goals.

(4) The applicant will partner with PG&E to fund or contribute to community infrastructure projects (e.g., retirement of natural gas facilities) to support decarbonization of the electric power sector.

(5) The applicant will partner with the County to fund or contribute to programs to increase sidewalk coverage to improve pedestrian access and interconnectivity of the pedestrian network.

(6) The applicant will partner with the County to fund or contribute to programs to construct or improve bicycle lane facilities (Class I, II, or IV) or bicycle boulevards.

(7) The applicant will partner with the County to fund or contribute to the deployment of neighborhood/city conventional or electric carshare or bikeshare programs.

D. GHG Credits: All GHG credits must be created through a CARB-approved registry. These registries are currently the ACR, CAR, and Verra, although additional registries may be accredited by CARB in the future. These registries use robust accounting protocols for all GHG credits created for their exchange, including the six currently approved CARB protocols. This mitigation measure specifically requires GHG credits created for the project originate from a CARB-approved protocol or a protocol that is equal to or more rigorous than CARB requirements under 17 CCR 95972. The selected protocol must demonstrate that the GHG-emissions reductions are real, permanent, quantifiable, verifiable, enforceable, and additional. Definitions of these terms from 17 CCR 95802(a) are provided below (Note: the original text used the term *offset*, which has been replaced in the text below with the generic term *GHG credit* because this measure allows for use of both offsets and FMUs).

- **Real**: GHG reductions or enhancements result from a demonstrable action or set of actions and are quantified using appropriate, accurate, and conservative methodologies that account for all GHG emissions sources, GHG sinks, and GHG reservoirs within the (GHG credit) project boundary and account for uncertainty and the potential for activity-shifting and market-shifting leakage.
- **Additional**: GHG reductions or removals that exceed any GHG reduction, or removals otherwise required by law, regulation, or legally binding mandate, and that exceed any GHG reductions or removals that would otherwise occur in a conservative BAU scenario.
- **Permanent**: GHG reductions and removal enhancements are not reversible, or when GHG reductions and GHG-removal enhancements may be reversible, that mechanisms are in place to replace any reversed GHG-emission reductions and GHG-removal enhancements to ensure that all credited reductions endure for at least 100 years.
- **Quantifiable**: The ability to accurately measure and calculate GHG reductions or GHG-removal enhancements relative to a project baseline in a reliable and replicable manner for all GHG emission sources, GHG sinks, or GHG reservoirs included within the (GHG

credit) project boundary, while accounting for uncertainty and activity-shifting and market-shifting leakage.

- **Verifiable**: A (GHG credit) project report assertion is well-documented and transparent such that it lends itself to an objective review by an accredited verification body.
- **Enforceable:** The authority for CARB to hold a particular party liable and take appropriate action if any of the provisions of this article are violated. Note that this definition of *enforceability* is specific to the Cap-and-Trade regulation, where CARB holds enforcement authority, but this measure will employ GHG credits from the voluntary market, where CARB has no enforcement authority. Applying the definition to this mitigation measure means that GHG reductions must be owned by a single entity and be backed by a legal instrument or contract that defines exclusive ownership.

Geographic Prioritization of GHG Credits

GHG credits from reduction projects in the County will be prioritized before projects in larger geographies (i.e., northern California, California, United States, and international). The applicant will inform brokers of the required geographic prioritization for the procurement of GHG credits. GHG credits from reduction projects identified in the County that are of equal or lesser cost compared to the settlement price of the latest Cap-and-Trade auction must be included in the transaction. GHG credits from reduction projects outside of the County may be purchased if adequate credits cannot be found in the County or if they exceed the maximum price identified above. The economic and geographic analysis undertaken to inform the selection of GHG credits must be provided by the applicant to the County as part of the required documentation discussed below under *Plan Implementation and Reporting*.

Types of GHG Credits

GHG credits may be in the form of GHG offsets for prior reductions of GHG emissions verified through protocols or FMUs for future committed GHG emissions meeting protocols. Because emissions reductions from GHG offsets have already occurred, their benefits are immediate and can be used to compensate for an equivalent quantity of project-generated emissions at any time. GHG credits from FMUs must be funded and implemented within 5 years of project GHG emissions to qualify as a GHG credit under this measure (i.e., there can only be a maximum of 5 years lag between project emissions and their real-world reductions through funding a FMU in advance and implementing the FMU on the ground). Any use of FMUs that result in a time lag between project emissions and their reduction by GHG credits from FMUs must be compensated through a prorated surcharge of additional FMUs proportional to the effect of the delay. Because emissions of CO_2 in the atmosphere reach their peak radiative forcing within 10 years, a surcharge of 10% for every year of lag between project emissions and their reduction through a FMU will be added to the GHG credit requirement (i.e., 1.10 FMUs would be required to mitigate 1 metric ton of project GHG emissions generated in the year prior to funding and implementation of the FMU).

Verification and Independent Review of GHG Credits

All GHG credits will be verified by an independent verifier accredited by the ANSI National Accreditation Board (ANAB) or CARB, or an expert with equivalent qualifications to the

extent necessary to assist with the verification. Following the standards and requirements established by the accreditation board (i.e., ANAB or CARB), the verifier will certify the following.

- GHG credits conform to a CARB-approved protocol or a protocol that is equal to or more rigorous than CARB requirements under 17 CCR 95972. Verification of the latter requires certification that the credits meet or exceed the standards in 17 CCR 95972.
- GHG credits are real, permanent, quantifiable, verifiable, enforceable, and additional, as defined in this measure.
- GHG credits are purchased according to the geographic prioritization standard defined in this measure under *Geographic Prioritization of GHG Credits*.

Verification of GHG offsets must occur as part of the certification process for compliance with the accounting protocol. Because FMUs are GHG credits that will result from future projects, additional verification must occur beyond initial certification is required. Verification for FMUs must include initial certification and independent verification every 5 years over the duration of the FMU generating the GHG credits. The verification will examine both the GHG credit realization on the ground and its progress toward delivering future GHG credits. The applicant will retain an independent verifier meeting the qualifications described above to certify reductions achieved by FMUs are achieved following completion of the future reduction project.

Plan Implementation and Reporting

As described above, the plan may be developed and implemented over multiple phases. Prior to the start of each phase, the project applicant will update the plan to calculate the amount of GHG emissions anticipated in the covered phase, as well as emissions from prior phases (if applicable) and the projected total net emissions of the project. The plan will identify the specific GHG reduction strategies that will be implemented to meet the performance standard for the covered phase and quantify the expected reductions that will be achieved by each strategy. All emissions and reductions will be quantified in accordance with the requirements outlined above.

The applicant will retain a qualified professional firm to assist with its review and approval of the plan. Subsequent amendments to the plan will identify reductions that have been achieved during prior phases and determine if those reductions exceed emissions generated by the project. If the GHG reduction strategies implemented by the applicant result in a surplus of reductions above the performance standard, the balance of those reductions may be credited to subsequent phases.

The applicant will prepare the plan (or first phase of the plan) prior to the County issuing approval of a small-lot tentative map, parcel map, and/or PD permit. If the applicant elects to use a phased approach, the first phase of the plan must identify the expected future phases and schedule for amending the plan to cover future phases. The final phase of the plan must address operational emissions over a 30-year period, accounting for regulations adopted at that time that will reduce project emissions.

Revisions to LRVSP policies and selected onsite strategies will be included as specific requirements of future small-lot tentative maps, parcel maps, and/or PD permits. Selected

offsite strategies will be completed or operational before completion of the applicable phase. If GHG credits are pursued, the applicant will enter the necessary contract(s) to purchase credits prior to the start of each phase. All credits must be retired before completion of the applicable phase.

The applicant will conduct annual reporting to verify and document that selected strategies achieve sufficient emissions reductions to mitigate project emissions. Each report should describe the GHG reduction strategies that were implemented over the prior year, summarize past, current, and anticipated project phasing, document compliance with plan requirements, and identify corrective actions (if any) needed to ensure the plan achieves the performance standard. If GHG credits have been purchased to reduce emissions for the reporting year, the annual report must include copies of the offset retirement verification.

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (significant and unavoidable)

Metropolitan Transportation Plan and Sustainable Communities Strategy

The MTP/SCS provides a long-range framework to minimize transportation impacts on the environment, improve regional air quality, protect natural resources, and reduce GHG emissions. The MTP/SCS is consistent with SB 375, which requires SACOG to adopt an SCS that outlines policies to reduce per-capita GHG emissions from passenger vehicles. The SCS policies include a mix of strategies that target smart growth, mixed-used design, alternative transportation, transit, mobility and access, network expansion, and transportation investment.

Implementation of the SCS is intended to improve the efficiency of the transportation system and achieve a variety of housing types throughout the SACOG region that meet market demands in a balanced and sustainable manner. Consistent with SACOG goals, the LRVSP would create a mixed-used, pedestrian-friendly, and walkable community. The land use design would minimize off-street parking to help reduce vehicle trips and support alternative transportation. LRVSP policies would also provide short- and long-term bicycle parking, as well as dedicated parking for PEV and pre-wiring for future PEV-charging stations. These policies would support alternative transportation within the community, which could help reduce per-capita GHG emissions from passenger vehicles consistent with LRVSP's MTP/SCS. This impact would be less than significant.

2017 Scoping Plan

The 2017 Scoping Plan built on the programs set in place as part of the previous AB 32 Scoping Plan that was drafted to meet the 2020 reduction targets per AB 32. The 2017 Scoping Plan proposed meeting the 2030 goal by accelerating the focus on zero and near-zero technologies for moving freight, continued investment in renewables, greater use of low-carbon fuels, including electricity and hydrogen, stronger efforts to reduce emissions of short-lived climate pollutants (i.e., CH_4 and fluorinated gases), further efforts to create walkable communities with expanded mass transit and other alternatives to traveling by car, continuing the Cap-and-Trade program, and ensuring that natural lands become carbon sinks to provide additional emissions reductions and flexibility in meeting the target (CARB 2017b).

In general, the LRVSP is built around the concept of sustainability. This is manifested through increased mixed-use and green building principles, including an emphasis on energy efficiency, water conservation, and waste reduction. Although the measures included in the 2017 Scoping Plan

are necessarily broad, the LRVSP is generally consistent with the goals and desired outcomes of the plan (i.e., increasing energy efficiency, water conservation, waste diversion, transportation sustainability.). The consistency of the LRVSP with the policies in the 2017 Scoping Plan is analyzed in Table 3.6-10.

Table 3.6-10. LRVSP Consistency with 2017 Scoping Plan Policies

Policy	Primary Objective	LRVSP Consistency Analysis
SB 350	Reduce GHG emissions in the electricity sector through the implementation of the 50% RPS, doubling of energy savings, and other actions as appropriate to achieve GHG emissions reductions planning targets in the Integrated Resource Plan process.	This policy is a state program that requires no action at the local or project level. Nonetheless, development of new land uses under the LRVSP would be consistent with the energy saving objective of this measure. The LRVSP includes policies that support natural cooling and passive solar heating through building placement and orientation, using vegetation and light-colored paints to shade buildings to limit direct solar gain and glare, using energy efficient appliances, exceeding energy efficiency standards, and installing solar panels and/or solar hot water systems. These policies would reduce energy demands.
Low Carbon Fuel Standard	Transition to cleaner/less-polluting fuels that have a lower carbon footprint.	This policy is a state program that requires no action at the local or project level. Nonetheless, development of new land uses under the LRVSP would support reducing the carbon footprint associated with vehicle travel. LRVSP policies would create a pedestrian-friendly and walkable community. LRVSP policies would also provide short- and long-term bicycle parking, as well as dedicated parking for PEV and pre-wiring for future PEV charging stations.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario)	Reduce GHGs and other pollutants from the transportation sector through transition to zero-emissions and low-emissions vehicles, cleaner transit systems and reduction of VMT.	This policy is a state program that requires no action at the local or project level. Nonetheless, development of new land uses under the LRVSP would support the reduction of VMT. As noted above, the LRVSP includes a number of policies that will support alternative transportation, electric vehicles, and overall reductions in vehicle trips.
SB 1383	Approve and implement Short-Lived Climate Pollutant strategy to reduce highly potent GHGs.	This policy is a state program that requires no action at the local or project level, and is not directly applicable to the LRVSP.
California Sustainable Freight Action Plan	Improve freight efficiency, transition to zero-emissions technologies, and increase competitiveness of California's freight system.	This policy is a state program that requires no action at the local or project level, and is not directly applicable to the LRVSP.
Post-2020 Cap and-Trade Program	Reduce GHGs across largest GHG emissions sources.	This policy is a state program that requires no action at the local or project level, and is not directly applicable to the LRVSP.

Although the LRVSP is consistent with the broad policy objectives of the 2017 Scoping Plan, it includes development that could generate emissions that conflict with the state's ability to achieve its 2030 reduction target; thus, it could conflict with the 2017 Scoping Plan. This consistency analysis is presented in detail under Impact GHG-1. Mitigation Measures GHG-1, GHG-2, TRA-2, AQ-2b and AQ-2c include a diverse suite of actions that will reduce emissions in the amount of the proposed project's contribution of construction and operational area and building natural-gas source emissions to achieve a no-net increase in project-related GHG emissions and also to reduce operational mobile-source emissions to achieve consistency with the 2022 Scoping Plan land use change and affordable housing project attributes. Although impacts with the 2017 Scoping Plan could be reduced to a less-than-significant level with implementation of Mitigation Measures GHG-1, GHG-2, TRA-2, AQ-2b and AQ-2c, this EIR takes a conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that operation of the project could impede implementation of the 2017 Scoping Plan. This impact would be significant and unavoidable.

Other State Regulations

Systemic changes will be required at the state level to achieve the statewide future GHG-reduction goals. Regulations, such as the SB 100/1020–mandated 100% carbon-free RPS by 2045; implementation of the state's SLCP Reduction Strategy; and future updates to CCR Title 24 standards (including requirements for net zero-energy buildings), will be necessary to attain the magnitude of reductions required for the state's goals. The LRVSP would be required to comply with these regulations in new construction (in the case of updated CCR Title 24 standards) or would be directly affected by the outcomes (e.g., energy consumption would be less carbon-intensive due to the increasingly stringent RPSs). Unlike the Scoping Plans, which explicitly call for additional emissions reductions from local governments and new projects, none of these state regulations identify specific requirements or commitments for new development beyond what is already required by existing regulations or will be required in forthcoming regulations. Thus, for the foreseeable future, the LRVSP would not conflict with any other state-level regulations pertaining to GHGs in the post-2020 era, and this impact would be less than significant.

2022 Scoping Plan/AB 1279

Based on CARB's 2022 Scoping Plan, the 2045 milestone of reducing anthropogenic GHG emissions to 85% below 1990 levels and achieving carbon neutrality requires an aggressive reduction of fossil fuels wherever they are currently used in California, building on and accelerating carbon-reduction programs that have been implemented by the previous Scoping Plans. The 2022 Scoping Plan indicates that reductions would need to take the form of changes pertaining to transportation emissions, changes pertaining to sources of electricity and increased energy efficiency at existing facilities, and state and local plans, policies, or regulations that will lower GHG emissions relative to BAU conditions. Independent studies have reached similar conclusions. Deep reductions in GHG emissions can be achieved only with significant changes in electricity production, transportation fuels, and industrial processes. For example, a Center for Climate and Energy Solutions report notes that "achieving climate neutrality requires a broad array of social, economic, and technological transformations—in essence, reinventing the ways we power our homes and economies, move people and goods from place to place, and manage our lands" (Lempert et al. 2019).

The systemic changes needed to achieve the state's long-term GHG-reduction goals will require significant policy, technical, and economic solutions. Decarbonization of the transportation-fuel

supply will require electric, hybrid, and PEV vehicles to comprise most light-duty vehicles. Some changes, such as the use of biofuels to replace petroleum for aviation, cannot be accomplished without action by the federal government. Furthermore, achieving the long-term GHG-reduction goals will require California to dramatically increase the amount of electricity that is generated by renewable-generation sources and, correspondingly, advance the deployment of energy-storage technologies and smart-grid strategies, such as price-responsive demand and smart-charging vehicles. This would entail a significant redesign of California's electricity system.

In qualitatively evaluating the proposed project's emissions for consistency with the 2022 Scoping Plan, it is important to note that some of these broad-scale shifts in how energy is produced and used are outside of the control of the proposed project. The changes necessitated by the state's long-term climate policy will require additional policy and regulatory changes, which are unknown at this time. Therefore, the extent to which the project's emissions and resulting impacts would be mitigated through implementation of such changes is not known and cannot be known at this time. Furthermore, implementation of such additional policy and regulatory changes is within the jurisdiction of state-level agencies (e.g., CARB), not the County. However, some of these measures (e.g., decarbonization, energy efficiency, reduced fossil-fuel-based VMT) can be facilitated, at least to some extent, through implementation of specific GHG-reduction measures. Under this same rationale, if the LRVSP did not implement measures to maximize energy efficiency or utilize renewable energy, then the reductions may not be sufficient for an individual project to meet the aggressive long-term cumulative-reduction goals.

As discussed in *Thresholds of Significance*, the 2022 Scoping Plan outlined project attributes related to transportation electrification, VMT reduction, and building decarbonization. These "project attributes are intended as a guide to help local jurisdictions qualitatively identify those residential and mixed-use projects that are clearly consistent with the State's climate goals" (CARB 2022a). Projects that incorporate all attributes "are considered to be consistent with the Scoping Plan or other plans, policies, or regulations adopted for the purposes of reducing GHGs" (CARB 2022a). As shown in Table 3.6-7, the LRVSP does not include all required 2022 Scoping Plan attributes related to VMT reduction. Although the LRVSP encourages energy efficiency and onsite renewable energy, not all buildings will be designed without natural-gas appliances. The continued consumption of fossil fuels by LRVSP buildings would conflict with building-decarbonization project attribute. This is a significant impact without mitigation.

LRVSP policies and Mitigation Measures GHG-1, GHG-2, TRA-2, AQ-2b, and AQ-2c are consistent with anticipated long-term statewide strategies to reduce GHG emissions. It is possible that future-adopted state and federal actions would reduce project emissions below a level consistent with the reduction targets of AB 1279, but this cannot be known at this time. Mitigation Measure GHG-2 also requires GHG reductions in the amount of the project's contribution of area, construction, and building natural-gas emissions to achieve a no-net increase in project-related GHG emissions, and also to reduce operational mobile-source emissions to achieve consistency with the 2022 Scoping Plan land use change and affordable-housing project attributes. Although all identified impacts except consistency with the 2022 Scoping Plan SCS project attribute could be reduced to a less-than-significant level with implementation of Mitigation Measures GHG-1, GHG-2, TRA-2, AQ-2b, and AQ-2c, this EIR takes a conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that the project could substantially contribute to a significant cumulative impact.

Conclusion

The LRVSP would be consistent with SACOG's MTP/SCS and state regulations that will reduce GHG emissions (e.g., SB 100, SLCP Reduction Strategy). However, although the LRVSP policies and Mitigation Measures GHG-1, GHG-2, TRA-2, AQ-2b, and AQ-2c are consistent with anticipated long-term statewide strategies to reduce GHG emissions, they may not be adequate on their own to reduce project-level emissions consistent with the levels required to meet statewide climate-change goals. The LRVSP is also inconsistent with the 2022 Scoping Plan SCS project attribute. Accordingly, it is conservatively concluded that the project's emission levels would be inconsistent with the goals of 2017 Scoping Plan/SB 32 and 2022 Scoping Plan/AB 1279. Therefore, this impact would be significant and unavoidable.

Mitigation Measure TRA-2: TDM strategies to reduce the impact of the residential component.

Mitigation Measure AQ-2b: Implement BMPs to reduce construction-related exhaust emissions during early construction.

Mitigation Measure AQ-2c: Require advanced off-road engines and newer onsite on-road trucks.

Mitigation Measure GHG-1: Implement BMPs to reduce construction-generated GHG emissions.

Mitigation Measure GHG-2: Develop and implement a GHG reduction plan to reduce construction and operational area, mobile, and building natural gas GHG emissions.

Impact GHG-3: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment as a result of offsite improvements (less than significant with mitigation)

GHG emissions associated with construction of offsite improvements were included in the analysis of overall total project emissions (Table 3.6-4). Mitigation Measures GHG-1, AQ-2b, and AQ-2c are required to reduce these emissions.

Operational activities that would generate emissions, such as delivery of water from new pipelines and use of water, or vehicle use on offsite roadway connections, are associated with the land uses in the LRVSP and were included in the project operational analysis (Table 3.6-5 and Table 3.6-6). The GHG reductions associated with the LRVSP and state policies, quantified in Table 3.6-6, are applicable to the offsite improvements. For example, the recycled water line (if used) would play a role in reducing the carbon intensity of water consumption in the project area, consistent with LRVSP Policy 7.37. Water delivered to the project through upgraded water lines would result in GHG emissions, but water use in the plan area would be reduced through Policy 7.38 and Policy 7.42. These strategies are consistent with the 2017 and 2022 Scoping Plans water measures and the state's regulatory programs within the water sector. Operation of the facilities would not materially affect regional VMT. Moreover, state measures (e.g., Pavley Standards) would reduce transportation emissions from vehicles using the new offsite roadways. Therefore, construction and operation of the offsite improvements would not result in GHG emissions that would have a significant impact on the environment with mitigation.

Mitigation Measure AQ-2b: Implement BMPs to reduce construction-related exhaust emissions during early construction.

Mitigation Measure AQ-2c: Require advanced off-road engines and newer onsite on-road trucks.

Mitigation Measure GHG-1: Implement BMPs to reduce construction-generated GHG emissions.

Impact GHG-4: Impacts on GHG emissions resulting from implementation of General Plan Policy TC-Xf traffic improvements (less than significant with mitigation)

Construction for the intersection and roadway improvements would generate minor amounts of GHG emissions, similar to the offsite roadway improvements discussed under Impact GHG-3. Mitigation Measures GHG-1, AQ-2b, and AQ-2c are required to reduce these emissions.

The General Plan Policy TC-Xf traffic improvements would improve traffic and intersection operations. Accordingly, the improvements would likely reduce mobile source emissions because vehicle movement would be more efficient compared with existing conditions. These reductions may fully, or partially offset emissions generated during construction. Therefore, construction and operation of the General Plan Policy TC-Xf traffic improvements would not result in GHG emissions that would have a significant impact on the environment with mitigation.

Mitigation Measure AQ-2b: Implement BMPs to reduce construction-related exhaust emissions during early construction.

Mitigation Measure AQ-2c: Require advanced off-road engines and newer onsite on-road trucks.

Mitigation Measure GHG-1: Implement BMPs to reduce construction-generated GHG emissions.

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3.7 Hazards and Hazardous Materials

This section describes existing conditions and the regulatory setting related to hazards and hazardous materials and analyzes potential impacts that could result from implementation of the Lime Rock Valley Specific Plan (LRVSP; proposed project).

A *hazardous material* is a substance or combination of substances that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may pose a potential hazard to human health or the environment when handled improperly. *Hazardous waste* is waste that is dangerous or potentially harmful to human health or the environment. Hazardous wastes can be liquids, solids, gases, or sludges. They can be discarded commercial products like cleaning fluids or pesticides, or the by-products of manufacturing processes (U.S. Environmental Protection Agency 2019a).

3.7.1 Existing Conditions

Regulatory Setting

Federal

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as *Superfund*, is a federal act establishing a national trust for hazardous waste-related industries to be able to fund and coordinate large cleanup activities for hazardous waste spills and accidents and to clean up older abandoned waste sites. Amended in 1986, the act establishes two primary actions: (1) to coordinate short-term removal of hazardous materials; and (2) to coordinate and manage the long-term removal of hazardous materials identified on the U.S. Environmental Protection Agency (USEPA) National Priorities List (NPL). The NPL is a record of known or threatened releases of hazardous substances, pollutants, or contaminants. USEPA uses a national database and management system, known as the Comprehensive Environmental Response, Compensation, and Liability Information System, to track activities at hazardous waste sites considered for cleanup under CERCLA. USEPA also maintains provisions and guidelines dealing with closed and abandoned waste sites and tracks amounts of liquid and solid media treated at sites on the NPL or sites that are under consideration for the NPL.

Occupational Safety and Health Standards

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The Division of Occupational Safety and Health is the agency responsible for assuring worker safety in the workplace. The agency assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices within the state. At sites known to be contaminated, a site safety plan must be prepared to protect workers. The site safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

Hazardous Materials Transportation Act (49 Code of Federal Regulations 171, Subchapter C)

The U.S. Department of Transportation (USDOT), the Federal Highway Administration, and the Federal Railroad Administration are the three entities that regulate the transport of hazardous materials at the federal level. The Hazardous Materials Transportation Act governs the transportation of hazardous materials. These regulations are promulgated by the USDOT and enforced by USEPA.

Resource Conservation and Recovery Act of 1976 (42 United States Code Sections 6901–6987)

The Resource Conservation and Recovery Act of 1976 (RCRA), including the Hazardous and Solid Waste Amendments of 1984, protects human health and the environment and imposes regulations on hazardous waste generators, transporters, and operators of treatment, storage, and disposal facilities. The Hazardous and Solid Waste Amendments also require USEPA to establish a comprehensive regulatory program for underground storage tanks (USTs). The corresponding regulations in 40 Code of Federal Regulations 260–299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

Toxics Release Inventory

The Emergency Planning and Community Right-to-Know Act of 1986 and the Pollution Prevention Act of 1990 established a publicly available database, the Toxics Release Inventory (TRI), that has information on toxic chemical releases and other waste management activities. The TRI is updated annually and lists chemical releases by industry groups and federal facilities managed by USEPA.

State

Asbestos Regulations

Title 8 California Code of Regulations (CCR) Section 1529 regulates asbestos exposure in all construction work and defines permissible exposure limits and work practices. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. With respect to potential worker exposure, notification, and registration requirements, the California Division of Occupational Safety and Health defines asbestos-containing construction material as construction material that contains more than 0.1% asbestos (8 CCR 341.6).

Hazardous Materials Release Response Plans and Inventory Act

The Hazardous Materials Release Response Plans and Inventory Act (also known as the Business Plan Act) requires a business using hazardous materials to prepare a Business Plan describing the facility, inventory, emergency response plans, and training programs. The owner or operator of any business that has specified amounts of liquid and solid hazardous materials, compressed gases, extremely hazardous substances, underground storage sites in the project area, or generates or treats hazardous waste, is required to develop and submit a business plan to the local Certified Unified Program Agency. For the proposed project, this agency is the Hazardous Materials Division of El Dorado County Department of Environmental Management.

Hazardous Waste Control Act

The state equivalent of RCRA is the Hazardous Waste Control Act (HWCA). HWCA created the State Hazardous Waste Management Program, which is similar to the RCRA program but generally more stringent. HWCA establishes requirements for the proper management of hazardous substances and wastes with regard to criteria for (1) identification and classification of hazardous wastes; (2) generation and transportation of hazardous wastes; (3) design and permitting of facilities that recycle, treat, store, and dispose of hazardous wastes; (4) treatment standards; (5) operation of facilities; (6) staff training; (7) closure of facilities; and (8) liability requirements.

Emergency Services Act

Under the California Emergency Services Act, California developed an emergency response plan to coordinate emergency services provided by all governmental agencies. The plan is administered by the California Office of Emergency Services (OES). OES coordinates the responses of other agencies, including USEPA, the Federal Emergency Management Agency, the California Highway Patrol, water quality control boards, air quality management districts, and county disaster response offices. Local emergency response teams, including fire, police, and sheriff's departments, provide most of the services to protect public health.

California Health and Safety Codes

The California Environmental Protection Agency (Cal-USEPA) has been granted primary responsibility by USEPA for administering and enforcing hazardous materials management plans within California. Cal-USEPA defines a hazardous material more generally than USEPA as a material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released (26 CCR 25501).

State regulations include detailed planning and management requirements to ensure that hazardous materials are properly handled, stored, and disposed of to reduce human health risks. In particular, the state has acted to regulate the transfer and disposal of hazardous waste. Hazardous waste haulers are required to comply with regulations that establish numerous standards, including criteria for handling, documenting, and labeling the shipment of hazardous waste (26 CCR 25160 et seq.).

California Public Resources Code – State Responsibility Area

The California Public Resources Code (PRC) requires the designation of State Responsibility Areas (SRAs), which are identified based on cover, beneficial water uses, probable erosion damage and fire risks, and hazards. Fire protection in areas outside the SRA are the responsibilities of local or federal jurisdictions and are referred to as local responsibility areas and federal responsibility areas, respectively. El Dorado County includes SRAs and local responsibility areas.

Department of Toxic Substance Control

The Department of Toxic Substance Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous material waste. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

These regulations also require hazardous materials users to prepare written plans, such as a hazardous materials business plan, that describe hazardous materials inventory information, storage and secondary containment facilities, emergency response and evacuation procedures, and employee hazardous materials training programs. A number of agencies participate in enforcing hazardous materials management requirements, including DTSC, the Regional Water Board and the El Dorado County Environmental Management Division Hazardous Materials/ Waste Program.

Cortese List

Cal-USEPA maintains the Hazardous Wastes and Substances Site (Cortese) List, a planning document used by state and local agencies and developers to comply with California Environmental Quality Act (CEQA) requirements in providing information about the location of hazardous materials release sites. The list must be updated at least once per year, per Government Code Section 65962.5. DTSC, the State Water Board, and California Department of Resources Recycling and Recovery all contribute to the site listings.

State CEQA Guidelines Section 15186

Section 15186 of the State CEQA Guidelines requires that school projects, as well as projects proposed near schools, examine potential health impacts resulting from exposure to hazardous materials, wastes, and substances. Such impacts are to be examined and disclosed in a negative declaration or environmental impact report (EIR). State CEQA Guidelines Section 15186 describes three types of sites for which specific findings must be made. When a project involves the purchase of a school site or the construction of a secondary or elementary school, the negative declaration or EIR must provide enough information to determine whether the property is (1) the site of a current or former hazardous waste or solid waste disposal facility, and if so, whether wastes have been removed; (2) a hazardous substance release site identified by DTSC in a current list for removal or remedial action pursuant to Chapter 6.8 (commencing with Section 25300) of Division 20 of the Health and Safety Code; or (3) the site of one or more buried or aboveground pipelines that carry hazardous substances, acutely hazardous materials, or hazardous wastes, as defined in Division 20 of the Health and Safety Code. In developing such information, the lead agency is to consult with the affected school district regarding the potential impacts on the school and notify the affected school district of the project, in writing, not less than 30 days prior to approval or certification of the negative declaration or EIR.

Very High Fire Hazard Severity Zones

Government Code Section 51178 requires the Department of Forestry and Fire Protection (CAL FIRE) to identify very high fire hazard severity zones in the state. Government Code Section 51179 requires a local agency to designate, by ordinance, very high fire hazard severity zones in its jurisdiction.

Fire Safe Regulations

CCR Title 14 and 24 establish minimum wildfire protection standards in conjunction with building construction and development in Wildland Urban Interface[1] areas.

[1] An area where wildland fuels abut structures, with a clear line of demarcation between residential, business, and public structures and wildland fuels.

California Fire Plan

The *2019 Strategic Fire Plan for California* addresses the protection of lives and property from wildfires (California Department of Forestry and Fire Protection 2019). The plan describes four goals and related objectives that create landscape resilient landscapes and the protection of human-made assets through local, state, federal and private partnerships.

National Pollutant Discharge Elimination System General Permit for Construction Activities

The General National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ and Order No. 2012-006 DWQ) (Construction General Permit) regulates stormwater discharges for construction activities (Clean Water Act Section 402). Dischargers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the Construction General Permit. The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP) and best management practices (BMPs). In addition, a procedure for spill prevention and control is typically developed to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during all construction activities.

Local

El Dorado County General Plan

To ensure provision of adequate public human health and safety services in the county, the Public Services and Utilities Element and the Public Health, Safety, and Noise Element of the *El Dorado County General Plan* (County General Plan) (El Dorado County 2015, 2019 includes the following goals and policies, the full text of which can be found in Appendix B (*Consistency with the El Dorado County General Plan*). See Section 3.9, *Land Use Planning and Agricultural Resources*, for an analysis of the proposed project's consistency with County General Plan policies as required under State CEQA Guidelines Section 15125.

Public Services and Utilities Element

- Goal 5.7, *Emergency Services*, addresses provision of adequate and comprehensive emergency services, including fire protection, law enforcement, and emergency medical services, and includes implementing policies 5.1.2.1, 5.1.2.2, 5.7.1.1 and 5.7.2.1.

Public Health, Safety, and Noise Element

- Goal 6.2, *Fire Hazards*, addresses protection of life and property through minimization of fire hazards and risks in wildland and developed areas and includes implementing policies 6.2.2.1, 6.2.2.2, 6.2.3.1, 6.2.3.2, 6.2.3.4, 6.2.4.1, and 6.2.4.2.
- Goal 6.6, *Management of Hazardous Materials*, requires measures to reduce the threats to public health and the environment posed by the use, storage, manufacture, transport, release, and disposal of hazardous materials, and includes implementing policy 6.6.1.2.

El Dorado County Airport Land Use Compatibility Plan

The *El Dorado County Airport Land Use Compatibility Plan* (Mead & Hunt 2012) presents policies and maps specific to Cameron Airpark Airport, Georgetown Airport, and Placerville Airport to maintain safe operating conditions for the airports. The project area is not within the planning areas for these airports.

Hazardous Materials Ordinance of 1990

The Hazardous Materials Ordinance (County Code Chapter 8.38) regulates the handling, storage, use, transport, processing, and disposal of hazardous materials. This ordinance requires reporting of the use of hazardous materials. It also requires disclosure of accidental release of hazardous materials, as well as preventive and mitigative efforts for impacts of hazardous materials. The ordinance is enforced locally by trained staff of fire protection districts and the Solid Waste & Hazardous Materials Division of the El Dorado County Environmental Management Department.

El Dorado County Air Quality Management District

El Dorado County Air Quality Management District administers the state and federal Clean Air Acts in accordance with state and federal guidelines. The district regulates air quality through its district rules and permit authority. It also participates in planning review of discretionary project applications and provides recommendations. Rule 223-1 regulates fugitive dust, and Rule 223-3 regulates dust potentially containing naturally occurring asbestos, described in more detail in Section 3.2, *Air Quality*.

Solid Waste Management Ordinance (1994)

The Solid Waste Management Ordinance (County Code Chapter 8.42) prohibits the disposal, depositing, or otherwise disposing of any hazardous or biomedical waste onto land, into soil, rock, air, or water or at unauthorized disposal sites, transfer stations, resource recovery facilities, transformation facilities, buy-back centers, drop-off recycling centers, or any container to be collected and ultimately deposited, unless otherwise approved by the County. Penalties may be assessed on acts of illegal disposal.

El Dorado County Solid Waste Management Plan

The El Dorado County Environmental Management Department developed the *Solid Waste Management Plan* to provide residents, businesses, and facility operators with a coordinated plan to meet the County's future solid waste program, infrastructure, and capacity requirements (El Dorado County 2012). Goals include minimizing waste generation, such as household hazardous waste, and reducing improper disposal of hazardous waste.

El Dorado County Fire Hazard Ordinance

Chapter 8.08 of the El Dorado County Code, also known as the County Fire Hazard Ordinance, requires defensible space as described in PRC Section 4291, including the incorporation and maintenance of a 100-foot fire break or clearing around structures (El Dorado County 2021). The Fire Hazard Ordinance is applicable to all developments in the County, including all discretionary and ministerial developments.

El Dorado County Vegetation Management and Defensible Space Ordinance

The purpose of the County's Vegetation Management and Defensible Space Ordinance (Chapter 8.09 of the El Dorado County Code) is to provide for the removal of hazardous vegetation and combustible materials situated in the unincorporated areas of the County so as to reduce the potential for fire and to promote the safety and welfare of the community (El Dorado County 2021). The ordinance is applicable to all development in the unincorporated areas of the County.

Western El Dorado County Community Wildfire Protection Plan

The *Western El Dorado County Community Wildfire Protection Plan* (CWPP) provides an overview of local fire history, fire risks, hazards and past strategies to reduce the wildfire risk locally. The plan identifies specific fire protection problems and issues. The CWPP identifies specific fire mitigation efforts, such as the construction and maintenance of fire breaks.

Local Fire Prevention Codes and Ordinances

Both the El Dorado County Fire Protection District and the El Dorado Hills Fire Department have established local fire prevention codes and ordinances that pertain to new development projects and individual parcels in the community (El Dorado County Fire Safe Council 2017). These codes and ordinances address a variety of concerns including general fire and life safety provisions, building and equipment design features, special occupancies and operations, and hazardous materials.

El Dorado County Hazardous Waste Management Plan

The *El Dorado County Hazardous Waste Management Plan* recommends goals, objectives, policies, and programs for hazardous waste management and facility needs and siting (El Dorado County 1990). Specific programs recommended by the plan include a Comprehensive Hazardous Materials and Hazardous Waste Inspection and Monitoring Program, a Hazardous Materials Release Response Plan and Inventory, hazardous waste inspections, hazardous waste programs for small businesses and for households, and a hazardous materials and hazardous waste data information system.

El Dorado County Hazardous Materials Area Plan

The *El Dorado County Hazardous Materials Area Plan*, last updated in 2009, establishes the policies, responsibilities, and procedures required to protect the health and safety of El Dorado County's citizens, the environment, and public and private property from the effects of hazardous materials emergency incidents (El Dorado County 2009).

Region IV Local Emergency Planning Committee Hazardous Materials Emergency Plan

The Local Emergency Planning Committee regions, which include the 11 inland counties of Alpine, Amador, Calaveras, El Dorado, Nevada, Placer, Sacramento, San Joaquin, Stanislaus, Tuolumne, and Yolo, were designated as emergency planning districts (El Dorado County 2011). These counties are required to prepare hazardous materials emergency plans pursuant to the Superfund Amendments and Reauthorization Act, Title III (Emergency Planning and Community Right to Know) (Title 42, United States Code Section 110003[a]). These plans include the identity, location, and emergency contacts for facilities that handle threshold quantities of extremely hazardous substances. The plans also contain chemical release response procedures, public protective action notification information, County emergency coordinators, and plans for exercising the hazardous materials emergency plan.

El Dorado County Local Hazard Mitigation Plan

The El Dorado County Local Hazard Mitigation Plan (El Dorado County 2018) was adopted by FEMA in March 2019 and by the El Dorado County Board of Supervisors on April 23, 2019. The County developed the Local Hazard Mitigation Plan Update to make the County and its residents less vulnerable to future hazard events. The plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 so that the County would be eligible for FEMA's Pre-Disaster Mitigation and Hazard Mitigation Grant programs. The plan includes five goals and objectives for reducing the County's vulnerability to hazards.

Environmental Setting

The project area consists of 740 acres of designated rural residential and open space land uses east of the perennial Deer Creek stream that was formerly the site of the El Dorado Limestone Company Mining operation. Hazardous materials are not currently used in the project area, although some hazardous materials remaining from the limestone mining operations were discovered during the Phase I Environmental Assessment (Youngdahl Consulting Group 2009:3).

Various residential, agricultural, and proposed industrial uses adjoin the project area, and these uses may generate, transport, store, treat, or dispose of hazardous waste. This includes the El Dorado Irrigation District (EID) Deer Creek wastewater treatment plant (WWTP). Most fuels, lubricants, solvents, and paints used by these types of commercial, institutional, and residential land uses are considered hazardous materials.

Hazardous Material Release Sites

There are a number of federal and state databases that provide information regarding the facilities or sites identified as meeting the Cortese List requirements and which list the past and present businesses that have had or are currently experiencing a hazardous materials release within the general vicinity of the project area. These databases include the Comprehensive Environmental Response, Compensation, and Liability Information System, El Dorado County Hazardous Waste and Substances Sites List, Geotracker (the Leaking Underground Storage Tank Database), TRI, the List of Active Cease and Desist Orders and Cleanup and Abatement Orders, and EnviroMapper.

There are no CERCLA sites in El Dorado County (U.S. Environmental Protection Agency 2019a). No sites in the project area are listed on Geotracker (State Water Resources Control Board 2019). No sites in the project area appear on the List of Hazardous Waste and Substances Sites from the DTSC Envirostor database (California Department of Toxic Substances Control 2019). No sites in El Dorado County are on the list of solid waste disposal sites identified by the State Water Board with waste constituents above hazardous waste levels outside the waste management unit (California Environmental Protection Agency 2019a). One site in El Dorado County on Deer Creek Road, but not within the project site, is on the List of Active Cease and Desist Orders and Cleanup and Abatement Orders (California Environmental Protection Agency 2019b). There is one identified site in El Dorado County on the TRI located north of Durock Road and south of U.S. Highway 50 (US 50), which is approximately 1.4 miles north of the project site (U.S. Environmental Protection Agency 2019b).

USEPA maintains the EnviroMapper for the Envirofacts website, which compiles USEPA environmental data and identifies environmental activities related to waste and land. There are no USEPA-regulated hazardous waste generators on or near the project site.

Hazardous Materials Storage

Hazardous materials may be stored in aboveground storage tanks (ASTs), USTs, drums, and other types of containers. Typically, USTs are used by businesses, such as gasoline stations. Many households store heating fuel, such as propane, in ASTs.

Hazardous materials remaining from the former limestone mining operation in the project area were identified during the Phase I Environmental Assessment. These included two diesel USTs and one AST at an existing residential structure on the hill east of the limestone mine. The majority of the 55-gallon drums observed within the project area were either empty or filled with water. Petroleum products may be present in the unopened containers (the two USTs and the AST), which are located in various disposal areas throughout the property. Stained soil was observed directly beneath the drums near the old mine office. The Phase I Environmental Assessment recommends additional investigation of the two USTs, the AST, and drums and other containers (Youngdahl Consulting Group 2009:3).

Pole-mounted transformers are located throughout the property and are likely to contain polychlorinated biphenyl (PCB)-containing oil. Six pad-mounted transformers at the electrical substation were identified by Pacific Gas and Electric Company to be PCB-oil containing (Youngdahl Consulting Group 2009:2). Solid waste was also found in the project area during the Phase I Environmental Assessment. This included an electrical substation with six pad-mounted transformers containing PCB oil, and piles of solid waste dumping that have since been removed and properly disposed of according to current DTSC guidelines (G3 Enterprises 2020:2–16). The solid waste piles included vehicle tires, construction debris, furniture, household appliances, bedding, various containers, wood, brush, metal debris, and automobile parts.

Hazardous Materials in Structures

The Phase I Environmental Assessment states that the paint on the dilapidated structures may contain lead due to the age of the structures, but no sampling of potential lead-based paint has been performed. Additionally, the Phase I Environmental Assessment identified probable asbestos-containing building materials in two residential structures in the project area and on an AST (Youngdahl Consulting Group 2009:18).

Mine-Related Hazards

Some hazards associated with the limestone mining and processing activities that formerly occurred in the project area still remain. These include mine tailings, an abandoned mine shaft, and several bunkers that were formerly used for the storage of explosives (Youngdahl Consulting Group 2009). No pits were observed on the property (Youngdahl Consulting Group 2009:17).

One limestone mine air shaft was observed to be in use as a groundwater well for the occupied residence west of the limestone mine. The mine is flooded with groundwater (Youngdahl Consulting Group 2009:17). Potential physical hazards related to mine collapse, as well as the potential for previously unidentified shafts, pits, or adits are addressed in Section 3.5, *Geology, Soils, Minerals, and Paleontological Resources.*

The Phase I Environmental Assessment identified the potential for isolated areas of elevated mercury concentrations in the soils of the property in the vicinity of Deer Creek remaining from placer gold mining that occurred along Deer Creek (Youngdahl Consulting Group 2009:15).

Airport-Related Hazards

Cameron Airpark Airport is more than 3 miles north of the project area. The airport is owned and operated through a special district. It is used by local residents and visitors and by military and other government agencies for training flights, search and rescue missions, and fire suppression support. The Georgetown Airport is approximately 20 miles north-northeast of the project area and the Placerville Airport is approximately 13 miles east-northeast of the project area. The project area is not located within an airport's influence area (Mead & Hunt 2012).

Asbestos-Related Hazards

Asbestos is of particular concern in El Dorado County because the local geology contains serpentine and ultramafic rock. The project area contains serpentine rock on steep slopes (G3 Enterprises 2020:2–7). Hazards specifically associated with naturally occurring asbestos (NOA) and potential impacts are discussed under Impact AQ-4 in Section 3.2, *Air Quality*.

Fire-Related Hazards

Local weather conditions play a role in wildfire behavior. El Dorado County has a Mediterranean-type climate that features hot, dry summers and cool moist winters (El Dorado County FireSafe Council 2017). This climate condition has made wildfires common in the area for several decades. The June-October dry season, magnified by periodic regionwide drought periods, can create ideal wildfire conditions. The area sees seasonal north or east strong, dry winds, known as Foehn Winds, usually during the spring and fall months that can elevate fire conditions in the area (El Dorado County FireSafe Council 2017).

The long, hot, dry summers in El Dorado County, combined with inadequate clearance between structures and vegetation, flammable vegetation, critical fire weather conditions, and steep topography, can result in conditions conducive to wildfires. Wildland Urban Interface fire incidents require immediate protective measures and a rapid response by local fire agencies and CAL FIRE to minimize the risk to lives and properties in the project area. Extreme burning conditions, including rapid fire spread, dense smoke and the wide distribution of firebrands (burning embers) via air currents into populated areas can create difficult fire suppression conditions for firefighters during a wildfire. The need to evacuate residents, vulnerable and special needs populations, livestock and domestic animals at the same time as fire suppression activities are taking place can further hamper the limited emergency responder resources available in the project area. The protection of critical infrastructure and values at risk can further strain limited resources during a wildfire.

Topography is an important factor when considering the fire hazard of an area. As slopes increase, fires spread faster and can create a "chimney effect," in which drafts of hot air and gases blow upward from steep ravines, resulting in intense surface and crown fire spread, increased distribution of firebrands, and dense smoke conditions which can place firefighters, civilians and property in danger. Steep terrain may delay and/or restrict accessibility to wildland fires by fire-suppression crews and allow fires to spread. Because of these physical conditions, CAL FIRE has designated the project area as being within either a Very-High Fire Hazard Severity Zone (VHFHSZ) or High Fire Hazard Severity Zone (HFHSZ) depending on location within the project site. The project area currently falls within the SRA, an area where CAL FIRE has financial responsibility for wildland fire protection, as discussed under the *Regulatory Setting* section (California Department of Forestry and Fire Protection 2023).

The project area consists of valleys and hillsides with dense oak woodlands, chaparral shrublands, and grassland savannas, which burn easily. Ninety-eight acres of the 740-acre project area have slopes steeper than 30% (Figure 3.5-1). The lands surrounding the site consist of a mix of developed residential land uses, proposed residential development, and undeveloped lands. Since this project area is largely undeveloped with generally steep slopes and vegetation that burns easily, it presents a wildfire risk to the surrounding land uses (e.g., residents, structures and the Deer Creek WWTP).

According to CAL FIRE statistics the majority of wildland fires that have occurred in the Western El Dorado County area are human-caused. Common fire ignition sources have included arson, equipment failure, escaped debris burns, and vehicle related causes. The project area has not seen a large wildfire (>300 acres) for over 30 years. In 1976, the "Quarry" wildfire burned approximately 20,869 acres near the project area. A review of public-source documents[2] reported several smaller wildfires that have occurred in the El Dorado Hills, Cameron Park, Shingle Springs area during this same reporting period (Firesafe Planning Solutions 2023).

A Fire Evacuation Assessment was prepared for the County by Fehr and Peers (Fehr & Peers 2023) and is provided in Appendix N of this EIR. This assessment analyzed evacuation time expectations and the potential effect the LRVSP may have on the evacuation times. Evacuation time estimates were modeled for vulnerable populations under a self-evacuation as well as an ordered evacuation, for the entire population. The evacuation time is defined as the time it takes to safely evacuate all evacuees from the time a hazard is identified to the time the last evacuee leaves the hazardous area. The analysis modeled conservative scenarios with extreme fire travel times for a no project scenario, a LRVSP scenario, Village of Marble Valley Specific Plan (VMVSP) scenario, and a both LRVSP and VMVSP scenario (Fehr and Peers 2023). The results for the LRVSP scenario are presented in Section 3.7.2, *Environmental Impacts*.

A Wildland Fire Risk Report was prepared by Firesafe Planning Solutions to assess the risks related to the intensity of a potential wildfire approaching the project site (Firesafe Planning Solutions 2023) and is provided in Appendix M of this EIR. The report takes into consideration existing and future vegetative interface fuels, topography, fire, and weather, during extreme fire conditions and provides results of computer calculations that measured the fire intensity, flame lengths, rate of spread, and fire travel distance (arrival times) from worst-case scenario wildfires in both the extreme (Diablo wind) and the predominant (Onshore wind) wind conditions. The results for the Wildland Fire Risk Report are presented in Section 3.7.2, *Environmental Impacts*.

The project site is not within or adjacent to a historic fire corridor, as documented by a review of the area's fire history. Historically, fires have travelled southwest to northeast, as indicated by most fire perimeters, and consistent with predominant wind directions (Firesafe Planning Solutions, Figure 12). The Scott Fire (8,827 acres in 1996), the Grant Fire (5,062 acres in 2020), the SMUD #1 Fire (1,178 acres in 1992) and the Sands Fire (4,239 acres in 2014) have burn areas that exhibit this directional pattern. A few fires run south to north, including the 1964 Joerger Fire and the 1976 Quarry Fire, which is the largest fire in the vicinity at 20,869 acres. (Firesafe Planning Solutions 2023).

Large fires in the project area have been due to several issues, including access and topography. The area is largely rural, road access is primarily from the north, and there are few fire stations in close proximity. Some areas are steep and most of the area is well-vegetated. Fires that occur are

[2] A History of California Wildfires; Capitol Public Radio; http://projects.capradio.org/california-fire-history/?fbclid=IwAR0W6lv7WvOR6Wc2P6-BsP1CeCbseK38gUvaYehu12nUfgEE2aLGuZzA7Vo#5.71/38.819/-122.249

generally related to the transportation and infrastructure (powerlines and roads) in the area that provide the ignition sources. Additionally, this area sometimes experiences dry thunderstorms which produce strong winds and lightning without the rainfall necessary to put out the spot fires. Other factors affecting fire behavior and intensity include weather, temperature, relative humidity, wind, fuels, slope, and aspect and elevation. Reference Appendix M of this EIR for more detailed information. (Firesafe Planning Solutions 2023).

Natural Disaster-Related Hazards

Hazards specifically associated with earthquakes, soil stability, and other geologic conditions, including the soil stability related to the former limestone mine in the project area, are discussed in Section 3.5, *Geology, Soils, Minerals, and Paleontological Resources*. Hazards specifically associated with flooding, mudflow, and other hydrologic conditions are discussed in Section 3.8, *Hydrology, Water Quality, and Water Resources*.

Proximity to Schools

Hazardous emissions and accidental release or combustion of hazardous materials near existing schools could result in health risks or other dangers to students. The project area is south and southwest of Blue Oak Elementary School, Holy Trinity School, and Camerado Springs Middle School. The project area is more than 0.25 mile from these schools. The project area is located more than 2 miles southeast of Rainbowland Christian Preschool. Two proposed schools for the adjacent Village of Marble Valley, if approved, would be built within 2 miles of the project area.

Emergency Response and Evacuations

Both State and local fire agencies have established levels of fire protection services within the County. These service levels recognize that other fire protection resources exist at the Federal and local level to collectively provide a regional emergency response capability. In addition, California has an integrated fire and rescue mutual aid system that provides fire protection services through both automatic and mutual aid agreements for fire incidents across all ownerships.

The *El Dorado County Local Hazard Mitigation Plan* provides coordinated disaster response and programs to assist the public in emergency preparedness and response procedures (El Dorado County 2018). El Dorado County has not identified specific roads as emergency evacuation routes but encourages residents to learn their local roads in preparation for an emergency (Cathey pers. comm.).

3.7.2 Environmental Impacts

Methods of Analysis

The baseline for analysis of impacts related to hazards and hazardous materials consists of the hazards and hazardous materials that already exist in the area and that are identified in the County General Plan (El Dorado County 2004), and other sources of hazards and hazardous materials cited in the *Environmental Setting* section. This section qualitatively analyzes the potential for hazards and hazardous materials that would result from implementing the proposed project.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
- Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public-use airport, and result in a safety hazard or excessive noise for people residing or working in the project area.
- Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.
- Substantially impair an adopted emergency response plan or emergency evacuation plan.
- 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.
- 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.
- 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.

Impacts and Mitigation Measures

Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (less than significant)

Construction and operation of residential uses resulting from the proposed project could result in the transport, use, or disposal of hazardous materials. Construction would involve the use of heavy construction equipment (e.g., excavators, backhoes, grading machines, asphalt machines), the operation and maintenance of which would involve the use and handling of hazardous materials, including diesel fuel, gasoline, lubricants, and solvents. These hazardous materials are required to

be used, stored, and handled in compliance with the California Hazardous Waste Control Act, California Health and Safety Codes, and RCRA, which would be stated in construction contracts. Diesel fuel would be used to power the equipment and would be present in the fuel tanks of the individual pieces of equipment and would potentially be present in larger quantities in storage tanks used to refuel the equipment. Additionally, during construction of residential buildings for the project, small quantities of lubricants and solvents would be stored in the support area for maintenance of construction equipment. The quantities of hazardous materials could exceed regulatory thresholds and, thus, require transport, handling, storage, and disposal in accordance with applicable federal, state, or local regulations, as described above under *Regulatory Setting,* to minimize potential for release of hazardous materials into the environment. Therefore, their use and presence are not anticipated to cause a significant hazard to the public or environment.

Residential land uses could also result in the transport, use, or disposal of hazardous materials. Hazardous wastes generated by residential uses are referred to as *household hazardous waste*. Households often discard many common items such as paints, stains, oven cleaner, motor oil, and pesticides, as well as batteries, thermostats, lamps, televisions, and computer monitors that contain hazardous constituents. The expected residential development under the Lime Rock Valley Specific Plan (LRVSP) would generate approximately 16,000 to 21,600[3] pounds of household hazardous waste each year. Household hazardous waste is exempt from reporting, and El Dorado County currently has, and would continue to have, local programs and regulations to provide opportunities for disposal of household hazardous waste (e.g., *El Dorado County Solid Waste Management Plan*). Therefore, it is not anticipated that the generation of household hazardous waste or the disposal of it as a result of the proposed project's residential development would result in a significant hazard to the public or environment.

Given the low likelihood that hazardous materials would create a significant hazard to the public or environment through routine transport, use, or disposal during construction and operation of the proposed project; the oversight by the appropriate federal, state, and local agencies; and compliance with applicable regulations regarding hazardous materials, the risk to the public and environment from the routine transport, use, or disposal of hazardous materials is considered low. Therefore, impacts related to the transport, use or disposal of such materials would be less than significant.

Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (less than significant with mitigation)

Construction Activities

Construction equipment that would be used to build the proposed project has the potential to release oils, greases, solvents, and other finishing materials through accidental spills. Spill or upset of these materials would have the potential to affect surrounding land uses. However, the consequences of construction-related spills are not as great as other accidental spills and releases because the amount of hazardous material released during a construction-related spill is small, as the volume in any single piece of construction equipment is generally less than 50 gallons, and fuel trucks are limited to 10,000 gallons or less. Construction-related spills of hazardous materials are

[3] The average U.S. household generates 20 pounds of household hazardous waste each year (U.S. Environmental Protection Agency 2011). The average El Dorado County household generated 27 pounds of household hazardous waste in 2012 (California Department of Resources Recycling and Recovery 2013).

not uncommon, but the enforcement of construction and demolition standards, including a SWPPP and BMPs, would minimize the potential for an accidental release of petroleum products and/or hazardous materials during construction. Federal, state, and local controls have been enacted and are enforced to reduce the effects of potential hazardous materials spills during construction. Compliance with these regulations would reduce the potential that the use of hazardous materials during construction of the project would result in upset or accident conditions that would cause significant hazard to the public or environment.

Naturally Occurring Asbestos

Construction is anticipated to involve grading and disruption of the existing soil and geology in the project area. NOA has been identified in El Dorado County and in several areas in the general vicinity of the project area. Additional discussion about NOA and its airborne form can be found in Section 3.2, *Air Quality*. Although NOA sampling has not been performed in the project area, the potential for NOA to be present would be determined in conjunction with completion of a final geotechnical study that would be used to complete the final grading plan. As part of the grading plan, areas where possible required mitigation of NOA would be delineated. If NOA is present, implementation of Mitigation Measure AQ-3 in Section 3.2, *Air Quality*, would require implementation of an Asbestos Dust Mitigation Plan in accordance with El Dorado County Air Quality Management District Rule 223-2 and further evaluation of NOA during site grading. This would reduce impacts to a less-than-significant level. Mitigation Measure AQ-3 also requires that soil be routinely tested during construction and, if NOA is found, it would be handled and disposed of in compliance with BMPs and requirements identified in applicable federal, state, and local regulations (e.g., the California Air Resources Board's *Asbestos Airborne Toxic Control Measure for Surfacing Applications* and the *Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations* discussed in Section 3.2, *Air Quality*).

Probable asbestos-containing construction materials were identified in dilapidated structures during the Phase I Environmental Assessment of the project area (G3 Enterprises 2020:2–16). The Phase I Environmental Assessment also noted that paint on the dilapidated structures may contain lead due to the age of the structures, but no sampling of potential lead-based paint has been performed. Title 8 CCR Section 1532 regulates all construction work where an employee may be occupationally exposed to lead. This regulation makes employers responsible for complying with its requirements. Title 17 CCR, Division 1, Chapter 8, Sections 35001–36100 require that work on any structure built before January 1, 1978, must be completed using lead-safe work practices and that the work area must be cleaned after the project is completed. If present, materials containing lead would be handled and disposed of in compliance with applicable federal, state, and local regulations. Therefore, it is not anticipated that transport of soil or building materials that may contain lead paint debris or asbestos-containing construction materials off the site or disposal of soil or building materials containing these materials would result in a significant hazard to the public or environment. Mitigation Measure AQ-3, which would require implementation of an Asbestos Dust Mitigation Plan and evaluation of NOA during site grading as required by Rule 223, would reduce impacts to a less-than-significant level.

Soil Contamination

As discussed in the *Environmental Setting* section, the Phase I Environmental Assessment states that isolated areas of elevated mercury concentrations may be present in the soils in the vicinity of Deer Creek. Mercury exposure in humans can occur through inhalation, ingestion, or absorption through

the skin. Inhalation of mercury most often occurs from inhaling vapor produced when elemental mercury is heated. Mercury is primarily ingested as methylmercury, which occurs by eating fish that have accumulated methylmercury in their tissues. The levels of methylmercury in fish depend on what they eat, how long they live, and their position on the food chain. The primary exposure pathway for mercury associated with the proposed project is through contact with mercury-contaminated soils.

During construction, utilities would be extended along Deer Creek, and construction activities could result in the disturbance of mercury-contaminated soils, and the subsequent exposure of construction workers to mercury. Incorporation of Mitigation Measure HAZ-2b to test soils and remediate if necessary, prior to construction will reduce these potential mercury-related impacts to a less-than-significant level.

The Deer Creek corridor would be designated as open space during operation of the proposed project, and no residences or buildings would be constructed in these areas. However, it is possible that the area could be used for recreational activities such as walking or playing in the creek. It is unlikely that such uses would result in a disturbance of mercury-contaminated soils, if present. Nonetheless, implementation of Mitigation Measure HAZ-2b to test soils and remediate if necessary, prior to construction will remove contaminated soils if they are present and reduce any operations-related impacts to a less-than-significant level.

As discussed in the *Environmental Setting* section, USTs, an AST, and a drum containing hazardous materials were found in the project area. Additionally, the Phase I Environmental Assessment notes that potentially contaminated soils might exist in the project area. Stained or colored soil, possibly due to contamination, was noted in an area immediately surrounding and under a 55-gallon drum of petroleum product stored near the old mine office. No other stained soil was observed in the Phase I Environmental Assessment. The Phase I Environmental Site Assessment recommends further investigation to evaluate the condition of the USTs, AST, and drums and containers of unknown contents, PCB-containing transformers, suspected asbestos-containing material, and potential lead-based paint (Youngdahl Consulting Group 2009:1). The USTs, ASTs, and drums in the project area may contain hazardous materials and could pose a significant hazard to the public or environment; therefore, the impact related to the potential release of hazardous materials would be significant. Implementation of Mitigation Measure HAZ-2a will reduce this impact to a less-than-significant level.

Mitigation Measure AQ-3: Submit and implement an Asbestos Dust Mitigation Plan in accordance with EDCAQMD Rule 223-2

Mitigation Measure HAZ-2a: Perform Phase II Environmental Site Assessment

Prior to issuance of a grading permit, the County shall require the applicant submit the results of a Phase II Environmental Site Assessment implementing the recommendations identified in the *Phase I Environmental Site Assessment Report, El Dorado Limestone Company, Shingle Lime Mine Road* (Youngdahl Consulting Group 2009) for further investigation of the USTs, AST, drums and containers, and soil. If the results of the Phase II Environmental Site Assessment indicate remediation is required, the applicant will prepare and submit a work plan to the County identifying remediation methods.

The County will oversee the completion of this mitigation measure and will require the applicant to provide proof of completion of any necessary remediation prior to issuance of

grading permits for the affected area. The County will not issue a grading permit for any location that has not been remediated to levels that are protective of construction workers, the general public, or the environment.

Mitigation Measure HAZ-2b: Conduct soil investigation along Deer Creek in the event of soil disturbance

Because disturbance of surface or subsurface soils or stream sediment would occur within or parallel to Deer Creek for utility installations, the applicant will have a qualified professional submit a work plan describing soil testing for mercury, and any necessary permits, to the County for approval prior to any construction activity. No work will be allowed until it has been determined whether there is mercury in soils in areas proposed for disturbance. Such an assessment will follow the requirements of El Dorado County Department of Environmental Management (Sederquist pers. comm.). If mercury is present in concentrations that could pose a human health or environmental risk, as determined by the qualified professional, the contaminated soils will be removed and disposed offsite at a facility permitted to accept such waste. The County will oversee the completion of this mitigation measure prior to issuing a grading permit for the proposed project. The applicant will submit a report documenting the results of soil removal to the County. Preparation of the work plan and implementation of any necessary remediation will be at the applicant's expense.

Impact HAZ-3: Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school (no impact)

There are no existing schools within 0.25 mile of the project area. Two proposed schools for the adjacent Village of Marble Valley, if approved, would be built within 2 miles of the project area. Construction of the LRVSP would adhere to BMPs and applicable regulations related to the generation, disposal, and transportation of hazardous materials, as described above. Residential uses would not generate hazardous emissions. Therefore, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. There would be no impact.

Impact HAZ-4: Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment (no impact)

No hazardous materials sites included on a list compiled pursuant to Government Code Section 65962.5 are present within the project area. Accordingly, there would be no impact.

Impact HAZ-5: Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public-use airport, and result in a safety hazard for people residing or working in the project area (no impact)

Cameron Airpark Airport, the nearest airport, is more than 3 miles north of the project area. The *Cameron Airpark Airport Land Use Compatibility Plan* influence area does not encompass the project area. Accordingly, there would be no impact.

Impact HAZ-6: Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area (no impact)

The closest private airstrip is Akin Airport, located approximately 9 miles east of the project area. The proposed project is not located within the vicinity of a private airstrip and, therefore, would not result in a safety hazard for people residing or working in the project area (AirNav 2019). There would be no impact.

Impact HAZ-7: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (less than significant)

El Dorado County has not identified specific roads as emergency evacuation routes that apply to the project area and vicinity but encourages residents to learn their local roads in preparation for an emergency (Cathey pers. comm.). The El Dorado County Sheriff's Office would determine whether evacuation is recommended or required in the project area based on parameters of an emergency.

Although the proposed project would increase the number of residents in the project area, which could slow evacuation in the event of an emergency, the project would include new emergency access connections from multiple points of egress. Therefore, development of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan because the development would not physically reduce the capacity of existing roadways in the project area. As identified in Chapter 3.14, *Traffic and Circulation*, and Chapter 5, *Other CEQA Considerations*, the project would be required to ensure County level of service standards for roadway operations during peak hours are maintained through improvements consistent with policies under General Plan Goal TC-X. The project at buildout would provide two emergency access connections (Shingle Lime Mine Road and Amber Fields Drive, see Figure 2-8). Given that the project would improve roadway operations, provide new roadway capacity and evacuation routes, and would not physically alter existing roadways in the project area, it is not expected to impair emergency response or evacuation activities. Therefore, impacts would be less than significant.

See *Emergency Response and Evacuation Under Fire Event Scenarios* under Impact HAZ-8 for a discussion of fire-specific emergency evacuation impacts.

Impact HAZ-8: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires; substantially impair an adopted emergency response plan or emergency evacuation plan; due to slope, prevailing winds, and other factors, exacerbate wildfire risks; require the installation or maintenance of associated infrastructure that may exacerbate fire risk; or 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 (less than significant with mitigation)

Several factors contribute to the susceptibility of wildfire danger in the county, including weather, temperature, relative humidity, wind, intensity, fuels, slope, aspect and elevation, subdivision design, and water supply. The entire community of El Dorado Hills is mostly adjacent to dry hills on the eastern and southern sides, and is, therefore, at risk of fire. The project site is located within designated HFHSZs and VHFHSZs by CAL FIRE (California Department of Forestry and Fire Protection 2023). Introducing construction activities, electrical service, structures, and people to this area would expose them and the surrounding community to potential wildfire risk and associated impacts from tree and habitat loss and air quality impacts from smoke.

Risk of Exposure of Wildland Fire Risks to People and Structures

The assessment of wildfire risk examines fire behavior in the area and assesses vulnerability of structures and residents to wildfire. The assessment is based on existing conditions, the proposed project, and factors such as access and risk reduction measures. Vulnerability is examined at multiple levels (regional, landscape, community, and parcel). Results indicate that the primary factors are time, distance, and shielding: the amount of time that the fire will impact the area, the distance between the fire and the structures or residents, and the ability of the project site to shield structures and residents from the harmful effects of the fire. (Firesafe Planning Solutions 2023.)

According to the Wildland Fire Risk Report (Appendix M), the location of the project, adjacent to State Route 50 (a possible ignition source), in an undeveloped area with abundant fuels (particularly chapparal), and the potential for wind during times of low humidity and high temperatures, indicates that fire is likely to occur in the area. There is no record of a fire greater than 50 acres on the project site within the past 22 years. The nearest fire over 50 acres in size was on the west side of Latrobe Road, approximately 1.5 miles west of the project site. Because a wildfire risk does exist, risk reduction measures are necessary, and largely consist of existing regulations, requirements, and VMVSP policies.

Though the risk does exist, after the risk reduction measures are in place, the wildfire risk for LRVSP is no greater than similar communities in the area. As such, the development of LRVSP may be a lower wildland fire risk compared to similar communities due to current, more stringent regulations (Firesafe Planning Solutions 2023).

The LRVSP provides a buffer to nearby existing communities by removing or modifying the wildland fuels which are upwind from them. New infrastructure would not exacerbate fire risk but could benefit the area with increased water supply, defensible zones, and roadways for evacuation. Therefore, the proposed project would not exacerbate wildfire risk as a result of installation or maintenance of new infrastructure. The LRVSP is not expected to allow fire to spread to existing downwind communities with a similar level of intensity and rate.

The LRVSP includes measures (listed below) that would reduce the risk of exposing people and structures to wildfires and reduce the risk of wildfire ignition. Development would not occur on land with slopes greater than 30%, thereby reducing fire risks associated with steep slopes. Because development would be limited to slopes less than 30%, not on ridgelines, and winds are generally mild, the project would not exacerbate wildfire risks.

Risk Reduction Measures

- All dwelling units and most large commercial buildings will be protected with automatic fire sprinklers. (Fire department plan check and inspections ensure compliance.)
- The project site has increasing housing density and used a consolidated design to reduce or eliminate, where possible, wildland fuels within the interior of the project site and keep the edge of the project site as an identifiable interface with appropriate fuel breaks, fire breaks and fuel modification/defensible space zones. (Fire department plan check and inspections ensure compliance.)
- The project site has been designed to avoid and minimize low-density urban development patterns or leapfrog-type developments (i.e., those with undeveloped wildland between developed areas). (Fire department plan check and inspections ensure compliance.)

- Decreasing the extent and amount of "edge," or interface area, where development is adjacent to undeveloped wildlands. (Fire department plan check and inspections ensure compliance.)
- The project site has/will create buffer zones and defensible space within and adjacent to the development, with particular attention to ensuring that vegetation will not touch structures or overhang roofs. The project will establish the legal obligations within the CCRs to ensure that defensible space measures are retained over time. (Implementation of Fire Safe Plan, Fire department plan check and inspections ensure compliance.)
- Undergrounding of power lines will be accomplished in the entire project site. (Fire department plan check and inspections ensure compliance)
- The project site design attempts to limit development along steep slopes and amidst rugged terrain, so as to decrease exposure to rapid fire spread and increase accessibility for firefighting. Sites which have wildland fuels below, (lower than, the project structures) will have additional protections provided with radiant heat walls, increased built-in fire protection features, and/or placement of the structures so that the impacts of underslung fuels are reduced to a level of acceptable risk. (Implementation of Fire Safe Plan, Fire department plan check and inspections ensure compliance.)
- Fire hardening structures and homes in accordance with Chapter 7A of the Building Code, Section R337 of the Residential Code, and the specific requirements of the fire department during the development review process for the site-specific locations. (Implementation of Fire Safe Plan, Fire department plan check and inspections ensure compliance.)
- Siting structures and features to maximize the role of low-flammability landscape features and roadways that may buffer the development from fire spread. (Implementation of Fire Safe Plan, Fire department plan check and inspections ensure compliance.)
- The project will expand existing fire resources funding in the region (new revenue generated by the development). (Developer Agreement with Fire Department, participation in fire district)
- Placement of development within the existing or planned ingress/egress and designated evacuation routes to efficiently evacuate the project population and the existing community population, consistent with evacuation plans, while simultaneously allowing emergency access. (Implementation of Fire Safe Plan, Fire department plan check and inspections ensure compliance.)

With the additional identified protection and required wildland fire protection features, the project would protect residents from significant wildfire risks and would not increase or create new risks. The proposed project would not expose people or structures to a significant risk of loss, injury, or death, either directly or indirectly, due to a wildland fire as a result of the fuel modifications and defensible space development. With accessible egress points, compliance with fire department fuel modification and defensible space standards, improved water supply and roadways, and the implementation of the proposed risk reduction measures, the proposed project would have a less-than-significant impact from wildland fires (Firesafe Planning Solutions 2023).

Post-Fire Instability

The project would not expose people or structures to post-fire instability risks, such as flooding or landslides, because the local fire department would review the project and, if necessary, include

measures that would be conditions of approval of the project. Additionally, a Wildfire Safety Plan would be prepared for the project, in consultation with fire safety providers, prior to tentative map(s) approval, when lots and exact roadway locations are known. This plan would be prepared per LRVSP Policy 5.46, and would assess wildfire hazards and risks associated with the development of the project area and address hazard mitigation measures appropriate to the high and very high fire hazard severity zones. Development would be required to conform to regulations that designate responders to wildland fires, minimize fire hazards, and require new development to meet defensible space and building code requirements.

Installation of Utilities

The installation of utilities for the project would not exacerbate fire risks because they would be designed and installed per current State and County standards. PG&E electricity service would be extended from a 21-kV single-phase overhead line connecting to two existing substations, Clarksville to the west and Shingle Springs to the east (Marble Valley Company, LLC 2023). All trees and vegetation near future overhead electrical lines would be cleared to avoid the potential to cause a fire. Additionally, the improved water supply and distribution system that would be installed as part of the project would increase the defensibility of the area in case of wildfire (Firesafe Planning Solutions 2023.)

Emergency Response and Evacuation Under Fire Event Scenarios

Development would not substantially impair an adopted emergency response plan or evacuation plan because the project would adhere to LRVSP Policies 4.4, 5.47, 5.46, 6.17, and 6.18 as described below. The project would also be consistent with General Plan policies 5.7 and 6.2 which require that the project address protection of life and property through minimization of fire hazards and risks in wildland and developed areas.

The Fire Evacuation Assessment (Appendix N) results indicate that, under the Self-Evacuation modeling, the proposed project would inhibit a fire more effectively than under existing conditions. It would take less than 20 minutes to evacuate the vulnerable evacuees, which is less than the estimated 30-minute fire progression. With the addition of the project, the maximum total time to evacuate would remain the same or decrease for existing vulnerable evacuees. This is due to the increased access to evacuation routes and the slowed progression of the fire created by the removal of fuels and vegetation and fuels management activities occurring with the project, which creates additional safe areas for vulnerable evacuees to access. Similarly, the effect of both the proposed project and VMVSP would eliminate or reduce existing vulnerable populations and the maximum total time to evacuate. (Fehr and Peers 2023).

The Wildland Fire Risk Report identified two primary points of evacuation as well as five emergency access points. For every fire scenario modeled, the report found multiple evacuation points available at various times throughout an evacuation. The modeled fire scenarios are modeled to demonstrate worst-case scenarios and represent fires that have not occurred in the past and likely will not occur in the future. Because every modeled fire scenario has identified evacuation points, there is a lower risk of exposing residents to air quality impacts from smoke or other pollutant concentrations during a fire event because residents can evacuate. Thus, the proposed project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire (Firesafe Planning Solutions 2023).

There is an overall benefit to surrounding communities of the proposed new development due to the increased defensible space and additional time to evacuate. The LRVSP does not have an adopted emergency evacuation plan. However, the proposed project's improvements to the public roadways and the additional fire district funding resulting from the project site's inclusion in the fire district would enhance emergency response capabilities. Thus, the proposed project would not impair an adopted emergency evacuation plan. The proposed project would be considered and constructed per current regulations, including risk reduction measures required by codes (ordinances and standards) and technology, including built-in fire protection features (such as defensible space, fuel modification, hardening of structures, and consideration of configuration). As such, the proposed project does not have a greater fire risk than the surrounding communities.

Policies included in the LRVSP that relate to fire hazards and fire minimization and would be enforced after adoption of the LRVSP are listed below.

- **SP Policy 5.46:** Prior to the submittal of the first small lot tentative subdivision map, prepare a Draft Open Space Management Plan that describes the plan purpose and objectives, site description, ownership, funding, and maintenance of open space areas. (G3 Enterprises 2020).
- **SP Policy 5.47:** Prior to the submittal of the first small lot tentative subdivision map, prepare a Wildfire Safety Plan (WSP) based on standards and mitigation measures appropriate to the high and very high fire classifications of the Plan Area on the Cal Fire Hazard Severity Zone Map for El Dorado County. The WSP shall include a site and project description, applicable codes and regulations, fire risk assessment, project-specific recommendations.
- **SP Policy 6.17:** The local fire protection district shall review and approve all discretionary applications for tentative subdivision maps, parcel maps and planned development permits prior to County approval to ensure the adequacy of emergency water supply, storage, conveyance facilities, and access for fire protection. Recommendations may be incorporated as conditions of approval. (G3 Enterprises 2020)
- **SP Policy 6.18:** After the adoption of the Specific Plan and prior to the submittal of the first small lot tentative subdivision map, the Project Proponent will prepare a Wildfire Safety Plan (WSP). The California Department of Forestry and Fire Protection and the applicable local fire protection district (El Dorado Hills County Water District or the County Fire Protection District) will review and approve the WSP prior to the approval of the first small lot tentative subdivision map. (G3 Enterprises 2020)
- **SP Policy 4.4:** All roads will comply with the 2013 California Fire Code, California Code of Regulations, Title 24, Part 9, Chapter 5, Section 503 and Title 14, California Code of Regulations, Division 1.5, Chapter 7, Subchapter 2, Article 2. Emergency Access, Section 1273.01 of the Fire Safe Regulations, as ratified by the Board of the El Dorado County Fire District. (G3 Enterprises 2020)
- **SP Policy 6.19**: Pay all applicable fire impact fees at building permit issuance and/or participate in any applicable Mello Roos districts required to fund public facilities as specified in the PFFP. (G3 Enterprises 2020)

The project would comply with State law (including PRC 4290) and with all County fire safety requirements related to development in a designated VHFHSZ or HFHSZ. The project would develop and implement a series of fire safety strategies to create an effective approach for preventing home and building destruction during extreme wildfire conditions. Those strategies include developing a comprehensive fire risk assessment for all phases of the project, implementing an effective fuel

modification plan that coordinates its efforts with surrounding neighborhoods and communities, ensuring all areas of the project adhere to State and County Fire Codes and standards, and developing and implementing a project evacuation plan.

Existing regulations such as County General Plan Goals 5.7 and 6.2, the El Dorado County Fire Hazard Ordinance, the Vegetation Management and Defensible Space Ordinance (Adopted April 30, 2019), as well as proposed policies from the LRVSP, identified above, would be implemented to minimize fire hazards. Mitigation Measure HAZ-8 would reduce impacts to a less than significant level by requiring the preparation of a wildfire safety plan, as required by the aforementioned General Plan policies and ordinances, that includes requirements to applicable codes and regulations, fire response capabilities, fire risk assessment, fire safety requirements, emergency evacuation routes and emergency shelter locations, and project-specific recommendations.

Reducing fuels (e.g., vegetative management anticipated in a Wildfire Safety Plan) have been found to be effective at reducing fire frequency, fire severity, and annual area burned over an extended period of time (Kim et al. 2013; Martinson and Omi 2013; Tubbesing et al. 2019). Where treatments have occurred, the pattern of wildfire progression may be limited to low-intensity underbrush and surface burning, which can create safe conditions for firefighters to successfully suppress fires in areas near homes or other structures, or around areas of high resource value.

Implementation of Mitigation Measure HAZ-8 and the aforementioned state, El Dorado County Fire Protection District, El Dorado Hills Fire Department, and LRVSP requirements and standards would minimize the potential for wildfire and would not result in substantially greater potential to exacerbate existing wildfire hazards in the project area. Therefore, impacts would be less than significant with mitigation.

Mitigation Measure HAZ-8: Preparation of a Wildfire Safety Plan

Prior to the submittal of the first small lot tentative subdivision map, the County will require the preparation of a Wildfire Safety Plan appropriate to the high and very high fire classifications of the Plan Area on the Cal Fire Hazard Severity Zone Map for El Dorado County. The Wildfire Safety Plan will include, but not be limited to, the following:

- Site and project description
- Applicable codes and regulations
- Fire department response capabilities
- Site fire risk assessment (weather, fuels, topography, fire and ignition history, and potential fire behavior)
- Fire safety requirements (vegetation management, structural hardening site access, water availability, alternative materials and methods)
- Response strategies for emergency evacuations related to wildfire (number of people using routes; accessibility of routes; any disruptions to routes from natural hazards; and location and capacity of emergency shelters)
- Frequency of fuel management
- Funding sources

The County will submit the plan to Cal Fire and the local fire protection districts for review and approval. The County will not approve the first small lot tentative map until it has received approval of the plan by Cal Fire and fire protection districts. Prior to issuance of a grading permit, the County will verify the physical fire safety requirements, emergency routes, and project-specific recommendations in the plan have been implemented.

Impact HAZ-9: Create a significant hazard to the public or the environment as a result of offsite infrastructure and General Plan Policy TC-Xf traffic improvements (less than significant with mitigation)

Hazardous impacts on the public or the environment resulting from offsite improvements would be of less magnitude than those described above for the project area. Offsite improvements, as described in Chapter 2, *Project Description*, include the extensions of and connections to existing roadways and traffic improvements required under General Plan Policy TC-Xf; water, recycled water (potentially), stormwater, dry utility lines, and wastewater line extensions to connect to existing EID infrastructure; and oak canopy offsite improvements. Construction and operation of these offsite improvements could result in the transport, use, or disposal of hazardous materials.

Construction of offsite improvements is anticipated to involve grading and disruption of the existing soil and geology on the project site. While NOA does exist in El Dorado County, only trace amounts have been identified in the general vicinity of the project area. As required by Mitigation Measure AQ-3 as part of the Asbestos Dust Mitigation Plan, soil would be routinely inspected during construction. If NOA is found, the soil would be handled and disposed of in compliance with the BMPs and requirements identified in applicable regulations (e.g., the California Air Resources Board's *Asbestos Airborne Toxic Control Measure for Surfacing Applications* and the *Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations*). Construction would also require heavy construction equipment (e.g., excavators, backhoes, grading machines, asphalt machines), the operation and maintenance of which would involve the use and handling of hazardous materials, including diesel fuel, gasoline, lubricants, and solvents. The quantities of hazardous materials could exceed regulatory thresholds and thus require transport, handling, storage, and disposal in accordance with applicable federal, state, or local regulations, as described above in the *Regulatory Setting*, to minimize the potential for release of hazardous materials into the environment. Construction equipment that would be used to build the proposed project has the potential to release oils, greases, solvents, and other materials through accidental spills. Construction-related spills of hazardous materials are not uncommon, but the enforcement of construction and demolition standards, including a SWPPP and BMPs by appropriate local and state agencies (i.e., fire departments) would minimize the potential for an accidental release of petroleum products and/or hazardous materials during construction. Therefore, it is not anticipated that use of hazardous materials during construction would result in a reasonably foreseeable upset or accident conditions that would cause significant hazard to the public or environment. Accordingly, construction of the offsite improvements would not result in a significant hazard to the public or environment.

Operation and maintenance of the additional roadways and utility lines could allow for the transport, use, or disposal of hazardous materials. However, all maintenance and hazardous waste handlers are required to comply with regulations and BMPs, as described above, which would reduce impacts to a less-than-significant level.

Offsite traffic improvements required under General Plan Policy TC-Xf could result in detours or temporary lane closures that could interfere with an adopted emergency response plan or evacuation plan. Implementation of Mitigation Measure TRA-4, as described in Section 3.14, *Transportation and Circulation,* would require the applicant to develop a site-specific construction traffic management plan (TMP) that addresses specific steps to be taken before, during, and after construction to minimize traffic impacts. Mitigation Measure TRA-4 requires the applicant to ensure that the TMP is implemented prior to beginning construction at the offsite locations. The County will review and approve the TMP prior to issuing a grading permit. Implementation of this measure would ensure operational traffic impacts and delays experienced during construction of offsite improvements would be minimized to the greatest extent feasible. Implementation of Mitigation Measure TRA-4 would reduce this impact to a less-than-significant level.

Mitigation Measure AQ-3 Submit and implement an Asbestos Dust Mitigation Plan in accordance with EDCAQMD Rule 223-2

Mitigation Measure TRA-4: Implement site-specific traffic management plan during construction

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3.8 Hydrology, Water Quality, and Water Resources

This section identifies existing conditions; describes the regulatory setting for hydrology, water quality, and water resources in the project area; and analyzes the potential for the proposed project to affect these resources. Information presented in the discussion and used for the subsequent analysis was primarily drawn from the following sources.

- *(Draft) Lime Rock Valley Storm Drain Master Plan* (Watermark Engineering 2015)(Appendix J)
- *Biological Resources Report, Lime Rock Valley Specific Plan, El Dorado County, California* (LSA Associates 2014)
- *El Dorado County General Plan* (County General Plan) (El Dorado County 2004a)
- *County of El Dorado Drainage Manual* (El Dorado County 2020)
- *Cooperative Climatological Data Summaries, NOAA Cooperative Stations—Temperature and Precipitation* (Western Regional Climate Center 2014)
- *Preliminary Jurisdictional Determination* (U.S. Army Corps of Engineers 2015)
- *Water Quality Control Plan* (Basin Plan) *for the California Regional Water Quality Control Board Central Valley Region* (Fifth Edition) (Central Valley Regional Water Quality Control Board 2019)
- *Western El Dorado County Storm Water Management Plan* (El Dorado County 2004b)

3.8.1 Existing Conditions

Regulatory Setting

Federal

Clean Water Act

The federal Clean Water Act (CWA) provides for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. The CWA emphasizes technology-based (end-of-pipe) control strategies and requires discharge permits to allow use of public resources for waste discharge. The CWA also limits the amount of pollutants that may be discharged and requires wastewater to be treated with the best treatment technology economically achievable regardless of receiving water conditions. The control of pollutant discharges is established through National Pollutant Discharge Elimination System (NPDES) permits that contain effluent limitations and standards. The U.S. Environmental Protection Agency (USEPA) has delegated responsibility for implementation of portions of the CWA, such as Sections 303, 401, and 402 (discussed below), to the State Water Resources Control Board (State Water Board) and the associated nine Regional Water Quality Control Boards (Regional Water Boards). The proposed project site is located within the jurisdiction of the Central Valley Regional Water Quality Control Board (Central Valley Water Board 2019).

Section 303(d) and Total Maximum Daily Loads

The state of California adopts water quality standards to protect beneficial uses of waters of the State as required by Section 303(d) of the CWA and the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act). Section 303(d) of the CWA established the total maximum daily load (TMDL) process to guide the application of state water quality standards (see the discussion of state water quality standards below). To identify candidate water bodies for TMDL analysis, a list of water quality-impaired segments is generated by the State Water Board. These stream or river segments are impaired by the presence of pollutants, such as sediment, and are more sensitive to disturbance because of this impairment.

In addition to the impaired water body list required by CWA Section 303(d), CWA section 305(b) requires states develop a report assessing statewide surface water quality. Both CWA requirements are addressed through the development of a 303(d)/305(b) integrated report, which addresses both an update to the 303(d) list and a 305(b) assessment of statewide water quality. The State Water Board's statewide *2020/2022 California Integrated Report* was based on the integrated reports from each of the nine Regional Water Boards. After approval of the 303(d) list portion of the *2020/2022 California Integrated Report* by the State Water Board, the report was approved by USEPA on May 11, 2022.

Deer Creek (Sacramento County) has no listed water quality impairments However, Deer Creek discharges into the Lower Cosumnes River. The Lower Cosumnes River is listed as impaired for indicator bacteria, invasive species, mercury, dissolved oxygen, and toxicity downstream of the project site. TMDLs for indicator bacteria (2021), invasive species (2019), mercury (2033), dissolved oxygen (2035), and toxicity (2035) are expected.

Section 401—Water Quality Certification

Section 401 of the CWA requires that an applicant pursuing a federal permit conduct an activity that may result in a discharge of a pollutant obtain a water quality certification (or waiver). A water quality certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States. Water quality certifications are issued by one of the nine geographically separated Regional Water Boards in California. Under the CWA, the Regional Water Board must issue or waive a Section 401 water quality certification for a project to be permitted under CWA Section 404.

As described in Chapter 2, Section 2.4, *Required Approvals*, the project applicant would be required to obtain a water quality certification for proposed project construction activities that would affect waters of the State.

Section 402—National Pollutant Discharge Elimination System

The 1972 amendments to the federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the CWA devoted to stormwater permitting (Section 402[p]). USEPA has granted the State of California (the State Water Board and Regional Water Boards) primacy in administering and enforcing the provisions of CWA and NPDES. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States.

NPDES General Permit for Construction Activities

The *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2022-0057-DWQ)* (Construction General Permit) regulates stormwater discharges for construction activities (CWA Section 402). Dischargers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the Construction General Permit. The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP).

The permit program is risk-based, wherein a project's risk is based on the project's potential to cause sedimentation and the risk of such sedimentation on the receiving waters. A project's risk determines its water quality control requirements, ranging from Risk Level 1, which consists of only narrative effluent standards, implementation of best management practices (BMPs), and visual monitoring, to Risk Level 3, which consists of numeric effluent limitations, additional sediment control measures, and receiving water monitoring. Additional requirements include compliance with postconstruction standards focusing on low impact development (LID), preparation of rain event action plans, increased reporting requirements, and specific certification requirements for certain project personnel.

As described in Chapter 2, Section 2.4, *Required Approvals*, the project applicant would be required to obtain a Construction General Permit for the proposed project because total land disturbance would be greater than 1 acre.

BMPs included in the SWPPP may include measures such as the following.

a. Providing permeable surfaces where feasible.

b. Retaining and treating stormwater onsite using catch basins and filtering wet basins.

c. Minimizing the contact of construction materials, equipment, and maintenance supplies with stormwater.

d. Reducing erosion through soil stabilization, watering for dust control, installing perimeter silt fences, placing rice straw bales, and installing sediment basins. In order to minimize potential impacts on wildlife, no monofilament plastic mesh or line will be used for erosion control.

e. Maintaining water quality by using infiltration systems, detention systems, retention systems, constructed wetland systems, filtration systems, biofiltration/bioretention systems, grass buffer strips, ponding areas, organic mulch layers, planting soil beds, sand beds, and vegetated systems such as swales and grass filter strips that are designed to convey and treat either fallow flow (swales) or sheetflow (filter strips) runoff.

In addition, a procedure for spill prevention and control is typically developed to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during all construction activities. If a spill should occur during construction that causes a release of a hazardous material, including oil and radioactive materials, the proper agencies are typically notified, and an Emergency Release Follow-up Notice Reporting Form is submitted no more than 30 days following the release.

The Construction General Permit typically covers uncontaminated dewatering activities, which are considered in the permit to be authorized non-stormwater discharges.

NPDES General Municipal Stormwater Permit

CWA Section 402 mandates programmatic permits for municipalities to address stormwater discharges, which are regulated under the NPDES General Permit for Municipal Separate Storm Sewer Systems (MS4) (MS4 Permit). Phase I MS4 regulations cover municipalities with populations greater than 100,000, certain industrial processes, or construction activities disturbing an area of 5 acres or more. Phase II (Small MS4) regulations require that stormwater management plans be developed by municipalities with populations smaller than 100,000 and construction activities disturbing 1 or more acres of land area.

The State Water Board is advancing low impact development (LID) in California as a means of complying with municipal stormwater permits. LID incorporates site design, including among other things the use of vegetated swales and retention basins and minimizing impermeable surfaces, to manage stormwater to maintain a site's predevelopment runoff rates and volumes.

The project is entirely within El Dorado County (County) and, therefore, would be subject to the requirements of the *Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems General Permit No. CAS000004 (Order No. 2013-0001-DWQ)* (Small MS4 Permit), as amended by Order WQ 2015-0133-EXEC, Order WQ 2016-0069-EXEC, WQ Order 2017-XXXX-DWQ, Order WQ 2018-0001-EXEC, and Order WQ 2018-0007-EXEC. Additionally, the County has a stormwater management plan for western El Dorado County (El Dorado County 2004b).

Section E.12 of the Small MS4 Permit is the "Post-Construction Stormwater Management Program." The proposed project qualifies as a "Regulated Project" as defined in Section E.12.c of the Order and, therefore, would be required to comply with the standards provided in the order. Before approving any tentative map, the County (as permittee) would be responsible for ensuring the project site design includes measures required under Sections E.12.a (Site Design Measures), E.12.d (Source Control Measures), E.12.e (LID Design Standards), and E.12.f (Hydromodification Measures). Other sections of E.12 address the County's responsibilities for documenting compliance with the MS4 Permit.

Waste Discharge Requirements for Dewatering and Other Low Threat Discharges to Surface Waters

CWA Section 402 also includes waste discharge requirements (WDRs) for dewatering activities. The Central Valley Water Board adopted an NPDES Low Threat Discharge and Dewatering General Permit. However, the Central Valley Water Board is no longer accepting applications for coverage under the Low Threat General Order. New applicants should apply for coverage under the Limited Threat General Order (General Waste Discharge Requirements/NPDES Permit for Limited Threat Discharges to Surface Waters, Order R5-2016-0076/NPDES Permit No. CAG995002. If dewatering is required as part of the proposed project, then the project applicant would need to comply with the Central Valley Water Board dewatering requirements. The Limited Threat General Order applies to dischargers by individuals, public agencies, private businesses, and other legal entities discharging clean or relatively pollutant-free wastewaters that pose little or no threat to water quality with (1a) Discharges of less than 0.25 million gallons per day (MGD) and/or less than 4 months in duration; (1b) Discharges greater than or equal to 0.25 MGD and/or greater than or equal to 4 months in duration; or (2) discharges that may contain toxic organic constituents, volatile organic compounds, pesticides, inorganic constituents, chlorine, and/or other chemical constituents that require treatment prior to discharge. As part of the Construction General Permit, all dewatering discharges are required to be filtered or treated, using appropriate technology, from sedimentation basins.

If dewatering activities lead to discharges to the storm drain's other water bodies, water treatment measures may be designed and implemented so that water quality objectives are met prior to discharge to waters of the State. As a performance standard, these measures would be selected to achieve the maximum removal contaminant found in the groundwater and would represent the best available technology that is economically feasible. Measures may include using infiltration areas and retaining dewatering effluent until particulate matter has settled before the water is discharged. The contractor should perform routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained; the contractor would also conduct observations of the water (e.g., check for odors, discoloration, or an oily sheen on groundwater). Other predischarge sampling and reporting activities required by the Central Valley Water Board are typically conducted, if necessary. The final selection of water quality control measures would be subject to review by the Central Valley Water Board. If the groundwater is found to not meet water quality standards and treatment measures are not effective, the water may need to be hauled offsite for treatment and disposal at an appropriate waste treatment facility.

Section 404—Dredge/Fill Permitting

The discharge of dredged or fill material into waters of the United States is subject to permitting specified under Title IV (Permits and Licenses) of the CWA and specifically under Section 404 (Discharges of Dredge or Fill Material) of the CWA. Section 404 of the CWA regulates placement of fill materials into the waters of the United States. Section 404 permits are administered by U.S. Army Corps of Engineers (USACE).

Projects that result in the filling of waters of the United States are required to obtain a Section 404 permit for proposed project construction activities that will affect waterways.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) went into effect on January 1, 2015. It established a new structure for providing sustainable management of groundwater basins, including use of groundwater in a manner that can be maintained during planning and implementation without causing undesirable results. In enacting SGMA, the Legislature sought to, among other goals, "increase groundwater storage and remove impediments to recharge" (Water Code §§ 10720.1(a)(g)). SGMA requires DWR, in conjunction with other public agencies, to conduct an investigation of the state's groundwater basins. Existing general patterns of groundwater extraction and groundwater recharge within basins would be investigated to the extent necessary to identify basins that are subject to critical conditions of overdraft.

SGMA requires development of projects and programs to achieve long-term basin sustainability. The formation of groundwater sustainability agencies (GSAs) is required for all basins that the California Department of Water Resources (DWR) has designated as high or medium priority. GSAs manage basins sustainably and require the adoption of groundwater sustainability plans (GSPs) for crucial groundwater basins in California. Implementation of the GSP would maintain sustainable yield and avoid "undesirable results," including chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply or significant and unreasonable reductions in groundwater storage, water quality, subsidence, or seawater intrusion (Cal. Water Code § 10721(x)). SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, sustainability plans should be implemented by 2040. For the remaining high

and medium priority basins, sustainability plans should be implemented by 2042. If a GSP is not completed in the time allotted or if the state determines that the GSP will fail to meet SGMA's sustainability objectives, the state may intervene and enforce an interim plan. The project area is not within a recognized groundwater subbasin, likely due to the hilly surrounding and high elevation ranges in the project area. Therefore, no priority designation has been determined (DWR has designated the Cosumnes River Subbasin as a medium priority basin. This designation means local agencies in this subbasin are required to form GSAs by June 30, 2017, and to develop and adopt their GSPs by January 2022).

National Flood Insurance Program

In response to increasing costs of disaster relief, Congress passed the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The purpose of these acts was to reduce the need for large, publicly funded, flood control structures and disaster relief by restricting development on floodplains. The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA issues flood insurance rate maps (FIRMs) for communities participating in the NFIP. A FIRM is the official map of a community prepared by FEMA to delineate both the special flood hazard areas and the flood risk premium zones applicable to the community.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act authorizes the state to implement the provisions of the CWA and establishes a regulatory program to protect the water quality of the state and the beneficial uses of state waters.

The act requires projects that are discharging, or proposing to discharge, wastes that could affect the quality of the state's water to file a report of waste discharge (RWD) with the appropriate Regional Water Board. The Porter-Cologne Act also requires that State Water Board or a Regional Water Board adopt basin plans for the protection of water quality. Basin plans are updated and reviewed every 3 years and provide the technical basis for determining WDRs, taking enforcement actions, and evaluating clean water grant proposals. A basin plan must consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives (Central Valley Regional Water Quality Control Board 2019).

As noted above, the proposed project lies within the jurisdiction of the Central Valley Water Board. The Central Valley Water Board is responsible for the protection of beneficial uses of water resources in the Central Valley Region. The *Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region* (Fifth Edition) was last updated in 2019 (Central Valley Water Board Basin Plan; Central Valley Regional Water Quality Control Board 2019).

The State Water Board is proposing an Amendment to the Water Quality Control Plan for Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Together, they are collectively termed as the "Trash Amendments." The State Water Board also prepared a Staff Report/Substitute Environmental Document to meet CEQA compliance requirements. The Trash Amendments will require the implementation of a consistent statewide approach for reducing environmental issues

associated with trash in state waters and will be incorporated into all NPDES Permitting programs including Phase I and Phase II MS4s, CGPs, and IGPs well as WDRs and waivers to WDRs. NPDES Permittees will be required to commit to one of two tracks to achieve compliance with the Trash Amendments. Page 12 of the Staff Report/Substitute Environmental Document says, "Any new development within the MS4 permittee's jurisdiction must be built to immediately comply with Track 1 or Track 2." On December 31, 2014, the State Water Board released a Notice of Revised Documents stating the proposed Final Trash Amendments were available online for review. On February 12, 2015, the State Water Board released a Notice of Public Meeting scheduled for April 7, 2015, to consider oral comments and the adoption of the proposed Final Trash Amendments. On April 7, 2015, the State Water Board adopted the final Trash Amendments.

Regional Water Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. Consequently, the specific water quality objectives developed for particular water segments are based on the designated use. The Central Valley Water Board Basin Plan specifies region-wide and water body–specific beneficial uses and has set numeric and narrative water quality objectives for several substances and parameters for numerous surface waters in its region. Specific objectives for concentrations of chemical constituents are applied to bodies of water based on their designated beneficial uses (Central Valley Regional Water Quality Control Board 2019). In addition, the State Water Board identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If it is determined that waters of the State are impaired for one or more constituents and the standards cannot be met through point source or nonpoint-source point controls (NPDES permits or WDRs), the CWA requires the establishment of TMDLs.

California Fish and Game Code Section 1602 Streambed Alteration Agreement

Under Chapter 6 of the California Fish and Game Code, California Department of Fish and Wildlife (CDFW) is responsible for the protection and conservation of the state's fish and wildlife resources. Section 1602 et seq. of the code defines the responsibilities of CDFW and requires that public and private applicants obtain an agreement to "divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake designated by the CDFW in which there is at any time an existing fish or wildlife resource or from which those resources derive benefit, or will use material from the streambeds designated by the department." A streambed alteration agreement is required under Section 1602 of the California Fish and Game Code for all activities that involve temporary or permanent activities within state jurisdictional waters.

As described in Chapter 2, Section 2.4, *Required Approvals*, the project applicant would be required to obtain a streambed alteration agreement for proposed project construction activities that will affect waterways.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Edmund G. Brown, Jr. signed historic legislation to strengthen local management and monitoring of groundwater basins most critical to the state's water needs. The three bills—SB 1168 (Pavley), SB 1319 (Pavley), and AB 1739 (Dickinson)—together make up the Sustainable Groundwater Management Act. The bills establish phased requirements for high- and medium-priority basins to adopt groundwater sustainability plans, depending on whether or not a basin is in critical overdraft. The act requires adoption of groundwater sustainability plans by January 31, 2020, for all high or medium-priority basins in overdraft condition and by January 31, 2022, for all other high- and medium-priority basins unless legally adjudicated or otherwise

managed sustainably. These bills do not apply to the proposed project because western El Dorado County has no groundwater basins. Please see the Groundwater discussion in the *Environmental Setting* section below.

Local

Grading, Erosion, and Sediment Control Ordinances

The County Grading, Erosion, and Sediment Control Ordinance (Grading Ordinance) (Chapter 110.14 of the El Dorado County Code) establishes provisions for public safety and environmental protection associated with grading activities on private property. Section 110.14.090 of the Grading Ordinance, which has incorporated the recommended standards for drainage BMPs from the High Sierra Resource Conservation and Development Council's BMP handbook, prohibits grading activities that would cause flooding where it would not otherwise occur or would aggravate existing flooding conditions. The Grading Ordinance also requires all drainage facilities, aside from those in subdivisions that are regulated by the County's Subdivision Ordinance, be approved by the County Department of Transportation. Pursuant to the ordinance, the design of the drainage facilities in the County must comply with the *County of El Dorado Drainage Manual* (Drainage Manual) (El Dorado County 2020).

El Dorado County Subdivision Ordinance

The County's Subdivision Ordinance (El Dorado County Code Title 120) requires drainage plans to be submitted prior to the approval of tentative maps for proposed subdivision projects. The drainage plans must include an analysis of upstream, onsite, and downstream facilities and pertinent details, as well as details of any necessary offsite drainage facilities. The tentative map must include data on the location and size of proposed drainage structures. In addition, drainage culverts consistent with the drainage plan may be required in all existing drainage courses, including roads.

El Dorado County Design and Improvement Standards Manual

The County's *Design and Improvement Standards Manual* was adopted in 1990 and identifies required erosion and sediment control measures that are applicable to subdivisions, roadways, and other types of developments. Specifically, *Volume III: Grading, Erosion and Sediment Control* describes the criteria for determining whether an erosion and sediment control plan is required. When required, an erosion and sediment control plan must comply with the adopted *Western El Dorado County Storm Water Management Plan* (County SWMP) (El Dorado County 2004b).

County of El Dorado Drainage Manual

The *County of El Dorado Drainage Manual* (Drainage Manual) (2020) provides standard procedures for future designs of drainage improvements. The Drainage Manual supersedes the stormwater drainage system design standards in the County's *Design and Improvement Standards Manual*. The Drainage Manual requires that a hydrologic and hydraulic analysis be submitted for all proposed drainage facilities. The analysis must include an introduction/background, location map/description, catchment description/delineation, hydrologic analysis, hydraulic and structural analysis, risk assessment/impacts discussion, unusual or special conditions, conclusions, and technical appendices. This analysis is usually required on projects undergoing discretionary review. However, under the Building Code and Grading Ordinance, the County also reviews ministerial

development, including required drainage plans, to ensure that appropriate runoff design and controls are in place.

The final analysis would include an introduction/background, location map/description, catchment description/delineation, hydrologic analysis, hydraulic and structural analysis, risk assessment/impacts discussion, unusual or special conditions, conclusions, and technical appendices. The analysis would address the following topics.

- A calculation of predevelopment runoff conditions and post-development runoff scenarios using appropriate engineering methods. This analysis would evaluate potential changes to runoff through specific design criteria, and account for increased surface runoff.
- An assessment of existing drainage facilities in the project area, and an inventory of necessary upgrades, replacements, redesigns, and/or rehabilitation, including the sizing of onsite stormwater detention features and pump stations.
- A description of the proposed maintenance program for the onsite drainage system.
- Standards for drainage systems to be installed on a project- or parcel-specific basis.
- Proposed design measures to ensure structures are not located within 100-year floodplain areas.

Drainage systems must be designed on a site-specific basis in accordance with the findings of the studies and County requirements. As a performance standard, measures to be implemented would provide for no net increase in peak stormwater discharge relative to current conditions to ensure that 100-year flooding and its potential impacts are maintained at or below current levels and that people and structures are not exposed to additional flood risk.

In 2007 a memorandum was prepared by David Ford Consulting Engineers, which identified a procedure for computing the rational method C from NRCS curve numbers for the County (David Ford Consulting Engineers 2007). The memorandum updated the existing charts in the manual to add curves for times of concentration of 5 and 7.5 minutes.

Stormwater Management Plan and Stormwater Quality Ordinance

The County SWMP was adopted by the County in 2004 as a means of compliance with the then-applicable Small MS4 Permit. In May 2015, the County adopted a County-Wide Storm Water Ordinance (Ordinance No. 5022) to ensure compliance with the new Small MS4 Permit requirements in the entire unincorporated County. Chapter 8.79 of the County Code contains the stormwater regulations, which establishes the County's authority to implement and enforce the Stormwater Management Plan and to ensure compliance with state and federal stormwater laws and regulations. It also sets forth requirements that development projects incorporate BMPs to control the volume, rate, and potential pollutant loading of stormwater runoff. As provided by Section 8.79.150.G, the required BMPs may be contained in any land use entitlement, conditions of approval, grading plans, improvement plans, or any construction or building-related permit to be issued relative to such development. The requirements became effective in June 2015.

Flood Damage Prevention Ordinance (1986)

To regulate development within the 100-year floodplain, the County has enacted a floodplain ordinance that is compatible with FEMA guidelines and applied in conjunction with the County's Zoning Ordinance. Under the Flood Damage Prevention Ordinance, development within the 100-

year floodplain may occur; however, certain engineering and zoning standards apply to reduce injury, prevent loss of life, reduce structural damage caused by flooding, and reduce public expenditures for additional flood control structures. Development in the floodway is also prevented unless no increase in flood elevation would result from the development.

Multi-Hazard Functional Emergency Operations Plan (2006)

The County's *Multi-Hazard Functional Emergency Operations Plan* (Emergency Operations Plan) (El Dorado County 2006) contains dam failure plans for those dams that qualify for mapping. The individual dam facility plans located at the County Department of Emergency Services include a description of the dams, direction of flood waters, responsibilities and actions of individual jurisdictions, and evacuation plans. The Emergency Operations Plan also contains response plans for floods resulting from periods of high rainfall or rapid snowmelt, which can cause flooding in the 100-year floodplain.

Multi-Jurisdictional Hazard Mitigation Plan (2004)

The County's *Multi-Jurisdictional Hazard Mitigation Plan* (El Dorado County 2004c) contains implementation and evaluation procedures or reducing losses sustained by people and property during a disaster. The Cameron Park/Warren Hollister Dam has the potential to inundate the project area (via Deer Creek) in the event of a dam failure. However, because dam failure is considered a low-risk hazard in El Dorado County, there are no developed actions; rather the plan refers to the *Multi-Hazard Functional Emergency Operations Plan* for guidance.

El Dorado County General Plan

The County General Plan Public Health, Safety, and Noise Element (El Dorado County 2019) and Conservation and Open Space Element (El Dorado County 2017) include the relevant goals, objectives, and policies listed below. The full text of these goals, objectives, and policies can be found in Appendix B, *Consistency with the El Dorado County General Plan*, which provides an analysis of the project's consistency with County General Plan policies as required under State CEQA Guidelines Section 15125.

Public Health, Safety, and Noise Element

- Goal 6.4, *Flood Hazards*, includes Objective 6.4.1, *Development Regulations*, which seeks to minimize loss of life and property by regulating development, and implementing policies 6.4.1.1, 6.4.1.2, 6.4.1.3, 6.4.1.4, and 6.4.1.5 and Objective 6.4.2, *Dam Failure and Inundation*, and implementing policies 6.4.2.1 and 6.4.2.2.

Conservation and Open Space Element

- Goal 7.1, *Soil Conservation*, includes Objective 7.1.2, *Erosion/Sedimentation*, and implementing policies 7.1.2.1 and 7.1.2.2.
- Goal 7.3, *Water Quality and Quantity*, includes Objective 7.3.1, *Water Resource Protection*, and policies 7.3.1.1, 7.3.1.2, and 7.3.1.3, Objective 7.3.2, *Water Quality*, and policies 7.3.2.1, 7.3.2.2, 7.3.2.3, and 7.3.2.5, Objective 7.3.3, *Wetlands*, and policies, 7.3.3.1, 7.3.3.4, and 7.3.3.5, and Objective 7.3.4, *Drainage*, and policies 7.3.4.1 and 7.3.4.2.

Public Services and Utilities Element

- Goal 5.4, *Storm Drainage*, includes Objective 5.4.1, Drainage and Flood Management Program, and implementing policies 5.4.1.1 and 5.4.1.2.

Environmental Setting

Climate and Topography

The project area is located in the western portion of the Sierra Nevada geomorphic province, but the project area's climate is similar to that of the Sacramento Valley. In general, the project area has a typical Mediterranean climate with hot, dry summers and cool, wet winters. Average high temperatures during the summer range from 90 to 100 degrees Fahrenheit (°F) in the Sacramento Valley (National Oceanic and Atmospheric Administration 2010). During winter, average low temperatures in the Sacramento Valley range between the low 40 and 50 °F (National Oceanic and Atmospheric Administration 2010).

The Sacramento Valley and the immediate foothills to the east have mild winters with low annual precipitation. Precipitation usually takes place from October through May and virtually no precipitation occurs from June to September. The average annual precipitation in the city of Sacramento is 18 inches; average annual precipitation in the EI Dorado Hills area is approximately 26 inches (Western Regional Climate Center 2014).

The project site comprises a series of sloping hills surrounding the main valley (Lime Rock Valley) and a minor valley associated with the corridor of Deer Creek; a perennial stream that flows north to south through the property. The elevation of the site ranges from 1,280 feet above mean sea level at the northeast corner to 880 feet where Deer Creek exits the property. Slopes range from nearly level to over 30%.

The central portion of the project area was previously used for subterranean mining of limestone rock from 1918 to the 1970s. The mine is reported to have achieved depths of up to 1,130 feet below the ground surface using shrinkage slope techniques (Youngdahl Consulting Group 2013).

Surface Water

Hydrology

The project site is within the San Joaquin River Hydrologic Region, which covers approximately 9.7 million acres (15,200 square miles) and includes all of Calaveras, Tuolumne, Mariposa, Madera, San Joaquin, and Stanislaus Counties, most of Merced and Amador Counties, and parts of Alpine, Fresno, Alameda, Contra Costa, Sacramento, El Dorado, and San Benito Counties (California Department of Water Resources 2003). According to the U.S. Geological Survey, the project area is within the Upper Cosumnes (HUC # 18040013) watersheds (U.S. Geological Survey 1978).

The project site is the Deer Creek watershed. Deer Creek is a tributary to the Cosumnes River and its confluence is near Highway 99 in Sacramento County. The terrain is moderately steep as Deer Creek flows south to north through the project vicinity. Onsite and offsite sections of Deer Creek have seasonal flows and are characterized as ephemeral. Outside and immediately south of the project area, Deer Creek receives daily discharges from the Deer Creek WWTP (Figure 2.3), which causes it to run year-round downstream of that point. Onsite drainage features include two perennial streams, numerous intermittent and ephemeral stream channels, and an old pond. Many of the

drainages are deeply incised and most contain flowing water for only short periods of time during and after rains (LSA Associates 2014).

Most of the streambeds in the project area are incised to bedrock or naturally armored by large amounts of rock. Because of this, the streams are not downcutting or laterally eroding and, in most cases, are quite stable (Jones & Stokes Associates 1988).

Refer to Section 3.3, *Biological Resources*, for a full description of each water body in the project area.

Onsite Project Area

Drainage and Stormwater Runoff

Deer Creek flows from north to south through the project area, and several of the creek's tributaries drain the project area. The terrain is moderately steep as Deer Creek drains south through Cameron Park, then continues south for about 2 miles after crossing under U.S. Highway 50 (US 50). The creek then turns southwest, discharging into the Cosumnes River upstream of Highway 99. Surface soils are characterized by low to rapid runoff rates (Section 3.5, *Geology, Soils, Minerals, and Paleontological Resources*, Table 3.5-2). Rapid runoff rates are associated with steeper areas, where shallow bedrock is present. Figure 3.8-1 shows the locations of existing natural drainage features in the project area. There are no engineered storm drainage systems on the project site.

Watermark Engineering prepared a site-specific drainage analysis for the proposed project (Appendix J). As part of the storm drain master plan prepared for the project by Watermark Engineering (Appendix J), stormwater volumes for the 2-year, 10-year, and 100-year storm events under existing conditions where Deer Creek exits the site were estimated to be 1,544 acre-feet (af), 2,917 af, and 4,848 af, respectively. Of the three storm events, the 100-year storm volume is the one most likely to affect downstream properties.

Wetlands and Waters of the United States

All wetlands in the project area are considered waters of the United States regulated by USACE under CWA Section 404. Wetlands mapped in the project area consist of seasonal wetlands, seasonal wetland seeps, and a seasonal wetland pond. Wetlands were delineated according to the USACE delineation manual and were verified by USACE (U.S. Army Corps of Engineers pers. comm.). A study prepared by LSA Associates in 2014 (LSA Associates 2014) identified 8.06 acres of waters of the United States (including wetlands) that meet the criteria for USACE jurisdiction (refer to the wetland/drainage features map in Section 3.3, *Biological Resources*).

Refer to Section 3.3, *Biological Resources*, for a full description of each water body in the project area.

Offsite Improvement Areas

Wetlands in the offsite improvement area to the west have been delineated according to the USACE delineation manual and verified by the USACE (ECORP Consulting 2013). The offsite improvement area to the east has not been assessed for wetlands but could support similar wetland types to those identified onsite. Refer to Section 3.3, *Biological Resources*, for a full summary of offsite improvement areas where surveys for water features have and have not occurred.

Water Quality

There is limited water quality data for Deer Creek. Surface water quality is measured at two locations by the El Dorado Irrigation District (EID), which operates the Deer Creek Wastewater Treatment Plant (WWTP) west of the project site. Downstream of the WWTP, water quality in Deer Creek is affected by treated effluent from the WWTP. Upstream of the WWTP, water quality is influenced by overland flows from the project site in addition to runoff from developed areas in Cameron Estates.

There is no current water quality information specific to surface flows in smaller drainages in the project area. Water quality is monitored by EID. However, the water draining from the project area is likely to be of fairly high quality, although the past grazing activity on the land probably has increased temperature, sediment, and nutrient levels above pristine conditions (Jones & Stokes Associates 1988). Contaminants from urban runoff from developed upslope areas may also influence local water quality conditions, the extent to which is undocumented.

Three of five soil map units (which cover a majority of the project area) are moderately to highly susceptible to sheet and rill erosion by water.

The *Central Valley Water Board Basin Plan* (Central Valley Regional Water Quality Control Board 2019) describes beneficial uses for waters in the project vicinity, as shown in Table 3.8-1. Table 3.8-2 shows 303(d) listed impairments for Deer Creek and the Lower Cosumnes River based on the 2020/2022 California Integrated Report (State Water Resources Control Board 2022). The segment of Deer Creek that flows through the project site is not listed as impaired.

Table 3.8-1. Designated Beneficial Uses for Surface Water Bodies in the Project Vicinity

Water Body	Designated Beneficial Uses
Cosumnes River (sources to the Delta)	Municipal and domestic supply; irrigation; stock water; water contact recreation; noncontact water recreation; warm and cold freshwater habitat; warm and cold fish migration; warm and cold fish spawning; wildlife habitat.

Source: Central Valley Regional Water Quality Control Board 2019, Table 2-1.

Urban nonpoint-source pollution includes heavy metals, pesticides, bacteria, organics (oil and grease), dirt, and nutrients. Urban runoff from vehicles on bridges can be discharged into streams during construction activities, rain events, vehicle accidents, and through normal wear and tear.

Table 3.8-2. 303(d) Listed Impaired Waters with Potential to be Affected by the Proposed Project

Water Body	Pollutant Stressors	Potential Sources	TMDL Completion Date
Cosumnes River, Lower (below Michigan Bar; partly in Delta Waterways, eastern portion)	Indicator Bacteria	Unknown	Est. 2021
	Invasive Species	Unknown	Est. 2019
	Mercury	Unknown	Est. 2033
	Dissolved Oxygen	Unknown	Est. 2035
	Toxicity	Unknown	Est. 2035

Source: State Water Resources Control Board 2022.

TMDL = total maximum daily load.

Groundwater

El Dorado County Hydrogeology

Most of the water produced in El Dorado County wells comes from underground zones of hard crystalline or metamorphic rock; these zones contain fractures that provide natural storage for groundwater (El Dorado County Environmental Management Department 2004). The fractures do not form a connected system and vary in size and character. Therefore, with the exception of a small basin at South Lake Tahoe, there are no groundwater basins in El Dorado County; consequently, groundwater resources can vary by location and reliability depending on the underlying geology of that site (EDAW 2003). The project area is not within a recognized groundwater subbasin.

Historical data on groundwater levels are limited. The levels in water wells in the County are not routinely tested and are not reported to the County, and there is no comprehensive database on groundwater levels. However, DWR periodically tests groundwater wells for pollution or contaminants.

Although there were relatively mild fluctuations in groundwater well depths between 1999 and 2010, data between 2010 and 2014 indicate that fluctuations can be more pronounced. A recent Public Update by DWR states that the greatest concentration of recently deepened wells is in the fractured bedrock foothill areas of Nevada, Placer, and El Dorado Counties (California Department of Water Resources 2014). Between 2010 and 2014, El Dorado County deepened 41 domestic wells in fractured bedrock (California Department of Water Resources 2014), which was notably higher than most other counties (1–17 wells deepened). The findings of DWR's analysis support the conclusion that water wells in areas of fractured bedrock are more vulnerable to water shortages than wells in groundwater basins during times of drought (California Department of Water Resources 2014). In addition, fracture width generally decreases with depth (State Water Resources Control Board 2005), which indicates even more limited supplies than porous or alluvial aquifer systems at greater depths because of diminished recharge, movement and storage capacity (EDAW 2003). Therefore, the long-term reliability of groundwater cannot be estimated with the same level of confidence as a porous or alluvial aquifer (EDAW 2003).

In addition to water levels, water quality can also affect groundwater supplies. During 2003 and 2004, and as part of a small pilot study in 2001, a Voluntary Domestic Well Assessment Project sampled 398 private domestic wells in the County. Of the domestic wells sampled, approximately 30% (119 wells; some wells detected multiple chemicals) would not pass state primary drinking water standards for public water systems. This statistic demonstrates that private domestic wells are vulnerable to contamination that may affect public health. The most common reasons for primary maximum contaminant level (MCL) exceedance were positive detection of coliform (total coliform present in 111 domestic wells and fecal coliform present in 14 domestic wells), followed by arsenic (15 domestic wells) and nitrate (7 domestic wells) (State Water Resources Control Board 2005). According to the 2004 *El Dorado County General Plan Draft Environmental Impact Report*, the major sources of potential groundwater pollution include septic tanks or septic leach fields, underground fuel tanks, spillage of hazardous materials or commercial waste, and infiltration of agricultural byproducts, including fertilizer and livestock waste (EDAW 2003).

Persistent drought and climate change will continue to affect the reliability of the County's groundwater supplies. The combination of rising temperatures, a smaller snowpack, and more frequent and potentially longer droughts could reduce the availability of both surface and groundwater supplies, as more water runs off or evaporates and less infiltrates into the ground.

Reduced infiltration could reduce the reliability of groundwater wells drilled in fractured rock (El Dorado County Water Agency 2019).

Project Area Hydrogeology

The principal groundwater aquifers under the project area are found within fractured bedrock. The fractures are developed by stress in the rock resulting from the cooling and contraction following regional metamorphism and from folding and faulting. These fractures are generally steep and oriented vertically, and they develop a foliation to the rock; as such, groundwater flow is affected by the direction of the foliation. Most water-bearing fractures are wider and develop more water in the upper 200–300 feet of rock. Groundwater is reported to surface from nearby Marble Valley Lake (EIP Associates 1997:4.10-9).

A subsurface geotechnical exploration program conducted by Youngdahl Consulting Group (2013) included the excavation of 16 exploratory test pits. A perched groundwater condition was observed within one of the test pit excavations. As described in Section 3.6, *Geology, Soils, Minerals, and Paleontological Resources*, the central portion of the project area that was previously used for subterranean mining of limestone rock was flooded at the completion of mining in the 1970s. Previous and recent groundwater measurements taken in the main shaft indicate the depth to groundwater is approximately 40 feet below the surface (Kleinfelder 2014). Although the groundwater levels have fluctuated, they are consistent across the mine. The fluctuation is typical for a flooded mine connected to the surrounding groundwater through a fractured rock mass (Kleinfelder 2014).

Youngdahl notes that in the foothill regions, many factors (e.g., proximity to bedrock, fractures in the bedrock, topographic elevations, and proximity to surface water) lead to variation in the subsurface water conditions. Continued exposure to subsurface water may be evidenced by black staining on fractures, clay deposits, and surface markings indicating previous seepage. Based on Youngdahl Consulting Group's experience in the area, water may be perched on less-weathered rock and/or be present in the fractures and seams of the weathered rock beneath the site at different times of the year (Youngdahl Consulting Group 2013:4).

Groundwater Recharge

Groundwater recharge occurs primarily due to precipitation, applied water, and streamflow. Groundwater recharge primarily occurs along stream channels, where sand and gravel deposits occur to sufficient depth that adequate quantities of surface water can infiltrate into the underlying aquifer. The project area is underlain primarily by bedrock and groundwater recharge potential would be limited (EIP Associates 1997).

Flooding

FIRMs prepared by FEMA were reviewed to identify the locations of 100-year floodplains. None of the channels in the project area are within a FEMA-designated flood zone (Figure 3.8-2). Approximately 2.5 miles south of the project area, portions of the Cosumnes River/Deer Creek floodplain lie within a FEMA–Zone A 100-year floodplain. As identified by El Dorado County, however, Deer Creek in the project area is considered a flood-prone area from Cameron Park to the Sacramento County line (El Dorado County 2004c).

Upstream dam failure or levee failure and ensuing inundation poses a risk to the project area; a dam failure at Cameron Park Lake/Warren Hollister Dam would result in downstream flooding along Deer Creek (El Dorado County 2004c). A reach of Deer Creek flows through the project area in an area that is proposed for Open Space that falls within the inundation area. The Cameron Park Lake/Warren Hollister Dam is regulated and regularly inspected by the Division of Safety of Dams.

3.8.2 Environmental Impacts

Methods of Analysis

Impacts related to hydrology, water quality, and water resources were assessed based on technical reports prepared for the proposed project, other available data (e.g., maps, soil surveys), and professional judgment.

Potential impacts resulting from implementing the proposed project were analyzed by comparing existing conditions, as described in Section 3.8.1, *Existing Conditions, Environmental Setting*, to conditions during construction and/or operation of the proposed project. The analysis assesses the direct, indirect, short-term, and long-term impacts related to surface water hydrology, flood hazards, groundwater recharge, and surface and groundwater quality as described below.

- **Surface water hydrology.** The surface water hydrology impact analysis considered potential changes in the physical characteristics of water bodies, impervious surfaces, and drainage patterns throughout the project area as a result of project implementation. The quantified data, conclusions, and recommendations presented in the site-specific drainage analysis (Appendix J), which were reviewed by County staff, were incorporated into the analysis of changes in peak flow runoff. The purpose of the study was to estimate 100-year peak flows for existing and developed conditions; determine the limits of 100-year flooding along the channel; provide a floodway analysis along portions of the creek where development would encroach onto the floodplain; determine storage requirements for the project area to attenuate 100-year flows to approximate existing-conditions flows; and present conceptual water quality facilities for the proposed project. Two scenarios were evaluated by Watermark Engineering: one where attenuation is provided as part of the proposed Village of Marble Valley Specific Plan (VMVSP), which adjoins the proposed project on the west, and one where attenuation is provided solely within the Lime Rock Valley Specific Plan (LRVSP) facilities (Appendix J). For the former scenario, preliminary facilities would include a 7-feet-wide by 5-feet-high box culvert to attenuate the flows leaving the Village of Marble Valley and the flow along Deer Creek downstream of Plunkett Creek (detention facilities within Lime Rock Valley would not have to be constructed or maintained because this location is outside of the project area). For the latter scenario, the analysis assumed a berm and restricted outfall (detention basin) in the eastern portion of the LRVSP project area to provide the necessary attenuation.
- **Flood hazards.** The impact analysis for flood risk considered FEMA NFIP maps to determine whether the project area overlaps with existing designated 100-year floodplains. The analysis also incorporates the quantified results presented in the drainage analysis (Appendix J) pertaining to runoff volumes and water surface elevations. Dam failure mapping prepared by the County for Cameron Park Lake was reviewed to ascertain flood-prone locations in the project area.

- **Groundwater recharge.** Impacts on groundwater recharge were assessed qualitatively by comparing existing sources of recharge versus recharge capabilities following project implementation (Youngdahl Consulting Group 2013).
- **Surface and groundwater quality.** Impacts of the proposed project on surface water and groundwater quality were qualitatively analyzed using existing information on existing water quality conditions (i.e., 303[d] listed water bodies) and the site-specific drainage analysis for postconstruction water quality (Appendix J). These conditions were then compared to conditions under the proposed project for potential project-related sources of water contaminants generated or inadvertently released during construction (e.g., sediments, fuel, oil, concrete) and operation. The potential for water quality objectives to be exceeded and beneficial uses to be compromised as a result of the proposed project was considered.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Violate any water quality standards or WDRs or otherwise substantially degrade surface water or groundwater quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the project site or area, including through the alteration of the course of a stream or river, in a manner that would:
  - i) Result in substantial erosion or siltation onsite or offsite;
  - ii) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite;
  - iii) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
  - iv) Impede or redirect flood flows.
- In a flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Impacts and Mitigation Measures

Impact WQ-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality (less than significant with mitigation)

Construction-related earth-disturbing activities would introduce the potential for increased erosion, runoff, and sedimentation, with subsequent effects on water quality. During site grading, trenching, and other construction activities, areas of bare soil are exposed to erosive forces during rainfall events. Bare soils are much more likely to erode than vegetated areas because of the lack of dispersion, infiltration, and retention properties created by covering vegetation. The extent of the

impacts is dependent on soil erosion potential, type of construction practice, extent of disturbed area, timing of precipitation events, and topography and proximity to drainage channels. In addition, construction equipment and activities would have the potential to leak hazardous materials, such as oil and gasoline, and potentially affect surface water or groundwater quality. Improper use or accidental spills of fuels, oils, and other construction-related hazardous materials such as pipe sealant, solvents, and paints could also pose a threat to the water quality of local water bodies. These potential leaks or spills, if not contained, would be considered a significant impact on groundwater and surface water quality. If precautions are not taken to contain or capture sediments and/or accidental hazardous spills, construction activities could produce substantial pollutants in stormwater runoff and could adversely affect existing surface water quality in Deer Creek and its tributaries.

Construction of bridge crossings near and within Deer Creek and its onsite tributaries may result in discharges of metals and other contaminants in sediment. In-water construction activities would directly disturb sediment along the creek bed and result in a temporary increase in turbidity in the immediate area and potentially downstream. Concrete, vehicle, and other fluids may be easily released into the creek during construction, as well. These discharges may have adverse impacts on beneficial uses.

However, because the proposed project would disturb more than 1 acre of land, an SWPPP with an associated predetermined Risk Level would be required as part of compliance with the NPDES Construction General Permit. The purpose of an SWPPP is to reduce the amount of construction-related pollutants that are transported by stormwater runoff to surface waters. The SWPPP would identify specific best management practices (BMPs), which include temporary erosion control measures to reduce sedimentation and turbidity of surface runoff from disturbed areas within the project area and leak and spill protection for heavy equipment and hazardous materials use, among others.

LRVSP Policy 5.7 requires the use of construction BMPs and compliance with permits and regulations that are applicable to construction activity (G3 Enterprises 2020). In addition to compliance with the latest NPDES and other water quality requirements (i.e., Construction General Permit, Small MS4 Permit, WDRs for dewatering), the proposed project would be required to comply with the County's Stormwater Quality Ordinance No. 5022, as noted in Section 3.8.1, *Existing Conditions, Regulatory Setting*. In accordance with LRVSP Policy 5.8, BMPs such as biotechnical or nonstructural water quality features would be used, where possible, instead of revetments, bank regrading, or stream training structures.

Construction dewatering in areas of shallow groundwater may be required during excavation. The determination of whether or not dewatering would be necessary would be made onsite during construction by the project construction contractor(s). In the event groundwater is encountered during construction, dewatering would be conducted locally, and according to Central Valley Water Board dewatering requirements as described in Section 3.8.1, *Existing Conditions, Regulatory Setting*. In areas where groundwater is shallow or perched and there is potential to affect riparian habitat, features would be installed using the vibration method,[1] which minimizes subsurface disruption. The contractor would perform routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained; the contractor would also

[1] Different than standard pumping techniques and cut-off wall installation, the vibration method uses a stainless-steel vibrating device and a vibrating screen to remove water from the soil via vibration and gravity.

conduct observations of the water (e.g., check for odors, discoloration, or an oily sheen on groundwater). Other predischarge sampling and reporting activities required by the Central Valley Water Board are typically conducted, if necessary. The final selection of water quality control measures would be subject to review by the Central Valley Water Board. With implementation of the water quality control measures, there would be no violations of water quality objectives or WDRs.

The proposed project would involve operation and maintenance of a mix of low-density residential and open space uses. These land uses and operational activities could increase existing or generate new levels of potential pollutants of concern within the project area, such as trash, sediments, pesticides, bacteria, nutrients, metals, oils, and other toxins. These pollutants could reach surface waters in the vicinity through storm drains or direct discharge into Deer Creek. Operation and maintenance activities under the proposed project would generate pollutants of concern from landscape maintenance, building maintenance, the storage of materials and substances, and vehicle use. However, good housekeeping practices, such as regular trash collection and sweeping, would continue to be implemented onsite.

The proposed project would result in increased impervious area and result in increased stormwater runoff. Runoff from impervious surfaces could contain nonpoint pollution sources associated with automobiles, trash, cleaning solutions, and landscaped areas. The proposed stormwater system would consist of a balanced centralized and low impact development (LID) stormwater management system to capture and treat stormwater runoff both at its source, as well as in a detention basin. LID techniques would be used for individual lots, landscape corridors, parks, and streets, while the centralized detention basin would serve the open space areas. Potential LID features include drainage courses within landscaped greenways and buffers; drainage swales in roadways, parking medians, and planting strips; vegetated curb extensions along neighborhood streets; and rain or infiltration gardens. These features would reduce the volume and speed of stormwater runoff and treat stormwater runoff through biological uptake and natural soil filtration processes.

In addition to urban runoff, one other impact on water quality includes the discharge of dredged or fill material into waters of the United States. These impacts could affect beneficial uses of the wetlands, such as riparian and wildlife habitat. As described in Section 3.3, *Biological Resources*, the proposed project would result in a maximum of unavoidable permanent onsite impacts (fill) to 0.901 acre of waters of the State, including wetlands (0.536 acre) and other waters (0.365 acre) in the project area. At a minimum, the proposed project would compensate for the loss of wetlands and other waters at a greater than 1:1 ratio or as permitted by USACE, resulting in more wetlands than currently exist within the project area and benefiting wildlife in the vicinity of the project area. Construction requiring removal of wetlands and other waters would be subject to USACE jurisdiction under Section 404 of the CWA, CDFW, and the Central Valley Water Board jurisdiction under California Department of Fish and Game Code Section 1602 and CWA Sections 401 and 402. Wetland loss and/or removal without avoidance, minimization, or compensation would constitute a significant impact. Implementation of Mitigation Measures BIO-1a, BIO-1b, BIO-1c, and BIO-3a will reduce potential water quality impacts on wetlands and other waters to a less-than-significant level by protecting wetlands and providing training, avoidance, and compensation.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

Impact WQ-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin (less than significant)

Water for the residential uses in the project area would be provided by EID. No groundwater would be used. Therefore, the proposed project would not deplete groundwater supplies. In the unlikely event that dewatering is required during construction, it would be temporary in nature, of limited extent, and would not affect offsite wells or groundwater levels.

Project components, such as roads and houses, would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy and silty soils (which comprise a majority of the project area) have higher infiltration rates and can contribute to significant amounts of groundwater recharge; clay soils tend to have lower percolation potentials; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff. The amount of new pavement and the extent to which it affects infiltration depends on the site-specific soil type.

The project area is underlain by bedrock, and groundwater discharges to the surface as seeps, rather than as recharge. Therefore, the net change in groundwater recharge potential would be limited. In addition, the proposed project would not use groundwater resources. Furthermore, the Deer Creek floodplain is likely to have the greatest potential for recharge of the groundwater aquifer, and this area would remain designated open space under the LRVSP (G3 Enterprises 2020). Finally, the proposed project would preserve nearly 50% of its associated acreage (333 acres) in open space, thereby protecting valuable natural resources (including oak woodlands, Deer Creek, intermittent tributaries, wetlands, and steep hillsides) that contribute to groundwater recharge. Therefore, the proposed project would not impede sustainable groundwater management of the basin. This impact would be less than significant. No mitigation is required.

Impact WQ-3i: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite (less than significant)

The proposed project would directly affect up to 0.901 acre of waters of the State, including wetlands (0.536 acre) and other waters (0.365 acre) in the project area (see Impact BIO-4 in Section 3.3, *Biological Resources*). These effects could change the drainage patterns. Site-preparation activities, such as grading and excavation to construct building pads and roadways, would alter the overall existing overland flow drainage patterns. Alterations in the natural landscape and drainages could increase the potential for changes in water flow in onsite and offsite drainages, creeks, and streams that could, in turn, affect erosion and the amount of sediment in the watercourse (i.e., hydromodification). Construction activities also contribute to this potential effect because they would leave areas of exposed soil that could be subject to wind or water erosion, and stormwater runoff could potentially transport sediment-laden runoff to local drainages. Increased sediment

loads have the potential to degrade water quality and reduce the capacity of drainages to convey water. This potential is increased when earth-moving activities and development footprints are close to riparian areas and drainages. The County requires a minimum setback of 50 feet from all perennial streams and 25 feet from intermittent streams, wetlands, or sensitive riparian habitat (Zoning Ordinance 130.30.030, G). Actual setbacks for the project area would be determined during the Section 404 permitting process in consultation with USACE (see Impacts BIO-2 and BIO-4). The proposed riparian corridor enhancements along the main drainage channels (including Deer Creek) could help reduce erosion potential through the inclusion of new wetland plantings and regrading the open space area adjoining the creek to facilitate the enhancements.

If the LRVSP is constructed before the neighboring VMVSP development, a berm would be constructed to restrict outfall, which could alter drainage patterns. The proposed berm would provide significant attenuation along the southeast tributary and moderate attenuation along Deer Creek (Watermark Engineering 2015)(Appendix J). If the time-of-concentration (i.e., the time needed for water to flow from the most remote point in a watershed to the watershed outlet) along the main channel of Deer Creek is less than what was modeled by Watermark Engineering, then the flood attenuation at the proposed berm would be greater along Deer Creek compared to the information presented in the County's Storm Drain Master Plan. If the estimated time-of-concentration for the mainstem is longer, the effect of the berm on the southeast tributary is less important, and the proposed project would not cause an increase in flood potential along the downstream reaches of Deer Creek. The impact would be less than significant.

The LRVSP also includes policies specifically directing protection of natural drainage courses and riparian zones. LRVSP policy 5.4 requires that natural drainage courses shall be avoided and incorporated into the overall storm drainage system design, except where road, trail, or utility crossings would preclude this. Under LRVSP policy 5.5, trails located within Open Space areas or corridors must be designed to include soil erosion control measures to minimize sedimentation of nearby creeks and maintain the natural state of drainage courses. (G3 Enterprises 2020.)

Project components, such as houses and roadways, would create new impervious surfaces. The increase in impervious surfaces would alter drainage patterns on the project site compared to existing conditions; however, it would also reduce the amount of soil that could be exposed to erosion. Stormwater runoff from developed surfaces would be conveyed to the project's storm drain system, which would be designed in accordance with the Small MS4 Permit Section E.12.f hydromodification requirements. The drain system would ensure the proposed project's effect on drainage patterns would not cause or exacerbate the rate of sedimentation or siltation in a manner that would adversely affect the function of natural onsite or offsite drainages, streams, or creeks. This impact would be less than significant. No mitigation is required.

Impact WQ-3ii: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite (less than significant)

Project components, such as roads and houses, would add impermeable surfaces, resulting in altered flow patterns, and increased amounts of stormwater runoff. The conversion of permeable surfaces and the installation of permanent structures would require stormwater drainage management measures to avoid onsite and offsite flooding impacts.

The County Drainage Manual (El Dorado County 2020) requires that a hydrologic and hydraulic analysis be submitted for all proposed drainage facilities. In addition, under County General Plan policy 6.4.1.2, the County is required to identify and delineate flood-prone study areas discovered during the completion of the master drainage studies or plans. The preliminary hydrologic and hydraulic study prepared for the proposed project (Appendix J) identified the potential flooding hazard impacts of the proposed project due to project-generated stormwater runoff. The County's existing Small MS4 permit requires development projects to control the volume, rate, and duration of runoff to avoid downstream flooding (including Deer Creek downstream of the project area). In addition, Floodplain Protection Policies in the LRVSP require that the proposed project prevent the increase in potential flood hazard or damage to surrounding properties.

The LRVSP also considers the prior or concurrent development of the VMVSP for stormwater management. If the VMVSP project area is developed first, the LRVSP project area could use the storage provided in an offsite detention basin facility in the VMVSP project area to attenuate peak stormwater runoff from LRVSP flows to a level that would not affect downstream facilities along Deer Creek downstream of the confluence of Deer Creek and Marble Creek. This basin would provide 53 af of storage volume, which would accommodate the combined flows generated by the LRVSP and VMVSP (Appendix J).

However, as described above and in the *Lime Rock Valley Storm Drain Master Plan* (Watermark Engineering 2015) (Appendix J), in the event that the VMVSP is not approved or is delayed relative to LRVSP development, an onsite detention and retention facility would be constructed in the LRVSP project area to attenuate peak stormwater runoff to a level that would not affect downstream facilities. A berm would be constructed across the upper half of a small tributary identified as Subshed D6B, which is in the southwest portion of the LRVSP project area. The berm would create a detention basin with a storage volume of 9 af, and the effect of the berm on the southeast tributary would not cause an increase in flood potential along the downstream reaches of Deer Creek.

Figure 3.8-1 illustrates the existing drainage features in the project area. The main feature of the basin would be an 18-inch reinforced concrete pipe. The maximum water depth at the face of berm would be approximately 23 feet. The stored runoff would drain to normal channel conditions within 6 to 12 hours after the peak has passed. The proposed project's basin and culvert would reduce peak flows to 8,780 cubic feet per second (cfs) compared to 8,820 cfs under existing conditions. Because peak flows would be reduced compared to existing conditions, and the basin would attenuate stormwater volumes, the proposed project would not result in offsite flooding in the downstream reaches of Deer Creek (Appendix J).

With the incorporation of the strategies described above, and adherence to the requirements of the County Drainage Manual and the County's Small MS4 permit, the proposed project would not cause onsite or offsite flooding. Impacts would be less than significant, and no mitigation is required.

Impact WQ-3iii: Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (less than significant)

Storm Drainage System Capacity

Project components such as roadways, building rooftops, and hardscaping would result in an increase in stormwater runoff as a result of new impervious surfaces. There is currently no storm drainage system in the project area, and a new system would be installed as part of the proposed

project that would have sufficient capacity for the project. As noted in Impact WQ-4, the proposed project's hydrologic and hydraulic analysis (Appendix J) shows that post-development flows would be attenuated through one of two proposed methods. This would ensure the capacity of the planned stormwater drainage system would not be exceeded. Storm drainage system capacity impacts would be less than significant.

Postconstruction Stormwater Runoff Water Quality

Upon completion of the proposed project, components such as roads and houses would create new impervious surfaces. This condition would result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff during storm events. In addition, the increase in impervious surfaces, along with the increase in surface water runoff, could increase the nonpoint-source discharge of pollutants. Anticipated runoff contaminants include sediment, pesticides, oil and grease, nutrients, metals, bacteria, and trash. Contributions of these contaminants to stormwater and non-stormwater runoff could degrade the quality of receiving waters. During the dry season, vehicles and other urban activities release contaminants onto the impervious surfaces where they can accumulate until the first storm event. During this initial storm event, or first flush, the concentrated pollutants would be transported in runoff to stormwater drainage systems. Contaminated runoff waters could flow into the stormwater drainage systems that discharge into Deer Creek and ultimately could degrade the water quality of Deer Creek and the Cosumnes River.

The County's Small MS4 Permit Section E.12, County SWMP (El Dorado County 2004b), the County Drainage Manual (El Dorado County 2020), and Stormwater Quality Ordinance No. 5022 require the proposed project to manage hydro-modification and avoid adverse water quality impacts on onsite drainages, including Deer Creek. To accomplish this, the proposed project's drainage system would be designed so the post-development runoff would not detrimentally exceed predevelopment runoff rates, durations, and volumes from the project area (G3 Enterprises 2020). LRVSP policies 7.46 and 8.7 and 8.8 require treatment of urban runoff in accordance with County standards and the use of BMPs (G3 Enterprises 2020). Source control BMPs could include conserving natural areas, protecting slopes and channels, and minimizing impervious areas. Treatment control BMPs may include use of vegetated swales and buffers, detention basins, wet ponds, constructed wetlands, and infiltration basins. The sizes and locations of water quality ponds would be refined when more detailed site plans have been developed (Appendix J). As part of the riparian corridor enhancements along the drainage channel, the open space area adjoining the channel would be regraded to incorporate wetland enhancement and water quality features.

The LRVSP includes policies 7.43, 7.44, and 8.7 and 8.8 that describe the stormwater quality protection requirements for the proposed project (G3 Enterprises 2020). As described in the LRVSP, the proposed stormwater system would consist of a balanced centralized and LID stormwater management system to capture and treat stormwater runoff both at its source, as well as in a detention basin (which would either be within the project area or VMVSP project area, as described under Impact WQ-4) (G3 Enterprises 2020). The stormwater drainage system would preserve open space and undisturbed site areas and provide functional landscaping for infiltration, evaporation, and stormwater treatment. Stormwater facilities consisting of surface swales would be constructed along natural drainage courses to mimic natural drainage patterns.

LID techniques would be used for individual lots, landscape corridors, parks and streets, while the centralized detention basin would serve the open space areas. Potential LID features include

drainage courses within landscaped greenways and buffers; drainage swales in roadways, parking medians and planting strips; vegetated curb extensions along neighborhood streets; and rain or infiltration gardens. Specific LID, water quality, and hydromodification control measures would be identified at the tentative map stage as more detailed parcel-specific design information becomes available. Water quality BMPs would also be implemented on a parcel-by-parcel basis (Appendix J).

Prior to approving grading or improvement plans for any tentative map, the County would review the proposed storm drainage system design to ensure BMPs have been identified, that the Small MS 4 Permit Section E.12 requirements have been incorporated into project design, and to verify the BMPs would reduce urban pollutants to the extent required by permits and standards in place at the time of entitlements.

With implementation of LRVSP policies and state-mandated Small MS-4 Permit Section E.12 requirements, these measures would also help comply with the Central Valley Water Board Basin Plan, which specifies water quality objectives and beneficial use requirements. Therefore, water quality impacts during project occupancy would be less than significant. No mitigation is required.

Impact WQ-3iv: Impede or redirect flood flows (less than significant)

During construction, the drainage pattern of the project site or area may be temporarily altered. Construction equipment would be relocated to minimize flood risks or redirect flood flows. In addition, the proposed project would implement BMPs to control construction site runoff, ensure proper stormwater control and treatment, reduce the discharge of pollution to the storm drain system, and ensure sufficient storm drain capacity for the proposed project. A drainage plan would be required for approval by El Dorado County for onsite measures consistent with the County of El Dorado Drainage Manual and other applicable stormwater standards and requirements.

The project area does not include FEMA 100-year flood hazard areas. However, the drainage study prepared for the proposed project identified flood-prone areas (Appendix J). No structures would be located within those areas. Therefore, flood flows would not be impeded or redirected. In the event of dam failure at Cameron Park Lake, Deer Creek within the project area may be inundated. However, this reach is within an area that would remain as open space under the proposed project. Accordingly, flood flows would not be impeded or redirected. Because the County participates in the NFIP, it must ensure that the proposed project meets federal standards for flood protection. The County's Multi-Hazard Functional Emergency Operations Plan contains response plans for floods resulting from dam failure and the County's Flood Damage Prevention Ordinance contains methods and provisions for preventing flood damage.

To treat runoff from additional new impervious surface, the proposed project would include an onsite detention and retention facility. The detention basin would provide 53 af of storage volume, which would accommodate the combined flows generated by the LRVSP and VMVSP (Appendix J). If the LRVSP is developed prior to the VMVSP, a 9-af onsite detention basin would also be necessary. This treatment BMP would reduce the volume of runoff entering the storm drainage system. New drainage structures would ultimately improve drainage patterns. In addition, Floodplain Protection Policies in the LRVSP require that the project prevent the increase in potential flood hazard or damage to surrounding properties. The proposed project would not impede or redirect flood flows. Impacts would be less than significant, and no mitigation is required.

Impact WQ-4: In a flood hazard, tsunami, or seiche, risk release of pollutants due to project inundation (less than significant)

The project area is not at risk of inundation from a tsunami or seiche due to its distance from the ocean or other water bodies. In the event of a flood hazard, to reduce the risk of a pollutant release, the proposed project would comply with the requirements of local water quality programs and associated municipal stormwater-related NPDES permits (e.g., municipal separate storm sewer system permit), as well as County ordinances and County General Plan policies to manage flood risk and water quality. Compliance with these requirements would minimize risks related to a release of pollutants due to project inundation in a flood hazard. The proposed project would not release pollutants as a result of inundation by flood, tsunami, or seiche. Therefore, impacts would be less than significant.

Impact WQ-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (no impact)

Project implementation would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Permittees are required to comply with the appropriate water quality objectives for the region. Commonly practiced BMPs would be implemented to control construction site runoff and reduce the discharge of pollutants to storm drain systems from stormwater and other nonpoint source runoff. As part of compliance with permit requirements during ground-disturbing or construction activities, implementation of water quality control measures and BMPs would ensure that water quality standards would be achieved, including the water quality objectives that protect designated beneficial uses of surface and groundwater, as defined in the basin plan. The NPDES Construction General Permit also requires that stormwater discharges not contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards, including designated beneficial uses. Although the project area is not within a recognized groundwater subbasin, implementation of the appropriate County General Plan policies would require the protection of groundwater recharge areas and groundwater resources, as required by a sustainable groundwater management plan. There would be no impact.

Impact WQ-6: Impacts on hydrology and water quality resulting from offsite improvements, including General Plan Policy TC-Xf traffic improvements (less than significant with mitigation)

Whether or not the VMVSP is approved and constructed prior to the LRVSP, construction impacts on water resources resulting from offsite improvements and traffic improvements required under General Plan Policy TC-Xf would be similar to those described for onsite impacts. Both projects would be required to implement applicable water quality protection (i.e., Construction General Permit, Small MS4 Permit, WDRs for dewatering). Groundwater depletion or interference with groundwater recharge would be less than significant because the improvements would generally be linear features and would not include large areas of impervious surfaces. In accordance with the County Drainage Manual, a hydrologic and hydraulic analysis would be submitted with designs for the offsite roadway improvements. Those improvements would incorporate storm drainage features to ensure runoff can be accommodated in the drainage system without causing or exacerbating flooding. Proper measures to maintain water quality after construction would be required (i.e., source and treatment control measures contained in the County SWMP [El Dorado County 2004b],

the County Drainage Manual [El Dorado County 2020], Section E.12 of the Small MS4 Permit, and the Stormwater Quality Control Ordinance No. 5022).

There are no 100-year floodplains in the offsite improvement areas. Upstream dam failure and ensuing inundation poses a moderate risk to the offsite improvement areas. The offsite improvement areas are not at risk due to inundation from a tsunami or seiche due to their distance from the ocean or other water bodies, and there are no ground-stability issues that would expose the offsite improvement areas to mudflow hazards.

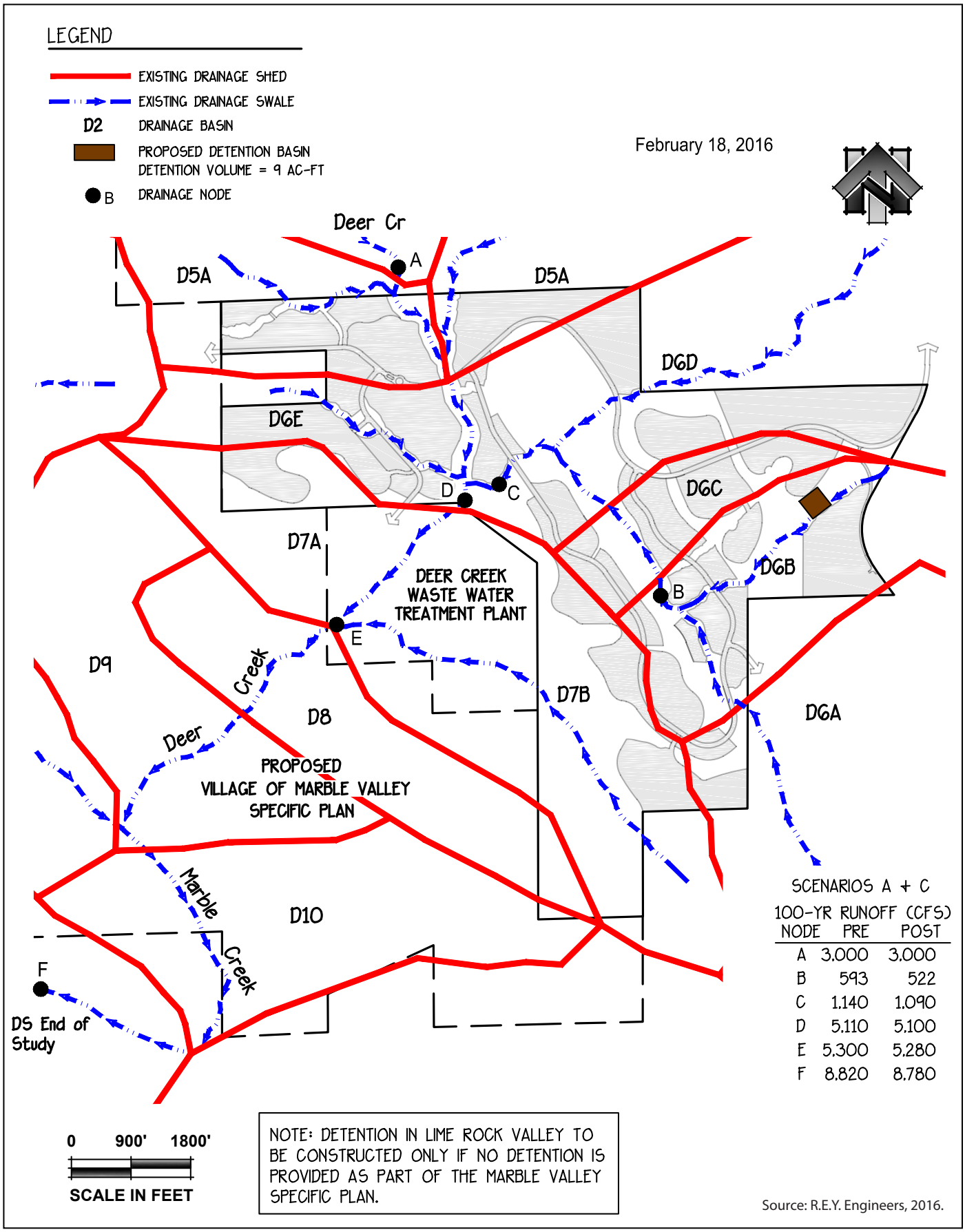
Further, as discussed under Impact WQ-1, Mitigation Measures BIO-1a, BIO-1b, BIO-1c, and BIO-3a will reduce impacts on wetlands and other waters to a less-than-significant level.

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands



Graphics ... 00666.12 (7-19-2016)

Figure 3.8-1
Existing Drainage Features

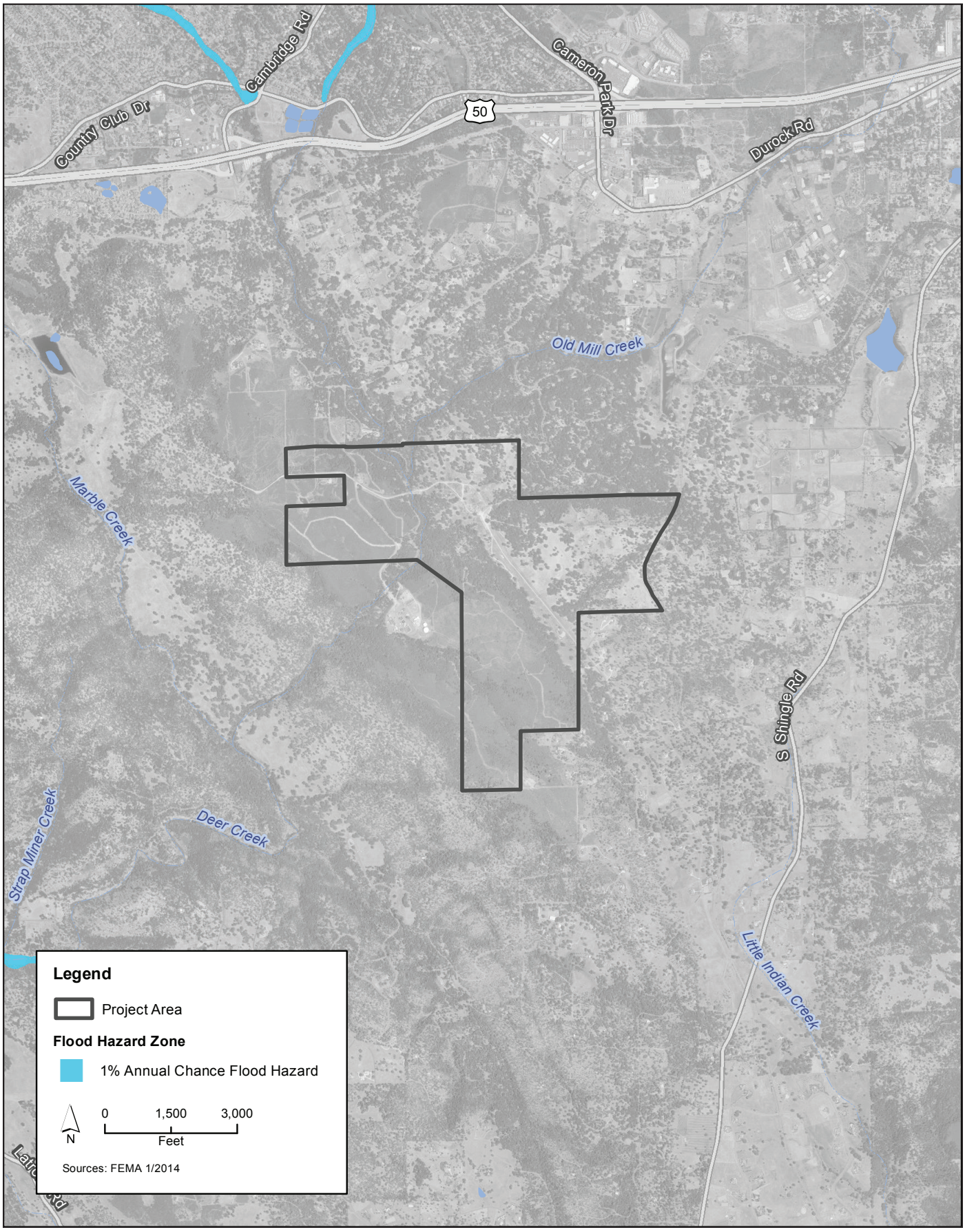


Figure 3.8-2
Flood Hazard Zones in the Vicinity of Lime Rock Valley

3.9 Land Use Planning and Agricultural Resources

This section describes the regulatory and environmental setting, as well as identified impacts for land use planning and agricultural resources from implementation of the Lime Rock Valley Specific Plan (LRVSP) (proposed project).

The information presented here, and the analysis of impacts is based on research and analysis performed by ICF and the following documents. These documents are available in their entirety for review at the El Dorado County Planning Division.

- *El Dorado County General Plan* (County General Plan) (El Dorado County 2004).
- *El Dorado County General Plan, Land Use Element (El Dorado County 2019).*
- *Draft Lime Rock Valley Specific Plan* (G3 Enterprises 2020).

3.9.1 Existing Conditions

Regulatory Setting

State

California Planning Law—General Plans

State law requires El Dorado County (County) (as well as all other cities and counties in the state) to "adopt a comprehensive, long-term general plan for the physical development of the county" (Government Code Section 65300). The County General Plan is considered to be the County's "constitution," containing development and conservation policies that will guide its long-term development. State law mandates that general plans address land use, housing, circulation, open space, conservation, noise, and safety, as well as any other issues that may be of interest to the County. The County General Plan Land Use Element identifies the allowable types, density, and intensity of land uses through its list of residential, commercial, agricultural, industrial, and other land use designations. The land use diagram (map) identifies the locations of these existing and future land uses, as well as the communities within which they will be located.

California Planning Law—Specific Plans

State law authorizes a county to adopt one or more specific plans "for the systematic implementation of the general plan for all or part of the area covered by the general plan." (Government Code Section 65450) A specific plan must be consistent with the general plan and contain the following components (Government Code Section 65451).

- Text and diagrams describing the distribution, location, and extent of the uses of land, including open space, within the area covered by the plan.
- The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.

- Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable.
- A program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out the previously listed components.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) is a nonregulatory program of the California Department of Conservation that inventories the state's important farmlands and tracks the conversion of farmland to other land uses. The FMMP publishes reports of mapped farmland and conversions every 2 years. The FMMP categorizes farmland on the basis of its soil quality, the availability of irrigation water, current use, and slope, among other criteria. The categories of farmland identified in the FMMP are listed below.

- **Prime Farmland.** Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Farmland of Statewide Importance.** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Unique Farmland.** Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but it may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.
- **Farmland of Local Importance.** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land.** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

The FMMP also identifies nonagricultural lands.

- **Urban and Built-Up Land.** Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.
- **Other Land.** Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

FMMP data are helpful in analyzing whether agricultural conversion is occurring within a county and at what rate.

California Land Conservation Act of 1965 (Williamson Act) and Farmland Security Zone Act

In El Dorado County, forest and timberland are important resources, and several state programs that support these resources are relevant to the County. However, no timber or forest lands occur on the project site, so these programs are not relevant and not discussed further here.

The California Land Conservation Act of 1965 (Government Code Section 51200, et seq.), also known as the Williamson Act, protects farmland from conversion to other uses by offering owners of agricultural land a property tax incentive to maintain their land in agricultural use. Under the Williamson Act, landowners contract with the county (or city) in which their property is located, promising to maintain the land in agriculture or compatible use for a minimum period of 10 years. In return, the property tax on the land is based on its productive value rather than its assessed value.

According to the County Assessor's records, no portions of the project site are covered by Williamson Act contracts (California Department of Conservation 2017).

Local

El Dorado County 2004 General Plan and Amendments

The County General Plan identifies the density, intensity, type, and pattern of land uses in the unincorporated areas of the County. Land use within lands under County jurisdiction is subject to regulation under the County General Plan and Zoning and Subdivision Ordinances. The adopted County General Plan states the following.

> It is the explicit intent of the Plan, through the appropriate application of these planning concept areas, to: (1) foster a rural quality of life; (2) sustain a quality environment; (3) develop a strong diversified, sustainable local economy; (4) plan land use patterns which will determine the level of public services appropriate to the character, economy, and environment of each region; and (5) accommodate the County's fair share of the regional growth projections while encouraging those activities that comprise the basis for the County's customs, culture, and economic stability.

Most unincorporated areas of the County fall within areas designated under the County General Plan as Community Regions, where growth will be directed and facilitated; Rural Centers, where growth and commercial activities under the County General Plan will be directed to serve the larger Rural Regions; and Rural Regions, where the County General Plan calls for resource-based activities to be located, and which, under the County General Plan, are to be enhanced while accommodating reasonable growth. The project site is not within a Community Region or specific plan area, as discussed in the next subsection. The project site is within a Rural Region.

County http://www.edcgov.us/AboutUs.aspxGeneral Plan Objective 2.1.3 and Policy 2.1.3.1 describe the basic intent of Rural Regions.

> OBJECTIVE 2.1.3: RURAL REGIONS
>
> Provide a land use pattern that maintains the open character of the County, preserves its natural resources, recognizes the constraints of the land and the limited availability of infrastructure and public services, and preserves the agricultural and forest/timber area to ensure its long-term viability for agriculture and timber operations.
>
> Policy 2.1.3.1 All lands not contained within the boundaries of a Community Region or a Rural Center are classified as Rural Regions.

The County General Plan anticipates that Rural Regions will accommodate about 25% of the County's future growth, with the majority of that growth contained in the designated Community Regions and Rural Communities.

General Plan policy 8.1.3.1 addresses buffers around Williams Act Contract properties. Agriculturally zoned lands including Williamson Act Contract properties shall be buffered from increases in density on adjacent lands by requiring a minimum of 10 acres for any parcel created adjacent to such lands. Parcels used to buffer agriculturally zoned lands should have a similar width to length ratio of other parcels when feasible.

County General Plan policies that are relevant to the proposed project are listed in Appendix B, *Consistency with the El Dorado County General Plan Policies*.

The importance of agriculture and forestry to the County is reflected in the County General Plan's Agriculture and Forestry Element (El Dorado County 2015). Through this element, the County has adopted extensive policies relating to the conservation, management, and utilization of its agricultural and forest lands "as fundamental components of the County's rural character and way of life." Table 3.9-1 identifies the County General Plan land use designations that apply to the project site.

Table 3.9-1. Existing County General Plan Land Use and Zoning Designations

Assessor's Parcel No.	Area (acres)	Land Use	Zoning	Max No. Units
109-010-09	10.00	RR	RL-10 PD	1
109-010-10	10.00	RR	RL-10 PD	1
109-010-13	40.00	RR	RL-10 PD	4
109-010-14	80.00	RR	RL-10 PD	8
109-020-01	391.47	RR	RL-10 PD	39
109-020-04	120.00	OS	OS	0
109-020-05	40.00	RR	RL-40	1
109-020-06	39.94	RR	RL-20	2
109-020-20	9.00	RR	RL-10	0
Total	740.41			56

PD = planned development overlay zone.

County General Plan Land Use

RR = Rural Residential.
OS = Open Space.

Zoning

RL-10 = Rural Lands 10 Ac. (Min. Lot Area).
RL-20 = Rural Lands 20 Ac. (Min. Lot Area).
RL-40 = Rural Lands 40 Ac. (Min. Lot Area).
OS = Open Space.

El Dorado County Zoning Ordinance

While the County General Plan establishes policies to guide the County's land use decision-making, the Zoning Ordinance consists of enforceable regulations on the use of County land. The unincorporated area is broken into various residential, commercial, industrial, agricultural, and other "zones," and the Zoning Ordinance describes the standards and regulations applicable to each zone. Zoning maps illustrate how the zoning districts are distributed throughout the County.

Existing County General Plan Land Use Designations and Zoning

Table 3.9-1 identifies the zoning designations that apply to the project site. Existing County General Plan land use designations and zoning for the project site are also shown in Table 3.9-1.

The following presents the County General Plan description of the land use designations currently applied to the project site.

Rural Residential (RR): This land use designation establishes areas for residential and agricultural development. These lands will typically have limited infrastructure and public services and will remain for the most part in their natural state. This category is appropriate for lands that are characterized by steeper topography, high fire hazards, and limited or substandard access as well as "choice" agricultural soils. The RR designation shall be used as a transition between LDR and the Natural Resource (NR) designation. Clustering of residential units under allowable densities is encouraged as a means of preserving large areas in their natural state or for agricultural production. Typical uses include single-family residences, agricultural support structures, a full range of agricultural production uses, recreation, and mineral development activities. The allowable density for this designation is one dwelling unit per 10 to 160 acres. This designation is considered appropriate only in the Rural Regions.

Open Space (OS): This land use category can be used to designate public lands under governmental title (County, State Parks, BLM, U.S. Bureau of Reclamation, U.S. Forest Service, etc.), where no development other than that specifically needed for government-related open space uses is desired. This land use includes State parks, ecological preserves, and public lands acquired specifically for open space uses. It may also be used on private lands to maintain natural features within clustered development where a General Plan amendment is processed. This designation is considered appropriate within Community Regions, Rural Centers, and Rural Regions.

The following presents the zoning ordinance description of the zoning currently applied to the project site.

Rural Lands (RL). The RL, Rural Lands Zone, is intended to identify those lands that are suitable for limited residential development based on topography, access, groundwater or septic capability, and other infrastructural requirements. This zone may be applied where resource-based industries in the vicinity may impact residential uses. Commercial support activities that are compatible with the available infrastructure may be allowed within this zone to serve the surrounding rural and agricultural communities. Although agricultural uses are allowed, these lands generally do not support exclusive agricultural use. This zone is applied to those lands to allow uses which supplement the agricultural use. For special setback purposes, the RL zone is not considered to be an agricultural or timber zone. Minimum lot size designators shall be applied to this zone based on the constraints of the site, surrounding uses, and other appropriate factors. The designator shall represent the minimum number of acres and shall be in the following increments: 10, 20, 40, 80, and 160.

The Planned Development (–PD) Combining Zone implements the General Plan by providing innovative planning and development techniques that allow the use of flexible development standards; provide for a combination of different land uses which are complimentary, but may not in all aspects conform to the existing zoning regulations; allow clustering of intensive land uses to minimize impacts on various natural resources; avoid cultural resources where feasible; promote more efficient utilization of land; reflect the character, identity and scale of local communities; protect suitable land for agricultural uses; and minimize use compatibility issues and environmental impacts.

Open Space (OS). The OS Zone is applied to set aside for primarily open space purposes including, but not limited to, the protection of rare and endangered plant or animal habitat; wildlife habitat, such as critical winter deer range and migration corridors; sensitive riparian areas; oak woodlands; visual resources as a part of a development plan or along a designated scenic corridor; and

watersheds and groundwater recharge areas. Intensive agriculture is not compatible, although low intensity agriculture such as seasonal grazing may be compatible. Recreational uses that have little impact and do not require substantial permanent structures or facilities are also compatible.

The OS Zone can also designate land set aside to protect agricultural lands covered by an open space easement or as a part of a development plan in an Agricultural District, as identified on the General Plan land use maps, or on other identified agricultural lands.

Where the OS Zone is applied as part of a development plan, the uses allowed under the development plan permit are allowed, including a full range of recreational facilities.

Where the County determines it is necessary or in the public interest, limited infrastructure, including but not limited to, roads, water, wastewater,

El Dorado County Subdivision Ordinance

Title 120 of the El Dorado County Municipal Code governs the division of any and all land within the unincorporated territory of the County. Pursuant to the Subdivision Map Act, subdivisions of land into more than four parcels requires prior approval by the County of a tentative map subdivision. Sale of those lots can take place only after the conditions of approval have been met and the County has approved the final map.

Design and Improvement Standards Manual

Conformity with the *Design and Improvement Standards Manual* (El Dorado County 1990) is a requirement of the County General Plan. This manual addresses standards for development and construction related to land use, roadway design, and development. The manual is currently being updated.

Environmental Setting

The project site consists of a series of sloping hills surrounding the main valley (Lime Rock Valley) and a minor valley associated with the corridor of Deer Creek, a perennial stream that flows north to south through the property. Currently, the project site is largely undeveloped and was used in the past for mining and grazing. The site is covered primarily with oak savannah with lowland riparian oak woodland along Deer Creek and chaparral in the western portion of the project area. Structures and features on the project site remain from previous limestone mining and processing activities, including six residential structures, four of which are dilapidated and unoccupied and two that are tenant-occupied by caretakers of the project site, the mine office, and other related features. Portions of the site have been used in the past for grazing. There is no commercial agriculture or forestry activities on the project site.

The project site is bounded on the north by the existing Cameron Estates gated community; on the east by the Sacramento–Placerville Transportation Corridor (SPTC), a corridor in which a rail line previously existed and a natural trail is now being developed; on the south by Royal Equestrian Estates; and on the west by the site of the proposed Village of Marble Valley Specific Plan (VMVSP) and the existing Deer Creek Wastewater Treatment Plant operated by the El Dorado Irrigation District (EID), as shown in Figure 2-3. Cameron Estates and Royal Equestrian Estates are existing residential communities consisting of large-lot residential development, including equestrian estate-type residential uses.

As shown in Figure 3.9-1, approximately 30 acres of Farmland of Local Importance is located on the valley floor within the project area. Approximately half of this land falls within land in the

southeastern part of the site currently zoned for Rural Lands (20-acre and 40-acre minimum). Portions of the north and east sides of the project site are identified by the FMMP as Grazing Land. The remainder of the site is designated Other Land. There is no Prime Farmland or active agricultural operations on the project site. Table 3.9-2 lists the land uses identified by the FMMP on the project site as of 2016.

Table 3.9-2. Farmland Mapping and Monitoring Program Farmland at the Project Site (2016)

Farmland Type	Acres
Grazing Land	284
Farmland of Local Importance	30
Other Land	425
Total	738[a]

[a] Arithmetic error due to rounding.

Lands to the east and west of the project site include some lands shown as Grazing Land in the FMMP maps (Figure 3.9-1), but most lands in the vicinity are classified as Other Land.

3.9.2 Environmental Impacts

This section examines the proposed project, describes the methods used to determine its impacts on land use planning and agriculture, lists the criteria used to conclude whether an impact would be significant, and assesses the significance of impacts.

Methods of Analysis

The land use analysis was based on research by ICF, including a review of relevant planning documents and available information regarding existing and planned land uses on the project site and in the vicinity. Information on agricultural and timber resources was obtained from the FMMP and from reviewing the County General Plan and zoning designations, as well as a project site visit and review of the project vicinity using aerial photographs.

A policy inconsistency is considered to be a significant adverse environmental impact when it is related to a policy adopted for the purpose of avoiding or mitigating an environmental effect, and it is anticipated that the inconsistency would result in a significant adverse physical impact as a result of the proposed project. This EIR evaluates the environmental effects of the proposed project in light of policies that pertain to environmental impacts. Appendix B, *Consistency with the El Dorado County General Plan Policies*, provides a policy-by-policy analysis. Any associated physical impacts are discussed in this EIR under specific topical sections, such as noise, air quality, and transportation and circulation, as appropriate.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Physically divide an established community.
- 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.

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to a nonagricultural use.
- Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract.
- 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]).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.

Impacts and Mitigation Measures

Impact LU-1: Physically divide an established community (no impact)

Currently, the project site is largely undeveloped. Six residential structures exist on the site, two of which are currently occupied by site caretakers. As a part of the proposed project, residential use of these structures would be discontinued. Two caretaker units do not constitute a community. Adjacent developed communities, such as Cameron Estates and Royal Equestrian Estates, have their own integrity and identity as communities. The LRVSP would result in the development of residential uses and open space, as well as associated infrastructure. Access to the site would be provided via the new Lime Rock Valley Road on the west, Amber Fields Drive to the south, and Shingle Lime Mine Road to the east. Amber Fields Drive and Shingle Lime Mine would be gated and used for emergency access only. All roads on the project site are currently unimproved dirt or gravel roads. The project would not result in a loss of access between existing adjacent communities, would not affect existing thoroughfares, and does not propose new access through those communities or physically divide those communities. As such, development of the proposed project would not physically divide any established community. There would be no impact. No mitigation is required.

Impact LU-2: 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 (less than significant)

As discussed in Chapter 2, Section 2.3.1, *Project Entitlements*, the proposed project includes amendments to the County General Plan land use designations and zoning amendments, including a change to make the project site part of the El Dorado Hills Community Region. That the project site is not now within a Community Region means that the proposed project would not be consistent with the County General Plan goals of focusing development within Community Regions. However, the project site is within EID's service area, which is consistent with the County General Plan goals of using available infrastructure and providing cost-effective public services.

The proposed project is also inconsistent with the site's existing Rural Residential County General Plan designation because it proposes residential densities greater than allowed in the Rural Residential designation. The proposed project is consistent with the existing County General Plan where proposed park and open space uses coincide with the existing Open Space (OS) designation.

The proposed project includes an amendment to the County General Plan to expand the boundaries of the El Dorado Hills Community Region southward to include the project site (Figure 2-4). County General Plan Policy 2.1.1.6 provides that the boundaries of existing Community Regions may be modified through the general plan amendment process. Policies of the County General Plan relevant to Community Regions are presented in Appendix B, *Consistency with the El Dorado County General Plan Policies*, with which the proposed project is consistent. If the proposed project is approved, the proposed development would be consistent with the amended general plan. This impact assessment evaluates the environmental effects of the proposed project in light of policies that pertain to environmental impacts. The physical effects of the proposed changes in land use are addressed in the remainder of this EIR. The impact is less than significant.

This impact assessment evaluates the environmental effects of the proposed project in light of policies that pertain to environmental impacts. The physical effects of the proposed changes in land use are addressed in the remainder of this EIR.

Impact LU-3: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use (no impact)

No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance occurs on the project site. There would be no impact. No mitigation is required.

Impact LU-4: Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract (no impact)

No portions of the project site are covered by Williamson Act contracts; therefore, there would be no impact. All but one of the project site parcels (APN 109-020-04, which is zoned Open Space) are currently zoned Rural Lands. The Rural Lands zone is intended to identify those lands that are suitable for limited residential development based on topography, access, groundwater or septic capability, and other infrastructural requirements and these lands generally do not support exclusive agricultural use. This zone is applied to those lands to allow uses that supplement the agricultural use. For special setback purposes, the Rural Lands zone is not considered to be an agricultural or timber zone.

General Plan policy 8.1.3.1 addresses buffers around agricultural lands, stating that agriculturally zoned lands, including Williamson Act Contract properties, shall be buffered from increases in density on adjacent lands by requiring a minimum of 10 acres for any parcel created adjacent to such lands and those newly created parcels should have a similar width to length ratio of other parcels when feasible. APN 109-090-006, which is north and adjacent to the project site, is zoned for agricultural uses, and the adjacent LRVSP parcels are zoned R5A-PD, which would allow 5-acre lots. This would conflict with General Plan Policy 8.1.3.1 and be a significant impact. However, the LRVSP includes Amendment 1 to be in compliance with General Plan Policy 8.1.3.1, which says that any newly created parcel in an area zoned R5A-PD that is adjacent to Agriculturally zoned lands, including Williamson Act Contract properties, shall be a minimum 10 acres in size and will have a similar width to length ratio of the adjacent parcel, when feasible. Therefore, the project would not conflict with General Plan Policy 8.1.3.1, and the rezoning of project site parcels from the Rural Lands zone to provide for low- and medium-density residential development would not result in a conflict with existing zoning for agricultural use and no impact would occur.

Impact LU-5: 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]) (no impact)

No forest or timberland exists on the project site. There would be no impact. No mitigation is required.

Impact LU-6: Result in the loss of forest land or conversion of forest land to non-forest use (no impact)

No forest land exists on the project site or vicinity. There would be no impact. No mitigation is required.

Impact LU-7: Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use (less than significant)

No forest land exists at the project site or in the vicinity. Farmland types in the vicinity of the project site are similar to those at the project site. Some small areas of Farmland of Local Importance, including vineyards, are located in the vicinity of the project site. Some Grazing Land is also located in the vicinity. Land uses in the vicinity of the project site are primarily Rural Residential. Development of the project site as proposed, which would include small areas of agricultural uses—primarily vineyards located in the open space areas, would not restrict existing agricultural uses, or affect an area of large-scale commercial agriculture and result in indirect conversion of Farmland to non-agricultural uses. The impact would be less than significant. No mitigation is required.

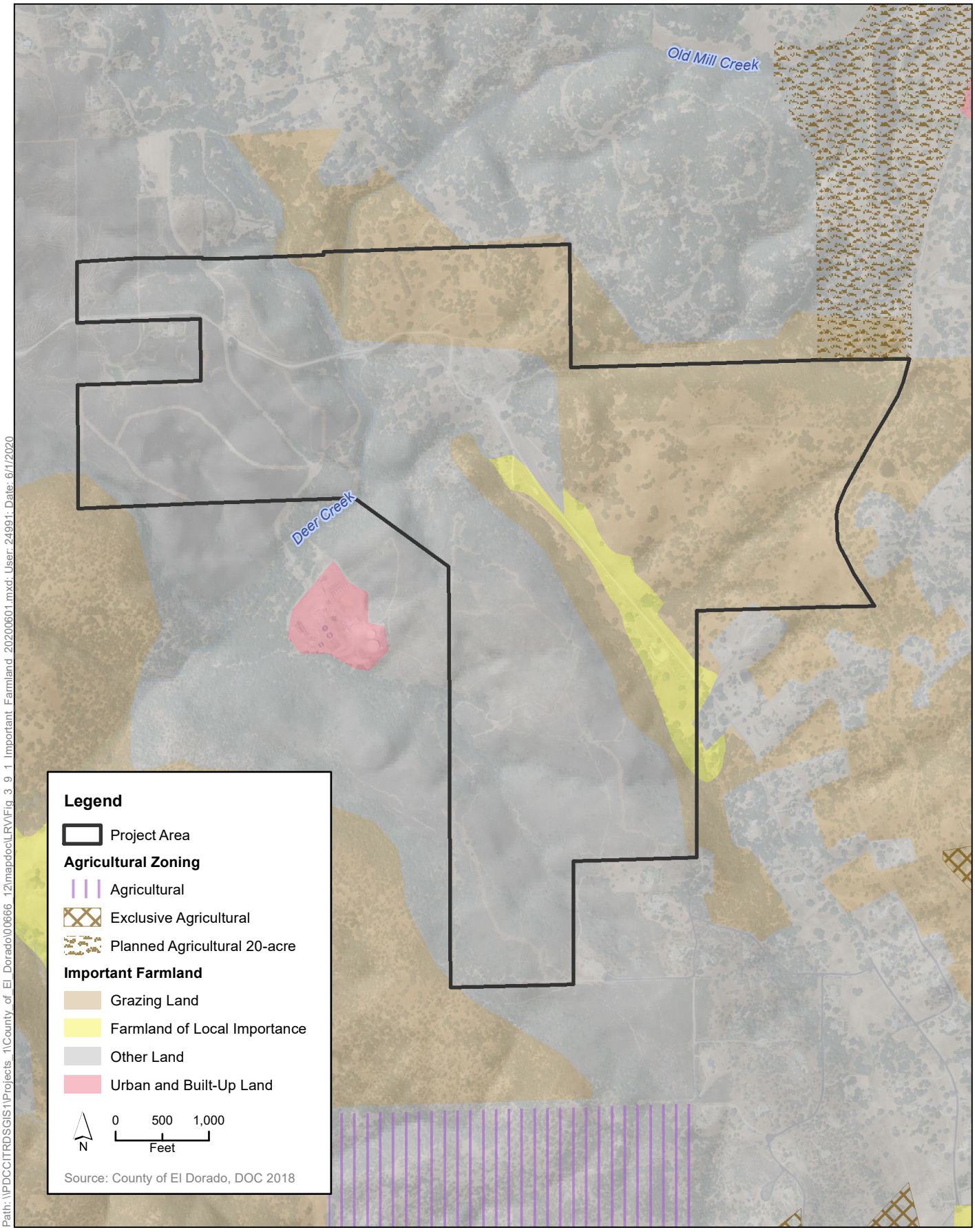
Impact LU-8: Result in impacts related to land use as a result of offsite improvements or General Plan Policy TC-Xf traffic improvements (less than significant)

As described in Chapter 2, *Project Description*, offsite improvements would be required to connect the project area to infrastructure. If the proposed project is constructed after the VMVSP, it would tie into infrastructure improvements constructed by the VMVSP for water transmission and utility lines. In the event that that the proposed project is approved and the VMVSP is not approved, or if the VMVSP is constructed after the proposed project, road and utility line improvements extending to the project site from the west would be the responsibility of the proposed project.

Under either scenario, development of the offsite infrastructure necessary to serve the proposed project and traffic improvements required under General Plan Policy TC-Xf would not physically divide any established community and there would be no impact. Project access to the Bass Lake Road interchange and connections to underground utilities, including potable water, extending to the west would cross undeveloped land through the VMVSP area if the LRVSP is constructed first or would be incorporated into the VMVSP, if the VMVSP is constructed first. The intervening lands include low-density residential development for some distance (approximately 1.5 miles) to the west of Lime Rock Valley Road and do not comprise a coherent community.

The proposed project would also involve the extension of utilities and a potable water line along Shingle Lime Mine Road east of the project site and installation of potable water improvements on the north and south sides of US Highway (US) 50. These improvements would be installed underground. As a result, once installed they would not leave a physical barrier.

Development of the offsite infrastructure necessary to serve the proposed project and traffic improvements required by General Plan Policy TC-Xf would not result in the conversion of farmland and there would be no impact. The extent to which this infrastructure may result in a growth-inducing impact on the intervening lands is discussed in Chapter 5, *Other CEQA Considerations*.



Path: \\PDCCITRDSGIS1\Projects_1\County_of_El_Dorado\00666_12\mapdoc\LRV\Fig_3_9_1_Important_Farmland_20200601.mxd; User: 24991; Date: 6/1/2020

Figure 3.9-1
Important Farmland

3.10 Noise and Vibration

This section describes the environmental setting and regulatory setting for noise in El Dorado County (County) as it pertains to the proposed project. It also describes the noise impacts that would result from implementation of the proposed project and provides mitigation for significant impacts.

3.10.1 Noise Terminology

Noise

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, an evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is mechanical energy (vibration) transmitted by pressure waves over a medium such as air or water. Sound is characterized by various parameters, which include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called *A-weighting*, written as dBA and referred to as *A-weighted decibels*. Table 3.10-1 defines sound measurements and other terminology used in this chapter, and Table 3.10-2 summarizes typical A-weighted sound levels for different noise sources.

In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level, if sound levels increase or decrease, respectively.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (such as L_{10}, L_{20}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). L_{dn} and CNEL values differ by less than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and treated as such. These measurements are defined in Table 3.10-1.

For a point source such as a stationary compressor or construction equipment, sound attenuates (lessens in intensity) based on geometry at a rate of 6 dB per doubling of distance. For a line source such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance (California Department of Transportation 2013). Atmospheric conditions, including wind, temperature gradients, and humidity, can change how sound propagates over distance and affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface such as grass attenuates at a greater rate than sound that travels over a hard surface such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance.

Barriers such as buildings and topography that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

Table 3.10-1. Definition of Sound Measurements

Sound Measurements	Definition
Decibel (dB)	A unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude compared to a reference sound pressure amplitude. The reference pressure is 20 micropascals.
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
C-Weighted Decibel (dBC)	The sound pressure level in decibels as measured using the C-weighting filter network. C-weighting is very close to an unweighted or *flat* response. C-weighting is used only in special cases when low-frequency noise is of particular importance. A comparison of the measured A- and C-weighted level gives an indication of low-frequency content.
Maximum Sound Level (L_{max})	The maximum sound level measured during the measurement period.
Minimum Sound Level (L_{min})	The minimum sound level measured during the measurement period.
Equivalent Sound Level (L_{eq})	The equivalent steady-state sound level that, in a stated period of time, would contain the same acoustical energy.
Percentile-Exceeded Sound Level (L_{xx})	The sound level exceeded *xx*% of a specific time period. L_{10} is the sound level exceeded 10% of the time, and L_{90} is the sound level exceeded 90% of the time. L_{90} is often considered to be representative of the background noise level in a given area.
Day-Night Level (L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Peak Particle Velocity (Peak Velocity or PPV)	A measurement of ground vibration, defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. PPV is usually expressed in inches per second.
Frequency: Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.

Table 3.10-2. Typical A-weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock band
Jet flyover at 1,000 feet		
	—100—	
Gas lawnmower at 3 feet		
	—90—	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	—80—	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	—70—	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	—60—	
		Large business office
Quiet urban daytime	—50—	Dishwasher in next room
Quiet urban nighttime	—40—	Theater, large conference room (background)
Quiet suburban nighttime		
	—30—	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	—20—	
		Broadcast/recording studio
	—10—	
	—0—	

Source: California Department of Transportation 2013.
dBA = A-weighted decibel.

Human Response to Noise

Noise can have a range of health and other effects on people, including hearing damage, sleep interference, speech interference, performance interference, physiological responses, and annoyance. Each of these is briefly described below.

- **Hearing Damage**. A person exposed to high noise levels can suffer either gradual or traumatic hearing damage. Gradual hearing loss occurs with repeated exposure to excessive noise levels and is most commonly associated with occupational noise exposures in heavy industry or other very noisy work environments. Traumatic hearing loss is caused by sudden exposure to an extremely high noise level, such as a gunshot or explosion at very close range. The potential for noise-induced hearing loss is not generally a concern in typical community noise environments. Noise levels in neighborhoods, even in very noisy airport environs, are not loud enough to cause hearing loss.
- **Sleep Interference**. Exposure to excessive noise levels at night has been shown to cause sleep disturbance. Sleep disturbance refers not only to awakening from sleep but also to effects on the quality of sleep such as altering the pattern and stages of sleep. World Health Organization

guidelines recommend noise limits of 30 dBA L_{eq} (8-hour average) for continuous noise and 45 dBA L_{max} for single sound events inside bedrooms at night to minimize sleep disturbance (Berglund et. al.).

- **Speech Interference**. Speech interference can be a problem in any situation where clear communication is desired but is often of particular concern in learning environments (such as schools) or situations where poor communication could jeopardize safety. Normal conversational speech inside homes is typically in the range of 50 to 65 dBA, and any noise in this range or louder may interfere with speech (Pearsons et. al.). As background noise levels rise, the intelligibility of speech decreases and the listener fails to recognize an increasing percentage of the words spoken. A speaker may raise his or her voice in an attempt to compensate for higher background noise levels, but this in turn can lead to vocal fatigue for the speaker.
- **Performance Interference**. Excessive noise has been found to have various detrimental effects on human performance, including information processing, concentration, accuracy, reaction times, and academic performance. Intrusive noise from individual events can also cause distraction. These effects are of obvious concern for learning and work environments.
- **Physiological Responses**. Acute noise has been shown to cause measurable physiological responses in humans, including changes in stress hormone levels, pulse rate, and blood pressure. The extent to which these responses cause harm or are signs of harm is not clearly defined, but it has been postulated that they could contribute to stress-related diseases, such as hypertension, anxiety, and heart disease. However, research indicates links between environmental noise and permanent health effects are generally weak and inconsistent. Statistically significant health risks have been found for extended exposure to very high noise levels, such as for workers exposed to high levels of industrial noise for 5 to 30 years (Berglund et. al.).
- **Annoyance**. The subjective effects of annoyance, nuisance, and dissatisfaction are possibly the most difficult to quantify, and no accurate method exists to measure these effects. This difficulty arises primarily from differences in individual sensitivity and habituation to sound, which can vary widely from person to person. What one person considers tolerable can be unbearable to another of equal hearing acuity. An important tool in estimating the likelihood of annoyance due to a new sound is by comparing it to the existing baseline or "ambient" environment to which that person has adapted. In general, the more the level or tonal (frequency) variations of a sound exceed the previously existing ambient sound level or tonal quality, the less acceptable the new sound will be.

In most cases, effects from sounds typically found in the natural environment would be limited to annoyance or interference. Physiological effects and hearing loss would be more commonly associated with human-made noise, such as in an industrial or occupational setting.

Blast Noise and Vibration

Blasting may be required as part of the proposed project. The two primary environmental effects of blasting are ground-borne vibration and airblast. The following subsections discuss each of these effects and the standards that are commonly used to assess the impacts of blasting.

Ground Vibration

Blasting and the operation of heavy construction equipment, particularly pile-driving equipment and other impact devices (e.g., pavement breakers), create seismic waves that radiate along the surface of and downward into the ground. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects that range from annoyance of people to damage of structures. Variations in geology and distance result in different vibration levels, with different frequencies and displacements. In all cases, vibration amplitudes decrease with increased distance.

Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they cause rock and soil particles to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV).

Vibration amplitude, which attenuates over distance, is a complex function of how energy is imparted into the ground, as well as the soil or rock conditions through which the vibration is traveling. The equation below is used to estimate the vibration level at a given distance for typical soil conditions (Federal Transit Administration 2018). PPV_{ref} is the reference PPV at 25 feet (Table 3.10-3).

$$PPV = PPV_{ref} \times (25/Distance)^{1.5}$$

Table 3.10-3 summarizes typical vibration levels generated by construction equipment (Federal Transit Administration 2018) at the reference distance of 25 feet, as well as other distances, as determined using the attenuation equation above.

Table 3.10-3. Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 Feet	PPV at 50 Feet	PPV at 75 Feet	PPV at 100 Feet	PPV at 175 Feet
Pile driver (sonic/vibratory)	0.734	0.2595	0.1413	0.0918	0.0396
Hoe ram[a] or large bulldozer	0.089	0.0315	0.0171	0.0111	0.0048
Loaded trucks	0.076	0.0269	0.0146	0.0095	0.0041
Jackhammer	0.035	0.0124	0.0067	0.0044	0.0019
Small bulldozer	0.003	0.0011	0.0006	0.0004	0.0002

Source: Federal Transit Administration 2018.
PPV = peak particle velocity.
[a] Representative of rock ripper.

Tables 3.10-4 and 3.10-5 summarize the guidelines developed by the California Department of Transportation (Caltrans) for assessing damage and annoyance potential from the types of transient and continuous vibration that are usually associated with construction activity. The types of equipment or activities that are typical of continuous vibration include excavation equipment, static compaction equipment, tracked vehicles, traffic on a highway, vibratory pile drivers, pile-extraction equipment, and vibratory compaction equipment. The types of equipment or activities that are typical of single-impact (transient) or low-rate repeated impact vibration include impact pile

drivers, blasting, drop balls, "pogo stick" compactors, and crack-and-seat equipment (California Department of Transportation 2020).

Table 3.10-4. Guideline Vibration Damage Potential Threshold Criteria

	Maximum PPV (inches/second)	
Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation 2020.

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity.

Table 3.10-5. Guideline Vibration Annoyance Potential Criteria

	Maximum PPV (inches/second)	
Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation 2020.

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity.

Airblast

Energy released in an explosion creates an air overpressure (commonly called an *airblast*) in the form of a propagating wave. If the receiver is close enough to the blast, the overpressure can be felt as a pressure front as the airblast passes. The accompanying booming sound lasts for a few seconds. The explosive charges used in mining and mass grading are typically contained in the ground, resulting in an airblast with frequency content below about 250 cycles per second (or 250 hertz [Hz]).

Because an airblast lasts for only a few seconds, use of L_{eq} (a measure of sound level averaged over a specified period of time) to describe blast noise is inappropriate. Airblast is properly measured and described as a linear peak air overpressure (i.e., an increase above atmospheric pressure) in pounds per square inch (psi). Modern blast monitoring equipment is also capable of measuring peak overpressure data in terms of unweighted dB. Decibels, as used to describe an airblast, should not be confused with or compared to dBA, which is commonly used to describe relatively steady-state noise

levels. An airblast with a peak overpressure of 130 dB can be described as mildly unpleasant, whereas exposure to jet aircraft noise at a level of 130 dBA would be painful and deafening.

Human Response to Ground Vibration and Airblast

Human response to blast vibration and airblast are difficult to quantify. Vibration and airblast can be felt or heard well below the levels that produce damage to structures. The duration of the event has an effect on human response, as does blast frequency. Blast events are relatively short, typically several seconds for sequentially delayed blasts. Generally, as blast duration and vibration frequency increase, the potential for adverse human response increases. Studies have shown that a few blasts of longer duration will produce a less adverse human response than short blasts that occur more often.

Table 3.10-6 summarizes the average human response to vibration and airblast that may be anticipated when a person is at rest in quiet surroundings. If the person is engaged in any type of physical activity, the sound level required for the responses indicated is increased considerably.

Table 3.10-6. Human Response to Airblast and Ground Vibration from Blasting

Response	Ground Vibration Range PPV (inches per second)	Airblast Range (dB)
Barely to distinctly perceptible	0.02–0.10	50–70
Distinctly perceptible to strongly perceptible	0.10–0.50	70–90
Strongly perceptible to mildly unpleasant	0.50–1.00	90–120
Mildly unpleasant to distinctly unpleasant	1.00–2.00	120–140
Distinctly unpleasant to intolerable	2.00–10.00	140–170

Source: California Department of Transportation 2013.
dB = decibel.

Ground Vibration and Airblast Criteria

U.S. Bureau of Mines (USBM) Report of Investigations 8507 (U.S. Bureau of Mines 1980a) contains blasting-level criteria that can be appropriately applied to keep ground vibration well below levels that might cause damage to neighboring structures. At low vibration frequencies, the velocity of ground vibration is restricted to 0.05 inch per second. As vibration frequency increases, higher velocities are allowed, up to a maximum of 2.00 inches per second.

Conventional noise criteria (for steady-state noise sources) and limits established for repetitive impulsive noise (such as for gun firing ranges) do not apply to air overpressures from blasting. USBM Report of Investigations 8485 (U.S. Bureau of Mines 1980b) and the regulations issued more recently by the U.S. Office of Surface Mining and Reclamation Enforcement specify a maximum safe overpressure of 0.013 psi (133 dB) for impulsive airblast when recording is accomplished with equipment having a frequency range of response of at least 2 to 200 Hz.

3.10.2 Existing Conditions

Regulatory Setting

Federal, state, and local agencies regulate different aspects of environmental noise. Generally, the federal government sets noise standards for transportation-related noise sources that are closely linked to interstate commerce. These sources include aircraft, locomotives, and trucks. No federal noise standards are directly applicable to the proposed project. The state government sets noise standards for transportation noise sources such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies. Local general plans identify general principles that are intended to guide and influence development plans. The state and local noise policies and regulations applicable to the proposed project are described below.

State

California Code

Part 2, Title 24 of the California Code of Regulations, *California Noise Insulation Standards*, establishes minimum noise insulation standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings other than single-family residences. Under this regulation, interior noise levels attributable to exterior noise sources cannot exceed 45 L_{dn} in any habitable room.

Local

El Dorado County General Plan

Policies and standards for noise exposures at noise-sensitive land uses during construction are outlined in the 2004 *El Dorado County General Plan* (County General Plan) Public Health, Safety, and Noise Element (amended in August 2019 [El Dorado County 2019]). The policies relevant to the proposed project are listed below, the text of which can be found in Appendix B, *Consistency with El Dorado County General Plan Policies*.

- Goal 6.5, *Acceptable Noise Levels*, includes Objective 6.5.1, *Protection of Noise-Sensitive Development*, and implementing Policies 6.5.1.1 and 6.5.1.2, which address standards for environmental review; 6.5.1.3, 6.5.1.5, 6.5.1.6, and 6.5.1.8, which address siting, site planning, and project design; 6.5.1.7, 6.5.1.9, 6.5.1.10, 6.5.1.12, and 6.5.1.13, which address impacts and mitigation; and 6.5.1.11, which addresses construction noise.

The construction noise standards outlined in Table 6-5 of the Public Health, Safety, and Noise Element and summarized here in Table 3.10-7 would be applicable to the proposed project because the project area is located in a rural area that is mostly undeveloped and is not located in either a community region or rural center. There are some residences near the boundary of the project area, however, so the residential noise limits in a rural region would be most applicable to project construction noise. However, Policy 6.5.1.11 of the General Plan Amendment states that the noise standards outlined in these tables shall not apply to project construction as long as the construction occurs between the hours of 7:00 a.m. and 7:00 p.m. Thus, construction noise is generally exempt from the noise standards if it occurs within the specified hours. The noise standards, shown in Table 3.10-7, are discussed here to use as a guideline for assessing the impacts of the proposed project's

construction activities, because the proposed project construction would take several years. Consequently, it is atypical from normal construction projects that would occur over a shorter duration, so construction of the proposed project in this analysis is assessed in more detail and not considered to be exempt from the construction noise standards by default.

Table 3.10-7. Maximum Allowable Noise Exposure for Construction Noise in Rural Regions and Adopted Plan Areas

		Noise Level (dB)	
Land Use Designation	Time Period	L_{eq}	L_{max}
All residential (MFR, HDR, MDR)	7 a.m.–7 p.m.	50	60
	7 p.m.–10 p.m.	45	55
	10 p.m.–7 a.m.	40	50
Commercial, recreation, and public facilities (C, TR, PF)	7 a.m.–7 p.m.	65	75
	7 p.m.–7 a.m.	60	70
Rural land, natural resources, open space, and agricultural lands (RR, NR, OS, AL)	7 a.m.–7 p.m.	65	75
	7 p.m.–7 a.m.	60	70

Source: El Dorado County 2019, Table 6-5.

AL = agricultural lands.
C = commercial.
dB = decibel.
HDR = high-density residential.
L_{eq} = equivalent sound level.
L_{max} = maximum sound level.
MDR = medium-density residential.
MFR = multifamily residential.
NR = natural resources.
OS = open space.
PF = public facilities.
RR = rural residential.
TR = tourist recreational.

Operational noise standards that would be applicable to the project are outlined in the Public Health, Safety, and Noise Element's Tables 6-1 and 6-2, which are for transportation and non-transportation noise sources, respectively. These tables are presented in this document as Tables 3.10-8 and 3.10-9.

Table 3.10-8. Maximum Allowable Noise Exposure for Transportation Noise Sources

	Outdoor Activity Areas[a]	Interior Spaces	
Land Use	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq}, dB[b]
Residential	60[c]	45	–
Transient lodging	60[c]	45	–
Hospitals, nursing homes	60[c]	45	–
Theaters, auditoriums, music halls	–	–	35
Churches, meeting halls, schools	60[c]	–	40
Office buildings	–	–	45
Libraries, museums	–	–	45

Land Use	Outdoor Activity Areas[a] L_{dn}/CNEL, dB	Interior Spaces	
		L_{dn}/CNEL, dB	L_{eq}, dB[b]
Playgrounds, neighborhood parks	70	–	–

Source: El Dorado County 2019, Table 6-1.

CNEL = community noise equivalent level.
dB = decibel.
L_{dn} = day-night level.
L_{eq} = equivalent sound level.

[a] In communities and rural centers, where the locations of outdoor activity areas are not clearly defined, the exterior noise-level standard shall be applied to the property line of the receiving land use. For residential uses with front yards that face the identified noise source, an exterior noise-level criterion of 65 dB L_{dn} will be applied at the building facade, in addition to a 60 dB L_{dn} criterion at the outdoor activity area. In rural regions, an exterior noise-level criterion of 60 dB L_{dn} shall be applied at a 100-foot radius from the residence unless it is within platted lands where the underlying land use designation is consistent with community region densities, in which case the 65 dB L_{dn} may apply. The 100-foot radius applies to properties that are 5 acres and larger; the balance will fall under the property line requirement.

[b] As determined for a typical worst-case hour during periods of use.

[c] Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed, provided that available exterior noise-level reduction measures have been implemented and interior noise levels are in compliance with this table.

Table 3.10-9. Maximum Allowable Noise Exposure for Non-Transportation Noise Sources

	Daytime 7 a.m.–7 p.m.		Evening 7 p.m.–10 p.m.		Night 10 p.m.–7 a.m.	
Land Use	Community	Rural	Community	Rural	Community	Rural
Hourly L_{eq}, dB	55	50	50	45	45	40
Maximum level, dB	70	60	60	55	55	50

Source: El Dorado County 2019, Table 6-2.

Notes: Each of the noise levels specified above shall be lowered by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise-level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

The County can impose noise-level standards that are up to 5 dB less than those specified above based on a determination of existing low ambient noise levels in the vicinity of the project site.

In community areas, the exterior noise-level standard shall be applied to the property line of the receiving property. In rural areas, the exterior noise-level standard shall be applied at a point 100 feet away from the residence. The above standards shall be measured only on property containing a noise-sensitive land use, as defined in Objective 6.5.1. This measurement standard may be amended to provide for measurement at the boundary of a recorded noise easement between all affected property owners and approved by the County.

For the purposes of the Noise Element, transportation noise sources are defined as traffic on public roadways, railroad line operations, and aircraft in flight. Control of noise from these sources is preempted by federal and state regulations. Control of noise from facilities of regulated public facilities is preempted by California Public Utilities Commission (CPUC) regulations. All other noise sources are subject to local regulations. Non-transportation noise sources may include industrial operations; outdoor recreational facilities; heating, ventilation, and air-conditioning (HVAC) units; schools; hospitals; commercial land uses; other outdoor land uses; etc.

dB = decibel.
L_{eq} = equivalent sound level.

El Dorado County Ordinance Code

Chapter 9.16, Noise, of the El Dorado County Ordinance Code, defines and prohibits "loud and raucous noise." Pursuant to the code, the production of loud and raucous noise that unreasonably interferes with the peace and quiet of private property is prohibited.

Environmental Setting

This section describes existing land uses and the existing noise conditions in the project vicinity.

Surrounding Land Uses

Locations where people reside or where the presence of noise could adversely affect the use of the land are generally considered sensitive land uses. Typical sensitive receptors include residents, school children, hospital patients, and the elderly.

While the project area itself consists of largely undeveloped rural land, there are several residences used by tenants of G3 Enterprises. There are rural single-family residences located north (Cameron Estates) and east (Royal Equestrian Estates) of the project area. Isolated single-family residences are located south of the project site. The western perimeter of the project area is bounded by the proposed Village of Marble Valley Specific Plan (VMVSP), which is currently not developed, and the Deer Creek Wastewater Treatment Plant.

The Deer Creek Wastewater Treatment Plant (WWTP) is adjacent to the southeastern part of project area and may generate noise during the wastewater treatment process. The nearest residential land uses to the WWTP would be, at the closest, approximately 800 feet. At this distance, it is not anticipated that noise from the treatment plant would be noticeable.

Existing Noise Environment

Short-Term Noise Monitoring

To characterize the existing noise environment in the project study area, short-term measurements of 15 minutes in duration were conducted in the vicinity. ICF selected the noise monitoring sites to document existing ambient noise levels at representative locations in the project area where new noise-sensitive land uses would be located.

Short-term monitoring was conducted on Tuesday, January 14, 2014, and Friday, February 21, 2014, using a Larson-Davis Model 812 Precision Type 1 sound-level meter (serial number 0239). The meter was positioned on a tripod at a microphone height of 1.5 meters (5 feet) above the ground. Sound levels and audible noise sources were recorded on field data sheets at each position. The noise monitoring focused on areas where residential land uses would be located. The short-term measurement positions are indicated as ST-1 through ST-4 in Figure 3.10-1.

Measurements were conducted at four locations throughout the project area on two days: January 14, 2014, and February 21, 2014. Local traffic noise was the dominant noise source observed during the measurement periods. Measured L_{eq} noise levels for the measurement periods at each site ranged from 35.1 to 47.1 dBA. Temperature, wind speed, and humidity were recorded manually during the short-term monitoring session using a Kestrel 3000 portable weather station. On January 14, skies were clear during the measurement at ST-2. The temperature was approximately 68 degrees Fahrenheit (°F), with relative humidity approximately 36%. On February 21, the sky was

clear during the measurements at ST-1, ST-3, and ST-4. The temperatures were in the range of 69 to 73°F, with relative humidity in the range of 32 to 39%. Wind speeds were less than 3 miles per hour on both measurement days.

Table 3.10-10 summarizes the short-term sound-level measurements. The noise levels measured in 2014 represent a conservative assessment of ambient noise, because, if they have changed at all, noise levels would have increased since 2014 due to increased development in the County and the corresponding traffic. Consequently, using noise levels from 2014 would be more protective of the existing noise environment than using noise levels from a later date.

Table 3.10-10. Summary of Short-Term Sound-Level Measurements, January 14, 2014, and February 21, 2014[a] (ambient noise levels)

Receivers	Location	Time	Duration (minutes)	Measured Sound Level dBA L_{eq}
ST-1	North of Shingle Lime Mine Road	11:52	15	35.5
ST-2	West of Amber Fields Drive	15:11	15	47.1
ST-3	East of Deer Creek Road[b]	14:38	15	35.1
ST-4	East of Deer Creek Road	13:43	15	38.3

dBA = A-weighted decibel.
L_{eq} = equivalent sound level.
[a] All measurements were taken on February 21, 2014, except ST-2, which was taken on January 14, 2014.
[b] Location is approximately 1,000 feet north of the Deer Creek Wastewater Treatment Plant. Measurements were conducted by ICF staff members. See Figure 3.10-1 for measurement locations.

Traffic Noise Modeling

Traffic noise in the project area vicinity was modeled using P.M. peak-hour traffic volumes and the Federal Highway Administration's (FHWA's) *Traffic Noise Model* (Federal Highway Administration 2011). Based on 24-hour traffic patterns on both surface roads and U.S. Highway 50 (US 50), it was determined that L_{dn} values from traffic are within 1 dB of peak-hour L_{eq} values. Accordingly, reported L_{dn} values are based directly on the calculated peak-hour L_{eq} values. Table 3.10-11 presents L_{dn} values at 50 feet from the roadway center, along with the distances to the 60 L_{dn} contour line for all roadway segments in the project area. The contour line is based on an attenuation rate of 4.5 dBA per doubling of distance, which is appropriate for line-source traffic and project site conditions. Table 3.10-11 also shows the noise increase increments that would result in a significant impact as indicated in County General Plan Policy 6.5.1.12 (El Dorado County 2019).

Table 3.10-11. Existing Traffic Noise on Roadway Segments in the Project Area Vicinity

Roadway	Segment Location	L_{dn} (dBA) at 50 feet from Roadway Centerline	Distance to 60 L_{dn} Contour (feet)	Significant Noise Increase Increment (dBA)[a]
Bass Lake Road	Green Valley Road to Bridlewood Drive	63.6	87	3
	Bridlewood Drive to Serrano Pkwy	65.6	118	1.5
	Serrano Pkwy to Hollow Oak Drive	68.9	197	1.5
	Hollow Oak Drive to Country Club	69.2	206	1.5
	Country Club Drive to US 50	69.8	226	1.5
Cambridge Road	Green Valley Road to Oxford	61.2	60	3
	Oxford to Knollwood Drive	64.0	93	3
	Knollwood Drive to Country Club	63.9	91	3
	Country Club to US 50	65.2	111	1.5
Flying C Road	Crazy Horse Road to Deer Creek Road	51.9	14	5
Cameron Park Drive	Green Valley to Alhambra	67.2	150	1.5
	Alhambra to Oxford	69.7	223	1.5
	Oxford to Hacienda Drive	70.3	241	1.5
	Hacienda Drive to US 50	70.3	244	1.5
Country Club Drive	Bass Lake to Merrychase Drive	63.1	81	3
	Merrychase Drive to Knollwood	60.0	50	3
	Knollwood to Cambridge	59.7	48	5
	Cambridge to Royal	59.9	50	5
	Royal to Cameron Park Drive	60.8	57	3
Durock Road	US 50 to Business Drive	65.6	119	1.5
	Business Drive to S. Shingle	64.1	94	3
Existing Marble Valley Road	East of Marble Ridge Road	69.7	220	1.5
Shingle Lime Mine Road	South of Durock Road	48.7	9	5
Amber Fields Drive	North of S. Shingle Road	51.3	13	5
S. Shingle Road	US 50 to Amber Fields Drive	64.8	104	3
	Amber Fields Drive to Latrobe Road	56.4	29	5
US 50	West of Latrobe/El Dorado Hills	82.0	1,458	1.5
	Between El Dorado Hills and Bass Lake	80.9	1,239	1.5
	Between Bass Lake and Cambridge	80.5	1,155	1.5
	East of Cambridge	80.5	1,157	1.5

Source: ICF and Federal Highway Administration *Traffic Noise Model,* Lookup Tables (Federal Highway Administration 2011).

dBA = A-weighted decibel.

L_{dn} = day-night level.

[a] Noise increase increments for existing conditions, which would be considered significant if the project's traffic noise increase were to meet or exceed these values, based on County General Plan Policy 6.5.1.12.

Mather Field Aircraft Operations Overflight Noise

Mather Airport is approximately 16 miles southwest of the project area. The project site is not within the planning area for the *Mather Airport Land Use Compatibility Plan* (ESA 2022), nor is it within the 60 dB CNEL contour for airport operations. The main cargo jet aircraft arrival approach path into Mather Field from the east passes over El Dorado Hills north of US 50 and follows a route implemented by the Federal Aviation Administration in 2012 (AMRVR ONE STAR) (ESA Airports 2014). This route is approximately 4 miles north of the project area.

Noise level data were determined as part of the *Mather Airport Master Plan* (Sacramento County 2014) planning process for use in aircraft noise modeling and included eight locations in eastern Sacramento County and four locations in western El Dorado County along flight paths. There were two locations in El Dorado Hills (the other two locations were in Rescue). The closest to the project site was at Oak Ridge High School, which is approximately 5 miles northwest of the project site. The second location was at a residence at 354 Glen Ridge Court, approximately 5.5 miles northwest of the project site. The results of the measurements indicate that noise levels from aircraft on final approach in the westbound direction can be distinctly audible in the immediate El Dorado Hills area north of US 50 and east and west of El Dorado Hills Boulevard (Sacramento County 2014). Some arriving jet aircraft also fly over areas south of US 50, including the project area, as well as from other directions. Of all arrivals into the airport, only 2.85% of daytime arrivals, 1.94% of evening arrivals, and 18.44% of nighttime arrivals follow routes over the project area, based on statistical analysis of flight track use. As part of the noise modeling studies for the *Mather Airport Master Plan* (Sacramento County 2014) planning process, it was assumed the AMRVR ONE STAR route would transition from 50% of calendar year 2012 to 100% of calendar years in the future scenarios (ESA Airports 2014). That is, the frequency of arrivals over the project area would be expected to decrease in the future.

Cameron Airpark

The northeast corner of the project area is approximately 2.8 miles from the Cameron Airpark public use airport. Locations within the CNEL 55 dB or higher noise contours are in the High Noise/Risk Zone, according to the *Cameron Airpark Airport Land Use Compatibility Plan* (El Dorado County 2012). The project area is not located within the CNEL 55 dB contours of the airport. In addition, the project area is located outside of the airport influence area, as defined in the compatibility plan (El Dorado County 2012). Because of these considerations, noise from the airport would not affect land uses in the project area.

3.10.3 Environmental Impacts

Methods of Analysis

The noise impacts that would affect new land uses at the project site were evaluated based on the *California Building Industry Association v. Bay Area Air Quality Management District*,[1] court case, which established that the effects of the environment on a project are not considered impacts unless the project exacerbates the hazard or, in this case, worsens the noise effect. Where the project would

[1] *California Building Industry Association v. Bay Area Air Quality Management District*, Supreme Court Case No. S213478

exacerbate existing noise effects, the impacts of the environment on new project land uses are analyzed.

To document existing ambient noise levels, short-term noise-level measurements were taken at representative locations in the project area where new noise-sensitive land uses would be located (Table 3.10-10 and Figure 3.10-1). Traffic noise in the project area vicinity was modeled using P.M. peak-hour traffic volumes from Appendix K, *Transportation Impact Analysis* and the FHWA *Traffic Noise Model* (Federal Highway Administration 2011). Existing plus project and near-term plus project conditions were modeled to determine the proposed project's impact with respect to traffic noise relative to existing conditions and near-term future conditions in 2027.

Noise levels associated with project-related construction activities were evaluated by summing the noise levels of the three loudest pieces of equipment that would operate on the project site (paving equipment, grader, and scraper). The noise level for each of the loudest equipment types was determined using standard construction equipment data from FHWA. The resulting noise levels were then compared to the significance thresholds.

Vibration from construction equipment was evaluated using methods recommended by Caltrans (California Department of Transportation 2013) and the Federal Transit Administration (Federal Transit Administration 2018), including the source levels and criteria in Tables 3.10-3, 3.10-4, and 3.10-5.

Airblast and vibration generated by blasting were evaluated using methods recommended by Caltrans (California Department of Transportation 2013) and criteria specified by USBM.

Noise from stationary sources associated with residential activity would be limited primarily to noise generated by heating, ventilation, and air-conditioning (HVAC) equipment. Specific details regarding the HVAC equipment to be used have not been determined. However, information on typical equipment has been used to evaluate potential impacts.

Aircraft overflight noise has been evaluated based on information in the *2004 County General Plan Environmental Impact Report* (El Dorado County 2003) and data developed for the *Mather Airport Master Plan* (Sacramento County 2014). For Mather Airport, potential noise issues were also considered in the context of the *El Dorado County General Plan Draft Environmental Impact Report* (County General Plan EIR) (El Dorado County 2003) and a California Supreme Court decision in December 2015 in *California Building Industry Association v. Bay Area Air Quality Management District*.

Mather Airport Noise

As stated in Section 3.10.2, *Existing Conditions, Environmental Setting*, the project area is 16 miles northeast of Mather Airport. It is not within the planning area of the *Mather Airport Land Use Compatibility Plan* (ESA 2022), nor is it within the 60 dB CNEL contour for airport operations.

The *2004 County General Plan Environmental Impact Report* (El Dorado County 2003) stated that new development under the County General Plan could be subject to aircraft noise. The plan also stated that development within El Dorado Hills is in an area that is already considered to be affected by single event levels, or sound exposure levels (SELs), because of aircraft overflights associated with the operation of Mather Airport in Sacramento County. The County General Plan EIR concluded this impact would be significant and unavoidable stating, "exposure of noise-sensitive receptors to aircraft noise levels, including SELs, could still occur" (El Dorado County 2003:5.10-41).

However, since certification of the County General Plan EIR, as described in more detail in Section 3.2, *Air Quality*, the California Supreme Court established in *California Building Industry Association v. Bay Area Air Quality Management Distric*t that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents.

Implementation of the Lime Rock Valley Specific Plan (LRVSP), if approved, would not increase the number or frequency of aircraft arrivals at Mather Airport or result in land use changes that would affect arrival routes such that aircraft-related noise levels would increase or change noise contours at any location. Further, as described in Section 3.10.2, *Existing Conditions, Environmental Setting*, unlike the El Dorado Hills area north of US 50, the proposed LRVSP is south of US 50, which is not the primary arrival flight track into Mather Airfield. For these reasons, evaluation of the potential for Mather Airport operations noise levels to result in significant impacts on future occupants of the LRVSP is not required for purposes of this EIR.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the County General Plan or noise ordinance as a result of construction activities.
- Generation of excessive groundborne vibration or groundborne noise levels.
- For a project located within the vicinity of a private airstrip or an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Impacts and Mitigation Measures

Impact NOI-1a: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the County General Plan or noise ordinance as a result of construction activities (significant and unavoidable)

Construction of the proposed project would require the equipment shown in Table 3.10-12. For each equipment type in Table 3.10-12, the corresponding acoustical usage factor (the percentage of time the equipment is typically in operation) and L_{max} value at 50 feet are also presented. Construction would occur between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 5:00 p.m. on weekends and federally recognized holidays.

Table 3.10-12. Typical Construction Noise Emission Levels

Equipment	Acoustical Use Factor	L_{max} at 50 Feet	L_{eq} at 50 Feet	Impact Device?
Air compressor	40%	78	74	No
Backhoe	40%	78	74	No
Concrete mixer truck	40%	79	75	No
Crane	16%	81	73	No
Dozer	40%	82	78	No
Excavator	40%	81	77	No
Generator set	50%	81	78	No
Grader[a]	40%	85	81	No
Loader	40%	79	75	No
Paver	50%	77	74	No
Paving equipment	20%	90	83	No
Roller	20%	80	73	No
Scraper	40%	84	80	No
Tractor	40%	84	80	No
Truck	40%	75	71	No
Welder	40%	74	70	No

Source: Federal Highway Administration 2006.

L_{eq} = equivalent sound level.

L_{max} = maximum sound level.

[a] Representative of rock ripper.

As discussed in *Methods of Analysis*, a reasonable worst-case noise level resulting from construction of the proposed project was evaluated by summing the noise levels of the three loudest pieces of equipment that would most likely operate at the same time (paving equipment, grader, and scraper) using the standard construction equipment data shown in Table 3.10-12. The combined maximum noise level (L_{max}) and combined average noise level (L_{eq}) were determined to be 92 dBA and 86 dBA at 50 feet, respectively. This represents a conservative scenario because it assumes that the three loudest equipment pieces would be operating in the same location simultaneously, which would be an unlikely event.

Table 3.10-13 shows the estimated sound levels from construction activities as a function of distance, based on calculated point-source attenuation over "soft" (i.e., acoustically absorptive) ground. These construction activities would generate new noise sources that currently do not exist.

Table 3.10-13. Calculated Construction Noise Levels

Distance between Source and Receiver (feet)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	0.0	92	86
100	-6	-1.5	84	79
200	-12	-3.0	77	71
300	-16	-3.9	72	67
400	-18	-4.5	69	64
500	-20	-5.0	67	61
600	-22	-5.4	65	59
700	-23	-5.7	63	58
800	-24	-6.0	62	56
900	-25	-6.3	61	55
950	***-26***	***-6.4***	***60***	54
1,200	-28	-6.9	57	52
1,400	***-29***	***-7.2***	56	***50***
1,600	-30	-7.5	54	49
1,800	-31	-7.8	53	47
2,000	-32	-8.0	52	46
2,500	-34	-8.5	49	44
3,000	-36	-8.9	47	42

Note: Numbers in bold italic indicate construction noise from the project would exceed the County General Plan thresholds for equivalent sound level (L_{eq}) and maximum sound level (L_{max}) (see Table 3.10-7) for daytime hours at receptors within 1,400 feet and 950 feet of construction.

dB = decibel.
dBA = A-weighted decibel.

As discussed in Section 3.10.2, *Existing Conditions, Regulatory Setting*, construction between 7:00 a.m. and 7:00 p.m. is generally exempt from the construction noise standards. However, because of the proposed project's multi-year construction schedule, construction activities are examined in greater detail and are not considered to be exempt by default. Comparing the noise levels in Table 3.10-13 to the County General Plan non-transportation noise standards for residential land uses shows that construction noise would exceed the L_{eq} and L_{max} thresholds (50 dB and 60 dB) for daytime hours at receptors within 1,400 feet and 950 feet of the construction equipment, respectively. Consequently, sensitive land uses within 1,400 feet of the project area could be exposed to noise levels that would exceed the County's noise standards (County General Plan Policy 6.5.1.11, Table 6-3). Additionally, project construction activities have the potential to result in an increase that, in addition to being above the noise exposure limits, would result in a substantial increase on its own. As shown in Table 3.10-10, existing noise levels in the project vicinity range from 35 to 47 dBA L_{eq}. and thus, the increase in noise from construction would be well above these noise levels. Although the County does not have a threshold to evaluate the increase in noise from construction activities, existing sensitive receptors would nevertheless experience a noticeable and substantial increase in ambient noise levels during the construction activities.

Sensitive land uses include isolated residences north of the project site in the Cameron Estates area, located along Flying C Road, Deer Creek Road, Brookside Road, Valley Vista Road, Cameron Road, Longview Road, Trails End Road, and Sleepy Hollow Road. The nearest residence north of the project site is 50 feet from the project boundary. On the eastern side of the project area, there are isolated residences in the Royal Equestrian Estates area, along Top Rail Lane, Amber Fields Drive, Steeple Chase Drive, Barnett Ranch Road, Million Ranch Road, and Shingle Lime Mine Road. The nearest residence east of the project site is approximately 50 feet from the project boundary. This impact would be significant. Given the subjective nature of the human response to noise, it is not possible to conclusively determine whether health effects resulting from construction noise could occur. However, it is possible that people residing near the Project site could experience health effects resulting from the noise levels that exceed the County's noise standards and that would represent a large increase relative to ambient noise levels. The potential health effects that could occur are described above in *Human Response to Noise*. The effects more likely to occur are typically considered less serious (e.g. annoyance), while other effects are less likely to occur and would be more serious (e.g. hearing damage).

The project area is also bounded on the west and south by the proposed VMVSP, which has not yet been approved and is undeveloped; therefore, there are currently no existing sensitive land uses. If the VMVSP is developed prior to the LRVSP, however, there would be sensitive land uses (i.e., residences within the VMVSP) that could be affected by construction noise. Low density residential uses on the eastern edge of the VMVSP could be located adjacent to activity construction activities occurring in the western portion of the LRVSP. It is not likely that VMVSP residences would be located closer than 50 feet from active construction activities as part of the LRVSP; thus, 50 feet represents a worst-case scenario distance for both existing residences described above and future potential residences that would be part of the VMVSP.

Implementing noise-reducing construction practices, as specified in Mitigation Measure NOI-1a, would reduce noise levels that could affect surrounding sensitive land uses, including residences constructed as part of the proposed project and future residences that would be part of the VMVSP that have the potential to be affected by subsequent construction activities, by limiting construction hours to the daytime hours to prevent an exceedance of the more stringent nighttime noise standards. In addition, locating equipment away from sensitive land uses, requiring sound control devices on equipment, using noise-reducing enclosures, and implementing other practices would be expected to reduce noise affecting sensitive land uses by 5 to 10 dB. Depending on the distance between construction and the receptor, this could reduce noise to levels below the County daytime noise standards, but it may not be feasible at all locations. Additionally, even if noise is below the County daytime noise standard, the increase in noise at existing sensitive land uses would likely be noticeable and substantial even with the noise-reducing measures, especially at distances as close as 50 feet. With mitigation, the health effects from noise exposure are less likely to occur, such as sleep interference, because construction would be limited to the daytime hours. Nevertheless, it is not possible to conclusively determine that no health effects would occur, because of the subjective nature of the human response to noise. Given the noise levels with mitigation and the fact that construction would occur over several years in proximity to existing and new residences, the construction noise impact is considered significant and unavoidable.

Mitigation Measure NOI-1a: Employ noise-reducing construction practices

The construction contractor shall employ noise-reducing construction practices so that construction noise does not exceed construction noise standards specified in County General Plan Table 6-5 (Table 3.10-7) to the extent feasible.

Measures that can be used to limit noise include those listed below.

- Prohibiting noise-generating construction activity between the hours of 7:00 p.m. and 7:00 a.m. on weekdays and 5:00 p.m. to 8:00 a.m. on weekends and federally recognized holidays.
- Locating equipment as far as feasible from noise-sensitive uses.
- Requiring that all construction equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.
- Prohibiting the idling of inactive construction equipment for prolonged periods (i.e., more than 2 minutes).
- Prohibiting gasoline or diesel engines from having unmuffled exhaust.
- Scheduling construction activities and material hauling that may affect traffic flow to off-peak hours and using routes that will affect the fewest number of people.
- Using noise-reducing enclosures around noise-generating equipment (minimum 15 dB insertion loss).
- Constructing temporary barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (e.g., terrain, structures) to block sound transmission.

Prior to the issuance of grading and building permits, the project applicant shall submit to the County a list of measures for controlling noise and for responding to and tracking complaints pertaining to construction noise. These measures shall include the following.

- A procedure and phone numbers for notifying the County of complaints (during regular construction hours and off-hours).
- Signs posted at the boundaries of the construction area describing noise complaint procedures and a complaint hotline number to be answered at all times during construction.
- Designation of an onsite construction complaint and enforcement manager for the project. The complaint and enforcement manager will be responsible for following up with complainants, ascertaining whether there is a violation of the County's construction noise standards associated with a specific complaint through noise monitoring, and ceasing construction work in the local area where the complaint applies until the noise issue has been rectified.

Impact NOI-1b: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the County General Plan or noise ordinance from project-generated traffic within the LRVSP in excess of standards established in the County General Plan (significant and unavoidable)

Traffic-Related Noise at Project Uses

During the operational phase of the project, new noise-sensitive land uses could be exposed to noise generated by traffic and non-transportation sources. Based on the *CBIA vs. BAAQMD* court case described previously, an analysis that evaluates the impacts of the environment on new land uses constructed by a project is not typically required, unless the project would exacerbate the existing environmental effect. Because the project would add to traffic volumes on existing roadways and would add new land uses, it has the potential to exacerbate existing environmental noise effects. As such, a determination of the significance of impacts on new project uses is made. Traffic noise levels generated under the existing-plus-project condition and near-term-plus-project condition are summarized in Table 3.10-14.

The County's noise exposure limits for transportation noise have been adopted to prevent noise-sensitive land uses from being located near loud transportation corridors. As such, this sub-section focuses on the exposure of new noise-sensitive land uses to transportation noise relative to the noise exposure limits from the County's General Plan (from Table 3.10-8), rather than the increase in traffic noise levels relative to existing conditions. Future noise-sensitive land uses are not part of the existing conditions, so the increase in ambient noise from project implementation is not relevant to those sensitive receptors, because future receptors will only experience the future environmental conditions with the project and not existing conditions. *Traffic-Related Noise at Offsite Locations*, below, evaluates the increase in traffic noise from project implementation that existing sensitive land uses would experience.

The L_{dn} values in Table 3.10-14 were determined by using peak-hour traffic volumes on County roads and US 50. Traffic volumes from the P.M. peak hour were used because the volumes were generally higher than the A.M. peak-hour volumes. The FHWA Traffic Noise Model 2.5 Lookup Tables were used in conjunction with the traffic volumes to determine L_{eq} values at 50 feet from the centerline of each roadway segment (Federal Highway Administration 2011). As discussed previously, peak-hour traffic L_{eq} noise levels represent L_{dn} noise levels that are based on 24-hour traffic patterns in the project area. Table 3.10-14 presents L_{dn} values associated with existing-plus-project and near-term plus project conditions along with distances to the 60 L_{dn} contour.

The data for existing plus-project and near-term-plus-project conditions in Table 3.10-14 indicate that proposed residences within about 154 feet of Lime Rock Valley Road and about 1,600 feet of US 50 could be exposed to exterior traffic noise that would exceed the County's compatibility standard of 60 L_{dn}. The noise levels for Lime Rock Valley Road are assumed to be a worst-case scenario estimate for the noise levels on the interior roads of the LRVSP, including the portions of Amber Fields Road, Shingle Lime Mine Road, and Deer Creek Road within the LRVSP interior, as more detailed traffic data on these roadways were not available. Traffic and noise levels on the interior roads would likely be lower than what is shown for Lime Rock Valley Road, because vehicles would start or end their trips at a land use within the LRVSP. Additionally, there are no proposed residences located within 1,600 feet of US 50. Assuming nominal building-shell attenuation of 15 dB, interior noise at locations along Lime Rock Valley Road (and interior LRVSP roadways) could exceed the 45 L_{dn} interior noise standard. Residences located on roadways throughout the project area (the

LRVSP interior portions of Amber Fields Road, Shingle Lime Mine Road, and Deer Creek Road) could be exposed to existing-plus-project traffic noise that would exceed County compatibility standards. The residential land uses within the LRVSP that are adjacent to these roadways are sensitive land use areas that could be exposed to existing-plus-project traffic noise exceeding County compatibility standards (Figure 3.10-2).

The noise impact associated with the exposure of new residences within the LRVSP would, therefore, be significant. Mitigation Measure NOI-1b includes a variety of potential treatments that could be employed to reduce noise. This includes using solid barriers, providing setbacks from roadways, and orienting outdoor uses to minimize or avoid exposure to noise from adjacent roadways. These treatments would be expected to reduce noise by 5 to 15 dB, depending on the specific treatment or combination of treatments. Combinations of treatments would be employed to ensure compliance with applicable noise compatibility standards. This mitigation measure would, therefore, reduce this impact to a less-than-significant level for sensitive land uses, primarily through the use of setbacks and noise barriers. Because the distance between Lime Rock Valley Road and the 60 L_{dn} contour is only 154 feet, most residences would most likely not be subject to noise above 60 L_{dn}, even without mitigation. In addition, the 154-foot distance represents a worst-case scenario because it assumes that all of the project-generated peak-hour traffic would travel on all roadways in the project area. In reality, the southern and eastern portions of the project area would most likely see less peak-hour traffic than that assumed for the 154-foot 60 L_{dn} contour calculation. Nevertheless, there may be residences within 154 feet of the roadway, and, in these instances, barriers may be required. Figure 3.10-2 provides a preliminary indication as to where noise barriers may be needed. It should be noted, however, that the barriers shown in Figure 3.10-2 most likely represent a worst-case scenario (i.e., barriers that would be needed if every residential parcel has residences adjacent to the roadway [within 154 feet or less]). The extent to which noise barriers would be needed and where they would be located would be determined as a part of Mitigation Measure NOI-1b. The specific locations of noise barriers and types of noise-reducing treatments would be developed with consideration to site topography, exact distances from sources (e.g., HVAC equipment, roadways) to receivers (e.g., backyards, residential building facades), lines of sight between sources and receivers (i.e., accounting for shielding from trees, buildings), and other detailed considerations. Such considerations require a detailed assessment of the site that is consistent with the level of detail available at the map stage and not the environmental review stage. Because noise levels would be reduced to less than the compatibility standards with Mitigation Measure NOI-1b, it is unlikely that new residents or users of the recreational areas at the Project site would experience any health effects resulting from traffic noise exposure.

Table 3.10-14. Existing-Plus-Project and Near-Term-Plus-Project Traffic Noise on Roadway Segments in the Project Area Vicinity

		Existing + Project		Near Term + Project	
Roadway	Segment Location	Existing-Plus-Project L_{dn} (dBA) at 50 Feet from Roadway Centerline	Distance to 60 L_{dn} Contour (feet)	Near Term-Plus-Project L_{dn} (dBA) at 50 Feet from Roadway Centerline	Distance to 60 L_{dn} Contour (feet)
Bass Lake Road	Green Valley Road to Bridlewood Drive	63.8	90	64.4	99
	Bridlewood Drive to Serrano Pkwy	65.7	120	66.6	138
	Serrano Pkwy to Hollow Oak Drive	69.2	204	69.0	199
	Hollow Oak Drive to Country Club	69.5	214	70.5	251
	Country Club Drive to US 50	70.2	241	70.6	255
Cambridge Road	Green Valley Road to Oxford	61.2	60	62.0	68
	Oxford to Knollwood Drive	64.1	93	64.9	107
	Knollwood Drive to Country Club	64.0	92	65.1	110
	Country Club to US 50	65.2	111	66.4	133
Flying C Road	Crazy Horse Road to Deer Creek Road	51.9	<50	53.1	<50
Cameron Park Drive	Green Valley to Alhambra	67.2	151	67.7	164
	Alhambra to Oxford	69.8	224	70.1	237
	Oxford to Hacienda Drive	70.3	242	70.5	252
	Hacienda Drive to US 50	70.3	244	70.9	265
Country Club Drive	Bass Lake to Merrychase Drive	63.4	84	65.1	109
	Merrychase Drive to Knollwood	60.3	52	61.8	66
	Knollwood to Cambridge	60.0	50	61.6	64
	Cambridge to Royal	60.0	50	61.7	65
	Royal to Cameron Park Drive	60.8	57	62.4	72
Durock Road	US 50 to Business Drive	65.7	119	66.9	144
	Business Drive to S. Shingle	64.1	94	65.1	110
Marble Valley Parkway	East of Marble Ridge Road	72.4	335	72.8	357
Shingle Lime Mine Road	South of Durock Road	49.1	<50	49.5	<50
Amber Fields Drive	North of S. Shingle Road	51.4	<50	51.4	<50
S. Shingle Road	US 50 to Amber Fields Drive	64.8	104	66.2	130
	Amber Fields Drive to Latrobe Road	56.7	<50	59.4	<50
Lime Rock Valley Road[a]	West of Deer Creek Road	67.3	154	67.3	154
	East of Deer Creek Road	67.3	154	67.3	154
US 50	West of Latrobe/El Dorado Hills	82.4	1,567	81.8	1,421
	Between El Dorado Hills and Bass Lake	81.5	1,362	81.5	1,359
	Between Bass Lake and Cambridge	80.8	1,225	81.0	1,250
	East of Cambridge	80.8	1,225	80.9	1,231

Source: ICF and Federal Highway Administration *Traffic Noise Model*, Lookup Tables (Federal Highway Administration 2011).

L_{dn} = day-night level.

dBA = A-weighted decibel.

US 50= U.S. Highway 50.

[a] Traffic noise for these future segments is based on the expected number of project-generated trips in the P.M. peak hour (801) and an assumed trip distribution for the Lime Rock Valley Road segment of 100% (from the traffic impact analysis for the proposed project contained in Appendix K, *Traffic Impact Analysis*). Traffic noise on this segment is

used as an estimate for the interior roadways of the LRVSP, including Amber Fields Road, Shingle Lime Mine Road, and Deer Creek Road, as more detailed data for the interior roadways were not available.

Mitigation Measure NOI-1b: Prepare and implement a noise control plan

The applicant shall prepare a design-level operational noise control plan that identifies all project features and treatments that shall be implemented to be in compliance with County noise standards listed in County General Plan Tables 6-1 and 6-2 (Tables 3.10-8 and 3.10-9 in this Draft EIR). The plan shall be developed by an acoustical design professional. The design features and treatments shall ensure that exterior and interior noise levels at new proposed uses are in compliance with the noise standards. The report shall be submitted to the County for review and approval at the tentative map stage of the project. Depending on the noise exposure for a particular site, such treatments may include, but are not limited to, those listed below, as recommended by the acoustical design professional. This measure is applicable to new and existing sensitive land uses that would experience noise that exceeds the County's compatibility standards or are otherwise affected by project-generated noise.

a. Construction of solid noise barriers and/or landscaped earthen berms between noise sources and receivers where setbacks are not adequate with respect to reducing noise to acceptable levels. The specific locations and heights of barriers will be determined by a qualified acoustical consultant when the locations of residences and noise sources are finalized and prior to tentative map approval. Figure 3.10-2 shows potential locations for noise barriers required to mitigate roadway noise. The barriers will be of sufficient height and composition to reduce noise levels at the closest sensitive receptor to levels required by County standards (General Plan Table 6-1). Barriers are anticipated to be at least 8 feet high.

b. Installation of enclosures around large noise-generating mechanical equipment at higher-density residential buildings, as necessary.

c. Implementation of maximum setbacks or barriers on lots facing noise sources to maximize attenuation of noise over distance.

d. Orientation of outdoor use areas such that they do not have a direct line-of-sight to adjacent residences within the LRVSP project area, to the extent feasible.

e. Installation of noise-reducing treatment in new buildings:

    - High-performance, sound-rated, double-glazed windows.
    - Sound-rated doors.
    - Sound-rated exterior wall construction.
    - Special acoustical details for vents.
    - Acoustical caulking at all exterior facade penetrations.
    - Sound-rated roof ceiling construction.
    - Adequate mechanical ventilation so that windows and doors may be kept closed at the discretion of the building occupants and control environmental noise intrusion.

Traffic-Related Noise at Offsite Locations

Tables 3.10-15 and 3.10-16 compare traffic noise modeling results under the existing and existing-plus-project conditions and near-term and near-term-plus-project conditions, respectively. As noted

above, this sub-section focuses on the increase in traffic noise between existing conditions and future conditions that would result from project implementation, because existing sensitive receptors would be exposed to that increase in noise. The exposure of existing noise-sensitive land uses to noise levels about the County's compatibility standard of 60 L_{dn} is also evaluated. The discussion above under *Traffic-Related Noise at Project Uses* focuses only on future sensitive land uses that will be constructed as part of the project and the potential for future receptors to be exposed to noise greater than 60 L_{dn}.

At all offsite roadways except Marble Valley Parkway, traffic noise L_{dn} values are predicted to increase by less than 0.6 dBA as a result of the project. At Marble Valley Parkway east of Marble Ridge Road, traffic noise L_{dn} is expected to increase by approximately 2.7 dB relative to existing conditions without the project and 1.5 dB relative to near-term conditions without the project. At this location, an increase in L_{dn} of more than 1.5 dBA would be considered a significant increase, per County General Plan Policy 6.5.1.12. Thus, at all but one of the affected roadways in the project area, there would be a less-than-significant increase in traffic noise as a result of the project, because the increases in noise would not be considered noticeable. A noise increase that is not noticeable is not likely to result in health effects in individuals living near the project site. For US 50 in particular, project-generated traffic noise level increases under existing-plus-project conditions would not exceed 1.5 dBA (the threshold for a significant noise increase at the US 50 locations) at nearby sensitive receptors such as residences in Cameron Oaks and churches and schools north of US 50 west and east of the Cambridge interchange.

Traffic-Related Noise at 2080 Marble Valley Road

The increase in traffic noise levels at Marble Valley Parkway, east of Marble Ridge Road, would be greater than 1.5 dBA for the existing conditions analysis and, thus, a significant impact (Tables 3.10-11 and 3.10-15). Mitigating traffic noise at the residence that is adjacent to the public roadway could be accomplished by installing (at the applicant's expense) acoustical insulation (e.g., double-paned windows designed for enhanced noise reduction) and a berm or sound wall. Acoustical insulation would reduce interior noise levels, but a berm or sound wall, which would be required to reduce noise levels at outdoor areas of the property, would need to be of such a height (approximately 8 feet) that it would become visually intrusive. Additionally, a berm or sound wall, to be effective at reducing exterior noise levels, would need to obstruct access to the residence's driveway, which would not be feasible. As such, exterior noise levels at the property line could not be mitigated to levels that would meet County standards. The increase in interior noise levels would be mitigated through the implementation of noise treatments at the existing residence, as specified in Mitigation Measure NOI-1c.

However, because the increase in exterior noise would be significant at this location and cannot be feasibly mitigated to a less-than-significant level, the exposure of the existing residence located at 2080 Marble Valley Road to increased traffic noise as a result of project implementation would be a significant and unavoidable impact. Because the cause of the impact is the increase in noise at outdoor areas of the property, it would be less likely for health effects, such as sleep disturbance, to occur. The noise exposure and thus any health effects would be temporary, because the residents of the property are more likely to spend most of the time in indoor areas, where noise levels would be lower.

Table 3.10-15. Existing-Plus-Project Traffic Noise on Roadway Segments in the Project Area Vicinity

Roadway	Segment Location	Existing L_{dn} (dBA) at 50 feet from Roadway Centerline	Existing-Plus-Project L_{dn} (dBA) at 50 feet from Roadway Centerline	Change in Traffic Noise due to LRVSP-Generated Traffic (dBA)
Bass Lake Road	Green Valley Road to Bridlewood Drive	63.6	63.8	0.2
	Bridlewood Drive to Serrano Pkwy	65.6	65.7	<0.1
	Serrano Pkwy to Hollow Oak Drive	68.9	69.2	0.2
	Hollow Oak Drive to Country Club	69.2	69.5	0.2
	Country Club Drive to US 50	69.8	70.2	0.4
Cambridge Road	Green Valley Road to Oxford	61.2	61.2	<0.1
	Oxford to Knollwood Drive	64.0	64.1	<0.1
	Knollwood Drive to Country Club	63.9	64.0	<0.1
	Country Club to US 50	65.2	65.2	<0.1
Flying C Road	Crazy Horse Road to Deer Creek Road	51.9	51.9	–
Cameron Park Drive	Green Valley to Alhambra	67.2	67.2	<0.1
	Alhambra to Oxford	69.7	69.8	<0.1
	Oxford to Hacienda Drive	70.3	70.3	<0.1
	Hacienda Drive to US 50	70.3	70.3	<0.1
Country Club Drive	Bass Lake to Merrychase Drive	63.1	63.4	0.3
	Merrychase Drive to Knollwood	60.0	60.3	0.3
	Knollwood to Cambridge	59.7	60.0	0.3
	Cambridge to Royal	59.9	60.0	<0.1
	Royal to Cameron Park Drive	60.8	60.8	<0.1
Durock Road	US 50 to Business Drive	65.6	65.7	<0.1
	Business Drive to S. Shingle	64.1	64.1	<0.1
Marble Valley Parkway	East of Marble Ridge Road	69.7	72.4	2.7
Shingle Lime Mine Road	South of Durock Road	48.7	49.1	0.4
Amber Fields Drive	North of S. Shingle Road	51.3	51.4	0.2
S. Shingle Road	US 50 to Amber Fields Drive	64.8	64.8	<0.1
	Amber Fields Drive to Latrobe Road	56.4	56.7	0.3
US 50	West of Latrobe/El Dorado Hills	82.0	82.4	0.5
	Between El Dorado Hills and Bass Lake	80.9	81.5	0.6
	Between Bass Lake and Cambridge	80.5	80.8	0.4
	East of Cambridge	80.5	80.8	0.4

Source: ICF and Federal Highway Administration Traffic Noise Model, Lookup Tables.
LRVSP = Lime Rock Valley Specific Plan.
dB = decibel.
dBA = A-weighted decibel.
L_{dn} = day-night level.

Table 3.10-16. Near-Term-Plus-Project Traffic Noise on Roadway Segments in the Project Area Vicinity

Roadway	Segment Location	Near Term L_{dn} (dBA) at 50 feet from Roadway Centerline	Near Term-Plus-Project L_{dn} (dBA) at 50 feet from Roadway Centerline	Change in Traffic Noise due to LRVSP-Generated Traffic (dBA)
Bass Lake Road	Green Valley Road to Bridlewood Drive	64.4	64.4	–
	Bridlewood Drive to Serrano Pkwy	66.5	66.6	<0.1
	Serrano Pkwy to Hollow Oak Drive	69.0	69.0	–
	Hollow Oak Drive to Country Club	70.5	70.5	<0.1
	Country Club Drive to US 50	70.6	70.6	<0.1
Cambridge Road	Green Valley Road to Oxford	61.9	62.0	<0.1
	Oxford to Knollwood Drive	64.9	64.9	<0.1
	Knollwood Drive to Country Club	65.1	65.1	<0.1
	Country Club to US 50	66.4	66.4	–
Flying C Road	Crazy Horse Road to Deer Creek Road	53.8	53.1	
Cameron Park Drive	Green Valley to Alhambra	67.7	67.7	–
	Alhambra to Oxford	70.2	70.1	<0.1
	Oxford to Hacienda Drive	70.5	70.5	–
	Hacienda Drive to US 50	70.9	70.9	–
Country Club Drive	Bass Lake to Merrychase Drive	64.7	65.1	0.4
	Merrychase Drive to Knollwood	61.5	61.8	0.3
	Knollwood to Cambridge	61.4	61.6	0.2
	Cambridge to Royal	61.6	61.7	<0.1
	Royal to Cameron Park Drive	62.3	62.4	<0.1
Durock Road	US 50 to Business Drive	66.8	66.9	<0.1
	Business Drive to S. Shingle	65.1	65.1	–
Marble Valley Parkway	East of Marble Ridge Road	71.3	72.8	1.5
Shingle Lime Mine Road	South of Durock Road	49.5		–
Amber Fields Drive	North of S. Shingle Road	51.4		–
S. Shingle Road	US 50 to Amber Fields Drive	66.2		–
	Amber Fields Drive to Latrobe Road	59.4		–
US 50	West of Latrobe/El Dorado Hills	81.8	81.8	<0.1
	Between EDH and Bass Lake	81.4	81.5	<0.1
	Between Bass Lake and Cambridge	81.0	81.0	<0.1
	East of Cambridge	80.9	80.9	<0.1

Source: ICF and Federal Highway Administration Traffic Noise Model, Lookup Tables.
LRVSP = Lime Rock Valley Specific Plan.
dB = decibel.
dBA = A-weighted decibel.
L_{dn} = day-night level.

Mitigation Measure NOI-1c: Prepare and implement a noise control plan for the residence at 2080 Marble Valley Road

The applicant shall prepare a design-level operational noise control plan that identifies all treatments that shall be implemented at the residence located at 2080 Marble Valley Road such

that the increase in project-generated noise within the residence does not exceed 1.5 dBA L_{dn}, per County General Plan Policy 6.5.1.12. The noise control plan will be developed by an acoustical design professional. The noise-reducing treatments shall be employed in an effort to reduce interior noise levels to be in compliance with noise standards. The report shall be submitted to the County for review and approval at the tentative map stage for the project. The treatments for the residence at 2080 Marble Valley Road shall be installed at no cost to the homeowner and may include, but are not limited to, those listed below, as recommended by the acoustical design professional and agreed to by the homeowner.

- Installation of noise-reducing treatment in new buildings:
    - High-performance sound-rated double-glazed windows.
    - Sound-rated doors.
    - Special acoustical details for vents.
    - Acoustical caulking at all exterior facade penetrations.
    - Adequate mechanical ventilation so that windows and doors may be kept closed at the discretion of the building occupants to control environmental noise intrusion.

In the event that the homeowner declines to accept these changes, then the impact will remain significant and unavoidable. In the event that the homeowner has agreed to this treatment, but noise-reducing treatments cannot reasonably reduce the interior noise level below the noise standards, then the impact will remain significant and unavoidable.

Impact NOI-1c: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the County General Plan or noise ordinance for stationary or non-transportation noise sources during project operation (less than significant with mitigation)

Noise from non-transportation sources would be limited to onsite noise generated by residential mechanical equipment, such as HVAC equipment and swimming pool pumps. Depending on the size of the equipment, HVAC equipment can produce sound levels in the range of 70 to 75 dBA at 50 feet (Hoover and Keith 2000). Active park uses are also proposed in the northwestern section of the project area and may include sports fields for baseball, softball, and soccer. These activities would be a source of noise that could affect new residential uses within the LRVSP project area and adjacent to the park. The increase in noise could be noticeable and substantial, in addition to exceeding the County's compatibility standards. There are no existing residential uses near where the village park use is proposed.

The extent to which noise from these activities could affect adjacent uses within the LRVSP project area depends on many factors, including the proximity of the active uses to the residences, the type and number of active uses, and the time of day that active uses would occur. These specific details have not yet been determined. Analysis of active park uses conducted for similar projects indicates that active ball field use produces a sound level of about 60 dBA-L_{eq} at 100 feet and an active soccer field produces a sound level of about 69 dBA-L_{eq} at 100 feet (City of Modesto 2004). This indicates that active park uses could result in noise that exceeds the County's daytime and evening non-transportation noise standards of 55 dBA-L_{eq} and 50 dBA-L_{eq}, respectively. For the daytime noise standard, residences or other sensitive land uses within 400 feet of the sports field could be exposed

to noise over 55 dBA-L_{eq}, assuming a noise level of 69 dBA-L_{eq} at 100 feet for a soccer game during daytime hours.

The noise impacts associated with the exposure of new and existing residences to non-transportation sources of noise would be significant, because the County's noise standards could be exceeded, and the project could contribute a substantial increase in noise relative to existing conditions. However, Mitigation Measure NOI-1b includes a variety of potential treatments that can be employed to reduce noise. These treatments include prohibitions on when noisy activities can occur, use of setbacks, and use of barriers between noise sources and receivers. In the case of HVAC, the noise control plan, which would be implemented for Mitigation Measure NOI-1b, would ensure that HVAC equipment would be shielded or enclosed such that noise from the equipment meets the County standards for stationary noise sources and is not noticeable to existing residences. Thus, noise from stationary equipment would not adversely affect new residences within the LRVSP project area or the existing scattered residences that are within the vicinity of the project area.

In the case of the sports fields, locating new residences an adequate distance from the fields would minimize impacts, and, where needed barriers could be constructed to reduce noise. These treatments would be expected to reduce noise by 5 to 15 dB depending on the specific treatment or combination of treatments. Combinations of treatments would be employed to ensure compliance with applicable noise compatibility standards and to ensure that potential noise impacts would be addressed through design. These treatments would reduce this impact to a less-than-significant level at new residences within the project area. With mitigation, the County noise standards would not be exceeded and the increase in noise would be reduced, and thus it is unlikely that any people would experience health effects from project-related noise exposure.

Mitigation Measure NOI-1b: Prepare and implement a noise control plan

Impact NOI-2: Generation of excessive groundborne vibration or groundborne noise levels (less than significant with mitigation)

Construction Equipment

Construction of the proposed project would not require any impact devices or other equipment that is typically associated with substantial vibrational impacts. The project may require the use of a rock ripper to remove rock. A rock ripper consists of a knife-shaped tip on a hydraulic arm, which is typically mounted on a bulldozer. The bulldozer drags the tip through the ground to break up rock. This is not a traditional impact device, such as a pile driver or hoe ram, but it could generate some degree of ground vibration. Specific data on the vibration generated by a rock ripper are not available, but vibration is expected to be similar to or less than the vibration generated by a hoe ram.

As presented in Table 3.10-3, PPV values at 25 feet would be distinctly perceptible for equipment that is not impact equipment. At 50 feet from the source, the PPV values fall below the barely perceptible threshold for non-impact equipment. It is possible that construction equipment would be required within 25 feet of surrounding land uses; as a result, those land uses may be able to distinctly perceive vibrational impacts from construction. However, any perception of vibrational impacts would not be categorized as excessive. Further, most construction activity would very likely occur at a distance greater than 50 feet from surrounding land uses, because the vast majority of construction activities would occur in the interior portions of the project area and not in the few specific locations where the LRVSP boundary is within 50 feet of existing residences. Therefore,

vibrational impacts would be barely perceptible, according to the Caltrans guidelines. Consequently, this impact would be less than significant. No mitigation is required.

Blasting

Blasting may be required to prepare the project site for construction. The need for blasting would depend on site-specific conditions and engineering considerations that are not known at this time. Accordingly, no information on the location, type, or extent of blasting is known. Noise and vibration generated by blasting is a complex function of the charge size, charge depth, hole size, degree of confinement, initiation methods, spatial distribution of charges, and other factors. This information is not currently available. To provide a general indication of the potential for airblast and vibration impacts from blasting, airblast and vibration levels have been estimated using methods recommended in the *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (California Department of Transportation 2013), assuming a 100-pound charge and average normal confinement of the charge.

Table 3.10-17 presents estimated airblast and ground-vibration values as a function of distance based on these assumptions.

Table 3.10-17. Estimated Airblast and Ground-Vibration Levels

Distance (feet)	Peak Particle Velocity under Average Normal Confinement (inches/second)	Probable Peak Air Overpressure (dB)
100	2.5	146
250	0.58	137
500	0.19	130
750	0.10	125
1,000	0.063	122
1,250	0.044	120
1,500	0.033	118
2,000	0.021	116

Source: California Department of Transportation 2020.
dB = decibel.

The results in Table 3.10-15 indicate that ground vibration from a 100-pound charge could exceed the USBM standard for potential damage of 0.5 inch per second within about 275 feet of the blast and that airblast could exceed the 130 dB USBM standard at locations within about 500 feet of a blast. Because existing residences and other structures not associated with the project, and new residences constructed as part of the project while construction is still occurring, are and would be located within 500 feet of the potential blasting sites, the data in Table 3.10-15 indicate that airblast and ground-vibration impacts could be significant.

Implementation of Mitigation Measure NOI-2 would reduce this impact to a less-than-significant level by requiring measures to reduce airblast and vibration from blasting.

Mitigation Measure NOI-2: Employ measures to reduce airblast and vibration from blasting

Contractors shall retain a qualified blasting specialist to develop a site-specific blasting program report and assess, control, and monitor airblast and ground vibration from blasting. The report

shall be reviewed and approved by the County prior to issuance of a blasting permit. The report shall include, at a minimum, the following measures.

a. The contractor shall use current state-of-the-art technology to keep blast-related vibration at offsite residential and other occupied structures and well sites as low as possible, consistent with blasting safety. In no instance shall blast vibration, measured on the ground adjacent to a residential or other occupied structure or well site be allowed to exceed the frequency-dependent limits specified in the Alternative Blasting Level Criteria contained in USBM Report of Investigations 8507 (U.S. Bureau of Mines 1980a).

b. The project contractor shall use current state-of-the-art technology to keep airblast at offsite residential and other occupied structures as low as possible. In no instance shall airblast, measured at a residence or other occupied structure, be allowed to exceed the 0.013 psi (133 dB) limit recommended in USBM Report of Investigations 8485 (U.S. Bureau of Mines 1980b).

c. The project contractor shall monitor and record airblast and vibration for blasts within 1,000 feet of residences and other occupied structures to verify that measured levels are within the recommended limits at those locations. The contractor shall use blasting seismographs with three channels that record in three mutually perpendicular axes and have a fourth channel for recording airblast. The frequency response of the instrumentation will be from 2 to 250 Hz, with a minimum sampling rate of 1,000 samples per second per channel. The recorded data must be such that the frequency of the vibrations can be determined readily. If blasting is found to exceed specified levels, blasting shall cease, and alternative blasting or excavation methods shall be employed that result in the specified levels not being exceeded. All recorded data shall be provided to the County for review.

d. Airblast and vibration monitoring shall take place at the nearest offsite residential or other occupied structure. If vibration levels are expected to be lower than those required to trigger the seismograph at that location, or if permission cannot be obtained to record at that location, recording shall be accomplished at some closer site that is in line with the structure. Specific locations and distances where airblast and vibration are measured shall be documented in detail along with measured airblast and vibration amplitudes.

e. Blasting shall be prohibited between the hours of 7:00 p.m. and 7:00 a.m. on weekdays and 5:00 p.m. to 8:00 a.m. on weekends and federally recognized holidays.

Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels (less than significant)

The project area is not located in the vicinity of a private airstrip. The northern border of the project area is located approximately 2.8 miles from the Cameron Airpark public use airport; however, noise from this airport would not likely affect future plan area land uses as the project area is not located within the CNEL 55 dB contours of the airport. Areas within the CNEL 55 dB or higher noise contours are located in the High Noise/Risk Zone, according to the Cameron Airpark Airport Land Use Compatibility Plan (El Dorado County 2012). In addition, the project area is located outside of the airport influence area, as defined in the compatibility plan (El Dorado County 2012). Additionally, because the proposed project would not exacerbate existing noise effects from aircraft

or airport uses, an evaluation of the impacts on new project uses is not required. Because of these considerations, the impact would be less than significant.

Impact NOI-4: Result in noise impacts due to activities associated with project offsite improvements (significant and unavoidable)

Development of the LRVSP would require a number of infrastructure improvements at offsite locations, including improvements to water lines, sewer connections, and roadways, which could result in impacts related to both construction and operation of the proposed project.

Construction

The construction noise impacts associated with offsite improvements would likely be similar to impacts in the project area. Similar construction equipment would be used for the construction activities in both the project area and offsite locations, resulting in comparable noise levels on any given day. However, the duration of project construction activities would be several years, as discussed in Impact NOI-1a, while the offsite improvement activities would occur over a much shorter timeframe (i.e., months). To be conservative, proposed project construction is considered to be significant because of the long-term nature of construction, while offsite improvement activities would resemble more typical construction activity (as opposed to a years-long construction schedule, which could be considered semi-permanent). Thus, the offsite improvement activities would be exempt from the construction noise limits per General Plan Policy 6.5.1.11, because the activities would occur during the daytime hours. In addition, implementation of the construction practices described in Mitigation Measure NOI-1a would reduce construction noise at the offsite locations. It may not be feasible to reduce noise to levels below the County daytime noise standards at all sensitive land uses surrounding the locations of offsite improvements, but, because construction activities that occur during the allowable hours are exempt from the construction noise limits (per Policy 6.5.1.11), noise from these activities would be considered exempt. However, to ensure that the increase in noise from construction is minimized, Mitigation Measure NOI-1a is applicable for the offsite improvements, though not required to reduce the impact to a less-than-significant level. Health effects are thus not likely to occur in people exposed to noise during construction.

Regarding ground-borne vibration, because of the nature of the offsite improvements (e.g., water and wastewater infrastructure, roadway extensions and improvements) it is unlikely that pile driving, or other substantial ground-impact activities would be included in offsite construction activities, so vibrational impacts would be minimal. Blasting, if necessary, for the offsite improvements, could cause ground vibration impacts at surrounding land uses. However, vibration impacts would be mitigated to a less-than-significant level by Mitigation Measure NOI-2, which is discussed above for onsite construction activities.

Further, the offsite improvements would not result in any new land uses so there would be no new sensitive land uses that could be affected by the construction noise impacts.

Operation

Water and sewer infrastructure (e.g., pipelines) typically does not generate noticeable noise; therefore, there would be no substantial source of permanent operational noise as a result of the offsite improvements. The addition and/or extension of Marble Valley Road and Lime Rock Valley Road would result in an increase in traffic noise. The noise associated with traffic on Marble Valley

Road was discussed in Impact NOI-1b and found to be a significant and unavoidable impact. Consequently, the impact of the roadway extensions is considered to be significant and unavoidable. Given the subjective nature of the human response to noise, it is not possible to conclusively determine whether health effects resulting from offsite operational noise could occur. However, it is possible that people residing near the offsite improvements could experience health effects resulting from increases in traffic noise levels. The potential health effects that could occur are described above in *Human Response to Noise*. The effects more likely to occur are typically considered less serious (e.g. annoyance), while other effects are less likely to occur and would be more serious (e.g. hearing damage).

Cumulative noise resulting from the roadway extensions is evaluated in the cumulative-plus-project scenario described in Chapter 5, *Other CEQA Considerations*.

Mitigation Measure NOI-2: Employ measures to reduce airblast and vibration from blasting

Impact NOI-5: Result in impacts related to noise as a result of General Plan Policy TC-Xf traffic improvements (less than significant)

As described in Chapter 2, *Project Description*, offsite traffic improvements would be required by General Plan Policy TC-Xf. The implementation of these measures is evaluated for their potential impacts related to noise and vibration.

Construction

The construction noise impacts associated with traffic improvements would likely be similar to the impacts in the project area. Similar construction equipment would be used for the construction activities in the project area and in the traffic improvement locations, resulting in comparable noise levels on any given day. However, the duration of project construction activities would be several years, as discussed in Impact NOI-1a, while the traffic improvement activities would occur over a much shorter timeframe (i.e., months). To be conservative, proposed project construction is considered to be significant because of the long-term nature of construction, while traffic improvement activities would resemble more typical construction activity (as opposed to a years-long construction schedule, which could be considered semi-permanent). Thus, because the activities would occur during the daytime hours, the traffic improvement activities would be exempt from the construction noise limits pursuant to General Plan Policy 6.5.1.11. However, to ensure that the increase in noise generated from construction is minimized, Mitigation Measure NOI-1a is applicable for the offsite improvements.

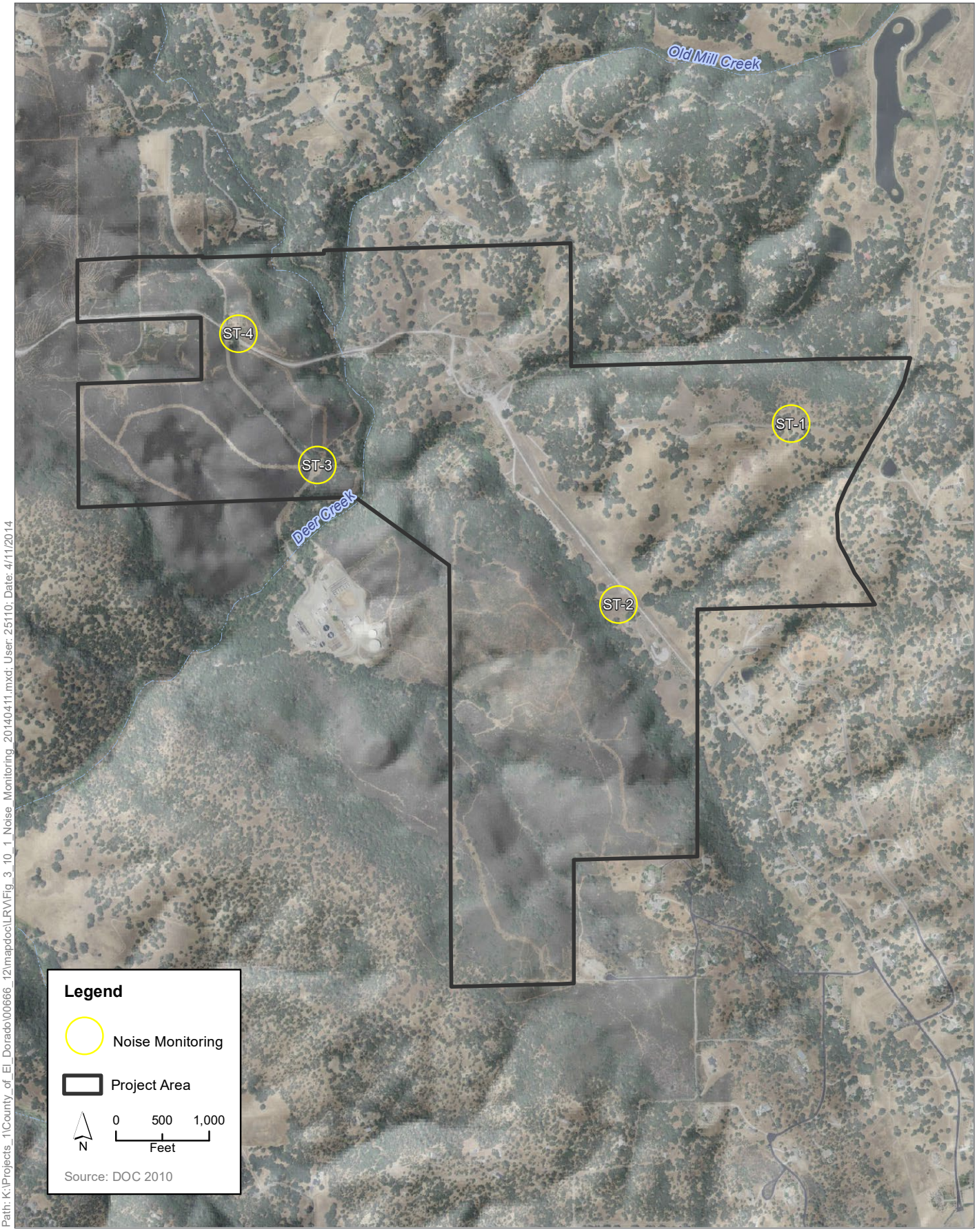
Regarding groundborne vibration, because of the nature of traffic improvements (improvements to existing intersections and off- and on-ramps), it is unlikely that pile driving, or other substantial ground-impacting activities would be necessary; therefore, vibrational impacts would be minimal.

Furthermore, the traffic improvements would not result in any new land uses, so there would be no new sensitive land uses that could be affected by the construction noise.

Operation

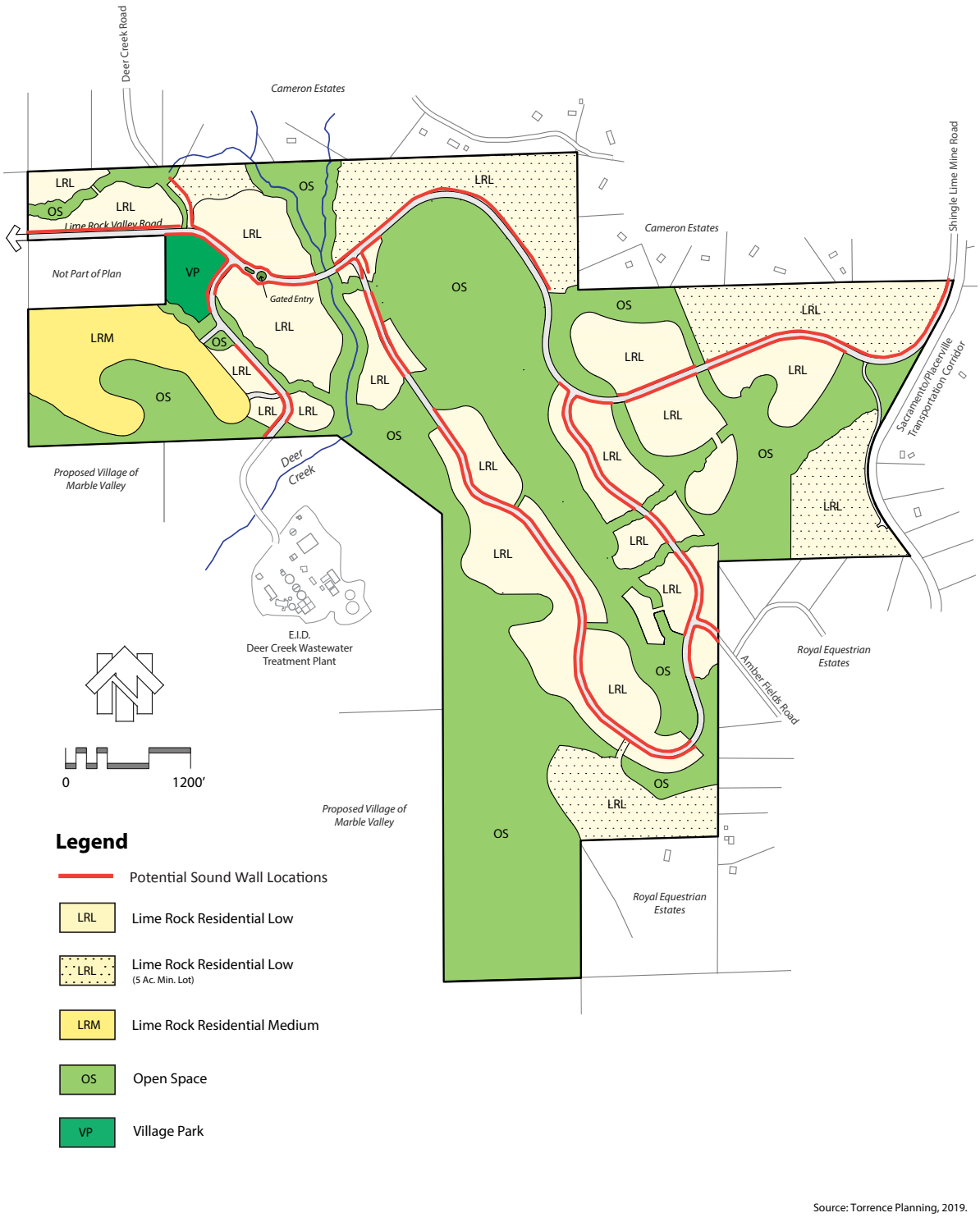
Traffic improvements would result in reduced congestion and, therefore, slightly increased vehicle speed on the roadways. With higher vehicle speeds, noise could increase slightly. However, the traffic noise analysis uses the posted speeds to determine noise levels, which is a conservative approach. Thus, any congestion that occurs on roadways is not reflected in the noise levels, because the posted speed is a more conservative scenario.

Because the traffic improvements would not generate any traffic themselves and would increase vehicle speeds closer to but not above the posted speed limit, there would be no additional impacts from the traffic improvements.



Path: K:\Projects_1\County_of_El_Dorado\00666_12\mapdoc\LRV\Fig_3_10_1_Noise_Monitoring_20140411.mxd; User: 25110; Date: 4/11/2014

Figure 3.10-1
Noise Monitoring Locations in the Project Area



Source: Torrence Planning, 2019.

Graphics . . . 00666.12 Lime Rock Valley/EIR (1-17-20) AB

Figure 3.10-2
Potential Sound Wall Locations

3.11 Population and Housing

This section describes the regulatory and environmental setting for population and housing in El Dorado County (County) as it pertains to the Lime Rock Valley Specific Plan (LRVSP) (proposed project). It also describes impacts on population and housing that would result from implementing the proposed project.

3.11.1 Existing Conditions

Regulatory Setting

Population and housing patterns and development in El Dorado County are guided by state housing element law (Government Code Sections 65580–65590), the Sacramento Area Council of Governments (SACOG) *2021–2029 Regional Housing Needs Plan* (RHNP), and the *El Dorado County General Plan* (County General Plan) Housing Element. Applicable state and local population and housing regulations and policies related to the proposed project are described in the following subsections.

State

At the state level, the California Department of Housing and Community Development (HCD) administers population and housing policy and laws, including the review of local general plan housing elements. State housing element law (Government Code Sections 65580–65590) requires HCD to determine the relative share of existing and projected housing needs for each county in California. HCD uses California Department of Finance (DOF) population projections and historic growth trends to estimate the relative share of California's projected population growth that would occur in each county. Where there is a regional council of governments (COG), HCD provides the regional housing need information to the COG. For El Dorado County, HCD provides this information to SACOG, of which El Dorado County is a member. SACOG, in turn, assigns a share of the identified regional housing need to each of its member counties and cities through its Regional Housing Needs Allocation (RHNA) and RHNP process.

Local

Regional Housing Needs Allocation and Regional Housing Needs Plan

The state of California requires every county and city to plan for and accommodate its fair share of regional growth through the RHNA process. As part of the RHNA process, HCD issues a Regional Housing Needs Determination, which includes an overall housing needs number, as well as a breakdown of the number of units required in four household income categories, every 8 years. The distribution of the county's overall allocation into four income categories, defined by state law, is intended to facilitate the equitable distribution of lower income households throughout the county's communities.

Using this information, SACOG must develop an RHNP and administer the RHNA process in its six-county region, including El Dorado County, the five other member counties (Placer, Sacramento,

Sutter, Yolo, and Yuba), and their respective cities. HCD's intent, through implementation of the RHNA process, is to promote the following objectives.

- Increase the housing supply and the mix of housing types, tenure and affordability in all cities and counties within the region in an equitable manner.
- Promote infill development and socioeconomic equity, the protection of environmental and agricultural resources, and the encouragement of efficient development patterns.
- Promote an improved intraregional relationship between jobs and housing.

The RHNA, part of the SACOG 2021–2029 RHNP, establishes the total number of housing units and expected growth that each member city and county must plan for within the 8-year planning period of its general plan housing element. The SACOG 2021–2029 RHNP, adopted on March 19, 2020, formally allocates to SACOG cities and counties their fair share of the region's projected housing needs. SACOG's total housing allocation for the current planning period of October 31, 2021, through October 31, 2029, is 153,512 dwelling units (Sacramento Area Council of Governments 2020).

El Dorado County General Plan

The County General Plan Economic Development Element and 2021-2029 Housing Element include the following relevant goals, objectives, and policies, the text of which can be found in Appendix B, *Consistency with El Dorado County General Plan Policies*. See Section 3.9, *Land Use Planning and Agricultural Resources*, for an analysis of the proposed project's consistency with County General Plan policies as required under State CEQA Guidelines Section 15125.

Economic Development Element

- Goal 10-1, *Cooperation*, includes Objective 10.1.9, *Jobs-Housing Relationship*, which addresses monitoring the jobs–housing balance within the County with a focus on creation of employment opportunities and describes associated Policies 10.1.9.1, 10.1.9.2, and 10.1.9.3.

2021-2029 Housing Element

State housing element law, enacted in 1969, mandates that local governments in California adopt housing elements as part of their general plans and submit draft and adopted elements to HCD for review of compliance with state law. The County General Plan 2021-2029 Housing Element, reviewed by HCD in August 2021, guides the County's decisions related to unincorporated El Dorado County's housing needs through October 2029. The 2021–2029 Housing Element contains the following relevant goals and policies, the text of which can be found in Appendix B, *Consistency with El Dorado County General Plan Policies*.

The County is currently in the process of completing a housing element update for 2021-2029. The 2021–2029 Housing Element was approved on August 31, 2021, and amended March 22, 2022.

- Goal HO-1 addresses provision of housing to meet the needs of existing and future residents in all income categories, and includes implementing Policy HO-1.1.
- Goal HO-2 addresses provision of quality residential environments for all income levels.
- Goal HO-4 addresses meeting the housing needs of special groups of county residents.
- Goal HO-6 addresses assurances related to equal access to affordable housing without discrimination, and includes implementing Policy HO-6.1.

Environmental Setting

This section provides a description of the existing conditions related to population and housing in El Dorado County and the project area.

Population

California experienced substantial population growth from 1990 to 2020, increasing by nearly 10 million people to a total population of 39,109,070 (California Department of Finance 2007, 2023a). El Dorado County has historically been one of California's fastest-growing regions, though growth has slowed over the past decade. During the 30-year period from 1990 to 2020, the County's population increased by approximately 54%. The population of El Dorado County's unincorporated area grew by 70% during the 1990 to 2020 period. DOF estimated that as of July 1, 2023, the countywide population of El Dorado County was 187,285, and the unincorporated area held 159,722 of these residents (California Department of Finance 2023a; El Dorado County 2022). For the 25-year period of 2020 to 2045, the County's population is expected to decrease by 9% from 191,032 to 174,271 (California Department of Finance 2023b). Table 3.11-1 shows the population growth experienced by El Dorado County from 1990 to 2020, and Table 3.11-2 presents the anticipated growth for El Dorado County through 2045.

Table 3.11-1. El Dorado County Population Growth 1990–2020

Year	Countywide Population	Percent Change		Unincorporated Area Population	Percent Change	
		Incremental	Cumulative		Incremental	Cumulative
1990	125,995	–	–	96,849	–	
2000	156,299	24	24	123,080	27	27
2010	181,058	16	44	149,266	21	54
2020	191,032	6	52	158,788	6	64

Sources: California Department of Finance 2007, 2023b, and 2023c; El Dorado County 2022.

Table 3.11-2. El Dorado County Population Growth Projections 2020–2045

Year	Estimated El Dorado County Population	Percent Change	
		Incremental	Cumulative
2020	191,032	–	–
2025	186,186	-3	-3
2030	185,434	0	-3
2035	183,477	-1	-4
2040	179,456	-2	-6
2045	174,271	-3	-9

Source: California Department of Finance 2023b

Housing

Countywide

Countywide, DOF estimates indicate that there were 76,649 occupied housing units and a vacancy rate of 19.6% in 2023, and 75,320 occupied housing units and a vacancy rate of 19.4% in 2020 (California Department of Finance 2023d). The high countywide vacancy rate, averaged across cities

and the unincorporated area, reflects the high number of seasonal vacation units in the city of South Lake Tahoe, where the 2023 vacancy rate was 42.8% (California Department of Finance 2023d). According to DOF, in 2023 there were 74,357 dwelling units in the unincorporated county, of which 65,290 were single-family detached units, 839 were single-family attached units, 1,597 were multifamily structures with two to four units, 3,312 were multifamily structures with five or more units, and 3,319 were mobile homes (California Department of Finance 2023d). A total of 73,815 dwelling units were estimated to be occupied in the unincorporated area at the time, reflecting a vacancy rate of 14.6%.

West Slope

In 2019, the County updated its residential growth projections for use in the County's Travel Demand Model (TDM), which is a land use planning tool to project the amount and distribution of growth for the west slope of El Dorado County[1] through 2040 (BAE Urban Economics 2020). The BAE Urban Economics study reported that in 2018 there were 54,921 existing housing units. The study projects 57,085 housing units for 2025, and for 2040, the study estimated that there would be 62,014 housing units, leaving a difference of approximately 5,000 housing units to be built between 2025 and the 2040 planning horizon. Actual new units in any given year would vary from projections because of economic fluctuations and other factors; however, the overall growth rate is assumed to apply over the planning horizon. Based on a continuation of the County's historic west slope growth trend, anticipated growth over the 2018 to 2040 time period yields an annual average growth rate of 0.55%. (BAE Urban Economics 2020.)

Most of El Dorado County's recent growth, both residential and commercial, has taken place in the vicinity of El Dorado Hills. The eastern section of El Dorado Hills, where the LRVSP has been proposed, is characterized by primarily low-density residential and commercial development (El Dorado County 2021).

Average Household Size

Average household size is determined by dividing the total number of occupied housing units by the population. The adopted County General Plan 2021–2029 Housing Element indicates that in 2020, the average household size countywide was 2.09 people per occupied unit, and that the average household size in the unincorporated area of El Dorado County was 2.21 people per occupied unit. However, the County has determined that the data from the El Dorado Hills census and the 2018–2022 American Community Survey provide factors that are more appropriate indicators of average household size within the El Dorado Hills Census Designated Place (CDP) (U.S. Census 2022). The average household size according to the 2018–2022 American Community Survey in the El Dorado Hills CDP was 2.84 while the average household size for the county as a whole was 2.52, which is more appropriate given the less rural nature of the area. However, the factors used in this analysis are those determined in the fiscal analysis, which are more conservative. These factors are as follows: 3.06 people per unit for single-family low-density residential, 2.61 people per unit for single-family medium-density residential, and 2.49 people per unit for multifamily residential.

[1] Excluding the city of Placerville.

Population and Housing—Lime Rock Valley Specific Plan Area

There are six residential structures in the project area. Four of the residences are dilapidated and unoccupied; two are tenant-occupied by caretakers of the project site.

Regional Housing Needs Allocation

On November 21, 2019, the SACOG Board adopted the Cycle 6 2021–2029 RHNA Methodology, and the 2021–2029 RHNP was adopted on March 19, 2020 (Sacramento Area Council of Governments 2020). Table 3.11-3 shows unincorporated El Dorado County's RHNA by income level through 2029. The total RHNA for unincorporated El Dorado County is 4,994, which is divided among four defined income groups[2] (Sacramento Area Council of Governments 2020). As shown in Table 3.11-3, unincorporated El Dorado County's greatest housing need is in the *above-moderate* income category.

Table 3.11-3. Unincorporated El Dorado County Regional Housing Needs Allocation for 2021–2029

Income Group	Units	Percent of Total
Very-Low	1,350	27.0
Low	813	16.0
Moderate	840	16.8
Above-Moderate	1,991	39.8
Total	4,994	100

Source: Sacramento Area Council of Governments 2020.

3.11.2 Environmental Impacts

Methods of Analysis

The analysis of the proposed project's impacts on population and housing was conducted using a review of the most current population and housing statistics and projections available for El Dorado County, with data specific to unincorporated El Dorado County when obtainable. These statistics include U.S. Census data, SACOG's 2021–2029 RHNP projections, the County General Plan 2021–2029 Housing Element data, and DOF's estimates and projections. The following factors were used to estimate population: 3.06 people per unit for single-family low-density residential unit and 2.61 people per unit for single-family medium-density residential unit.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

[2] Very low income = less than 50% of median family income (MFI). Low income = 50 to 80% of MFI. Moderate income = 80 to 120% of MFI. Above moderate income = above 120% of MFI.

No commercial uses are proposed in the project area. The potential for businesses to induce population growth is, therefore, not discussed further for the LRVSP.

Impacts and Mitigation Measures

Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure) (significant and unavoidable)

Under the proposed project, 358 acres would be developed with up to 800 single-family units. Total projected population as a result of the proposed project is 2,336, as shown in Table 3.11-4.

Table 3.11-4. Project Population Resulting from Lime Rock Valley Specific Plan

LRVSP Land Use Designation	Average People per Unit	Number of Units	Projected Residents (rounded)
LRL	3.06	550	1,683
LRM	2.61	250	653
Total		800	2,336

As noted in Table 3.11-2, the countywide population of El Dorado County is anticipated to decrease by over 5,500 between 2020 and 2030, and by more than 16,000 between 2020 and 2045. The additional 2,336 residents resulting from the proposed project would constitute substantial population growth.

As described throughout other sections of Chapter 3, development of housing and associated population increases, and construction of infrastructure extensions would contribute to significant physical impacts, including degradation of visual resources; reactive organic gases (ROG) emissions in excess of the El Dorado County Air Quality Management District (EDCAQMD) threshold; loss, disturbance, or interference with biological, archaeological, cultural, or paleontological resources; increased demand on public services; the potential for increased erosion; water quality degradation; exposure to noise; and decreased effectiveness of the transportation system.

Implementation of the mitigation measures identified in Sections 3.1 through 3.5 and Sections 3.8, 3.10, 3.12, and 3.14 of this EIR will reduce some of the environmental impacts associated with the proposed project's population and housing increases to a less-than-significant level but some impacts, including degradation of existing visual resources, ROG emissions exceeding the EDCAQMD threshold, and noise, would be significant and unavoidable because no feasible mitigation is available to avoid these impacts. All significant and unavoidable impacts are listed in Chapter 5, Section 5.4, *Significant and Unavoidable Impacts*, of this EIR.

Development of the project area would require offsite infrastructure improvements, as described in Chapter 2, *Project Description*, including extensions of and connections to existing roadways; traffic improvements required under General Plan Policy TC-Xf; new and upgraded water lines; and new stormwater, wastewater, and dry utility lines. Construction of these facilities could be viewed as indirectly contributing to population growth in the area. The extension of infrastructure into a presently unserved area could facilitate future connections to that infrastructure and indirectly induce additional population growth in adjacent areas. However, the offsite infrastructure would be sized to serve the proposed project. The expanded roadway network would also be sized to

accommodate the proposed project. General Plan Policy TC-Xf traffic improvements, as well as any additions to the roadway network beyond those necessary for the proposed project, would be constructed to accommodate the cumulative conditions anticipated by the County at the County General Plan planning horizon and would, therefore, not be a catalyst for new growth. Consequently, the proposed infrastructure would have a less-than-significant indirect impact related to inducement of population growth and no mitigation is required.

Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (less than significant)

Six single-family residences are present in the project area. Of these, two are habitable and currently occupied by caretakers of the project site; the remaining four are in disrepair and uninhabitable. Development of the project site as proposed would displace the existing caretaker housing units. Although development of the proposed project would displace the housing units currently in the project area, those six units would be replaced with up to 800 new units for a net increase of 794 housing units. Therefore, six housing units would not be considered a substantial number. Because the proposed project would not displace a substantial number of existing housing units, this impact would be less than significant. No mitigation is required.

The project site currently contains two occupied caretaker residences housing a total of five people. Development of the project site as proposed could displace these five existing residents; however, their residences would be replaced with up to 800 new housing units and, relative to the population that could be accommodated on the project site (2,336), five people would not be considered a substantial number of people. Furthermore, with a vacancy rate of 16.6%, El Dorado County has the capacity to absorb the five displaced residents without resulting in the need to construct replacement housing. This impact would be less than significant. No mitigation is required.

Construction of offsite improvements, including General Plan Policy TC-Xf traffic improvements, new water and sewer lines, extension of public roadways, and intersection improvements, would occur mostly in existing roadways and intersections and would not displace people. The impact is less than significant, and no mitigation is required.

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3.12 Public Services and Utilities

This section describes the regulatory setting and environmental setting for public services (fire and police protection, schools, and libraries) and public utilities (water, recycled water, wastewater, stormwater, solid waste, and energy), and analyzes potential impacts that could result from implementation of the Lime Rock Valley Specific Plan (LRVSP; proposed project).

3.12.1 Existing Conditions

Regulatory Setting

Federal

There are no federal requirements for public services. Below are relevant federal regulations, plans, and policies for utilities.

Clean Water Act

Federal environmental regulations based on the Clean Water Act (CWA) have evolved to require the control of pollutants from Municipal Separate Storm Sewer Systems (MS4s), construction sites, and industrial activities. Discharges from these sources were brought under the National Pollution Discharge Elimination System (NPDES) permit process by the 1987 CWA amendments and subsequent 1990 and 1999 promulgation of stormwater regulations by the U.S. Environmental Protection Agency (USEPA). In California, USEPA has delegated the administration of the federal NPDES program to the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was intended to establish a comprehensive, long-term energy policy and is implemented by the U.S. Department of Energy. The Energy Policy Act addresses energy production in the United States, including oil, gas, coal, and alternative forms of energy and energy efficiency and tax incentives. Energy efficiency and tax incentive programs include credits for the construction of new energy-efficient homes, production or purchase of energy-efficient appliances, and loan guarantees for entities that develop or use innovative technologies that avoid the production of greenhouse gases (GHGs).

Safe Drinking Water Act

The Safe Drinking Water Act was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The act was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources—rivers, lakes, reservoirs, springs, and groundwater wells. The act authorizes USEPA to set national health-based standards for drinking water to protect against both naturally occurring and human-made contaminants that may be found in drinking water. USEPA, individual states, and water providers then work together to make sure that these standards are met.

State

Senate Bill 610 (Chapter 643, Statutes of 2001)

Pursuant to California Water Code Section 10910, since 2001, cities and counties acting as lead agencies under the California Environmental Quality Act (CEQA) request water purveyors to prepare water supply assessments (WSAs) for certain projects (as defined in Water Code Section 10912 and State CEQA Guidelines Section 15155) subject to CEQA. Projects under Senate Bill (SB) 610 are defined under Water Code Section 10912(a) as meeting specific criteria, including, but not limited to, proposed residential development of more than 500 dwelling units; proposed commercial, shopping center, or industrial use of certain sizes; or a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project. The primary issue for the WSA to determine is whether the projected supply for the next 20 years—based on normal, single dry, and multiple dry water years—will meet the demand projected for the project plus the existing and planned future uses, including agricultural and manufacturing uses.

California Environmental Quality Act and Case Law

Because of SB 610, CEQA documents must disclose whether a qualifying project's (as defined in Water Code Section 10912 and State CEQA Guidelines Section 15155) projected demand for water is anticipated to exceed existing and planned supplies. Water supply assessment requirements have been refined as a result of CEQA case law. In particular, the California Supreme Court stated in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal. 4th 412 *(Rancho)* that an adequate water supply analysis should contain the following elements.

- An identification of the water sources needed for full buildout.
- An assessment of the environmental impacts associated with providing water for the project.
- Where there are both short-term and long-term supplies needed, an analysis of long-term supplies and their impacts in at least a programmatic level of detail.
- An assessment of the extent to which identified water sources are "certain" or "likely" to be available. Future water supplies identified and analyzed in an environmental impact report (EIR) must be reasonably likely to prove available. Speculative sources and unrealistic paper allocation do not provide an adequate basis for decision making under CEQA.
- When "some uncertainty" exists with respect to the availability of such supplies, the identification of possible alternative water sources and analysis of the environmental impacts of curtailing planned development due to inadequate supplies.

Regarding the last element listed above, the California Supreme Court explained that future water supplies identified and analyzed in an EIR must be reasonably likely to prove available and that, when a full analysis of future water supplies for a project leaves "some uncertainty" regarding the availability of the identified future supplies, the EIR must discuss possible replacement or alternative supply sources. In addition, the EIR must discuss the environmental effects of resorting to those alternative supply sources; it is not sufficient to simply state that future development will not go forward in the absence of a sufficient water supply.

If uncertainties inherent in long-term planning make it impossible to identify the future water sources with certainty, an EIR may satisfy CEQA if it includes an acknowledgment of the degree of

uncertainty involved, and discloses (1) the reasonably foreseeable water supply alternatives and their significant environmental effects, and (2) mitigation measures to minimize each adverse impact (*Rancho* at 434).

The *Rancho* opinion outlined the following general principles governing the analysis of water supply issues in EIRs.

- An adequate environmental impact analysis for a long-range development plan cannot be limited to the water supply for the first stage of development. It must consider supplies necessary for the entire development.
- Future water supplies identified and analyzed in an EIR must be reasonably likely to prove available. Speculative sources and unrealistic allocation do not provide an adequate basis for decision making under CEQA.
- When, despite a full analysis, "it is impossible to confidently determine that anticipated future water sources will be available," CEQA requires some discussion of possible replacement or alternative supply sources, and of the environmental consequences of resorting to those sources (*Rancho* at 432).
- An EIR for a land use plan need not demonstrate that the water supply for the project is assured through enforceable agreements with a provider and built or approved treatment and delivery facilities. To interpret CEQA as requiring firm assurances of future water supplies at early stages of the planning process would be inconsistent with the water supply statutes, which call for an assured supply only at the end of the approval process (*Rancho* at 432).
- The "ultimate question under CEQA is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project" (*Rancho* at 434).

A WSA was prepared for the Lime Rock Valley Specific Plan (LRVSP) (proposed project) that meets SB 610 and CEQA case law requirements in August 2013 (Appendix H1, *Water Supply Assessment*). The conclusions of the WSA were revalidated in October 2021 (Appendix H2, *Water Supply Assessment Revalidation Memorandum*). The WSA and revalidation memorandum are summarized below under *Water Supply, Demand and Conservation*.

California Environmental Quality Act Guidelines Appendix F, Energy Conservation

CEQA requires EIRs to include a discussion of potential energy impacts and energy conservation measures. Appendix F, *Energy Conservation*, of the State CEQA Guidelines outlines energy impact possibilities and potential conservation measures designed to assist in the evaluation of potential energy impacts of proposed projects. Appendix F places "particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy" and states that significant energy impacts should be "considered in an EIR to the extent relevant and applicable to the project." CEQA Guidelines were updated so that Energy is now its own section in Appendix G, Environmental Checklist Form.

Senate Bill 1389, Chapter 568, Statutes of 2002

The California Energy Commission (CEC) is responsible for, among other things, forecasting future energy needs for the state and developing renewable energy resources and alternative renewable energy technologies for buildings, industry, and transportation. SB 1389 (Chapter 568, Statutes of

2002) requires CEC to prepare a biennial integrated energy policy report assessing major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors. The report is also intended to provide policy recommendations to conserve resources, protect the environment, and ensure reliable, secure, and diverse energy supplies. The *2023 Final Integrated Energy Policy Report*, the most recent report required under SB 1389, was adopted February 2024.

Assembly Bill 2076, Reducing Dependence on Petroleum

CEC and the California Air Resources Board (CARB) are directed by Assembly Bill (AB) 2076 (passed in 2000) to develop and adopt recommendations for reducing dependence on petroleum. A performance-based goal is to reduce petroleum demand to 15% less than 2003 demand by 2020.

California Green Building Standards Code and Title 24

In January 2010, the California Building Standards Commission adopted the statewide mandatory Green Building Standards Code (CALGreen [California Code of Regulations, Title 24, Part 11]). CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure. The 2022 CALGreen took effect on January 1, 2023, and includes updates for definitions, green building, and planning and design.

CALGreen requires the installation of energy- and water-efficient indoor infrastructure for all new projects beginning after January 1, 2011. The CALGreen Code requires residential and nonresidential water efficiency and conservation measures for new buildings and structures that will reduce the overall potable water use in the building by 20%. The 20% water savings can be achieved by (1) installing plumbing fixtures and fittings that meet the 20% reduced flow rate specified in the CALGreen Code, or (2) demonstrating a 20% reduction in water use from the building "water use baseline."

CALGreen also requires that newly constructed buildings develop a waste management plan (WMP) and divert at least 50% of the construction materials generated during project construction (CALGreen Sections 4.408 and 5.408).

The CEC adopted changes to the 2013 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code) and associated administrative regulations in CALGreen Part 11. The 2019 Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The most significant efficiency improvements to the residential standards include the introduction of photovoltaic (PV) into the prescriptive package, improvements for attics, walls, water heating, and lighting.

California Model Water Efficient Landscape Ordinance

In 2006, the Water Conservation in Landscaping Act was enacted, which required the Department of Water Resources to update the Model Water Efficient Landscape Ordinance (MWELO). In fall 2009, the Office of Administrative Law approved the updated MWELO, which required that a retail water supplier adopt the provisions of the MWELO by January 1, 2010, or enact its own provisions equal to or more restrictive than the MWELO provisions.

The provisions of the MWELO are applicable to new construction with a landscape area greater than 2,500 square feet. The MWELO provides a methodology to calculate total water use based upon a given plant factor and irrigation efficiency. Finally, MWELO requires the landscape design plan to

delineate hydrozones (based upon plant factors) and then assign a unique valve for each hydrozone (low, medium, and high water use). The design of landscape irrigation systems is anticipated to better match the needs of grouped plant-types and thus result in more efficient outdoor irrigation.

Senate Bill 375—Sustainable Communities Strategy

SB 375 was adopted with a goal of reducing GHG emissions from cars and light trucks. Each metropolitan planning organization in California is required to develop a sustainable communities strategy as part of its regional transportation plan to meet the region's GHG emissions reduction target. Please refer to Section 3.6, *Greenhouse Gas Emissions*, for additional information on SB 375.

State Water Resources Control Board and Central Valley Regional Water Quality Control Board Permitting Authority and Basin Plan

The State Water Board and the nine Regional Water Boards have broad authority over water quality control and permitting in California. The State Water Board delegates regional authority for planning, permitting and enforcement to the Regional Water Boards including the Central Valley Regional Water Quality Control Board (Central Valley Water Board), which has jurisdiction over El Dorado Hills. The State Water Board and Regional Water Boards issue and enforce permits for wastewater treatment plants (WWTPs), including waste discharge permits. The Central Valley Regional Water Board also is responsible for implementing and updating the *Water Quality Control Plan for the Sacramento and San Joaquin Valley River Basins* (Basin Plan) for improving and protecting water quality in the water bodies under its jurisdiction, including the streams into which the EID WWTPs discharge. The State and Regional Water Boards implement the Clean Water Act and the Porter-Cologne Water Quality Control Act, both of which are discussed in Section 3.8, *Hydrology, Water Quality, and Water Resources*. The boards regulate water quality, but not supply.

The State Water Board has issued statewide general NPDES stormwater permits for designated types of construction and industrial activities, and has adopted a statewide permit applicable to all small municipalities, including communities in the unincorporated areas of the west slope of El Dorado County(County) (see Section 3.8, *Hydrology, Water Quality, and Water Resources*).

The State Water Board on April 7, 2015 adopted an Amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan). Together they are collectively termed as the "Trash Amendments." The State Water Board also prepared a Staff Report/Substitute Environmental Document to meet CEQA compliance requirements (State Water Resources Control Board 2015). The Trash Amendments require the implementation of a consistent statewide approach for reducing environmental issues associated with trash in state waters and will be incorporated into all NPDES Permitting programs including Phase I and Phase II MS4s, Construction General Permits, and Industrial General Permits well as waste discharge requirements (WDRs) and waivers to WDRs. NPDES permittees will be required to commit to one of two tracks to achieve compliance with the Trash Amendments (State Water Resources Control Board 2015: Table 1). Page 12 of the Substitute Environmental Document says: "**Any new development within the MS4 permittee's jurisdiction must be built to immediately comply with Track 1 or Track 2."

Subdivision Map Act

The state Subdivision Map Act (Government Code 66410 et seq.) grants the power to local jurisdictions to impose drainage improvements or drainage fees and assessments. Local jurisdictions may require the provision of drainage facilities, proper grading and erosion control, dedication of land for drainage easements, or payment of fees needed for the construction of drainage improvements. Typically, the local requirements are specified by local ordinances or plans.

The Subdivision Map Act also specifically addresses energy conservation (Government Code Section 66473.1) and requires that the design of a subdivision shall provide, to the extent feasible, for future passive or natural heating or cooling opportunities in the subdivision. Section 66473.1(b) suggested examples of passive or natural heating (or cooling) include design of lot size and configuration to permit orientation of a structure to take advantage of southern exposure for heating and/or to take advantage of shade or prevailing breezes.

Waste Management Act

The California Integrated Waste Management Act (AB 939) became law in 1990 and mandated that every county and city in California divert 25% of their waste from landfills by 1995, and 50% by 2000 or face fines. Later legislation mandates the 50% diversion requirement be achieved every year. The act is administered by the California Department of Resources Recycling and Recovery (formerly the California Integrated Waste Management Board) and requires that each city and county prepare an Integrated Waste Management Plan. The plan must include Source Reduction and Recycling Elements and a Household Hazardous Waste Element. The Legislature set a goal of 75% recycling, composting or source reduction of solid waste by 2020 calling for the state and the Department of Resources Recycling and Recovery to take a statewide approach to decreasing California's reliance on landfills.

Leroy Green School Facilities Act

SB 50 (Leroy Green School Facilities Act) was approved by the voters in November 1998. SB 50 established a comprehensive program for funding school facilities based on 50% funding from the state and 50% funding from local districts, while limiting the obligation of developers to mitigate the impact of projects on school facilities. California Government Code 65995 et seq. establishes the statutory criteria for assessing construction fees. This section also states that the payment of school mitigation impact fees authorized by SB 50 is deemed to provide "full and complete mitigation of impacts" from the development of real property on school facilities.

Local

El Dorado County General Plan

The *El Dorado County General Plan* (County General Plan) contains goals, objectives, and policies related to services critical to the County's future growth and development (El Dorado County 2004). The following are relevant goals, objectives, and policies. The full text of these goals, objectives, and policies can be found in Appendix B, *Consistency with El Dorado County General Plan Policies,* which provides an analysis of the proposed project's consistency with County General Plan policies as required under State CEQA Guidelines Section 15125.

Housing Element

- Goal HO-5, *Energy Conservation*, seeks to increase the efficiency of energy and water use in new and existing homes, and includes Policy HO-5.1.

Public Services and Utilities Element

- Goal 5.1, *Provision of Public Services*, including Objective 5.1.2, *Concurrency*, which addresses the County's cooperation with service and utility providers and associated Policies 5.1.2.1, and 5.1.2.2, which includes minimum levels of service (Table 5.1 of General Plan).
- Goal 5.2, *Water Supply*, which addresses the development or acquisition of water supply and includes Objective 5.2.1, *County-Wide Water Resource Program*, and implementing Policies 5.2.1.2, 5.2.1.3, 5.2.1.4, 5.2.1.6, 5.2.1.9, 5.2.1.11, and 5.2.1.12.
- Goal 5.3, *Wastewater Collection and Treatment*, which addresses provision of wastewater infrastructure, and includes Objective 5.3.1, *Wastewater Capacity*, and implementing Policies 5.3.1.1 and 5.3.17.
- Goal 5.4, *Storm Drainage*, including Objective 5.4.1, *Drainage and Flood Management Program*, and implementing Policies 5.4.1.1 and 5.4.1.2.
- Goal 5.5, *Solid Waste*, including Objective, 5.5.2, *Recycling, Transformation, and Disposal Facilities*, and implementing Policy 5.5.2.1.
- Goal 5.6, *Gas, Electric, and Other Utilities Services*, including Objective 5.6.1, *Provide Utility Services*, and implementing Policies 5.6.1.1 and 5.6.1.2, and Objective 5.6.2, *Encourage Energy Efficient Development*, and implementing Policies 5.6.2.1 and 5.6.2.2.
- Goal 5.7, *Emergency Services*, including Objective 5.7.1, *Fire Protection (Community Regions)*, and implementing Policy 5.7.1.1, Objective 5.7.3, *Law Enforcement*, and implementing policy 5.7.3.1, and Objective 5.7.4, *Medical Emergency Services*, and implementing Policies 5.7.4.1 and 5.7.4.2.
- Goal 5.8, *School Services*, including Objective 5.8.1, *School Capacity*, Policy 5.8.1.1.
- Goal 5.9, *Libraries and Cultural Facilities*, addresses providing a quality County library system and other cultural facilities consistent with the needs of current and future residents.

Conservation and Open Space Element

- Goal 7.3, *Water Quality and Quantity*, including Objective 7.3.5, *Water Conservation*, and implementing Policies 7.3.5.1, 7.3.5.4, and 7.3.5.5.

The County General Plan also identifies a program to implement the goals identified above and the objectives and policies under each of the goals. The implementation program identifies that the County will establish a means, either through formal agreement or identification of formal contacts, for various County agencies and departments to communicate with non-County public service and utility providers (e.g., water providers, wastewater treatment providers) regarding the planning for the provision of services and its relationship to the County General Plan and the County's long-range or capital improvement plans.

El Dorado Irrigation District Integrated Water Resources Master Plan

EID's *Integrated Water Resources Master Plan* (IWRMP), adopted in 2013, considers potable water and recycled water resources for the EID service area. The IWRMP addresses the maintenance of

EID's existing water and recycled water facilities and the development of future water resource infrastructure. To serve the existing and anticipated development within EID's service area, the IWRMP contains the following relevant objectives.

- Develop a reliable, long-term water resources program which considers existing water supply, future demand, hydroelectric power generation, and environmental and economic constraints.
- Define the long-term role of recycled water within the District's water resources portfolio.
- Identify and implement approaches to address future constraints, which may impact the District's service to its customers.
- Develop integrated and prioritized water, wastewater, and recycled water system capital improvements that are consistent with the District's long-term goals and objectives.

The IWRMP considers key water supply issues facing EID's service area, including reliability, infrastructure constraints, competing water resource needs, and the future role of recycled water. The IWRMP identifies existing and projected water demands and the water supplies and distribution systems that serve them, proposes and evaluates alternative future water supply solutions, and recommends a specific water resources plan to maximize water supply availability and reliability.

El Dorado Irrigation District 2022 Water Supply and Demand Report

The EID Water Supply and Demand Report is updated every 3 years to determine the current water supply and water meter availability within the El Dorado Irrigation District. Board Policy 5010, Water Supply Management, states that EID will not issue any new water meters if there is insufficient water supply. The report summarizes current water supply and total potential demand, water commitments, and historical trends in water demand. The 2022 report is the most recent report at the time of publication of this Draft EIR.

El Dorado Irrigation District Urban Water Management Plan

The Urban Water Management Act (California Water Code, Division 6, Part 2.6, Sections 10610–10657) requires urban water suppliers providing municipal water to more than 3,000 connections or supplying more than 3,000 acre-feet per year (AFY) of water to adopt and submit a plan every 5 years to the California Department of Water Resources (El Dorado Irrigation District 2011). EID's most recent Urban Water Management Plan (UWMP) 5-year update was adopted on June 28, 2020, and was submitted to the California Department of Water Resources as required by the Urban Water Management Act. The 2020 UWMP (El Dorado Irrigation District 2021) describes EID's existing water supply sources and system, the areas it serves, and existing and projected water demands. The UWMP addresses water supply reliability and shortage contingency planning, conservation, and demand management.

El Dorado Irrigation District Wastewater Facilities Master Plan

EID adopted its Wastewater Facilities Master Plan (WWFMP) in 2013. This is the most recent plan in effect at the time of publication of this Draft EIR. The plan outlines EID's long-term program for the collection and treatment of wastewater and the use of recycled water resources. The WWFMP provides recommendations and an implementation plan for the development of recommended wastewater and recycled water infrastructure to serve the growth anticipated by the County General Plan and associated specific plans (El Dorado Irrigation District 2013a). As such, the WWFMP focuses on three issues facing El Dorado County: wastewater discharge and the role of

recycled water; future regulatory requirements; and infrastructure. The WWFMP includes estimates of existing and projected wastewater flows from the area served by EID's sewer collection system.

The WWFMP projects wastewater treatment needs for the EID service area based on the County General Plan land use designations and the number of anticipated connections associated with development of the specific plans for the Bass Lake Hills, Carson Creek, El Dorado Hills, Northwest El Dorado Hills, Promontory and Valley View areas. The WWFMP also identifies needed system expansions and upgrades to meet the projected increases in wastewater flows associated with this growth. The WWFMP recommends a number of system enhancements such as improvements to lift stations and sewer pipelines.

The WWFMP plans for expansion of the El Dorado Hills WWTP from its current capacity of 4.0 million gallons per day (mgd) to 5.45 mgd by 2025 and the Deer Creek WWTP from 3.6 mgd to 5.0 mgd by 2028 (El Dorado Irrigation District 2013a). The Deer Creek Wastewater Treatment Plant Expansion Project Final Environmental Impact Report (SCH #1996092074) for this expansion was certified in 1998 and is available for review at the County Planning office. The WWFMP contains the following relevant objectives related to wastewater and recycled water.

- Define the long-term role of recycled water within the District's water resources portfolio.
- Develop integrated and prioritized water, wastewater and recycled water system capital improvements that are consistent with the District's long-term goals and objectives.

El Dorado Water Agency Water Resources Development and Management Plan

The 2019 El Dorado Water Agency (EDWA, formerly El Dorado County Water Agency or EDCWA) *Water Resources Development and Management Plan* (*WRDMP*) identifies water sources and demands and resource management strategies to counter the threats to the County, including droughts, wildfires, deteriorated headwaters, limited groundwater resources, and fragmented water management threats to the County (Stantec 2019). The goal of the resource management strategies presented in the plan is to proactively address changing water resources needs, regulatory requirements, and climate variability. The focused and defined role and responsibility in implementing actions for advancing these strategies would ensure effectiveness and efficiency in achieving anticipated outcomes, while promoting the Agency's long-term organizational and financial sustainability. The WRDMP identifies several principal implementing agencies and their roles including EID, Georgetown Divide Public Utility District, Grizzly Flats Community Services District, Local Agency Formation Commission, South Tahoe Public Utility District, Tahoe City Public Utility District, and Tahoe Regional Planning Agency.

El Dorado County Fire Protection District Five Year Plan

The *El Dorado County Fire Protection District Five Year Plan 2011–2016* serves as a set of guidelines to address identified needs over a 5-year period. This is the most recent 5-year plan in effect at the time of publication of this Draft EIR. This plan outlines the district's vision and guiding principles, history, organization, and sources of revenue are outlined, and describes the district's facilities, apparatus, and response to incidents. The plan uses this information to identify personnel and equipment needs as well as methods to address those needs.

The plan indicates that the El Dorado County Fire Protection District—also referred to as the El Dorado County Fire District or El Dorado County Fire—responds to 4.6 times more calls than the average number of responses of all 14 other fire agencies in El Dorado County (El Dorado County

Fire Protection District 2011). The plan includes bar charts that show a 15.7% increase in call volume over the previous 8 years, and a 19% reduction in average response time since 2002, with an average response time of 9 minutes, 19 seconds (El Dorado County Fire Protection District 2011).

The plan also describes existing and future department revenues and their sources, including property taxes and development fees. Property taxes constitute the El Dorado County Fire Protection District's primary source of funding; the district receives 13% of the 1% Ad Valorem Tax collected by the County within the district's boundaries (El Dorado County Fire Protection District 2011). The plan notes a decrease in property tax revenues beginning in the 1992–1993 fiscal year, associated with the transfer of 10% of each special district's property tax revenue to school funding through the Educational Revenue Augmentation Fund, and indicates that the annual loss to the district exceeds $1.1 million dollars (El Dorado County Fire Protection District 2011). In addition to the Ad Valorem Tax funding, the district receives funding from voter-approved special taxes in some areas of the district; this funding provides approximately $510,000 of additional annual revenue (El Dorado County Fire Protection District 2011).

El Dorado Union High School District Master Plan

The *El Dorado Union High School District 2018 Master Plan* (2018 Master Plan), adopted in April 2018, is intended to guide the district in managing, upgrading, and modernizing its school facilities for the next 10 years. This is the most recent 5-year plan in effect at the time of publication of this Draft EIR. The 2018 Master Plan presents the district's 10-year enrollment history, current and projected enrollment and capacity for each of its schools, and an assessment of existing school facilities' adequacy and projected needs. The plan presents projected facility needs, makes recommendations, and outlines potential and projected district revenues and their sources.

Facility needs considered in the 2018 Master Plan fall into several categories, including growth, modernization, support facilities, program needs, and building and grounds upgrades. These needs are driven by a variety of factors, including student population and facility aging. The 2018 Master Plan defines growth needs as those that arise due to an increased student population associated with projected new developments that generate more students than can be accommodated in existing facilities (SchoolWorks 2018a). Modernization needs are associated with the aging of existing facilities, which state standards suggest should be modernized at 25 years of age, or 20 years for portable structures (SchoolWorks 2018a). Support facility needs refer to the ability of non-classroom areas such as libraries, kitchens, gymnasiums, restrooms, and site acreage to serve the number of students at a school (SchoolWorks 2018a). Program needs are those caused by educational program changes and building, and grounds upgrades reflect activities such as improving access for people with disabilities, roof replacement, upgrades to electrical, plumbing, heating and air conditioning systems, and fire and safety upgrades (SchoolWorks 2018a). The 2018 Master Plan indicates a variety of district-wide needs and identified the need for a 2,400-square-foot portable foods classroom at Oak Ridge High School, the closest high school to the project site (SchoolWorks 2018a).

The 2018 Master Plan contains the following relevant strategic planning goal.

- Develop and implement Facilities Master Plan designed to maximize local and state funding sources to maintain, upgrade, and modernize facilities and technology across the District.

El Dorado Union High School District uses several sources of revenue, including two local sources, developer fees, and community facilities district special taxes, to pay for its facilities. The district collects developer fees on commercial/industrial projects, senior housing projects, and residential

additions consisting of more than 500 square feet (SchoolWorks 2018a). Use of these funds is limited to growth-related capital facility projects and related expenses (SchoolWorks 2018a). These fees are collected one time, concurrent with County building permit issuance for such projects. In addition, the district receives 39% of special taxes collected in the El Dorado Schools Financing Authority Community Facilities District (CFD) #1, which was established in the El Dorado Hills Specific Plan area in 1992 to fund capital facilities needed to accommodate new development in the El Dorado Union High School District, the Buckeye Union School District, and the Rescue Union School District (SchoolWorks 2018a). These funds are collected annually over a long period; the district's annual CFD revenue is currently $1.9 million (SchoolWorks 2018a).

Buckeye Union School District Facility Master Plan

The Buckeye Union School District *Facilities Master Plan* was adopted in March 2016. This is the most recent plan in effect at the time of publication of this Draft EIR. The 2016 *Facilities Master Plan* is intended to guide district decision-making related to future facility needs. As such, it describes the district's history and demographics, existing and future educational programming, facility needs, and potential funding sources.

Most schools in the district were built in the last 20 years as the region's population exploded with numerous planned development communities, most notably Serrano and Blackstone The 2016 *Facilities Master Plan* concentrates on maintenance and repair needs, as well as some fundamental functional deficiencies (DLR Group 2016).

The 2016 *Facilities Master Plan* projects student enrollment and facility adequacy through 2022. As of the time of its adoption in 2016, the *Facilities Master Plan* predicted that Blue Oak Elementary School, which is one of the two nearest schools to the project site, would need Americans with Disabilities Act (ADA) accessibility improvements, heating, ventilation, and air conditioning (HVAC) replacement, roofing replacement and other isolated issues that require attention from a building condition improvement standpoint (DLR Group 2016). The other nearest school, Camerado Middle School, would have few major building condition improvement issues that need to be addressed either immediately or in the near to mid-term future (DLR Group 2016).

The Buckeye Union School District uses multiple revenue sources, including Proposition 39 funding, general obligation bond funding, and development fees, to pay for its facilities. The 2016 *Facilities Master Plan* describes these local funding sources.

El Dorado County Subdivision Ordinance

The County Subdivision Ordinance (El Dorado County Code Title 130) requires the submission of drainage plans prior to the approval of tentative maps for proposed subdivision projects. The drainage plans must include an analysis of upstream, onsite, and downstream facilities and pertinent details, and details of any necessary offsite drainage facilities.

El Dorado County Design and Improvement Standards Manual

The *El Dorado County Design and Improvement Standards Manual* was adopted in 1990 and provides required erosion and sediment control measures applicable to subdivisions, roadways, and other development.

Western El Dorado County Stormwater Management Plan

The adopted *Stormwater Management Plan for Western El Dorado County* describes a program to reduce the discharge of pollutants associated with stormwater drainage system that serve western El Dorado County. It identifies how the County will comply with the provisions of the WDRs for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems General Permit No. CAS000004 (Order No. 2003-0005-DWQ) (Small MS4 Permit) issued by the State Water Board. The plan addresses County activities, including how the County manages the planning, design, and construction of projects carried out directly by the County and under permits issued by the County; and how the County maintains facilities owned and operated by the County and activities carried out by others on properties owned by the County. It also addresses County responsibilities for implementing applicable stormwater management practices as well as training, public education, and outreach, monitoring, program evaluation, and reporting.

In May 2015, the County adopted a County-Wide Stormwater Ordinance (Ordinance No. 5022) to ensure compliance with the new Small MS4 Permit requirements in the entire unincorporated County. Chapter 8.79 of the County Code contains the stormwater regulations, which establish the County's authority to implement and enforce the *Stormwater Management Plan for Western El Dorado County* and to ensure compliance with state and federal stormwater laws and regulations. It also sets forth requirements that development projects incorporate BMPs to control the volume, rate, and potential pollutant loading of stormwater runoff. As provided by Section 8.79.150.G, the required BMPs may be contained in any land use entitlement, conditions of approval, grading plans, improvement plans, or any construction or building-related permit to be issued relative to such development. The requirements became effective in June 2015.

Additionally, the State Water Board's NPDES General Permit for MS4s (Order 2013-0001-DWQ), was adopted by the State Water Board and went into effect on July 1, 2015. The proposed project qualifies as a "Regulated Project" as defined in Section E.12 of the order and, therefore, will be required to comply with the standards provided in the order.

County of El Dorado Drainage Manual

The *County of El Dorado Drainage Manual* was adopted in 1995 (El Dorado County 1995). It documents criteria to address the procedures of hydrology and hydraulics required for the analysis and design of drainage facilities within El Dorado County, particularly as the County urbanizes. The manual is intended to outline procedures and techniques necessary to provide a standard methodology in the performance of the analysis and design of stormwater and drainage facilities. It is largely applicable to discretionary applications such as tentative subdivision maps and parcel maps.

El Dorado County Solid Waste Management Ordinance (No. 4525)

The County's solid waste management ordinance (No. 4525) governs the accumulation, storage, collection, and disposal of solid waste generated on residential, commercial, and industrial properties within El Dorado County. The ordinance includes prohibitions and permit requirements for specific activities (El Dorado County 1999).

El Dorado County Construction and Demolition Debris Diversion Ordinance

The County's debris recycling ordinance, adopted in 2003, added Chapter 8.43 to the County's Ordinance Code and requires individuals or businesses demolishing or constructing projects with

structure footprints exceeding 5,000 square feet in area to recycle at least 50% of the construction and demolition debris created. Prior to the issuance of a permit, the permit applicant must submit a debris recycling acknowledgment. Within 60 days of completion of the project, the applicant must submit a debris recycling report demonstrating they have diverted at least 50% of the waste generated (California Department of Resources Recycling and Recovery 2006).

El Dorado County Solid Waste Management Plan

The *El Dorado County Solid Waste Management Plan*, adopted in 2012, was designed to assist the County in reaching a future 75% landfill diversion goal. The plan provides a strategic roadmap to use in planning for coordinated, countywide, and jurisdiction cooperation and initiating near-, intermediate-, and long-term programs and infrastructure strategies. The plan includes the estimated potential diversion gains for each strategy and methods to track strategy progress. It also includes estimated costs and funding methods for the program and infrastructure strategies.

Environmental Setting

Public services include fire and police protection, schools, parks, and libraries. Public utilities include water, wastewater, stormwater, solid waste, and energy.

Fire Protection

Fire protection services in El Dorado County are provided by 13 separate fire districts, one city fire department, the California Department of Forestry and Fire Protection (CAL FIRE), and the U.S. Forest Service (USFS). The project site is within the El Dorado County Fire Protection District, with backup protection provided by CAL FIRE (G3 Enterprises 2020).

The El Dorado County Fire Protection District serves 281 square miles and population of 75,000 with 14 stations (El Dorado County Fire Protection District 2020). The department consists of 75 total personnel (El Dorado County Fire Protection District 2024). Station 28 would serve the eastern portion of the project site. This fire station is located approximately 4 miles northeast of the project site and the average response to the project site would be 12.5 minutes (Alvarado, pers. comm.).

The Cameron Park Fire Department sits within the unincorporated community of Cameron Park. It serves the community, its citizens, visitors, and neighboring areas under the direction and governing Board of the Cameron Park Community Services District (CSD). Station 89 lies approximately 2 miles from the proposed project. Average response times for the Cameron Park Fire Department to calls in this area range between approximately 4 to 7 minutes (Winger 2016 pers. comm.).

Police Protection

The proposed project would be served by the El Dorado County Sheriff's Office for law enforcement. The County Sheriff's Office is made up of the South Lake Tahoe patrol and the West Slope Patrol. The West Slope Patrol contains the Placerville team which would serve the plan area, has two lieutenants, eight sergeants and 50 deputies. There is also a substation in El Dorado Hills which is frequently staffed by volunteers and deputies and a substation in Cameron Park that opened in 2022. The Sheriff's Office serves approximately 1,800 square miles of unincorporated areas of El Dorado County, which encompasses a population of approximately 183,000 (El Dorado County Sheriff's Department 2021). The County's target service ratio is 1.0 officer per 1,000 residents (El Dorado County 2015). With a service population of 192,215 in El Dorado County and 143 deputies,

the current service ratio is one [1] officer for every 1,344 residents, which does not meet the 1.0: 1,000 ratio standard (Leikauf 2024 pers. comm.).

Policy 5.1.2.2 in the County General Plan identifies that the minimum level of service for sheriff responses should be an 8-minute response to 80% of the population (El Dorado County 2015). Average response times for the Sheriff's Department are not available (Leikauf 2024 pers. comm.). However, in an effort to decrease response times to all areas of the county, the Sheriff's Office has implemented several new programs in the past few years, such as the assignment of residential deputies. In 2017, The Sheriff's Office changed from a system of assigning deputies to geographic patrol zones, to a data driven policing model where crime events are analyzed in real time and deputies are assigned to geographic areas based on data (El Dorado County Sheriff's Department 2017).

Schools

Approximately 20% of the total households in El Dorado County have children under the age of 18 (i.e., school age children) (U.S. Census Bureau 2023). The household size in unincorporated El Dorado County averages 2.59 people. Approximately 38,961 children ages 3 and over are enrolled in school. Approximately 2,200 (5.6%) are enrolled in preschool, 2,291 (5.9%) are enrolled in kindergarten, 16,281 (51.8%) are enrolled in elementary school (including up to 8th grade), and 9,054 (23.2%) are enrolled in high school (U.S. Census Bureau 2023).

The County General Plan relies on each individual school district to identify its own capacity and classroom utilization rate (El Dorado County 2015). Existing and projected school enrollment and capacity for the schools closest to the project site are described below.

The project site falls partially within the boundaries of the Buckeye Union School District (K–8) (Assessor's Parcel Numbers [APNs] 109-010-09, 109-010-13, 109-101-14, 109-020-01 and 109-020-20) and partially within the boundaries of the Latrobe Elementary School District (K–8) (APNs 109-020-04, 109-020-05, and 109-020-06) and entirely within the El Dorado Union High School District. The Buckeye Union School District is a K–8 school district that serves the communities of Shingle Springs, El Dorado Hills, Cameron Park and the surrounding area. The Latrobe School District is a small (170 students) K–8 school district that serves the Latrobe community including a portion of the project site (G3 Enterprises 2020). Table 3.12-1 presents district enrollments and capacities.

Table 3.12-1. Summary of 2022–2023 Student Enrollment

Elementary and Middle Schools	Current Enrollment[a]	Current Capacity[b]
Buckeye Union		
Blue Oak Elementary	485	816
Camerado Springs Middle School	479	960
Valley View Elementary	694	850[c]
Latrobe Elementary	65	180
Total	1,723	2,806
High Schools	**Current Enrollment[d]**	**Current Capacity[d]**
Oak Ridge High School	2,516	2,530
El Dorado High School	1,224	1,568

Elementary and Middle Schools	Current Enrollment[a]	Current Capacity[b]
Ponderosa High School	1,648	2,283
Union Mine High School	1,066	1,485
Total	6,454	7,866

Sources:
[a] Education Data Partnership 2024.
[b] Schoolworks 2018b.
[c] Charter Renewal - Charter Montessori – Valley View Campus
[d] Schoolworks 2022

The Buckeye Union School District currently has five elementary schools, two middle schools and a TK-8th grade Charter Montessori school. The school district serves the communities of Shingle Springs, El Dorado Hills, and Cameron Park. Enrollment for this school district has grown from 3,647 students in the 1996–1997 school year to 9,659 students in the 2022–2023 school year (Education Data Partnership 2024).

The Latrobe School District is a small, rural, K–8 school district located in the southwest corner of El Dorado County. The two schools in this district had a combined 2022–2023 enrollment of approximately 161 students (Education Data Partnership 2024). The district aims to maintain a class size of no more than 20 students; based on this limit, the district's capacity would be approximately 180–200 students (Miller 2016 pers. comm.).

For 9th through 12th grades, the project site is in the El Dorado Union High School District. The district's 2020/2021 Demographics and Enrollment Projections identifies the capacity and enrollment of each school within the district (Schoolworks 2020). The El Dorado Union High School District serves approximately 6,716 students, as of 2022-2023, and includes four comprehensive high schools: El Dorado, Oak Ridge, Ponderosa, and Union Mine (SchoolWorks 2022, Education Data Partnership 2024). Table 3.12-1 shows the current enrollment and capacity of these high schools. The school district has experienced an overall decline from its peak of 7,411 students in 2005–2006 to a current 2022-2023 enrollment of 6,716 (Education Data Partnership 2024). The District is projected to have a declining enrollment over the next six years, with a projected enrollment of 6,196 students in the 2028/2029 school year (Schoolworks 2022). Classroom capacity is determined by multiplying the number of classrooms, designated at full time teaching stations, by the district's classroom loading standards; a similar calculation is performed to determine the adequacy of support facilities (SchoolWorks 2022).

The project site is within the attendance boundary of Union Mine High School (G3 Enterprises 2020: 6-2). Although the proposed project is within the attendance boundary of Union Mine High School, the El Dorado Union High School District would determine which high school would house the students residing in the project area (Marble Valley Company, LLC 2020).

Both the El Dorado Union High School District and the Buckeye Union School District use several revenue sources to pay for facility needs. The districts collect taxes via the El Dorado Schools Financing Authority CFD, which provides funds for capital facilities to serve students generated by new development. Additionally, the districts collect developer fees as permits are issued for residential and commercial/industrial projects. The fees are established by the state and are considered the basic mitigation fee if justification can be shown that anticipated development within a district will impact the district with additional students. As of 2018, the district collects Level 1 fees on commercial/industrial projects, senior housing projects, and residential additions consisting

of more than 500 square feet. The district's share of these fees is $0.23, $1.41 and $0.43 per square foot, respectively. (SchoolWorks 2018a:55).

Libraries

El Dorado County has six county libraries ranging in size from 23,000 square feet (Main Library in Placerville) to 1,200 square feet (Pollock Pines Library). A total of 67,384 square feet of library space in El Dorado County serves a population of approximately 190,465 people (0.35 square foot per person) (California State Library 2021). The Cameron Park Library is a 12,528 square-foot facility that serves a population of 18,370 in the Cameron Park community, providing 0.68 square foot of library space per capita (California State Library 2021; City Library n.d.a). The 16,057-square-foot El Dorado Hills Library is located on Silva Valley Parkway and serves the El Dorado Hills area; it has more than 60,000 volumes (El Dorado County Library 2019). The El Dorado Hills Library serves a population of 50,000, providing 0.32 square foot of library space per capita (California State Library 2021; City Library n.d.b). While the County library system does not currently have a facilities master plan, a typical standard used for planning purposes is to have a minimum of 0.5 square foot of library space per capita (EDAW 2003a; Amos pers. comm.). Therefore, with approximately 0.35 square foot of existing library space per capita, the County has an existing deficit of library space compared to the typical standard. The Cameron Park Library, at 0.68 square foot per capita, has more per capita library space than the countywide average and the planning standard; with 0.32 square foot per capita the El Dorado Hills Library, conversely, falls short of both the planning standard and the existing countywide per capita library square footage.

Water Supply, Demand, and Conservation

The project site is partially within the EID service area (APNs 109-010-09 and -10 and 109-020-20) (G3 Enterprises 2020). The remaining APNs are not currently located within the boundaries of an existing water or wastewater provider (APN 109-010-13 and -14, and 109-020-01, -04, -05 and -06). The remaining APNs in the proposed project would require annexation into the EID service area for potable and recycled water service and wastewater service. Upon annexation, the project site would be subject to EID's water conservation plans. Therefore, a discussion of EID water supply services and capabilities and wastewater services and capabilities is provided below.

Potable Water

The description of water supply for the proposed project is based on the EID-approved 2013 WSA and water supply options memorandum prepared by Tully & Young, Inc. provided in Appendix H1, *Water Supply Assessment*, and the 2021 revalidation memorandum provided in Appendix H2. The *El Dorado Irrigation District 2022 Water Supply and Demand Report* and *2020 Urban Water Management Plan* also detail water supply and the timing and need for various improvements throughout the district. Based on reviews of these recent reports, and the revalidation memorandum (Appendix H2), the data and supply availability conclusions in the WSA relating to water supply and consumption remain valid.

An overall potable water delivery system is in place for the communities of El Dorado Hills and Cameron Park, including offsite transmission mains, storage tanks, and booster stations. No water delivery facilities are present on the project site. EID provides potable water to over 100,000 people in El Dorado County through two primary interconnected water systems in its service area—the El Dorado Hills system and the Western/Eastern system. EID depends on surface water from the

watersheds of the Sierra Nevada to serve existing and future customers through a complex network of storage, treatment, and transmission facilities. The El Dorado Hills water system obtains its primary supplies under rights and entitlements from Folsom Reservoir while the Western/Eastern system derives its supplies from sources under rights and entitlements emanating from the American River watershed and the Cosumnes River watershed. The project site lies within EID's western/eastern supply area.

EID has two broad categories of water assets available that could be used for the proposed project: (1) secured water assets, and (2) planned water assets. EID's secured water assets are derived from a variety of surface water sources, including pre-1914 appropriative water rights, licensed and permitted appropriative water rights, U.S. Bureau of Reclamation (Reclamation) Central Valley Project (CVP) water service contracts, and Warren Act contracts, as well as recycled water produced from treated effluent at the El Dorado Hills and Deer Creek WWTPs, described below under *Recycled Water*. EID's planned water assets consist of acquiring two additional water supplies for use within its service area to make available for the proposed project: (1) water under the El Dorado–Sacramento Municipal Utility District (SMUD) Cooperation Agreement, in cooperation with the El Dorado Water and Power Authority (EDWPA),[1] and (2) a CVP water entitlement derived from El Dorado Water Agency (EDWA) Fazio water supply when needed. Upon State Water Board approval, the El Dorado–SMUD Cooperation Agreement would provide EID with 30,000 AFY of water through 2025 and 40,000 AFY thereafter. The EDWA Fazio water could provide EID with an additional 7,500 AFY of water from Folsom Reservoir; however, with EID's existing water rights, there is no near-term plan to use the Fazio water (Appendix H1, *Water Supply Assessment*:4-8). These planned water assets, although partially secured, are not yet fully available for EID's use. In normal years, the water supplies under these assets total 37,500 AFY. In 3 consecutive dry years, the water supplies under these planned assets total 10,625 AFY (Appendix H1, *Water Supply Assessment*:4-15).

Based on the 2013 WSA, together with EID's recycled water supply (see *Recycled Water* section), these district-wide secured and planned assets total 110,290 AFY in normal water years and 77,885 AFY in a single dry water year. In year two and year three of a multiple-year drought in 2035, district-wide supplies would be reduced to 73,965 and 72,465 AFY, respectively. The current district-wide water supplies for a multiple-year drought are 63,860 AF for year one, 59,940 AF for year two, and 58,440 AF for year three. The current district-wide water demand is 38,984 AFY. Normal year water supplies currently available to EID with secured assets total 67,190 AFY. In dry years, the water supplies currently available to EID under the secured assets are 61,660 AFY (year 1 of multiple dry year); 57,740 AFY (year 2 of multiple dry year); and 56,240 AFY (year 3 of multiple dry year). Refer to Appendix H1, *Water Supply Assessment*, for additional details. Table 3.12-2 provides an updated water supply summary based on the 2020 UWMP.

[1] This entity is a Joint Powers Authority consisting of El Dorado County, El Dorado County Water Agency, and El Dorado Irrigation District.

Table 3.12-2. El Dorado Irrigation Water Supply Summary 2020-2045 (values in acre-feet)

Water Right or Entitlement	Maximum Water Assets Available	Normal Year	Single Dry-Year	Multiple Dry Years				
				Year 1	Year 2	Year 3	Year 4	Year 5
Existing Supplies								
Ditches / Weber Reservoir Rights (License 2184 and Pre-1914 Water Rights)	4,560	4,560	3,000	3,000	3,000	3,000	3,000	3,000
Sly Park Reservoir (Licenses 11835 and 11836)	33,400	23,000	20,920	20,920	17,000	15,500	15,500	15,500
CVP Contract 14-06-200-1375A-LTR1	7,550	7,550	3,775	3,775	3,775	1,235	1,235	1,235
Project 184 (Pre-1914 at Forebay)	15,080	15,080	15,080	15,080	15,080	15,080	15,080	15,080
Permit 21112 (Project 184 Warren Act Contract)	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000
Outingdale/ Middle Fork Consumnes (Permit 4071)	104	104	104	104	13	13	13	13
Recycled Water (non-potable)	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Subtotal existing	81,194	70,794	63,379	63,379	59,368	55,328	55,328	55,328
Planned Supplies								
CVP Fazio water entitlement	7,500	7,500	3,750	3,750	3,750	1,235	1,235	1,235
Subtotal planned	7,500	7,500	3,750	3,750	3,750	1,235	1,235	1,235
Total	88,694	78,294	67,129	67,129	63,118	56,563	56,563	56,563

Source: 2020 Urban Water Management Plan, Table 3-5. El Dorado Irrigation District 2021.
af = acre-feet
AFY = acre-feet per year

EID acquires the Folsom Reservoir water for use in the El Dorado Hills system through a Reclamation CVP water service contract and Warren Act contracts for rediverted Weber Reservoir and EID ditch water, and State Water Right Permit 21112 (El Dorado Irrigation District 2019). Through the Reclamation CVP contract, EID is entitled to 7,550 AFY during normal and wet years, subject to a Reclamation shortage policy that can restrict allocations during periods of water shortage to 75% of historic use (El Dorado Irrigation District 2013b). This policy allows Reclamation to limit EID's allocations to approximately 5,660 AFY or less during shortages (El Dorado Irrigation District 2013b). The 2019 Water Supply and Demand Report cites a dry year allocation of 6,775 (El Dorado Irrigation District 2019).

Warren Act contracts allow non-federal water assets to be transported through federal storage and conveyance facilities for retrieval. EID's Warren Act contract water consists of approximately 4,560 AFY of re-diverted water that historically was diverted at Weber Dam, Weber Creek, Slab Creek, and Hangtown Creek diversion ditches but now is sent downstream for diversion at Folsom Reservoir instead (El Dorado Irrigation District 2013b). Permit 21112 grants EID 17,000 AFY of water; EID is working to finalize a long-term Warren Act contract to allow diversion of this water at Folsom Reservoir (Appendix H1, *Water Supply Assessment*; El Dorado Irrigation District 2021). The only water that EID currently purchases wholesale is that associated with the Reclamation contract; however, EID plans to purchase water wholesale from EDWA, which is pursuing a Reclamation contract under Public Law 101-514 (El Dorado Irrigation District 2011). Raw water diverted from Folsom Reservoir is treated at the 26-mgd-capacity El Dorado Hills Water Treatment Plant (WTP) prior to distribution (El Dorado Irrigation District 2013b).

Recycled Water

EID has been producing recycled water for more than 30 years at the El Dorado Hills WWTP, initially for industrial purposes and for turf irrigation at the El Dorado Hills Executive Golf Course (El Dorado Irrigation District 2021). The Deer Creek WWTP facilities began supplying recycled water to the Serrano area of El Dorado Hills in 1990, and in 1997 the systems and pipe networks of the El Dorado Hills and Deer Creek WWTPs became a single, interconnected delivery system (El Dorado Irrigation District 2021). In the late 1990's and early 2000s, EID expanded recycled water use to include commercial and residential irrigation. Currently, the demand for recycled water exceeds production, and must be supplemented with potable water as needed during peak seasonal demand. Currently, EID delivers approximately 4,200 acre-feet of water to its recycled water customers annually, of which about 700 acre-feet is supplemental potable water. The recycled water system is now nearing buildout, and EID does not anticipate additional connections, as the expansion of recycled water customers has diminished in recent years due to capital costs, operating costs, lack of supply, and availability of potable water(El Dorado Irrigation District 2021).

By 2045, EID anticipates having a supply of 3,500 AFY of recycled water within its service area (El Dorado Irrigation District 2021).

Current and Future Demand

Based on the 2015 EID *Water Diversion Report*, EID diverted 27,810 AF into its potable water system. In addition to the potable water, EID served 2,349 AF of recycled water in 2015 to meet customer demands (El Dorado Irrigation District 2013b). Combined, the total district potable water use is in 2015 was 22,241 AF (El Dorado Irrigation District 2021). This value includes nonrevenue water[2], including system losses, necessary to deliver these supplies from their respective treatment plants to the customer meter. This value also includes 909 AF sold to the city of Placerville (El Dorado Irrigation District 2021). The 2019 total district potable water use was 26,283 AF (El Dorado Irrigation District 2021).

Table 3.12-3 shows how total water demand from existing and planned uses in EID's service area is anticipated to increase through 2045. Per the 2020 UWMP, total water demand for the years 2040

[2] *Nonrevenue* water represents all of the water necessary to deliver to the customer accounts and reflects distribution system leaks, water demands from potentially unmetered uses such as fire protection, hydrant flushing, and unauthorized connections, and inescapable inaccuracies in meter readings. The predominant source of nonrevenue water is from system leaks.

and 2045 are estimated at 42,130 AFY and 43,320 AFY, respectively (El Dorado Irrigation District 2021). These totals include all expected demands, including the proposed project as represented in the revalidation memorandum (Appendix H2).

Table 3.12-3. Estimated Combined Water Demand from Other Existing and Planned Future Uses in the El Dorado Irrigation District Service Area

	Demand (AFY)				
Category	2025	2030	2035	2040	2045
Potable					
Existing Potable Uses	21,220	21,220	21,220	21,220	21,220
New Potable Use Customers	890	1,790	2,690	3,660	4,600
Total Municipal	22,100	23,010	23,910	24,880	25,820
Other Uses	3,300	3,300	3,300	3,300	3,300
Agricultural (potable)	5,210	5,360	5,510	5,660	5,810
Distribution System Loss	4,120	3,860	3,960	4,050	4,150
Total Potable Demand	34,740	35,530	36,680	37,890	39,080
Recycled					
Single Family – dual (landscape)	2,450	2,450	2,450	2,450	2,450
Commercial	990	990	990	990	990
Recreational Turf	490	490	490	490	490
Distribution System Loss	310	310	310	310	310
Total Recycled Demand	4,240	4,240	4,240	4,240	4,240
Total Water Demand	**38,980**	**39,770**	**40,920**	**42,130**	**43,320**

Source: EID 2020 UWMP Table 4-11.
AFY = acre-feet per year
GPU = General Plan Update

Water Conservation

Because El Dorado County relies heavily on surface water supplies from the Sierra Nevada snowpack, which varies annually, water conservation measures are implemented on the part of both the water supplier and the end user. EID has adopted demand management measures, including "water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies" that form an integral part of EID's water conservation efforts during both normal and dry years (El Dorado Irrigation District 2011). In addition to EID's internally applied conservation measures, such as leak detection, measures include commercial and residential water efficiency programs featuring water audits for both residential and commercial customers; complimentary low-flow showerheads and bathroom faucet aerators for residential customers; and rebates on residential high-efficiency toilets and clothes washers, irrigation efficiency upgrades, and weather-based irrigation control for residential customers (El Dorado Irrigation District 2014).

El Dorado Irrigation District Drought Preparedness Plan

In 2007, EID developed a comprehensive preparedness plan to help identify drought conditions and determine when El Dorado County would be considered to be entering into drought conditions. The EID Board of Directors adopted the Drought Preparedness Plan in 2008 (El Dorado Irrigation

District 2008). Drought stages identified in the Drought Preparedness Plan range from 0 to 3 to show increasing severity and also consider the potential for water shortage emergencies related to an unexpected disruption of supply, storage, or distribution system facilities (El Dorado Irrigation District 2011). The Drought Action Plan 2015 Update updated the stages from three to four stages to conform to the February 2010 member recommendations of a Regional Water Authority workgroup that was tasked with developing consistent messaging in the greater Sacramento region during drought conditions (El Dorado Irrigation District 2015).

EID used the Drought Preparedness Plan to develop an action plan that would address a drought situation. In single dry years, EID would follow the Drought Preparedness Plan, along with adopted policies, when implementing voluntary or mandatory demand reduction measures (Appendix H1, *Water Supply Assessment*). In the event of a second dry year, EID would invoke the first stage of the Drought Preparedness Plan, informing the public of predicted water shortages and encouraging conservation of up to 15% of normal demand through voluntary conservation (Appendix H1). In a third dry year, EID would implement the Drought Preparedness Plan's second stage, increasing efforts to reduce demand by up to 30% of normal use through voluntary and mandatory conservation measures (Appendix H1, *Water Supply Assessment*).

EID's *Drought Action Plan*, updated most recently in 2021, implements the Drought Preparedness Plan and includes specific measures to address drought conditions. Table 3.12-4 summarizes the characteristics and actions associated with the stages outlined in the Drought Preparedness Plan.

El Dorado Irrigation District Drought Action Plan

EID's 2021 *Drought Action Plan Update* serves as a detailed work plan for EID staff to manage the district's water supply before, during, and after drought conditions. This update specifically focused on the ongoing drought and mandated statewide conservation requirements. Many of the changes in the 2015 update, including the demand reduction percentages for Stages 1 and 2, were intended to only apply to the most recent drought. The *Drought Action Plan* identifies normal conditions plus four stages of drought severity that depend on EID water supply availability and indicates the water conservation measures to be implemented in each of those stages, as well as post-drought actions. Under normal water supply conditions, EID prohibits water waste, maintains ongoing water conservation measures, and implements public outreach and education to raise awareness of water efficiency practices. Stage 1 drought conditions would occur if water supplies were slightly restricted; in response, EID would inform customers of possible shortages and ask them to voluntarily conserve up to 10% of normal use. At Stage 2, water supplies would be moderately restricted, and EID would implement both voluntary and mandatory conservation measures to reduce use by up to 28% of normal (to match the state-mandated conservation requirement placed on EID in 2015). A Stage 3 drought would occur if water supplies became severely restricted and would result in the enforcement of mandatory measures to achieve a demand reduction goal of up to 50% of normal use. Stage 4 would result from persistent drought conditions leading to extremely restricted water supplies; under Stage 4 conditions, EID would require water rationing for health and safety purposes in order to achieve a greater than 50% demand reduction (El Dorado Irrigation District 2021).

Table 3.12-4. El Dorado Irrigation District Drought Action Plan Stages and Required Actions

Water Supply Conditions	Drought Stage	Stage Title	Stage Objective	Response Actions
Normal water supply	None Ongoing water conservation and enforcement of water waste prohibition.	Normal Conditions	Public awareness of water efficiency practices and prohibition of water waste.	Public outreach and education for ongoing water efficiency practices and the prohibition of water waste.
Slightly restricted water supplies Up to 15% supply reduction	Stage 1 Introductory stage with voluntary reductions in use.	Water Alert	Initiate public awareness of predicted water shortage and encourage conservation.	Encourage voluntary conservation measures to achieve up to a 15% demand reduction.
Moderately restricted water supplies Up to 30% supply reduction	Stage 2 Voluntary and mandatory reductions in water use.	Water Warning	Increase public awareness of worsening water shortage conditions. Enforce mandatory measures such as watering restrictions.	Voluntary conservation measures are continued, with the addition of some mandatory measures to achieve up to a 30% demand reduction.
Severely restricted water supplies Up to 50% supply reduction	Stage 3 Mandatory reductions in water use.	Water Crisis	Enforce mandatory measures and/or implement water rationing to decrease demands.	Enforce mandatory measures to achieve up to a 50% demand reduction.
Extremely restricted water supplies Greater than 50% supply reduction	Stage 4 Water rationing for health and safety purposes.	Water Emergency	Enforce extensive restrictions on water use and implement water rationing to decrease demands.	Enforce mandatory measures to achieve greater than 50% demand reduction.

Source: El Dorado Irrigation District 2021.

Following 2 consecutive dry years (2012 and 2013), EID implemented the *Drought Action Plan*. On February 4, 2014, the EID Board of Directors declared a Stage 2 Water Warning, and on April 22, 2014, the EID Board implemented mandatory watering restrictions called for under Stage 2 drought conditions, intended to conserve 30% of normal use (El Dorado Irrigation District 2015). The EID Board unanimously rescinded the Stage 2 Water Warning and lifted the mandatory watering restrictions at its May 9, 2016, meeting (El Dorado Irrigation District 2016b).

On April 1, 2015, Governor Brown issued the fourth in a series of executive orders on actions necessary to address California's severe drought conditions, which directed the State Water Board to require mandatory water reductions in urban areas to reduce potable urban water usage by 25% statewide. Following unprecedented water conservation and plentiful winter rain and snow, on April 7, 2017, the governor ended the drought State of Emergency in most of California, while maintaining water reporting requirements and prohibitions on wasteful practices such as watering during or right after rainfall. EO B-40-17 lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne.

On April 21, 2021, Governor Gavin Newsom issued a drought emergency proclamation for Mendocino and Sonoma Counties due to drought conditions in the Russian River Watershed. On May 10, 2021, the proclamation was expanded to include the Klamath River, Sacramento-San Joaquin Delta, and Tulare Lake Watersheds, encompassing an additional 39 counties, including El Dorado County.

Groundwater

There is no groundwater basin in western El Dorado County. Overall, El Dorado County has experienced little groundwater change between 1999 and 2010. Depths fluctuated between 22 and 30 feet deep, with a trend of increasing depths to reach groundwater. See Section 3.8, *Hydrology, Water Quality, and Water Resources*, for a more detailed discussion of groundwater in El Dorado County and the project area.

Groundwater would not be used for the proposed project because EID would provide all water (from surface water sources) for the development.

Wastewater

In addition to providing potable and recycled water, EID also provides wastewater conveyance and treatment services. EID operates two wastewater collection systems in the El Dorado Hills/Cameron Park area, the Deer Creek and El Dorado Hills systems, which convey wastewater to the Deer Creek WWTP and the El Dorado Hills WWTP, respectively (El Dorado Irrigation District 2013a). The Deer Creek WWTP, adjacent to the project site, is located 2 miles south of US 50 off of Deer Creek Road, and serves the drainage basin and areas of El Dorado Hills, Diamond Springs, Cameron Park, and Shingle Springs (El Dorado Irrigation District 2013a). The El Dorado Hills WWTP, approximately 1.25 miles south of US 50 along Latrobe Road, serves the El Dorado Hills area (El Dorado Irrigation District 2013a). The project's wastewater would be conveyed to the Deer Creek WWTP.

The Deer Creek WWTP operates in accordance with WDRs issued by the Central Valley Regional Water Board (Order R5-2014-0081, NPDES Permit No. CA 0078662) (Central Valley Regional Water Quality Control Board 2014a). The permit contains specific effluent limitations for discharges to Deer Creek. The Deer Creek WWTP had one serious violation of the effluent limitations on December 31, 2012 (contained in Order R5-2008-0173-01 from December 1, 2007 through March 31, 2014) because the measured constituent exceed maximum prescribed levels by more than 20% (Central Valley Regional Water Quality Control Board 2014b).

With an existing permitted average dry weather flow capacity of 3.6 mgd, the Deer Creek WWTP serves a population of approximately 33,700 people in Cameron Park, Shingle Springs, and Diamond Springs, and recycles or discharges its treated effluent to Deer Creek (El Dorado Irrigation District 2013a). EID is required to discharge a minimum of 1.0 mgd to Deer Creek any time the treated effluent flow is at or above 2.5 mgd. The WWTP treated approximately 2.64 mgd in 2013, and treated approximately 2,10 mgd in 2019 (El Dorado Irrigation District 2013a; El Dorado Irrigation District 2020). Required dry weather flow capacity at full buildout is estimated to be 5.0 mgd; the Deer Creek WWTP is projected to reach its current capacity between 2022 and 2032 (El Dorado Irrigation District 2013a). To accommodate this increased flow, EID plans to expand the WWTP by 2029 (El Dorado Irrigation District 2013a).

The Deer Creek WWTP treats wastewater using preliminary and primary treatment, secondary treatment, and tertiary treatment. Once the wastewater has been fully treated, it is discharged into

Deer Creek, a tributary to the Cosumnes River. The permit contains specific effluent limitations for discharges to Deer Creek. The facility also includes recycled water facilities, which are limited by seasonal storage capacity. Recycled water is provided to irrigate golf courses, and the landscaping of thousands of single-family homes in El Dorado Hills, including the Serrano, Creekside Greens, Blackstone, Four Seasons, and Euer Ranch subdivisions, as well as certain commercial facilities in the El Dorado Hills areas (Dudek 2008).

Wastewater generated in the Deer Creek collection area is conveyed southwest to the Deer Creek WWTP. As shown in Figure 2-11, there is one existing 36-inch sewer line coming from Cameron Estates into a small portion of the project area; there is no wastewater infrastructure serving the majority of the project area.

Wastewater flows described in the WWFMP are based on growth defined by the County General Plan. The fundamental planning basis for developing water demands and projected wastewater flows is the planned land use presented in the County General Plan over the 20-year planning horizon of the adopted 2004 County General Plan, including the specific plans developed for the communities of Bass Lake Hills, Carson Creek, El Dorado Hills, Northwest El Dorado Hills, Promontory and Valley View. EID uses its wastewater generation rates, combined with the County General Plan land use designations and the number of planned connections in each of these specific plans, to project wastewater flows for the El Dorado Hills and Deer Creek collection systems (El Dorado Irrigation District 2013a).

The WWFMP assumes a flow of 2.25 mgd for the Deer Creek system in areas with land use designations but no specific plan (El Dorado Irrigation District 2013a). The total future wastewater flow of 5.0 mgd for the Deer Creek system, as described above, was determined by adding these projections to existing flows (El Dorado Irrigation District 2013a). Per EID administrative regulations, individual developers will be responsible for the planning, engineering, and construction of proposed sewer systems located within their respective development projects (El Dorado Irrigation District 2013a).

The WWFMP uses a hydraulic model of EID's Deer Creek collection system to analyze the existing systems, evaluating capacity deficiencies and proposed upgrades for both the existing and future wastewater flow conditions. EID's analysis indicates several areas where actual peak wet weather flows are significantly higher than EID's design criteria, primarily along the northern and southern perimeters of the El Dorado Hills collection system and the eastern and western edges of the Mother Lode sewershed (El Dorado Irrigation District 2013a).

In 1998, in conjunction with revising its NDPES permit for the 3.6-mgd plant, EID prepared and certified an EIR (SCH # 1996092074) (ESA 1998). In addition to evaluating the environmental impacts of construction and operating the 3.6-mgd capacity plant, the EIR also evaluated potential expansion to a 10.8-mgd full-build capacity. As stated in the certified EIR, the evaluation of a 10.8-mgd plant was for engineering planning purposes only. Ultimate plant expansion would be designed to meet planned buildout of the Deer Creek WWTP service area, as approved by the County, and the actual capacity of the WWTP may never reach 10.8 mgd. Subsequent expansions beyond 3.6 mgd up to the maximum 10.8 mgd were evaluated at a programmatic level. As part of the facility planning process at that time, EID assumed an incremental increase from 3.6 mgd to 7.2 mgd (ESA 1998). Thus, EID's current estimate for expansion to 5.0 mgd by 2029 is within the assumptions evaluated in the certified EIR.

As described in the certified EIR, capacity expansion was assumed to include process improvements to the headworks, new features added to the primary, secondary, and tertiary treatment processes (e.g., clarifier, aeration basins, sludge pumps, backwash pumps, and multi-media filters), and changes in solids handling. The plant utility system and operations/maintenance building would also be modified. The EIR characterized the potential future expansions to capacities of 7.2 mgd and up to 10.8 mgd as conceptual and would likely be modified in the future to reflect the timing and location of County population growth, technology advancements, and/or regulatory changes. As stated in the certified EIR, it is anticipated that construction activities to implement the various process improvements and plant upgrades would be contained within the existing degraded footprint of the WWTP and vegetation removal would not be required (ESA 1998).

The certified EIR concluded that construction and operational environmental impacts of expansion to a maximum 10.8 mgd would result in potentially significant construction impacts for the following: sedimentation/erosion in Deer Creek (water quality); criteria air pollutant emissions; potential to affect special-status and protected wildlife species and associated habitat; potential to encounter previously undiscovered pre-historic or historic resources; temporarily increase construction traffic noise or cause pavement damage. Potentially significant operational impacts identified in the certified EIR were potential effects of treated wastewater discharges on Deer Creek water quality; odors; noise; hazardous materials use; and emergency access. EID adopted mitigation measures to reduce these aforementioned impacts to less-than-significant levels. Cumulative nighttime lighting impacts were determined to be significant and unavoidable, even with mitigation identified in the certified EIR. EID also concluded that plant expansion could be growth inducing, and the secondary effects of such growth would be significant and cannot be mitigated by EID (ESA 1998). In conjunction with project approvals, EID adopted a Mitigation Monitoring and Reporting Program (MMRP), Findings, and a Statement of Overriding Considerations (Resolution 98-76).

Stormwater

The west slope of the County contains three major watersheds, each of which drains into either the Middle Fork of the American River, the South Fork of the American River, or the Cosumnes River. The watersheds are further divided into smaller drainage basins that feed the tributaries to the three major rivers. The project area is within the Upper Cosumnes watersheds.

There are no engineered storm drainage systems on the project site. The project site is located in the Deer Creek watershed. Natural drainage features include Deer Creek and its perennial tributary. Deer Creek is a perennial stream that flows across the site and eventually drains into the Cosumnes River. The project site also contains numerous intermittent and ephemeral stream channels, and an old pond. Many of the drainages are deeply incised and most contain flowing water for only short periods of time during and after rains (LSA Associates 2014).

Solid Waste

Solid waste includes household garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, appliances, manure, vegetable or animal solid and semisolid wastes, and other discarded materials, including household hazardous waste, which are addressed separately in Section 3.7, *Hazards and Hazardous Materials*.

The County has solid waste collection franchise agreements with six companies to collect and manage solid waste. In 1962, the El Dorado Hills CSD gained the authority to collect and dispose of residential and commercial garbage and refuse matter within the CSD boundaries. The Cameron

Park CSD also provides waste disposal services for Cameron Park residents. The Cameron Park CSD and El Dorado Hills CSD contract with El Dorado Disposal Services which serves the unincorporated areas of El Dorado County, specifically the West Central County Region (where the proposed project is located). The proposed project includes annexation into a CSD service area so that solid waste services could be provided. Therefore, solid waste characteristics of the CSD service area are discussed below.

Refuse collection is mandatory in CSD service areas, and El Dorado Disposal Services has approximately 12,095 residential customers. Two transfer stations/material recovery facilities are located in El Dorado County where solid waste is taken and diverted to landfills, recycling facilities, or other locations. These facilities are located in Diamond Springs and South Lake Tahoe. The material recovery facility (MRF) in Diamond Springs serves western El Dorado County and can process 400 tons per day (Ross pers. comm.). According to CalRecycle's Recycling and Disposal Reporting System database, unincorporated El Dorado County averaged approximately 30,535.8 tons of landfill waste per quarter in 2020 (CalRecycle 2020). The South Lake Tahoe Refuse Transfer Station serves the Tahoe Basin. Currently, the Potrero Hills Landfill, located in Solano County, California, is used by the waste collection and disposal services (CalRecycle 2020).

Potrero Hills Landfill is a Class III landfill that accepts only nonhazardous waste for disposal (EDAW 2003b). The landfill's disposal area is 340 acres (CalRecycle 2019). The solid waste facility permit for this landfill (48-AA-0075) authorizes the facility to receive a peak daily waste flow of 4,330 tons, or an annual maximum disposal volume of 1,234,200 tons (CalRecycle 2019). The current average disposal volume is approximately 700 tons per day (WasteWorks 2022). The estimated closure date for the landfill is 2059 (U.S. Environmental Protection Agency 2022).

Solid waste in El Dorado County is generated from a mix of residential, commercial, and industrial sources. Approximately 139,000 tons of solid waste was generated in the County in 2010, an average of 0.77 ton per person based on a 2010 population of approximately 180,000 (El Dorado County Environmental Management Department 2012). Approximately 91,424 tons of this waste was generated by commercial uses (El Dorado County Environmental Management Department 2012:3-6). As shown in Table 3-1 of the *El Dorado County Solid Waste Management Plan* (El Dorado County Environmental Management Department 2012), the population generating solid waste in the West Central County Region in 2010 was estimated to be 43,025. The primary generator of residential waste in this area is single-family homes, as El Dorado County has a higher proportion of single-family homes than the statewide average. Based on the residential population and the annual solid waste generated by this population (23,922 tons), it is estimated that the average residential solid waste generated per person was 0.67 ton (El Dorado County Environmental Management Department 2012). The greatest increase in waste disposal over the County's 20-year planning period is from the projected population increase in El Dorado Hills, as the population for the El Dorado area is anticipated to increase by approximately 30% by 2030. The West Central County Region population is expected to increase by 3.6% by 2020 and then 2.2% by 2030 (El Dorado County Environmental Management Department 2012).

El Dorado Hills CSD is contracted with El Dorado Disposal until June 2030 for waste and recycling (El Dorado Hills Community Services District 2019). The CSD diverted 51% of waste in a 3-month period in 2017 through recycling, composting, and other reduction and diversion programs (El Dorado Hills Community Services District 2017). El Dorado Disposal collects mixed recycling containers and green waste materials on alternate weeks from residences within the CSD, as well as allowing residents to bring recycling material to the Diamond Springs MRF programs (El Dorado

Hills Community Services District 2017). El Dorado Disposal encourages residents to dispose of yard waste through home composting, curbside pickup, or individually taking it to a transfer station that accepts "clean green" materials (El Dorado Disposal 2021). In addition, El Dorado Disposal operates several recycling and e-waste buyback centers to which residents are encouraged to bring additional recyclables; the nearest to the project site is located at 4421 Latrobe Road in El Dorado Hills. The CSD provides diversion reports, documenting compliance with its Source Reduction and Recycling Programs and the amount of waste disposed and diverted, to the County on a quarterly basis.

The nearest large-scale recycling facility to the project site is the Diamond Springs MRF, operated by El Dorado Disposal at 4100 Throwita Way in Diamond Springs. In addition to household recycling, the Diamond Springs MRF accepts a wide variety of waste materials, including mixed loose waste, clean wood waste, appliances, car bodies, and construction waste (lumber, concrete) (El Dorado Disposal 20221).

Hazardous waste in the County consists primarily of waste oil, old paint, and lead acid car batteries (El Dorado County 2014). Waste oil is collected through over 21 public waste oil collection sites that are open 7 days per week, and other hazardous materials such as old paint, car batteries, expired or banned pesticides or herbicides, and solvents are collected via a cooperative arrangement with El Dorado Hills Fire Department and the Diamond Springs MRF to operate a permanent collection facility for hazardous waste. In addition, all curbside solid waste is screened for hazardous waste (El Dorado County 2014).

Energy

Energy usage is typically quantified using the British thermal unit (BTU[3]). As a point of reference, the approximate amounts of energy contained in common energy sources are indicated in Table 3.12-5

Table 3.12-5. Energy Content by Energy Source

Energy Source	BTUs
Gasoline	120,214 per gallon
Diesel Fuel	137,381 per gallon
Natural Gas (compressed gas)	1,036 per cubic foot
Electricity	3,412 per kilowatt-hour

Source: U.S. Energy Information Administration 2023a.
BTUs = British thermal units.

California has a diverse portfolio of energy resources. In 2022, the state was the largest consumer of jet fuel and second-largest consumer of motor gasoline among all states in the nation. California ranked seventh for crude oil production and second for crude oil refining capacity. California was the third-largest electricity consumer in the nation, with 49% of in-state generation from renewable resources and 42% from natural gas. (U.S. Energy Information Administration 2023b.)

[3] A British thermal unit (BTU) is a standard unit of energy measure, which is the quantity of heat required to raise the temperature of 1 pound of water 1 degree Fahrenheit at or near 39.2 degrees Fahrenheit. A therm is a unit of heat equivalent to 100,000 BTUs.

Energy efficiency efforts have dramatically reduced statewide per-capita energy consumption relative to historical averages. According to the U.S. Energy Information Administration (2023c), California consumed approximately 7,359 trillion BTUs of energy in 2021. Per-capita energy consumption (i.e., total energy consumption divided by the population) in California is the fourth lowest in the country, ranking 48th among all states (and the District of Colombia) in the country with 189 million BTU in 2021 (U.S. Energy Information Administration 2023c).

As of 2021, natural gas accounted for the majority of energy consumption (2,173 trillion BTUs, 31%), followed by motor gasoline (1,495 trillion BTUs or 21%), interstate electricity (624 trillion BTUs, 9%), distillate fuel oil (568 trillion BTUs, 8%), biomass (467 trillion BTUs, 7%), other petroleum products (454 trillion BTUs, 6%), and a variety of other sources. The transportation sector consumed the highest quantity of energy (2,802 trillion BTUs, 41%), followed by the industrial (1,598 trillion BTUs, 24%), residential (1,229 trillion BTUs, 18%), and commercial (1,157 trillion BTUs, 17%) sectors. (U.S. Energy Information Administration 2023b.)

California's per capita energy consumption, in general, is declining due to improvements in energy efficiency and design. However, despite this reduction in per capita energy use, the state's overall (i.e., non-per-capita energy consumption) energy consumption is expected to increase over the next several decades due to growth in population, jobs, and demand for vehicle travel. California is the most populated state in the nation, has the largest economy, and is second only to Texas in total energy consumption. Although California has the world's fifth-largest economy, the state has one of the lowest per capita energy consumption levels in the United States. California's extensive efforts to increase energy efficiency and implement alternative technologies have restrained growth in energy demand. California is also rich in energy resources. The state has an abundant supply of crude oil and is the nation's second largest producer of conventional hydroelectric power. California also produces more electricity from renewable energy than every other state but Texas. (U.S. Energy Information Administration 2023c.)

Regionally, Pacific Gas and Electric Company (PG&E), the provider for electricity and natural gas in El Dorado Hills, has a diverse power production portfolio that consists of a variety of renewable and non-renewable sources. Energy production typically varies by season and by year depending on hydrologic conditions. Regional electricity loads also tend to be higher in the summer because the higher summer temperatures drive increased demand for air conditioning. In contrast, natural gas loads are higher in the winter because the colder temperatures drive increased demand for natural gas heating.

At the local level, El Dorado County consumes a small amount of energy relative to the state. In 2022, electricity and natural gas usage were approximately 0.4% and 0.3% of the statewide total, respectively (California Energy Commission 2023). Motor gasoline was about 0.5% of statewide usage, whereas diesel fuel usage was about 1% of the statewide total (California Energy Commission 2023). For reference, El Dorado County is home to about 0.5% of California residents (U.S. Census Bureau 2023). As a whole, El Dorado County consumed 1,259,499,268 kilowatt-hours (kWh) of electricity and 36,645,650 therms of natural gas in 2022 (California Energy Commission 2023). Table 3.12-6 provides a summary of total and per-capita El Dorado County energy consumption from the two primary sources of consumption (buildings and mobile) for 2022 conditions.

Local Electricity and Natural Gas Service

The project area is within the PG&E service area for natural gas and electricity. There are several natural gas distribution and transmission facilities north of US 50 that are available to serve the project through local connections (G3 Enterprises, Inc. 2020).

Table 3.12-6. El Dorado County Total and Per Capita Energy Consumption (2022)

Source	kWh	Therms	Gasoline (gallons)	Diesel (gallons)	BTUs [a]	Per Capita BTUs [b]
Buildings	1,259,499,268	36,645,650	–	–	7,961,976,502,416	41,299,343
Mobile	13,568,688	19,501	63,913,421	11,344,942	9,290,113,994,855	48,188,488
Total	**1,273,067,956**	**36,665,151**	**63,913,421**	**11,344,942**	**17,252,090,497,271**	**89,487,831**

Sources: California Energy Commission 2023; U.S. Energy Information Administration 2023a; U.S. Census Bureau 2023.

[a] See Table 3.12-5 for energy content values.

[b] El Dorado County 2022 population = 192,787.

BTUs = British thermal units; kWh = kilowatt-hours.

3.12.2 Environmental Impacts

Methods of Analysis

This analysis is based on the assumption that the LRVSP project area would be developed with residential development and parks and open space, which would require annexation into the EID service area and inclusion in a CSD. Annexation of the project area into the EID service area for water, wastewater and recycled water would require approval by El Dorado Local Agency Formation Commission (LAFCO). The proposed project would also require an amendment to the El Dorado Hills CSD sphere of influence to include the project area; annexation of the project area into the El Dorado Hills CSD service area for parks and recreation, and library and solid waste services; and an expansion of the El Dorado Hills Community Region boundaries to include the project site. Construction would encompass infrastructure for potable water, recycled water (potentially), wastewater, and stormwater drainage improvements. Any new utility lines that would be required within the project area would be placed within or parallel and adjacent to the rights-of-way of future roads that would be built as part of the proposed project. The proposed project would require potential offsite utility infrastructure improvements outside the project area, such as extension of water, recycled water, wastewater, natural gas, electric, cable, and phone lines to connect to existing infrastructure. Traffic improvements may also be included in the project to comply with General Plan Policy TC-Xf. These related offsite improvements are shown in Figure 2-13.

The methods of conducting the impact analysis for public services and utilities are based on analyzing service ratios, capacities, response times or other performance objectives to determine whether implementation of the proposed project would result in an exceedance of an existing, permitted, or acceptable performance objective, using the following information. An exceedance of service ratios, capacities, or response times alone do not justify an impact under CEQA; only physical impacts that would result from exceedances (such as the need for construction of new or expanded facilities as a result of the exceedances) would be considered a physical impact under CEQA.

Fire and Police Protection

Minimum response times for fire and police protection are identified in Policy 5.1.2.2 of the County General Plan. Minimum response times for a percentage of the population, along with service ratio requirements, are also identified in Policy 5.1.2.2. Where possible, impacts were determined by estimating response times under implementation of the proposed project and comparing those estimates to the minimum response times in the County General Plan. The need for new or expanded fire and police protection facilities was determined based on the ability of the stations to maintain service to their existing service areas.

Schools

The County General Plan identifies the minimum levels of service for school districts in the County as those which the school districts determine to be appropriate (El Dorado County 2015). The project area falls within the Buckeye Union, Latrobe, and El Dorado Union High School Districts. The project site is not within the Rescue Union School District boundary. The districts do not have projected school capacities for 2035, when the proposed project is expected to reach buildout. Therefore, projections for additional students from the proposed project are compared to existing capacities, which do not reflect the actual future capacities.

Libraries

The County General Plan does not specify service ratios for libraries. However, based on personal communication, a standard planning ratio is to have a minimum of 0.5 square foot of library space per capita (Amos pers. comm.). Therefore, this analysis uses that ratio as a reference.

Water Supply

The water supply analysis is based on the WSA prepared by Tully & Young (Appendix H1, *Water Supply Assessment*) and the revalidation memorandum by Tully & Young (Appendix H2). The WSA, which was approved by the EID Board of Directors in August 2013, assessed the availability and sufficiency of EID's water supplies to meet the proposed project's estimated water demands.[4] Methods used to evaluate water supply included development of residential and nonresidential baseline demand factors, application of those factors to the proposed project to estimate the projected LRVSP water demands. Project-specific and EID service area demands are then compared to the available water supply to determine the sufficiency of the water supply to meet the combined demands of the LRVSP and all other existing and planned users. Methods used to identify demands are described in detail in the WSA (Appendix H1).

Per the 2021 revalidation memorandum (Appendix H2), it is expected that the water demand for the project would be lower than calculated in the EID-approved 2013 WSA. This would be due to current assumptions about residential and non-residential water use that has been driven by continued statutory, regulatory, and common-practice considerations. For instance, since 2013, both the statewide mandatory Green Building Standards Code and the statewide (MWELO) have been modified to require more efficient appliances and fixtures and placed further restrictions on residential and non-residential irrigated landscapes. These factors, as well as a continued conservation ethic among water using customers, has resulted in a lowering of EID's per-capita water demand factors compared to those used for the 2013 WSA. Because the land uses for the project assumed in the 2013 WSA are consistent with the land uses depicted in the proposed Specific Plan, the water demand forecasts represented in the 2013 WSA are likely conservatively high.

On June 28, 2021, EID adopted its 2020 UWMP. Although the updated UWMP reflects some variations in the characterization of total demands and supplies compared to the August 2013 WSA, the variations do not change the conclusions of the WSA. Specifically, the 2020 UWMP modified its description of its existing and projected water supply assets to (1) reflect a more conservative representation of federal CVP contract supplies to align with restrictions placed on the CVP supplies during 2015, and (2) to align the growth in recycled water supplies to be more consistent with expected growth in recycled water demands (since recycled water can only be used for a limited set of irrigation demands). Based on coordination with the County, the 2020 UWMP also modified projected water demands to reflect slower growth through the planning horizon. However, the demands of the LRVSP, along with the other projects simultaneously undergoing a WSA analysis (the Central El Dorado Hills Specific Plan, VMVSP, and Dixon Ranch Residential Project), were maintained in the 2020 UWMP as represented in the WSA adopted in August 2013. The demand reduction in the 2020 UWMP to reflect the County's slower growth projections was applied only to

[4] On June 28, 2021, EID adopted its updated Urban Water Management Plan (EID 2015 UWMP). Although EID reflected some variations in the characterization of total demands and supplies when compared to the August 2013 WSA, the variations do not change the resulting conclusions of the WSA.

the category of "other planned uses" (see Appendix H1, *Water Supply Assessment*), resulting in a lower overall projected demand, but maintaining the LRVSP's previously identified.

Overall, as reflected in the supply/demand integration tables presented in the 2020 UWMP, EID still shows existing and planned supplies exceeding forecast demands, consistent with the findings of the WSA (Tully and Young 2021).

At the time the 2013 WSA was prepared, the analysis included information about possible alternative supplies when "some uncertainty" exists with respect to the availability of planned supplies, as required by CEQA. The WSA noted some uncertainty with the SMUD Cooperation Agreement (Upper American River Project [UARP] supply and included a description of three options to that supply (see Water Supply Assessment, Appendix H1, Attached Memo to ICF regarding Water Supply Options beginning on page 51). Since that time, EID has determined that the UARP supply will not be necessary over the planning horizon, though it is still being pursued. The 2020 UWMP does not consider the UARP supply in its calculations but does include the Fazio CVP supply. Should the Fazio CVP supply not be available, the UWMP indicates that water supply would still exceed demand. As such, an analysis of potential water supply impacts of alternative water supplies is not required for this Draft EIR. For additional information about alternative water supplies, as presented in the 2013 WSA, the reader is referred to Appendix H1, Water Supply Assessment.

Wastewater

The wastewater analysis is based on EID's WWFMP, which identifies projected wastewater flows for the district's El Dorado Hills and Deer Creek collection systems based on the County General Plan's land use designations and the number of planned and existing connections included in the specific plans for the communities of Bass Lake Hills, Carson Creek, El Dorado Hills, Northwest El Dorado Hills, Promontory, and Valley View. The district's wastewater generation rates in the WWFMP were used to calculate projected flows from the LRVSP.

Stormwater

Drainage and stormwater were analyzed based on information in the site-specific drainage analysis prepared by Watermark Engineering (2015) for the proposed project, which is included as Appendix J, *Lime Rock Valley Storm Drain Master Plan*). Two scenarios were evaluated: one where attenuation is provided as part of the nearby Village of Marble Valley development, and one where attenuation is provided solely within LRVSP facilities. The drainage study includes the following information.

- Estimates of 100-year peak flows for existing and developed conditions.
- Limits of 100-year flooding at seven locations of Deer Creek.
- Storage requirements for the site to attenuate 100-year flows to approximate existing-conditions flows.

Solid Waste

The solid waste analysis uses current capacities of the Diamond Springs MRF and Potrero Hills Landfill. To calculate the amounts of solid waste projected for the proposed project, the number of residents for the proposed project were estimated based on the unincorporated El Dorado County's

average household size of 2.59 and the proposed project's dwelling units. The average amount of solid waste per year in the western region of El Dorado County was used as the residential waste generation rate (El Dorado County Environmental Management Department 2012). Waste generation rates for the proposed civic-limited commercial development and public facilities development were based on rates from the California Department of Resources Recycling and Recovery (2013a, 2013b).

Energy

The energy analysis for the proposed project evaluates the following sources of energy consumption associated with the project.

- **Short-term construction:** Gasoline and diesel consumed by vehicles and offroad construction equipment.
- **Operational on-road vehicles:** Fossil fuel (e.g., gasoline) and electricity consumed by personal automobiles and service trucks.
- **Operational power, heating, and cooking:** Electricity and natural gas consumed by occupants.
- **Operational landscaping:** Fuel consumed by landscaping equipment.

Construction-related energy use (i.e., fuel consumption) was calculated by converting GHG emissions predicted by the California Emissions Estimator Model (CalEEMod) using the rate of carbon dioxide emissions emitted per gallon of combusted gasoline (19.4 pounds/gallon) and diesel (22.5 pounds/gallon) (Climate Registry 2023). The estimated fuel consumption was converted to BTUs using the factors summarized in Table 3.12-5. Materials manufacturing would also consume energy, although information on the intensity and quantity of fuel used during manufacturing is currently unknown and beyond the scope of project-level environmental analyses. An analysis of energy associated with materials manufacturing is considered speculative and is not presented in this Draft EIR. This analysis focuses on energy associated with physical construction of the project (i.e., fuel consumed by heavy-duty equipment and vehicles).

Energy consumed by operational on-road vehicles was quantified using the vehicle miles traveled (VMT) estimate developed by the traffic analysis. Fuel consumption was calculated by multiplying the estimated VMT by the countywide default fleet mix and associated fuel economy factors from EMFAC2021. The estimates were converted to BTUs using the factors summarized in Table 3.12-5.

Operational electricity and natural gas consumption under full project buildout (2045) was drawn from the CalEEMod modeling performed to support the GHG analysis (see Section 3.6, *Greenhouse Gas Emissions*). Fuel consumption by landscaping equipment was calculated by converting GHG emissions predicted by CalEEMod. It was conservatively assumed all equipment would use gasoline.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect on public services if it would result in any of the conditions to public services and utilities listed below.

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable

service ratios, response times, or other performance objectives for any of the following public services:

  - Fire protection
  - Police protection
  - Schools
  - Other public facilities

- Require or result in the relocation or construction of new or expanded wastewater treatment or stormwater drainage facilities, the construction of which could cause significant environmental effects.
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
- 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.
- 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.
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

In accordance with Appendix G of the State CEQA Guidelines, the conditions listed below are used to evaluate whether the proposed project would be considered to have a significant effect on energy resources or efficiency.

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Appendix F of the State CEQA Guidelines identifies the following potential environmental impacts related to energy that may be considered in an EIR. Appendix I, *CEQA Guidelines Appendix F: Energy Conservation*, of this Draft EIR includes the State CEQA Guidelines Appendix F for reference.

1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project, including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the project on peak- and base-period demands for electricity and other forms of energy.
4. The degree to which the project complies with existing energy standards.
5. The effects of the project on energy resources.
6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

The State CEQA Guidelines recommend that the discussion of applicable energy impacts focus on whether the project would result in the wasteful, inefficient, or unnecessary consumption of energy. Efficient projects that incorporate conservation measures to avoid wasteful energy usage facilitate long-term energy planning and avoid the need for unplanned or additional energy capacity. Accordingly, based on the criteria outlined in the State CEQA Guidelines Appendix F, the proposed project would cause significant impacts related to energy if it would lead to a wasteful, inefficient, and unnecessary usage of direct or indirect energy. As discussed in Section 3.12.1, *Existing Conditions, Regulatory Setting*, energy legislation, policies, and standards adopted by California and local governments were enacted and promulgated for the purpose of reducing energy consumption and improving efficiency (i.e., reducing wasteful and inefficient use of energy). Therefore, for the purposes of this analysis, *wasteful* and *inefficient* are defined as circumstances in which the project would conflict with applicable state or local energy legislation, policies, and standards. Accordingly, if the project conflicts with legislation, policies, or standards designed to avoid wasteful and inefficient energy usage, it would result in a significant impact related to energy resources and conservation.

Impacts and Mitigation Measures

Impact PSU-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or a 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 following public services: fire protection, police protection, schools, other public facilities (less than significant)

Fire Protection

The project site would be served by the El Dorado County Fire Protection District and potentially the Cameron Park Fire Department. Approval of the LRVSP would allow for the project site to be incorporated into the El Dorado Hills Community Region, which would require response times to be 8 minutes or less for 80% of the population for community regions. With an existing average response time of approximately 12.5 minutes, the El Dorado County Fire Protection District achieves the minimum requirements for a rural region (15–45-minute response in a rural region) of Policy 5.1.2.2 in the County General Plan. Response times for the Cameron Park Fire Department to calls near the project area range between approximately 4 to 7 minutes (Winger 2016 pers. comm.). Therefore, it is anticipated that the response time would meet the 8-minute requirement for community regions. Based on this information, the proposed project would not affect the ability of the fire departments to meet the minimum required response time. Since there would be no need for construction of new fire department facilities or alterations to existing fire department facilities; therefore, there would be no environmental impacts. Impacts on fire protection would be less than significant.

Police Protection

As described in Section 3.12.1, *Existing Conditions, Environmental Setting*, the County Sheriff's Office does not currently meet the service ratio requirements for providing police protection. The proposed project would develop residential uses already planned for in the County General Plan. The proposed project would include primarily gated neighborhoods, so they may also have their

own security in addition to the public protection offered by the Sheriff's Office. As described in the *Environmental Setting* section, Policy 5.1.2.2 of the County General Plan identifies that the minimum level of service for sheriff responses should be an 8-minute response to 80% of the population (El Dorado County 2015). As previously stated, average response times for the Sheriff's Department are not available (Leikauf 2024 pers. comm.). However, any lag in response time is likely to be related directly to inadequate staffing; staffing could be increased without additional facilities. The proposed project would add population, which would further impact the existing law enforcement staff. Funding for staffing emergency services is obtained through taxes and other local government funding, not through developer fees. Although the proposed project would increase demand for sheriff's department staff, the project site is located in an area that is currently served by the existing Sheriff's Department, deputies, staff, and facilities and the addition of population would not require the addition of any new facilities, the construction of which would be an impact on the environment. Therefore, impacts on police protection would be less than significant.

Schools

The project area lies within the Buckeye Union, Latrobe, and El Dorado Union High School Districts. The proposed project recommends that elementary students attend school within the same district. Due to available access and logistics, elementary students would likely attend school within the Buckeye Union School District. However, the school districts will determine enrollment placement.

The Buckeye Union School District enrollment exhibited slight growth between 1996-1997 (3,647 students) and 2011-2012 (4,997 students). Since 2012 enrollment has increased from approximately 5,000 through 2015 to 8,893 students in the 2019-2020 school year (Education Data Partnership 2021a). Currently, there are approximately 861 available seats[5] in the three Buckeye Union School District facilities nearest the project. The Latrobe School District, a small, rural K–8 school district, had a 2019–2020 enrollment of 147 students (Education Data Partnership 2021b). The district's capacity is approximately 180 to 200 students (Miller 2016 pers. comm.). The El Dorado Union High School District anticipates a decline in student enrollment, even accounting for future development within the district. Currently, there are approximately 1,601 available seats[6] in the El Dorado Union High School District, with approximately 419 available seats[7] in the Union Mine High School. Table 3.12-7 summarizes the student generation factors for the three school districts that would serve the project area.

Table 3.12-7. Student Generation Factors in the Project Area

Grade Level	Single-Family Residential
K–5 (Buckeye Union School District/Latrobe Elementary School District)	0.400
6–8 (Buckeye Union School District /Latrobe Elementary School District)	0.100
9–12 (El Dorado Union High School District)	0.177

Source: G3 Enterprises 2020.

[5] Available seats were determined by subtracting the 2019-2020 enrollment of the three schools (1,741) from the capacity of the three schools (2602).

[6] Available seats were determined by subtracting the 2019–2020 enrollment (6,814 students) from the capacity of the El Dorado Union School District (8,415).

[7] Available seats were determined by subtracting the 2019-2020 enrollment (1,066 students) from the capacity of the school (l, 1,485).

The proposed project would result in 800 households (single-family and duplex) and, thus, could generate approximately 542 children under the age of 18. Table 3.12-8 summarizes the projected LRVSP student populations.

Table 3.12-8. Projected Students

Residential Dwelling Type	Residential Units	K–5 Factor	K–5 Students	6–8 Factor	6–8 Students	9–12 Factor	9–12 Students
Single-family and duplex	800	0.400	320	0.100	80	0.177	142
Total	**800**		**320**		**80**		**142**

Source: G3 Enterprises 2020.

Table 3.12-9. Current Enrollments and Capacities in the Project Area

School	Current Enrollment (2022–2023)[a]	Proposed Project (students)	School Capacity (students)	Exceedance (students)
Blue Oak Elementary	485[a]		792[c]	
Valley View Elementary	694[a]		850[c]	
Latrobe Elementary	65[a]		180[c]	
Elementary Total	1,244	320	1,822	-258
Camerado Springs Middle School	479[a]		960[c]	
Middle School Total	479	80	960	-401
K–8 Total	1,723	400	3,682	-1,559
Union Mine High School	1,066		1,485[b]	
Ponderosa High School	1,648		2,283[b]	
El Dorado High School	1,224		1,568[b]	
Oak Ridge High School	2,516		2,530[b]	
High School Total	6,454	142	7,866	-1,270

Sources:
[a] Education Data Partnership 2024.
[b] SchoolWorks 2022.
[c] Schoolworks 2018b.

Based on recommended sizes of 650 students for K–5 elementary schools and 900 students for middle schools (6–8), the proposed project would generate a demand for 0.5 elementary schools (K–5) and 0.1 middle schools (6–8). The proposed VMVSP project proposes school sites for one K–5 elementary school and one K–8 middle school that would be used by residents of the proposed project (G3 Enterprises 2020). The K–5 elementary school and K–8 middle school would be constructed by the Buckeye Union School District and would be consistent with the requirements of the Buckeye Union School District's Master Plan (G3 Enterprises 2020). The VMVSP would designate 35 acres for K–5 and K–8 elementary school sites to provide adequate school capacity to serve the new residents in the project area (Marble Valley Company, LLC 2020). The development agreement between the project applicant and the school districts would specify the details of construction funding and timing of the schools and the plans for housing Lime Rock Valley students in the event the proposed schools in the VMVSP project area are not constructed (G3 Enterprises 2020). As a result, the increase of 400 children in the project area under the proposed project would not cause

an exceedance of the available capacity of the existing Buckeye Union School District or of the capacity of the new schools to be built. Additionally, the Latrobe School District has capacity for approximately 30 to 40 students and Camerado Springs Middle School (in the Buckeye Union School District) could accommodate students. Impacts on schools would be less than significant.

In the event that the VMVSP is not built prior to development of the LRVSP, Buckeye Union School District and Latrobe School District would have enough capacity to accept the projected 400 K–8 students in the project area.

Based on the recommended size of 2,000 students for high schools, the proposed project would generate a demand for 0.07 high schools (G3 Enterprises 2020). Although the proposed project is within the attendance boundary of the Union Mine High School, the El Dorado Union High School District would determine which high school would house the students residing in the project area (G3 Enterprises 2020.) However, the 142 high school students expected to be generated by the proposed project would not exceed the available capacity of the existing El Dorado Union High School District or the available capacity of the Union Mine High School. Impacts would be less than significant.

Increased enrollment is not a significant environmental effect but is a social effect (*Goleta Union School District v. Regents of U.C. 1995)*. Because the school districts collect school impact fees, those fees serve as mitigation for development. Therefore, impacts on schools would be less than significant.

Libraries

As described in Section 3.12.1, *Existing Conditions, Environmental Setting*, El Dorado County is deficient in countywide library space. Residents of the project site would be expected to use the two closest branches, the Cameron Park Library and the El Dorado Hills Library. Using unincorporated El Dorado County's household size of 2.59 people, buildout of the proposed project could introduce an additional 2,072 library users to the El Dorado Hills area. As described above, the Cameron Park Library serves a population of 18,370 with a current service area ratio of 0.68 square foot of library space per capita (California State Library 2021). The addition of 2,072 library users would increase the population served by the local library facility to 20,442 and reduce the amount of library space from 0.68 to 0.61 square foot per capita, remaining above the countywide average of 0.35 square foot per capita. The addition of these residents to the El Dorado Hills Library's 50,000 users would decrease the El Dorado Hills Library's service ratio from 0.32 square foot per capita to 0.27 square foot per capita, below both the countywide average and the planning standard of 0.50 square foot per capita. Because the standard ratio of 0.50 square foot per capita is not a legal requirement or in the County General Plan, there is no requirement for the proposed project to meet this standard. As described above for schools and additional students, increased population and potential library patrons would be a social impact (*Goleta Union School District v. Regents of U.C. 1995*). Because the proposed project does not include construction of a new library, there is no physical impact. In addition, as the County library system is presently funded by parcel taxes and assessments, and the proposed project would increase the number of parcels and, proportionately, library revenue, impacts on existing library services from the proposed project's additional patrons are not expected to result in substantial adverse physical impacts that would lead to the deterioration of existing libraries or require the construction of new libraries. Therefore, although patronage is expected to increase with the additional population, impacts on libraries would be less than significant.

Offsite Improvements

The offsite improvements would provide utility and infrastructure services but would not cause significant impacts on governmental facilities or emergency services response times or result in the need for additional public services, such as schools and libraries.

Summary

Overall, the proposed project would not result in the need for new or expanded public services, the construction of which would result in physical effects. Therefore, impacts from the proposed project on fire and police protection, schools, and libraries would be less than significant. No mitigation is required.

Offsite and traffic improvements would not result in increased demand on public services through an increase in population. As described in Section 3.14, *Transportation and Circulation* (Impact TRA-4), during construction of infrastructure improvements and development associated with the LRVSP, an increase in truck traffic on offsite roadways could restrict access for emergency vehicles in and around the project area. Because the proposed project could result in inadequate emergency access, this would be a significant impact. Implementation of Mitigation Measure TRA-4 would reduce this impact to a less-than-significant level.

Impact PSU-2: Require or result in the relocation or construction of new or expanded wastewater treatment or stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects (less than significant with mitigation)

Wastewater Demand

The Deer Creek WWTP operates under WDRs and an NPDES permit issued by the Central Valley Water Board. The WWTP is permitted to discharge up to 3.6 mgd of disinfected tertiary treated effluent to Deer Creek, and the permit contains specific numerical and narrative effluent limits for specific constituents.

Approval of the LRVSP would result in residential development. Only a small portion of the project site is within the EID service area; therefore, annexation to EID would be a requirement for development of the project site. Based on EID's Design Standards for wastewater generation rates, the proposed project would generate an average of 192,000 gallons of wastewater per day, or 0.19 mgd that would be conveyed to the Deer Creek WWTP for treatment (Table 3.12-10). Deer Creek WWTP treated an average of 2.10 mgd in 2019 (El Dorado Irrigation District 2020). Therefore, the additional 0.19 mgd combined with the current average 2.10 mgd would be 2.29 mgd, which would be within the plant's permitted average dry weather flow effluent limit of 3.6 mgd. Neither offsite wastewater conveyance facilities intended to serve the project site nor General Plan Policy TC-Xf traffic improvements would result in increased population or increased wastewater treatment demand. The offsite improvements and General Plan Policy TC-Xf traffic improvements would, therefore, not cause the Deer Creek WWTP to exceed the Central Valley Water Board's wastewater treatment requirements.

Table 3.12-7. Wastewater Service Demand from the Proposed Project

Land Use	Unit	Wastewater Generation Rate (gpd/ EDU or gpd/acre)	Total Predicted Average Dry Weather Wastewater (gpd)
Residential (Low and Medium Density)	800 dwelling units	240 gpd/EDU	192,000
Total			**192,000 gpd/0.19 mgd**

Source: El Dorado Irrigation District 2013a.
gpd/EDU = gallons per day per equivalent dwelling unit.
gpd/acre = gallons per day per acre.

The constituents in wastewater flows from the proposed project to the WWTP would be typical of residential uses, similar to flows from other residential development in the County and nearby El Dorado Hills and Cameron Park, and would not contain constituents that would cause permitted effluent limitations to be exceeded. Therefore, this impact would be less than significant. No mitigation is required.

Wastewater Treatment Facilities

The proposed project would generate 0.19 mgd of wastewater. When added to the current average dry weather flow of 2.10 mgd, the total (2.29 mgd) would not exceed the Deer Creek WWTP current treatment capacity of 3.6 mgd. Buildout of the proposed project is expected to occur around 2043. Based on the County General Plan planning horizon, estimates of areas for future known densities, and estimate of areas for future unknown densities, EID projects that flows to the Deer Creek WWTP will reach capacity between 2022 and 2032 depending on the rate of growth (El Dorado Irrigation District 2013a:151). EID has determined a capacity of 5.0 mgd for the Deer Creek WWTP will be necessary to accommodate future flows and currently plans to have the expanded facility operational by 2029 (El Dorado Irrigation District 2013a:151). Because the LRVSP is not currently considered in EID's projections, the addition of 0.19 mgd would exceed the planned capacity of the Deer Creek WWTP of 5.0 mgd. However, the proposed project's contribution to the demand for wastewater facilities would not be the sole reason for WWTP expansion.

As an industry standard practice, EID monitors growth and plans to meet future demands generated by authorized development. If the LRVSP is approved by the County Board of Supervisors, the next revisions to the EID WWFMP would reflect updated future demand calculations, and County General Plan amendments would be reviewed and used as a basis for analysis of future needs to identify required improvements to accommodate additional flows and the timing for such improvements. The types of improvements would depend on regulatory requirements and could involve wastewater process upgrades. As described in Section 3.12.1, *Existing Conditions*, *Environmental Setting*, EID has evaluated the environmental impacts of plant expansion beyond 3.6 mgd. EID's current estimate for expansion to 5.0 mgd by 2029 is within the facility planning assumptions evaluated in the certified EIR for the Deer Creek WWTP expansion project. Expansion of the Deer Creek WWTP to 7.2 mgd and 10.8 mgd were also addressed in the certified EIR. While the proposed project would contribute incrementally to the need for expansion by project buildout, it would not result in changes to the construction and operational assumptions and associated environmental impacts beyond those identified in the certified EIR. The mitigation measures identified in the certified EIR to reduce or avoid potential impacts of expansion would be implemented by EID, as set forth in the MMRP for the plant expansion and the agency's findings (Resolution 98-76). In conjunction with LRVSP project approvals, the County would, therefore, be able to make findings

pursuant to State CEQA Guidelines Section 15091(a)(2) that the mitigation measures are the responsibility of EID and not the County, and that such measures have been adopted by EID. The approved mitigation measures apply to the following resources: hydrology; air quality; geology, soils, and seismicity; biological resources; hazardous materials; public health; aesthetic resources; transportation and circulation; and cultural resources. These measures include measures to retrofit Deer Creek WWTP to reduce odors and BMPs to reduce, construction emissions, odors and operational noise (Appendix L, *Deer Creek WWTP Mitigation Measures)*. Therefore, the impact related to the need for expanded or new wastewater treatment plant facilities would be less than significant.

Wastewater Conveyance Facilities

The project site is not within the EID service area; however, it is within the EID sphere of influence. Approval by El Dorado LAFCO to annex the project area into the EID service area for water, wastewater, and recycled water is required. As shown in Figure 8-3 of the LRVSP, there is one existing sewer line coming from Cameron Estates into a small portion of the project area; there is no wastewater infrastructure serving the majority of the project area. Wastewater infrastructure, consisting of gravity sewer lines, would be constructed onsite to serve the project area, and would transport the wastewater to Deer Creek WWTP. EID's WWFMP identifies capacity expansion and replacement needs for offsite wastewater and infrastructure based on the County General Plan land uses in effect at the time. The exact locations of offsite infrastructure have not been determined, but corridors have been defined and their environmental impacts are addressed in this Draft EIR (as noted below). Additionally, as required by EID Board Policy 9020, the project applicant would secure EID's approval of an engineering facility plan report for the extension of EID facilities for subdivisions and commercial developments.

Construction of the wastewater treatment infrastructure would include site grading and infrastructure installation, which would require dust suppression and other incidental water uses. Those water uses are expected to be nominal and would not increase the overall water demand for the proposed project. Construction of pipelines would require construction equipment and cause soil disturbance, which could result in air quality emissions, noise generation, or construction crew traffic; use of small amounts of hazardous materials such as diesel and oil; generate stormwater runoff or erosion; result in the potential to encounter previously unidentified cultural resources; and disturb habitat, among other potential environmental impacts. These types of impacts are already disclosed and evaluated in this document. As described in Section 3.2, *Air Quality*; Section 3.3, *Biological Resources*; Section 3.4, *Cultural Resources*; and Section 3.8, *Hydrology, Water Quality, and Water Resources*, construction activities could have significant impacts on the environment. Implementation of the mitigation measures identified in those impacts would reduce impacts to a less-than-significant level.

No offsite wastewater conveyance facilities would need to be constructed for the proposed project because all onsite lines would flow via gravity to the adjacent Deer Creek WWTP. Impacts related to General Plan Policy TC-Xf traffic improvements are described in Section 3.2, *Air Quality* (Impact AQ-6), Section 3.4, *Cultural Resources* (Impact CUL-4), Section 3.8, *Hydrology, Water Quality, and Water Resources* (Impact WQ-6), and Section 3.10, *Noise and Vibration* (Impact NOI-5). As identified in the discussions of those impacts, construction of some of the offsite improvements could result in significant impacts. Implementation of the mitigation measures listed below and in each of those sections, which would be the responsibility of the project applicant, would reduce impacts of offsite improvements to less-than-significant levels.

Stormwater

The proposed project would incorporate new stormwater drainage facilities to accommodate the potential increase in stormwater runoff as a result of the impervious surfaces (e.g., roads, home roofs, sidewalks), which could subsequently cause effects on water quality and storm drain capacity.

As described in Section 3.8, *Hydrology*, *Water Quality, and Water Resources,* Watermark Engineering (2015) evaluated two scenarios: one where attenuation is provided as part of the nearby VMVSP development, and one where attenuation is provided solely within the LRVSP facilities. For the former scenario, preliminary facilities would include a 7-feet-wide-by-5-feet-high box culvert to attenuate the flows leaving the Village of Marble Valley and the flow along Deer Creek downstream of Plunkett Creek (detention facilities within Lime Rock Valley would not have to be constructed or maintained because this location is outside of the project area). For the latter scenario, the analysis assumed a berm and restricted outfall (detention basin) in the eastern portion of the LRVSP project area to provide the necessary attenuation.

Therefore, the detention facilities within Lime Rock Valley would not have to be constructed or maintained. For the latter, a berm would be constructed across the upper half of a small tributary identified as Subshed D6b, which is located in the southwest portion of the LRVSP area. The berm would create a detention basin that would fill during heavy runoff and the stored runoff would drain to normal channel conditions in less than 6 hours after the peak has passed. The maximum storage upstream of the berm would be approximately 25 AF, the reinforced concrete outlet pipe would have a diameter of 66 inches, and the maximum water depth at the face of the berm would be about 19 feet. This would provide the necessary attenuation of stormwater flows (Watermark Engineering 2015).

Based on the assumption that the VMVSP development is concurrent or prior to the LRVSP, the increased peak flows from Lime Rock Valley would be completely attenuated by facilities within the Village of Marble Valley. For the latter scenario, the onsite detention basin would attenuate the developed 100-year peak flow leaving the Lime Rock Valley development area to equal or less than the 100-year peak flow under existing conditions.

Design and construction of the storm drainage system would be required to comply with the adopted Drainage Manual, Storm Water Management Plan and current State Water Board order(s) regulating construction activities s (e.g., Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-006-DWQ), the stormwater pollution prevention plan, and BMPs. The stormwater system would also have to comply with the County's NPDES permit in place at the time of subsequent development approvals (e.g., Order No. 2013-0001-DWQ) and the Stormwater Quality Control Ordinance No. 5022 to ensure project stormwater flow rates and volumes can be accommodated in the drainage system.

Storm drain systems would be required to channel runoff from onsite and offsite roadway improvements. Construction would include site grading and infrastructure installation, which would require dust suppression and other incidental water uses. Those water uses are expected to be nominal and are included in the water demand estimations for the proposed project. Construction would require construction equipment and cause soil disturbance, which could result in air quality emissions, noise generation, or construction crew traffic; use of small amounts of hazardous materials such as diesel and oil; generate stormwater runoff or erosion; result in the potential to encounter previously unidentified cultural resources; and disturb habitat, among other potential environmental impacts. These types of construction impacts are a component of the site

development footprint impacts evaluated in Section 3.2, *Air Quality*; Section 3.3, *Biological Resources*; 3.4, Section *Cultural Resources*; 3.8, *Hydrology, Water Quality, and Water Resources*; and Section 3.10, *Noise and Vibration*. Construction activities could have significant impacts on the environment. Construction related noise impacts would be of much smaller magnitude than the proposed project because the amount and duration of construction would be far less than for the proposed project, itself. Implementation of the mitigation measures identified in those sections, which would be the responsibility of the project applicant as they pertain to installation of storm drainage facilities, would reduce impacts to a less-than-significant level.

Mitigation Measure AQ-2b: Implement best management practices to reduce construction related exhaust emissions during early construction

Mitigation Measure AQ-2d: Implement an EDCAQMD-approved Fugitive Dust Control Plan

Mitigation Measure AQ-3 Submit and implement an Asbestos Dust Mitigation Plan in accordance with EDCAQMD Rule 223-2Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-1d: Avoid and minimize potential disturbance of oak woodland habitat and compensate for loss of oak woodland and individual trees

Mitigation Measure BIO-2: Compensate for permanent loss of riparian woodland

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

Mitigation Measure BIO-3b: Compensate for loss of jurisdictional wetlands

Mitigation Measure BIO-4: Compensate for loss of other waters of the United States

Mitigation Measure BIO-5a: Conduct floristic surveys in the project area for special-status plants during appropriate identification periods

Mitigation Measure BIO-5ba: Avoid impacts on Layne's ragwort plants through project design

Mitigation Measure BIO-5cb: Compensation for impacts on Bisbee Peak rush-rose, unavoided Layne's ragwort, and any other special-status plants

Mitigation Measure BIO-7: Conduct preconstruction survey and implement California red-legged frog avoidance and minimization measures

Mitigation Measure BIO-8: Avoid and minimize construction-related impacts on foothill yellow-legged frog

Mitigation Measure BIO-9: Conduct preconstruction surveys for northwestern pond turtle and exclude turtles from the work area

Mitigation Measure BIO-10a: Avoid and minimize impacts on Blainville's horned lizard

Mitigation Measure BIO-10b: Include measures in the open space management plan identifying homeowner responsibilities to help reduce potential for domestic animal predation on wildlife

Mitigation Measure BIO-11a: Conduct vegetation removal activities outside the breeding season for birds and raptors

Mitigation Measure BIO-11b: Conduct preconstruction nesting surveys for special-status and non–special-status birds and implement protective measures during construction

Mitigation Measure BIO-12: Identify suitable roosting sites for bats and implement avoidance and minimization measures

Mitigation Measure BIO-13: Implement measures to avoid and minimize potential impacts on American badger

Mitigation Measure BIO-14: Identify suitable shelter and denning habitat for ringtail and implement avoidance and protective measures

Mitigation Measure BIO-17: Avoid the introduction and minimize spread of invasive plants

Mitigation Measure BIO-18a: Map sensitive natural communities adjacent to the proposed Shingle Lime Mine Road construction area and Interim Phase 1 Potable Water alignments for the offsite improvements

Mitigation Measure BIO-18b: Compensate for loss of oak woodland in offsite improvement areas

Mitigation Measure BIO-20a: Conduct floristic surveys in the offsite improvement areas for special-status plants during appropriate identification periods

Mitigation Measure BIO-20b: Avoid or compensate for substantial effects on special-status plants in the offsite improvement areas

Mitigation Measure BIO-21a: Conduct a habitat assessment for federally listed branchiopods in the offsite infrastructure improvement areas

Mitigation Measure BIO-21b: Avoid or compensate for direct and indirect effects on vernal pool fairy shrimp and vernal pool tadpole shrimp and their habitat

Mitigation Measure CUL-1: Avoid impacts on the Lime Rock Valley Historic District where possible and implement appropriate treatment where avoidance is not possible

Mitigation Measure CUL-2a: Avoid and minimize potential indirect impacts on P-9-1949 and P-9-5549

Mitigation Measure CUL-2b: Avoid and minimize impacts on resource P-9-1949 and implement appropriate measures if avoidance is not feasible

Mitigation Measure CUL-2c: Avoid and minimize impacts on resource P-9-3906 and implement appropriate measures if avoidance is not feasible

Mitigation Measure CUL-2d: Implement cultural resources training and monitoring during ground-disturbing activities and halt work if previously unrecorded cultural resources are encountered

Mitigation Measure CUL-3: Perform archaeological construction monitoring during ground-disturbing activities and stop work if human remains are encountered

Mitigation Measure CUL-4a: Perform cultural resources surveys of the offsite improvement areas and address any eligible resources in accordance with State CEQA Guidelines Section 15126.4

Mitigation Measure CUL-4b: Avoid and minimize impacts on archaeological sites adjacent to offsite improvements

Mitigation Measure GEO-9a: Educate construction personnel in recognizing fossil material

Mitigation Measure GEO-9b: Stop work if substantial fossil remains are encountered during construction

Mitigation Measure GEO-9c: Stop work if a cave or void is encountered

Mitigation Measure NOI-1a: Employ noise-reducing construction practices

Mitigation Measure TRA-4: Implement site-specific transportation management plan during construction

Impact PSU-3: Require or result in the construction of new water facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects (less than significant with mitigation)

Potable Water

An overall potable water system is in place for the Cameron Park and Cameron Estates communities, including offsite transmission mains, storage tanks, and booster stations. However, development of the proposed project would require construction and extension of transmission and distribution potable water mains. Components of the overall water system would include offsite transmission mains, as well as possible onsite or offsite storage tanks, booster stations, distribution mains, and laterals, as shown in Figure 2-9, and would extend from the proposed VMVSP, which is planned to be constructed before Lime Rock Valley. If the VMVSP is not built out first, the LRVSP would have to install its own extensions to existing EID infrastructure, as shown in Figure 2-9. Additional

connections would take place at Shingle Lime Mine Road to an EID planned 42-inch transmission main. The installation of water improvements would be performed in a multi-phased approach. The initial water plan includes the construction of necessary backbone infrastructure to ultimately serve the entire assumed maximum needs of the proposed project, as well as the offsite infrastructure required to convey water to meet project area needs. This would include transmission mains and any other components needed to physically transport water to the project area. The water system would be designed to meet fire flow requirements as set forth in the California Fire Code, as modified by the El Dorado County Fire Protection District (El Dorado County Fire Protection Department 2011).

Additionally, in the 2013 IWRMP, EID identifies recommended facilities to support future development and provide service reliability. These recommendations include the construction of a new 44-mgd water treatment plant off of Missouri Flat Road approximately 1 mile south of US 50 and the construction of a 48-inch, 42-inch, and 30-inch gravity transmission main for the new treatment plant to the El Dorado Hills supply region. The 48-inch and 42-inch transmission main would primarily follow the Sacramento-Placerville transportation corridor from the new plant to Shingle Lime Mine Road. The 42-inch transmission main would follow Shingle Lime Mine Road north, cross Durock Road, follow Coach Lane to the west in Cameron Park, and then follow various county roads to Deer Creek Road and Marble Valley Road. At Marble Valley Road, the main would transition to 30 inches and follow Bass Lake Road north to the Bass Lake tanks. Construction of the new water treatment plant and associated transmission main would be timed with needed capacity expansion and is subject to EID approval.

Implementation of the proposed project would require construction of new transmission lines and mains and pump stations to physically transport water to the project site from the EID western/eastern water supply region. As shown in Chapter 2, Figure 2-13, the following improvements would be required.

- Construction of a new 18-inch line from the existing 16-inch line in Ponte Morino Drive to the existing 18-inch stub on the north side of US 50, near the US 50/Cameron Park Drive off-ramp.
- Construction of a new 12-inch line within Durock Road from the existing 12-inch line near the driveway to Syar Concrete to the intersection of Business Drive.
- Construction of a new 24-inch transmission main from the intersection of Cameron Park Drive and Coach Lane to the Village of Marble Valley boundary and Deer Creek Road. The 24-inch main would follow the same alignment as the proposed 42-inch transmission main.
- Construction of approximately three new pressure reducing stations with locations to be determined with EID input at a later date.
- Connect the existing 10-inch line in Cambridge Road to the new 24-inch transmission main.

These water lines would ultimately connect to a new transmission main recommended in EID's 2013 IWRMP.

Construction of the above planned potable water supply infrastructure would include site grading and infrastructure installation, which would require dust suppression and other incidental water uses. Those water uses are expected to be nominal not increase the overall water demand estimations for the proposed project. Construction of pipelines would require construction equipment and cause soil disturbance, which could result in air quality emissions, noise generation, or construction crew traffic; use of small amounts of hazardous materials such as diesel and oil;

generate stormwater runoff or erosion; result in the potential to encounter previously unidentified cultural resources; and disturb habitat, among other potential environmental impacts. These types of impacts are already disclosed and evaluated in this document. As described in Section 3.2, *Air Quality*; Section 3.3, *Biological Resources*; Section 3.4, *Cultural Resources*; Section 3.8, *Hydrology, Water Quality, and Water Resources*; and Section 3.10, *Noise and Vibration*, construction activities could have significant impacts on the environment.

Overall, impacts related to the construction of and expansion of water facilities could be significant. Implementation of the mitigation measures listed below would reduce impacts of offsite improvements to less-than-significant levels.

Recycled Water

The project area lies within the EID service area and shares a common boundary with the Deer Creek WWTP, which is a source of recycled water. Although there is no existing recycled water infrastructure within the project site boundaries, and the proposed project is not currently in EID's plan for use of recycled water, EID could serve the proposed project with offsite infrastructure extensions.

If recycled water were to become available to the project area, construction of the potable water infrastructure within in the LRVSP area would include site grading and infrastructure installation, which would require dust suppression and other incidental water uses. Those water uses are expected to be nominal and are included in the water demand estimations for the proposed project. Construction of pipelines would require construction equipment and cause soil disturbance, which could result in air quality emissions, noise generation, or construction crew traffic; use of small amounts of hazardous materials such as diesel and oil; generate stormwater runoff or erosion; result in the potential to encounter previously unidentified cultural resources; and disturb habitat, among other potential environmental impacts. These types of impacts are already disclosed and evaluated in this document. As described in Section 3.2, *Air Quality*; Section 3.3, *Biological Resources*; Section 3.4, *Cultural Resources*; Section 3.8, *Hydrology, Water Quality, and Water Resources*; and Section 3.10, *Noise and Vibration*, construction activities could have significant impacts on the environment. Implementation of the mitigation measures identified for those impacts would reduce impacts to a less-than-significant level.

Impacts related to offsite improvements to connect to existing facilities are described in Section 3.2, *Air Quality* (Impact AQ-6), Section 3.3, *Biological Resources* (Impacts BIO-17 through BIO-30), Section 3.4, *Cultural Resources* (Impact CUL-4), Section 3.8, *Hydrology, Water Quality, and Water Resources* (Impact WQ-6), and Section 3.10, *Noise and Vibration* (Impact NOI-5). As identified in those impacts, construction of some of the offsite improvements could result in significant impacts. Implementation of the mitigation measures listed below, which would be the responsibility of the project applicant as they pertain to the installation of recycled water lines, would reduce impacts of offsite improvements to less-than-significant levels.

Mitigation Measure AQ-2b: Implement best management practices to reduce construction-related exhaust emissions during early construction

Mitigation Measure AQ-2d: Implement an EDCAQMD-approved Fugitive Dust Control Plan

Mitigation Measure AQ-3: Submit and implement an Asbestos Dust Mitigation Plan in accordance with EDCAQMD Rule 223-3

Mitigation Measure BIO-1a: Install construction barriers around the construction area to protect sensitive biological resources to be avoided

Mitigation Measure BIO-1b: Conduct environmental awareness training for construction employees

Mitigation Measure BIO-1c: Conduct periodic site visits during construction

Mitigation Measure BIO-1d: Avoid and minimize potential disturbance of oak woodland habitat and compensate for loss of oak woodland and individual trees

Mitigation Measure BIO-2: Compensate for permanent loss of riparian woodland

Mitigation Measure BIO-3a: Avoid and minimize disturbance of waters of the United States, including wetlands

Mitigation Measure BIO-3b: Compensate for loss of jurisdictional wetlands

Mitigation Measure BIO-4: Compensate for loss of other waters of the United States

Mitigation Measure BIO-5a: Conduct floristic surveys in the project area for special-status plants during appropriate identification periods

Mitigation Measure BIO-5ba: Avoid impacts on Layne's ragwort plants through project design

Mitigation Measure BIO-5cb: Compensation for impacts on Bisbee Peak rush-rose and unavoided Layne's ragwort

Mitigation Measure BIO-7: Conduct preconstruction survey and implement California red-legged frog avoidance and minimization measures

Mitigation Measure BIO-8: Avoid and minimize construction-related impacts on foothill yellow-legged frog

Mitigation Measure BIO-9: Conduct preconstruction surveys for northwestern pond turtle and exclude turtles from the work area

Mitigation Measure BIO-10a: Avoid and minimize impacts on Blainville's horned lizard

Mitigation Measure BIO-11a: Conduct vegetation removal activities outside the breeding season for birds and raptors

Mitigation Measure BIO-11b: Conduct preconstruction nesting surveys for special-status and non–special-status birds and implement protective measures during construction

Mitigation Measure BIO-12: Identify suitable roosting sites for bats and implement avoidance and minimization measures

Mitigation Measure BIO-13: Implement measures to avoid and minimize potential impacts on American badger

Mitigation Measure BIO-14: Identify suitable shelter and denning habitat for ringtail and implement avoidance and protective measures

Mitigation Measure BIO-17: Avoid the introduction and minimize spread of invasive plants

Mitigation Measure BIO-18a: Map sensitive natural communities adjacent to the proposed Shingle Lime Mine Road construction area and Interim Phase 1 Potable Water alignments for the offsite improvements

Mitigation Measure BIO-18b: Compensate for loss of oak woodland in offsite improvement areas

Mitigation Measure BIO-20a: Conduct floristic surveys in the offsite improvement areas for special-status plants during appropriate identification periods

Mitigation Measure BIO-20b: Avoid or compensate for substantial effects on special-status plants in the offsite improvement areas

Mitigation Measure BIO-21a: Conduct a habitat assessment for federally listed branchiopods in the offsite infrastructure improvement areas

Mitigation Measure BIO-21b: Avoid or compensate for direct and indirect effects on vernal pool fairy shrimp and vernal pool tadpole shrimp and their habitat

Mitigation Measure CUL-1: Avoid impacts on the Lime Rock Valley Historic District where possible and implement appropriate treatment where avoidance is not possible

Mitigation Measure CUL-2a: Avoid and minimize potential indirect impacts on P-9-1949 and P-9-5549

Mitigation Measure CUL-2b: Avoid and minimize impacts on resource P-9-1949 and implement appropriate measures if avoidance is not feasible

Mitigation Measure CUL-2c: Avoid and minimize impacts on resource P-9-3906 and implement appropriate measures if avoidance is not feasible

Mitigation Measure CUL-2d: Implement cultural resources training and monitoring during ground-disturbing activities and halt work if previously unrecorded cultural resources are encountered

Mitigation Measure CUL-3: Perform archaeological construction monitoring during ground-disturbing activities and stop work if human remains are encountered

Mitigation Measure CUL-4a: Perform cultural resources surveys of the offsite improvement areas and address any eligible resources in accordance with State CEQA Guidelines Section 15126.4

Mitigation Measure CUL-4b: Avoid and minimize impacts on archaeological sites adjacent to offsite improvements

Mitigation Measure GEO-9a: Educate construction personnel in recognizing fossil material

Mitigation Measure GEO-9b: Stop work if substantial fossil remains are encountered during construction

Mitigation Measure GEO-9c: Stop work if a cave or void is encountered

Mitigation Measure NOI-1a: Employ noise-reducing construction practices

Mitigation Measure TRA-4: Implement site-specific transportation management plan during construction

Impact PSU-4: Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years (less than significant)

A WSA was prepared for the proposed project in accordance with California Water Code Section 10910 (Appendix H1, *Water Supply Assessment*). The following evaluation of water supply availability regarding secured and planned water supplies is based on the information presented in the WSA, which was approved by the EID Board of Directors in 2013, the 2021 revalidation memorandum (Tully & Young 2021; Appendix H2) and the 2020 UWMP.

Project Demand

The WSA identified the proposed project's total water demand at buildout to be 573 AFY.[8] Table 3.12-11 summarizes the demand by category through Year 25 after beginning of construction (shown as 2035 in the 2013 WSA). As illustrated by the data, most of the demand would not begin until several years after construction begins.

[8] EID prepares an annual Water Resources and Service Reliability Report to determine water supply and water meter availability within its service area. Water meter availability is referred to in terms of equivalent dwelling units (EDUs). An EDU is not the same as the number of housing units. EID's conversion rate for single-family average unit demand in the Western/Eastern Supply Area is 0.50 acre-feet per EDU (El Dorado Irrigation District 2015). Using this conversion rate, the proposed project's total water demand of 573 AFY, shown in Table 3.12-11 and in the WSA, would correspond to 1,146 EDU. The residential demand of 475 AFY, shown in Table 3.12-11 and in the WSA, would correspond to 950 EDU.

Table 3.12-8. Estimated Project Water Demands (2013 WSA)

	Demand (acre-feet/year)					
Category	Current	Year 5[c]	Year 10[c]	Year 15[c]	Year 20[c]	Year 25[c]
Residential	0	0	35	185	363	475
Public	0	0	14	14	28	28
Other[a]	0	16	47	42	27	5
Subtotal demand	0	16	96	241	417	507
Non-revenue demand[b]	0	2	12	31	54	66
Total demand	**0**	**18**	**109**	**272**	**472**	**573**

Source: Appendix H1, *Water Supply Assessment*: Table 2-3.

[a] Other consists of water for rights-of-way and landscape lots, oak woodland mitigation, and construction.

[b] Nonrevenue water represents all of the water necessary to deliver to the customer accounts and reflects distribution system leaks, water demands from potentially unmetered uses such as fire protection, hydrant flushing, and unauthorized connections, and inescapable inaccuracies in meter readings. The predominant source of nonrevenue water is from system leaks. The WSA assumes nonrevenue demand would be 13%.

[c] While these values represent data from the 2013 WSA, the project has yet to be approved and therefore Years 2015 through 2035 are represented at Year 5 through Year 25 from beginning of construction to avoid confusion.

Table 3.12-12 summarizes from the 2013 WSA the total estimated demand for the proposed project and all other existing and planned land uses in 5-year increments from start of construction. As described in the Environmental Setting, per the 2020 UWMP, total water demand for the years 2040 and 2045, including the proposed project, are estimated at 42,130 AFY and 43,320 AFY, respectively (El Dorado Irrigation District 2021). These totals are conservative because projected demand could reasonably be determined to be less for the proposed project as calculated in the 2013 WSA since additional regulations would likely result in a lower demand estimate for the project due to more stringent MWELO and residential gallons per person per capita day (GPCD) estimates (Tully & Young 2021).

Table 3.12-9. Total Estimated Water Demands (Proposed Project and Other Existing and Planned Future Uses) (2013 WSA)

	Demand (acre-feet/year)					
Category	Current	Year 5[a]	Year 10[a]	Year 15[a]	Year 20[a]	Year 25[a]
Proposed project	0	18	109	272	472	573
Existing and planned future uses	38,984	39,482	42,828	49,288	57,402	66,722
Total water demand	**38,984**	**39,500**	**42,937**	**49,560**	**57,874**	**67,295**

Source: Appendix H, *Water Supply Assessment*: Table 3-2.

[a] While these values represent data from the 2013 WSA, the project has yet to be approved and therefore Years 2015 through 2035 are represented at Year 5 through Year 25 from beginning of construction to avoid confusion.

Supply and Demand Comparison

Table 3.12-13 provides a comparison of secured water supply and estimated demand of the proposed project combined with other existing and planned demand. Normal year water supplies currently available to EID with secured assets total 70,800 AF and single dry year assets total 63,400 AF. The secured water supplies for a multiple-year drought are shown below. The entire buildout demand of the proposed project is 2,177 AFY and would be expected to occur in 2045, at the earliest. The proposed project is accounted for in the projections for water demand in the UWMP.

However, as shown in Table 3.12-13, the addition of 2,177 AFY to the demand in any year would not exceed available secured supply in any projected year.

As shown in Table 3.12-13, in 2035, current and secured supplies alone in all hydrologic year types would be sufficient to meet project demands in addition to the demands of other existing and planned future uses. As described in the 2020 UWMP, the District has sufficient and reliable water supplies to meet forecasted customer water needs through 2045 considering water use forecasts for both normal and dry conditions (Tully & Young 2021). The District's surface water supplies have constraints in dry years, but are manageable over time such that they are considered reliable.

Table 3.12-10. Comparison of Water Supply and Total Demand by Hydrologic Year Type

	Supply and Demand (AFY)					
	Current	2025	2030	2035	2040	2045
Normal						
Supply	70,800	70,800	70,800	78,300	78,300	78,300
Demand	35,910	38,908	39,770	40,920	42,130	43,320
Difference	34,890	31,820	31,030	37,380	36,170	34,980
Single Dry						
Supply	63,400	63,400	63,400	67,100	67,100	67,100
Demand	37,300	40,930	41,760	42,970	44,240	45,490
Difference	25,700	22,470	21,640	24,130	22,860	21,610
Multiple Dry Year 1						
Supply		63,400	63,400	63,400	63,400	63,400
Demand		40,930	41,760	42,970	44,240	45,490
Difference		22,470	21,640	20,430	19,160	17,910
Multiple Dry Year 2						
Supply		59,400	59,400	63,100	63,100	63,100
Demand		41,100	42,000	43,220	44,490	45,490
Difference		18,300	17,400	19,880	18,610	17,610
Multiple Dry Year 3						
Supply		55,300	5,300	56,600	56,600	56,600
Demand		41,270	42,240	43,470	44,740	45,490
Difference		14,020	13,060	13,130	11,860	11,110
Multiple Dry Year 4						
Supply		55,300	55,300	56,600	56,600	56,600
Demand		41,440	42,480	43,720	44,990	45,490
Difference		13,860	12,820	12,880	11,610	11,110
Multiple Dry Year 5						
Supply		55,300	5,300	56,600	56,600	56,600
Demand		41,610	42,720	43,970	45,240	45,490
Difference		13,690	12,580	12,630	11,360	11,100

Source: El Dorado Irrigation District 2021; Tables 5-2 and 5-3.
AFY = acre-feet per year

At the time the 2013 WSA was prepared, EID's water supplies associated with the entire secured and planned water assets were estimated to total 110,290 AFY for a normal year (Appendix H1:4-8). The WSA concluded that EID should have sufficient water available to meet the needs of the proposed project and all other demands in its service area through 2035. This finding was further supported in the UWMP adopted by EID in June 2021 as stated in the revalidation memorandum (Appendix H2). Although the UWMP reflected some variations in the characterization of total demands and supplies when compared to the 2013 WSA, the variations do not change the resulting conclusions of the WSA. Specifically, the 2020 UWMP modified representation of existing and projected water supply assets to (1) reflect a more conservative representation of federal CVP contract supplies to align with restrictions placed on the CVP supplies during 2015, and (2) to align the growth in recycled water supplies to be more consistent with expected growth in recycled water demands (since recycled water can only be used for a limited set of irrigation demands). Based on coordination with the County, the 2020 UWMP also modified projected water demands to reflect slower growth throughout the planning horizon. However, the demands of the proposed project, along with the other projects that simultaneously underwent WSA analysis and approval (the Central El Dorado Hills Specific Plan, VMVSP, and Dixon Ranch Residential Project), were maintained in the 2020 UWMP consistent with their representation in the WSAs approved by EID in August 2013 for those other projects.

The WSA's original conclusion that water supplies would be sufficient was based on the following assumptions (Appendix H1, *Water Supply Assessment* :5-5).

- EID, EDWA, and EDWPA successfully execute the contracts and obtain the water right permit approvals for currently unsecured water supplies: 7,500 AFY of Fazio water (which was anticipated to be available in 2017) and 30,000 AFY under the El Dorado-SMUD Cooperation Agreement. Absent these actions, the water supplies currently held by EID and recognized to be diverted under existing contracts and agreements would be insufficient in 2035 to meet the proposed project demands along with all other existing and planned future uses.
- EID will commit to implement Facility Capacity Charges in an amount sufficient to assure the financing is available as appropriate to construct the necessary infrastructure as detailed in the March 2013 EID *Integrated Water Resources Master Plan*.
- Demand in single-dry years includes an additional 5% of demand over the normal year demand during the same time period. This conservative assumption accounts for the likelihood that EID customers will irrigate earlier in the season to account for dry spring conditions. This hypothetical demand augmentation may or may not manifest in dry years, but this conservative assumption further tests the sufficiency of water supplies during dry conditions.
- The estimated demands include 13% to account for non-revenue water losses (e.g., distribution system losses).

The 2021 revalidation memorandum concluded that because the proposed project's land uses have not changed relative to those assumed in the EID-approved 2013 WSA, estimated water use demands would not exceed quantities forecast in the WSA (Tully & Young 2021). The 2020 UWMP incorporated this project specifically into its water supply reliability forecasting and came to the same conclusion as the 2013 WSA that there is sufficient water service reliability to meet all demands at least 20 years into the future. Moreover, projected demand could reasonably be determined to be less for the proposed project as calculated in the 2013 WSA since additional regulations would likely result in a lower demand estimate for the same project due to more

stringent MWELO and residential GPCD estimates. The original WSA found water availability and sufficiency for the proposed project through 2035. The proposed project is recognized in EID's 2020 UWMP as part of planned future customer demands. EID's 2020 UWMP concludes sufficient water supplies for all current and planned future customers through 2045 during normal, single-dry and droughts lasting 5 years. Therefore, EID's conclusions of water availability and sufficiency to meet the proposed project's estimated water demands as articulated in the 2013 WSA is still valid, and the 2020 UWMP provides necessary concurrence of these prior conclusions.

Based on these assumptions, no new or expanded entitlements would be needed. With the recent adoption by EID of the 2020 UWMP, these conclusions continue to be supported, even with the modified supply and demand characterization included in the 2020 UWMP. Impacts related to sufficient water supplies would be less than significant. No mitigation is required.

In addition, EID manages water supply conditions to meet the increasing demands of new development within its service area, especially during the current drought. In February 2014, the EID Board of Directors declared a Stage 2 Water Warning and implemented the mandatory watering restrictions called for under Stage 2 drought conditions. EID is currently required by the State Water Board to achieve a 24% districtwide cutback from 2013 water use. As of March 25, 2016, cumulative water use since January 1, 2013, had dropped by 30% (El Dorado Irrigation District 2016a).

As described in the *Water Conservation* section under *Drought Preparedness Plan* and *Drought Action Plan*, EID has in place a number of voluntary and mandatory measures to manage water supply during drought conditions of varying severity. Table 3.12-4 outlines the actions EID will take during each respective stage; these actions include convening a Drought Response Team to coordinate the responses of EID's various departments, reaching out to the community with information about water conservation, undertaking changes in operations to conserve water supplies, and determining when to increase or reduce the drought stage.

Impact PSU-5: 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 (less than significant)

The Deer Creek WWTP currently treats an average dry weather flow of 2.10 mgd (El Dorado Irrigation District 2020). With the addition of proposed project flows (0.19 mgd), the WWTP would not exceed its current capacity of 3.6 mgd. As described in Impact PSU-3, based on the County General Plan planning horizon, estimates of areas for future known densities, and estimates of areas for future unknown densities, EID estimates that projected flows will reach current capacity between 2022 under the high-growth scenario and 2032 under the slow-growth scenario (El Dorado Irrigation District 2013a:152). The WWFMP projects that the Deer Creek WWTP expansion will occur around 2029, and capacity will be increased to 5.0 mgd (El Dorado Irrigation District 2013a:151). Proposed project buildout (around 2035) was not included in EID's projections and would add 0.19 mgd to anticipated flows. This additional flow could cause the Deer Creek WWTP to exceed its planned capacity of 5.0 mgd.

As discussed in Impact PSU-3, as an industry standard practice, EID monitors growth and plans to meet future demands generated by authorized development. If the LRVSP is approved by the County Board of Supervisors, the next revisions to the EID WWFMP would reflect updated future demand calculations, and County General Plan amendments would be reviewed and used as a basis for analysis of future needs to identify required improvements to accommodate additional flows and the timing for such improvements. The types of improvements would depend on regulatory

requirements and could involve wastewater process upgrades. As described in Section 3.12.1, *Existing Conditions*, *Environmental Setting*, EID has evaluated the environmental impacts of plant expansion beyond 3.6 mgd. EID's current estimate for expansion to 5.0 mgd by 2029 is within the facility planning assumptions evaluated in the certified EIR for the Deer Creek WWTP Expansion Project. While the proposed project would contribute incrementally to the need for expansion by project buildout, it would not result in changes to the construction and operational assumptions and associated environmental impacts beyond those identified in the certified EIR. The mitigation measures identified in the certified EIR to reduce or avoid potential impacts of expansion would be implemented by EID, as set forth in the MMRP for the plant expansion and the agency's findings (Resolution 98-76). The approved mitigation measures apply to the following resources: hydrology; air quality; geology, soils, and seismicity; biological resources; hazardous materials; public health; aesthetic resources; transportation and circulation; and cultural resources (Appendix L, *Deer Creek EIR MMRP*). In conjunction with LRVSP project approvals, the County would therefore be able to make findings pursuant to State CEQA Guidelines Section 15091(a)(2) that the mitigation measures are the responsibility of EID and not the County, and that such measures have been adopted by EID. Therefore, this impact would be less than significant. No mitigation is required.

Impact PSU-6: 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 (less than significant)

Approval by the Local Agency Formation Commission of a sphere of influence amendment and request to annex to either the Cameron Park CSD or the El Dorado Hills CSD would be required for the project site to receive solid waste collection services from either CSD.

The proposed project would generate some volume of solid waste during construction. The County's existing Construction and Demolition Debris Diversion Ordinance requires project applicants and their construction contractors to reuse or recycle a minimum of 50% of the construction and demolition debris.

Western El Dorado County generates an average of 0.67 ton of solid waste per person per year (2012). The proposed project could generate an average of 1,565 tons of solid waste per year (or approximately 4.3 tons per day) for the 800 residential units.[9] Waste generation includes all materials discarded, whether or not they are later recycled or disposed of in a landfill, but the proposed project would be required to comply with state and local regulations to recycle solid waste.

Solid waste from the project site would be collected and transported to the waste transfer facilities in El Dorado County and then sent to the Potrero Hills Landfill. As described in Section 3.12.1, *Existing Conditions, Environmental Setting*, the Diamond Springs material recovery facility can process 400 tons of waste per day, and currently process approximately 70 tons per day (Ross pers. comm.). An additional 4.3 tons per day from the proposed project would not exceed the capacity of Diamond Springs, or of the two facilities combined.

As described in Section 3.12.1, *Existing Conditions, Environmental Setting*, the Potrero Hills Landfill can accept 4,330 tons of waste per day. In 2012, it processed an average of 1,096 tons per day (California Department of Resources Recycling and Recovery 2019). An additional 4.3 tons (which is

[9] 2,336 residents based on land use densities and 800 dwelling units. (0.67 average tons per person per year)* (2,336 people) = 1,565 average tons of solid waste generated by proposed residential land use per year.

a conservative estimate, not including waste that would be recycled, and assuming all waste from the proposed project would only go to this landfill), would not exceed the landfill's capacity.

The Potrero Hills Landfill would be able to accommodate the proposed project's solid waste. Additionally, the project estimates are conservative because they do not include recycling diversions. Therefore, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate its solid waste disposal needs and impacts would be less than significant. No mitigation is required.

Impact PSU-7: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste (less than significant)

The proposed project would be required to comply with all federal, state, and local statutes and regulations related to solid waste during its construction and operation. These statutes and regulations include those discussed in Section 3.12.1, *Existing Conditions, Regulatory Setting*. Furthermore, the LRVSP includes policies designed to minimize waste, maximize recycling and reuse of building materials, and encourage the use of recycling and composting in private residences and public spaces. Therefore, impacts would be less than significant. No mitigation is required.

Impact PSU-8: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation or conflict with or obstruct a state or local plan for renewable energy or energy efficiency (less than significant)

As indicated above, the wasteful, inefficient, and unnecessary use of direct or indirect energy in the context of Appendix F of the State CEQA Guidelines means circumstances in which the project would conflict with applicable state or local energy legislation, policies, and standards adopted, enacted, or promulgated for the purpose of reducing energy consumption and improving efficiency. As discussed below, the project would result in energy consumption more efficient and less consumptive than under current conditions within the County.

Construction

Project construction would consume gasoline and diesel through operation of heavy-duty construction equipment and vehicles. Based on the GHG emissions analysis, energy use associated with project construction is estimated to result in the one-time consumption of 123,819 million BTU.

The LRVSP includes several policies that would help conserve indirect energy during construction. For example, LRVSP Policy 7.22 requires a 20% reduction in cement use, which would reduce embodied energy associated with construction. Likewise, LRVSP Policy 7.23 requires cement and concrete to be made with recycled products, which would conserve virgin materials and may reduce manufacturing energy. LRVSP Policy 7.25 also requires use of sustainably sourced, regional, bio-based, and reused materials, which may reduce hauling requirements and associated on-road fuel consumption. These policies are consistent with statewide objectives to conserve energy, such as Title 24. Note the energy consumption estimate of 123,819 million BTU associated with construction activities do not include the effects of these LRVSP policies because sufficient data is not available regarding the amount of cement required by the project that would be affected by these polices. Likewise, the estimate does not account for mitigation measures required to reduce air quality and greenhouse gas (GHG) impacts, as discussed in Sections 3.3, *Air Quality*, and 3.6, *Greenhouse Gas*

Emissions. Specifically, Mitigation Measures GHG-1, AQ-2b, and AQ-2c requires implementation of BMPs that will reduce fossil-fuel consumption and support electric-powered (or alternatively fueled) equipment and vehicles.

Operation

Electric and Natural Gas Infrastructure

PG&E would supply electric and natural gas service to the proposed project, as described in Chapter 2, Section 2.3.3, *Project Features*. Estimated peak electric demand at buildout for the residential units is approximately 4 megavolt amperes (amp). PG&E electric service would be extended from a 21-kilovolt single-phase overhead line connecting to two existing substations, Clarksville to the west and Shingle Springs to the east. Estimated peak natural gas demand at buildout is approximately 47 thousand cubic feet per hour.

Energy Use

Occupancy of the proposed project would generate vehicle trips from daily resident access, visitors, and waste management trucks. Project operations would also result in the consumption of electricity and natural gas for power, heating, and cooking and fossil fuels from landscaping equipment. Fuel consumed by on-road vehicles and landscaping equipment, as well as electricity and natural gas consumed by residents, represents the long-term operational energy impacts associated with the project.

Electricity and natural gas consumption at full project buildout (2045) were quantified using CalEEMod and the land use assumptions in Table 2-2 in Chapter 2, *Project Description*. The LRVSP Sustainability chapter includes several policies that would improve energy efficiency and reduce indirect electricity and natural gas energy consumption. Energy benefits associated with quantifiable mandatory LRVSP policies were assumed in the modeling, as described in Section 3.6, *Greenhouse Gas Emissions*.

Additional operational energy reductions may be achieved by the LRVSP policies that support alternative transportation, improve sustainable land use design, and encourage renewable energy and passive heating and cooling. See Appendix I, *CEQA Guidelines Appendix F: Energy Conservation,* for a listing of LRVSP policies that would reduce energy consumption directly (e.g., reducing the amount of electricity consumed) or indirectly (e.g., reducing the amount of water consumed, which reduces energy required to treat and transport water). These strategies were not quantified because the exact numbers of installed systems and affected structures are currently unknown.

Operational energy consumption (expressed in terms of million BTU) at full buildout in 2045 with and without quantified mandatory LRVSP policies is summarized in Table 3.12-14.

Table 3.12-11. Estimated Annual Operational Energy Consumption for the Proposed Project

Condition	Million BTU/Year
Without LRVSP policies	98,229
With quantified LRVSP policies [a]	98,213

Source: Ascent 2024.

[a] Modeling includes energy benefits achieved by LRVSP Policies 7.15, 7.33, 7.37, 7.38, 7.42, 7.45, and 7.46.

As shown in Table 3.12-14, long-term operation of the proposed project would result in energy usage (gasoline, diesel, electricity, and natural gas). However, LRVSP policies would reduce energy consumption by approximately 17 million BTU compared with consumption if these policies were not pursued.

Based on the energy consumption results discussed above, Table 3.12-15 provides a summary of per-capita El Dorado County energy consumption. As indicated in Table 3.12-15, per-capita BTU energy consumption associated with the proposed project is anticipated at 42,043,081, well below the 89,487,831 per-capita BTU energy consumption associated with the 2022 El Dorado County average, indicating the project would result in more efficient, and less, consumption of energy resources.

Table 3.12-12. Proposed Project Per Capita Energy Consumption

Million BTU	BTU	Per-Capita BTU[a]
98,213	98,212,637,530	42,043,081

[a] Assumes a 2045 population of 2,336 residents.

With respect to on-road vehicles, the proposed project would improve energy efficiency and fuel consumption compared with the existing land use designations because the project would promote mobility and connectivity between streets and major destinations, as well as configure future development with typical densities and site design policies to minimize automobile use. This is consistent with the Energy Policy Act and AB 2076, which both strive to reduce dependency on petroleum demand.

Many of the electricity and natural gas reductions would be achieved through the energy conservation requirements of the CalGreen Code and Title 24 standards. For example, buildings would, where feasible, incorporate site design measures to reduce heating and cooling needs by orienting buildings to reduce heat loss and gain, depending on the time of day and season (LRVSP Policy 7.11). Buildings would also feature programmable thermostats (LRVSP Policy 7.14) and EnergyStar-certified appliances installed prior to occupancy (LRVSP Policy 7.15). All lighting in publicly or commonly accessed outdoor areas would use high-efficiency light-emitting diode (LED) or similar lighting with automatic or dimmable controls; and public street lighting would also use LED or similar technologies.

The LRVSP also includes policies concerning renewable energy sources. For example, LRVSP Policy 7.20 requires that all residential and public buildings be designed to allow for the installation of renewable energy systems, including active solar, wind, or other emerging technologies. Solar water heating systems, radiant heating systems, or similar types of energy-efficient technologies would be encouraged in single-family residences and swimming pools (LRVSP Policy 7.21).

Mitigation measures required to reduce air quality, GHG, and transportation impacts, as discussed in Sections 3.3, *Air Quality*, 3.6, *Greenhouse Gas Emissions,* and 3.14, *Transportation and Circulation*, will also reduce energy consumption. For example, Mitigation Measure TRA-2 requires adding 22,000 square feet of commercial retail land use to the LRVSP and implementing a Commute Trip Reduction (CTR) program. This measure will reduce total VMT by LRVSP land uses, resulting in less energy consumption by mobile sources. Mitigation Measure GHG-2 outlines feasible strategies that can be individually or collectively implemented to reduce GHG emissions within the area, energy, and mobile source sectors, including mandatory revisions to LRVSP policies that will increase onsite

renewable energy generation. Collectively, implementation of air quality, GHG, and transportation mitigation will further improve energy efficiency and reduce overall energy consumption.

Regarding the proposed project's effects on local and regional energy supplies and on requirements for additional capacity, peak and base period demand for electricity and other forms of energy, and other energy resources, it is anticipated the LRVSP polices that promote residential and commercial self-sufficiency would enhance energy, environmental, and transportation efficiency, reducing the requirement for additional capacity.

The degree to which the proposed project encourages efficient and reduced energy consumption and generation of its own energy resources will dictate its dependency on the local energy utility. This would allow a certain degree of self-sufficiency, as less reliance and dependency on the local energy utility occurs. As an example, electricity purchases from the grid can be flattened and utility charges reduced or avoided through the installation of rooftop solar PV or other distributed energy resources. Generating onsite energy resources may also provide enhanced power quality and insulate homeowners from blackouts and other larger grid disruptions. Therefore, the extent the proposed project is able to reduce its energy load and meets its own energy requirements would have a direct effect on peak and base supply from the local energy utility.

The local energy utility would need to plan on the degree of dependency associated with the proposed project, as well as the potential for export to its system of excess energy from potential renewable components that could be implemented as part of the proposed project. PG&E would evaluate and plan for the energy resources needed to accommodate the proposed project, which include generation, transmission, and distribution facilities. The costs of these facilities are generally included in the rates paid by the users.

The local energy utility's planning for the energy needs of its service territory uses local and regional development plans. This dynamic process is subject to regulatory oversight by the California Public Utility Commission (CPUC). Every 2 years during long-term procurement plan proceedings, the CPUC assesses the system and local resource needs of the state's three investor-owned utilities (including PG&E) over a 10-year horizon. The CPUC establishes upfront standards for utility procurement activities and cost recovery by reviewing and approving proposed procurement plans prior to implementation. Integral to this process is the utility demand forecast which is subject to review by the CEC and used in its Integrated Energy Policy Report. To ensure consistency with approved plans, the CPUC conducts annual Energy Resource Recovery Account proceedings where energy forecasts are refined versus ongoing procurement. This continual planning process ensures the local energy requirements for a region, both current and planned, will be accommodated by PG&E. Consequently, it is anticipated the proposed project would not have a detrimental effect on local and regional energy supplies, nor on any requirements for additional capacity. In addition, the proposed project would not impede the PG&E's ability to meet the projected peak and base period demand for electricity and other forms of energy. Consequently, this impact would be less than significant. No mitigation is required.

The LRVSP includes plans for providing the project area with electricity and natural gas by connecting to existing PG&E facilities. With the exception of facilities such as transformers, switches, and other pedestal and pad-mounted equipment, all new distribution facilities would be underground. The underground lines would be placed in joint trenches, and franchise or public utilities easements would extend along all major roads within the project area. Natural gas for residential neighborhoods would consist of 2-inch distribution mains and 0.5-inch services.

Conclusion

The proposed project is consistent with and would go beyond state and local energy policies enacted to reduce energy consumption (see LRVSP policies identified in Appendix B, *Consistency with El Dorado County General Plan Policies*). Operational energy consumption would result in lower per-capita energy consumption than the 2022 El Dorado County average. As such, the proposed project would not result in a wasteful, inefficient, and unnecessary usage of energy. With implementation of the planned connections, the project would also connect to natural gas and electricity services. Related environmental impacts are disclosed in this document. Therefore, impacts related to energy resources would be less than significant. No mitigation is required.

3.13 Recreation

This section describes the regulatory and environmental setting for recreation facilities within the western area of El Dorado County. It also describes impacts on recreation facilities that would result from implementation of the Lime Rock Valley Specific Plan (LRVSP; proposed project) and provides mitigation for significant impacts. The environmental effects of constructing parks proposed within the project site are included in the technical analyses in Sections 3.1 through 3.14.

All documents referenced in this section are available for review during normal business hours at the County Community Development Agency offices: 2850 Fair Lane, Building C.

3.13.1 Existing Conditions

Regulatory Setting

The provision of parkland is governed at the state level by California Government Code Section 66477, commonly called the Quimby Act. At the local level, the *El Dorado County General Plan* (County General Plan), the El Dorado County *Parks and Trails Master Plan*, the El Dorado Hills Community Services District (CSD) *Parks and Recreation Facilities Master Plan*, the Cameron Park CSD *Recreation Facilities Master Plan*, and the *Sacramento–Placerville Transportation Corridor Master Plan* guide the dedication and maintenance of recreational facilities within the unincorporated area of western El Dorado County. Applicable recreation regulations and policies related to the LRVSP are described below.

State

Quimby Act

The Quimby Act (California Government Code Section 66477), enacted in 1966, is a state law, applied at the local level, that specifies the parkland dedication requirements for new residential development. The Quimby Act allows local jurisdictions to require developers of new residential subdivisions to dedicate up to 3 acres of park area per 1,000 persons or, if the amount of existing neighborhood and community park area exceeds that limit, the jurisdiction can require the existing ratio not to exceed 5 acres of land per 1,000 persons or require the developer to pay in-lieu fees for park or recreational purposes. Although the Quimby Act requires the dedication of new parkland, it does not address the development, operation, or maintenance of new park facilities. Therefore, the Quimby Act provides open space needed to develop park and recreational facilities but does not ensure the development of the land or the provision of a park.

Local

At the local level, the dedication, operation, and maintenance of recreation facilities on the project site and surrounding area is guided by the County General Plan, the El Dorado County *Parks and Trails Master Plan*, the El Dorado Hills CSD *Parks and Recreation Facilities Master Plan*, the Cameron Park CSD *Recreation Facilities Master Plan*, and the *Sacramento–Placerville Transportation Corridor Master Plan*.

El Dorado County General Plan

The Parks and Recreation Element of the County General Plan guides the establishment and maintenance of parks, recreation facilities, and trails within unincorporated El Dorado County (El Dorado County 2004). The Parks and Recreation Element contains the following goals, objectives, and policies applicable to recreation resources within and near the project site. The full text of the goals, objectives, and policies is provided in Appendix B, which provides an analysis of the proposed project's consistency with County General Plan policies as required under State CEQA Guidelines Section 15125.

- Goal 9.1, *Parks and Recreation Facilities*, addresses provision of adequate recreation opportunities and facilities for the health and welfare of all residents and visitors of the County, and includes Objective 9.1.1, *Park Acquisition and Development*, and implementing policies 9.1.1.1, 9.1.1.2, 9.1.1.3, 9.1.1.4, and 9.1.1.5; and Objective 9.1.2, *County Trails*, and implementing policies 9.1.2.1, 9.1.2.4, and 9.1.2.8; and Objective, 9.1.3, *Incorporation of Parks and Trails*, and implementing policy 9.1.3.1.
- Goal 9.2, *Funding*, addresses Quimby Act requirements related to the provision of ongoing development, operation, and maintenance of parks associated with new development projects, and includes Objective 9.2.2, *Quimby Act*, and implementing policy 9.2.2.2.

El Dorado County Parks and Trails Master Plan

The El Dorado County *Parks and Trails Master Plan* covers County-owned recreational facilities in the County's plan area, consisting of that portion of western El Dorado County not within the boundaries of a local parks provider. The stated purpose of the *Parks and Trails Master Plan* is to "provide direction and implementation strategies to guide the acquisition, development, and operation of County-owned parks and trails in the Plan Area" (El Dorado County 2012). The *Parks and Trails Master Plan* incorporates the goals, objectives, and policies included in the Parks and Recreation Element of the County General Plan and adds supplemental goals, objectives, and policies to direct the planning, operation, and maintenance of parks and trails consistent with the County's long-range vision. The *Parks and Trails Master Plan* includes the following relevant goal, objectives, and policies.

GOAL 1: Health and Wellness. El Dorado County residents will have reasonable access to a variety of park and trail facilities to enhance their opportunities for physical, mental, and social health and well-being.

Objective 1.1: Park and Trail Locations. Park and trails facilities shall be located taking into consideration the potential to provide recreational opportunities to underserved populations and to expand the diversity of recreational experiences available to County residents.

Policy 1.1.2: Some trails should be located to provide connections to neighborhoods or public places such as schools, parks, and civic areas to encourage residents to incorporate walking and cycling as a regular activity.

Policy 1.1.3: As new parks and trails are planned, consideration should be given to locating them in places that will provide access to diverse and unique recreation experiences.

Objective 1.2: Public Access. El Dorado County parks and trails will be designed and operated to provide maximum public access as feasible considering safety, sensitive natural resources, and other constraints.

El Dorado Hills Community Services District Parks and Recreation Facilities Master Plan

The El Dorado Hills CSD *Parks and Recreation Facilities Master Plan* (El Dorado Hills Community Services District 2021) outlines the management of Dorado Hills CSD parks, facilities, and recreation programs to respond to anticipated growth and changing recreation trends over a 5-year planning period. The El Dorado Hills CSD *Parks and Recreation Facilities Master Plan* outlines the following pertinent goals.

Promote Health and Wellness: The District will continue to focus on health and wellness by expanding the trail network to encourage greater connectivity through walking and biking, improve park access, and promoting multi-generational spaces that will elevate health and wellness for a variety of users.

Communicate, Collaborate and Engage with District residents and stakeholders: This 2021 Master Plan places an emphasis on active, intentional communications and collaboration with those that use, participate in and care for the parks and recreation system in El Dorado Hills. The recommendations around this goal are created to increase the important relationship between the District, community members, and stakeholders; including the County, the school districts, and the El Dorado Hills Promise Foundation.

Preserve and Promote Learning about Natural Areas: The 2016 community engagement process established preserving natural resources as a top priority for residents. This was re-stated from the residents and stakeholders with an underlining stress on including interpretatives that educate users on the importance of the natural resources. The previous policies to address water conservation and sustainability were also maintained.

Develop and Maintain State-of-the-Art Parks, Trails, and Recreation Facilities: Community engagement results continued to reveal that residents of El Dorado Hills value parks for their diverse features and their varied recreation functions. The Plan Update includes strategies to bring in more dynamic features throughout the system and increase flexibility in programming.

Engage and Connect the Community with Programs and Events: The desire to develop and maintain physical spaces for outdoor and recreation spaces was underscored with the need for more recreation programs and community events that addressed the program needs of specialized recreation groups like seniors, toddlers, teens and families.

Maintain Financial Stability: The District is committed to achieving financial stability that will ensure future provision of high quality parks and recreation services in El Dorado Hills. The Plan Update includes various strategies such as conducting financial feasibility studies for large-scale facilities, designing revenue-generating facilities, and other innovative approaches around maintenance and design of energy-efficient facility designs.

Cameron Park Community Services District Recreation Facilities Master Plan

The Cameron Park CSD *Recreation Facilities Master Plan* was adopted in May 2014 and guides Cameron Park CSD decisions and actions related to the provision of park facilities and recreation programs. The *Recreation Facilities Master Plan* presents Cameron Park CSD goals and policies related to parks and recreation; the demographic composition of the community, park facilities, and programs; planning standards; community needs; and recommendations on implementation. The Cameron Park CSD *Recreation Facilities Master Plan* contains the following pertinent goals and policies.

GOAL 1.1. Park and recreation facilities meet the diverse recreation interests of all District residents.

GOAL 1.2. High quality park and recreation facilities provide a variety of recreation opportunities in a safe, accessible, functional, and aesthetically pleasing environment.

GOAL 1.3. A comprehensive pedestrian and bicycle trail system through open space and along the major streets provides CPCSD residents with recreation and alternative transportation options.

GOAL 1.7. Cooperative relationships are established and maintained with all other public and private agencies providing recreational facilities within the CPCSD boundary.

GOAL 1.8. CPCSD provides a full range of park and recreation facilities convenient to users and evenly distributed throughout the community.

GOAL 1.9. Park acreage meets the adopted community standards for current and projected population levels.

Policy 1.1. The CPCSD will develop and maintain parklands that comply with the adopted acreage standards for the population living within the CPCSD.

Policy 1.2. When new residential developments are proposed, the CPCSD will evaluate the best way to meet the needs of new residents for park and recreation facilities, including trails and natural areas.

Policy 1.4. All land dedicated by developers shall be suitable for the type of facilities which will be developed on that site.

Policy 1.12. A comprehensive system of trails to link residential areas with parks, schools and open space areas will be developed by the CPCSD.

Policy 1.13. Facilities will be provided by the CPCSD to serve the basic recreational and social needs of all ages, economic situations, and physical abilities. All CPCSD residents will have access to District recreation facilities.

Policy 1.15. Provisions for trail development shall be required as appropriate at the time that subdivisions are planned and approved. Trail rights-of-way or land dedication shall not be credited to the portion of the development impact fee that derives from the Quimby park dedication requirements for active parklands.

Sacramento–Placerville Transportation Corridor Master Plan

The Sacramento–Placerville Joint Powers Authority, a public entity comprising four member agencies—El Dorado County, the City of Folsom, Sacramento County, and the Sacramento Regional Transit District (RT)—was formed in 1991 to purchase and preserve 53 miles of the Placerville Branch of the Southern Pacific Railroad right-of-way for public hiking, bicycling, and equestrian use. The property, known as the Sacramento–Placerville Transportation Corridor (SPTC), is subject to the guidance of the *Sacramento–Placerville Transportation Corridor Master Plan*. El Dorado County's portion of the SPTC consists of 537 parcels along 28 miles of right-of-way (El Dorado County Transportation Commission 2024). An unimproved segment of the SPTC El Dorado Trail borders the eastern boundary of the project site running in a north–south direction. The *Sacramento–Placerville Transportation Corridor Master Plan*, approved by the El Dorado County Board of Supervisors in 2003, contains the following relevant guidelines for development adjacent to the corridor.

All development proposals located adjacent to the corridor shall be reviewed to ensure consistency with the Master Plan.

Developments shall be designed to minimize impacts to the corridor and ensure that the integrity and continuity of the corridor are not compromised.

Any residential subdivision shall at a minimum provide for an irrevocable offer of dedication for trail easement 100 feet measured from centerline from the right-of-way.

County Code (El Dorado County Subdivision Ordinance) 120.12.090

The County implements the Quimby Act (described previously) through Section 120.12.090 of the County Code. The County Code sets standards for the acquisition of lands for parks and recreational purposes, or the payments of fees in lieu thereof, on any discretionary residential development project that is subject to land subdivision. A subdivision of 50 or fewer units can only be required to pay in-lieu fees; subdivisions of greater than 50 units may dedicate land, pay fees, or a combination of both. Nonresidential subdivisions are conditioned so that Quimby fees would be paid if the property is developed with multifamily housing within 5 years of map recordation.

The County Code includes formulas to calculate the amount of parkland to be dedicated and/or in-lieu fees based on the number of proposed dwelling units and population density. For park planning purposes, the County uses a household size of 3.3 people per single-family residential unit and 2.1 people per multifamily unit (County Code Section 120.12.090.H).

Environmental Setting

Recreational amenities in El Dorado County include a wide range of federal, state, local, and privately owned facilities (Figure 3.13-1). In the westernmost part of the County near the project site, recreation facilities are primarily owned and operated by the County, the El Dorado Hills CSD, and private homeowners' associations (HOAs). The Cameron Park CSD operates facilities in the community of Cameron Park, located north of the project site and north of US 50. The proposed project would require annexation into a CSD, as well as an amendment to the annexing district's sphere of influence prior to annexation. The project applicant has proposed annexation into the El Dorado Hills CSD because the project site is adjacent to the El Dorado Hills CSD service area; however, because of the project site's proximity to the Cameron Park CSD service area, this section also considers the potential for project annexation into the Cameron Park CSD. County-owned, El Dorado Hills CSD, and Cameron Park CSD facilities in western El Dorado County are described below. The project site is not adjacent to any existing parklands or developed recreational facilities but is bordered on the east by the unimproved El Dorado Trail.

County Recreation Facilities

El Dorado County categorizes parks, in increasing size, as neighborhood, community, and regional facilities. Neighborhood parks, 2 to 10 acres in size, are typically within walking or biking distance of the residents they serve and have amenities such as play areas, turf, and picnic areas. Community parks, generally 10 to 44 acres in size, are intended to serve the larger community and may include sports fields and courts, a swimming pool, and a community center, as well as the amenities found in the smaller neighborhood parks. Regional parks, from 30 to 1,000 acres in size, are intended to serve a region larger than an individual community, may include all the amenities typically found at neighborhood and community parks, and may also feature facilities such as amphitheaters, trails, campgrounds, and interpretive centers.

The County is responsible for managing and maintaining six existing public recreation facilities and owns land targeted for four additional parks (El Dorado County 2012). The six existing facilities consist of two community parks (51-acre Henningsen Lotus Park and 21-acre Pioneer Park), one neighborhood park (3-acre Bradford Park), the El Dorado County Fairgrounds and Joe's Skate Park, located at the fairgrounds, and the 16-acre Chili Bar rafting/kayaking put-in on the South Fork of the American River. The four proposed County parks include Bass Lake Park (a 40-acre site between the communities of El Dorado Hills and Cameron Park), the 26-acre Pollock Pines Community Park site,

a 62-acre portion of the 1,600-acre Cronan Ranch Regional Trails Park in Pilot Hill, and the 6.3-acre Railroad Park site in the community of El Dorado. If constructed, the proposed Bass Lake Park would be the closest County recreation facility, approximately 3.5 miles northeast of the project site.

El Dorado Hills Community Services District Recreation Facilities

El Dorado Hills CSD manages approximately 500 acres of existing, undeveloped, and planned parkland, providing parks and recreation facilities and services to residents of the El Dorado Hills area. The project site currently falls outside the boundaries of the El Dorado Hills CSD and its sphere of influence; however, the proposed project plans to request that the El Dorado Local Agency Formation Commission (LAFCO) amend the El Dorado Hills CSD sphere of influence to include the project area and annex the project area into the El Dorado Hills CSD service area for parks and recreation.

El Dorado Hills CSD identifies seven categories of parks in its service area: neighborhood, village, community, open spaces, special use areas, community recreation facilities and other facilities. Table 3.13-1 summarizes these park categories and the acres of each type in the El Dorado Hills CSD service area. Neighborhood parks, located within walking and bicycling distance of most users, range in size from 1 to 3 acres, are designed primarily for unsupervised, nonorganized recreation. Village parks, 3 to 15 acres in size, are within walking and driving distance 0.5 to 1 mile of residents. Village parks are intended to provide active and passive recreational opportunities and may have amenities such as trails, bathrooms, play equipment, and facilities for organized sports. Community parks are intended for use by the broader community. They range from 15 to 100 acres in size and feature facilities for organized sports, parking areas, and bathrooms. Community parks may also include passive recreational opportunities and community centers. Open spaces consist of permanent, undeveloped green or open space ranging in size from small to very large and are managed for natural value and recreational use. Open spaces are intended to provide opportunities for nature-based recreation and the El Dorado Hills CSD has been identified as one of the organizations that may accept the dedication of public open space lands in the El Dorado Hills area. Special use areas consist of freestanding facilities such as community centers, aquatic centers, sports complexes, teen centers, archery ranges, skate parks and arts and cultural facilities.

Table 3.13-1. El Dorado Hills Community Service District Parks Categories

Park Type	Description	Total Acreage
Neighborhood	Designed primarily for unsupervised, non-organized recreation Located within walking and bicycling distance of most users Should at minimum have a playground, picnic shelter, sports court, and an internal pathway system 1–3 acres	84
Village	Provide active and passive recreational opportunities for large and diverse groups Located within a 0.5- to 1-mile radius of residents and can be within walking and driving ranges Should have all of the amenities of a neighborhood park plus at least two additional compatible recreation facilities Can have amenities like trails, bathrooms, play equipment, and recreational facilities for organized sports 3–15 acres	106
Community	Focal points and gathering places for the broader community Walking or bicycling distance should not exceed 0.5 to 1 mile from residents Should include sports fields and other facilities designed to serve a communitywide audience Include recreational facilities for organized sports, parking areas, and bathrooms, and may include passive recreational opportunities May incorporate senior centers or community centers 15–100 acres	75
Regional	Bass Lake Regional Park (undeveloped)	211
Open Spaces	Permanent, undeveloped green or open space Managed for natural value and recreational use and provides opportunities for nature-based recreation 1-1,000 acres	106
Special Use Areas	Free standing specialized use facilities such as community centers, aquatic centers, sports complexes or skate parks	56
Community Recreation Facilities	Places for specialized recreation groups such as disc golf, mountain bikers, aquatic facilities, etc.	88
Other Facilities	District offices and maintenance buildings	0
Total		726

Source: El Dorado Hills Community Services District 2021.

Parks in the El Dorado Hills CSD service area include facilities owned and maintained by El Dorado Hills CSD, facilities owned and maintained by local HOAs, and joint use of local school grounds. The 726 acres of existing, undeveloped, and planned El Dorado Hills CSD parkland consist of 14 neighborhood parks, 8 village parks, 2 community parks, 1 regional park, 5 open spaces, and 3 special use areas (El Dorado Hills Community Services District 2021). Facilities owned and operated by local HOAs comprise approximately 39 privately owned neighborhood parks (El Dorado Hills Community Services District 2021). Local elementary, middle, and high schools provide 12

additional joint-use recreational facilities in the El Dorado Hills CSD service area in 2007 (El Dorado Hills Community Services District 2021).

Each park category in the El Dorado Hills CSD has either a designated service ratio or, in the case of open space, a recommended guideline. Table 3.13-2 summarizes these service ratios and current and projected levels of service.

Table 3.13-2. Parkland Levels of Service

Park Type	EDH District Acres (2021 Inventory)	LOS Standard[a]	Current Level of Service (LOS)
		Population =	46,593
Regional Parks	207.20	–	4.45
Neighborhood Parks	84.39	1.5	1.81
Village Parks	116.98	1.5	2.51
Community Parks	74.59	2.0	1.6
Parks (Regional, Neighborhood, Village & Community	472.66	5.0	10.14
Open Space (Private and Public)	N/A	40.5*	N/A
Open Space (new standard in current Master Plan)	151.05	3.0	3.24

Source: El Dorado Hills Community Services District 2021.

[a]Standards, Levels of service, and guidelines are expressed in acres per 1,000 population.

* This figure was not intended to be fulfilled by the District alone, but rather was intended to include HOA open space areas to meet the community's goal for open space acreage.

As Table 3.13-2 shows, there is currently 10.14 acres of developed parkland for every 1,000 residents, including HOA parks (El Dorado Hills Community Services District 2021; Table B-1). It is important to note that privately preserved open space is not included in the Open Space LOS calculations. Open spaces within developments are distributed throughout the District and contribute to a higher level of service than is represented by the LOS of District open spaces alone. According to the District's 2021 *Park and Recreation Facilities Master Plan*, the District is meeting or exceeding its LOS standard for neighborhood parks at 1.81 acres per 1,000 residents. For village parks, the District is nearly meeting its 1.5 acres per 1,000 residents LOS standard, and at the District's 2036 population anticipates meeting the 1.5 acre standard without adding any additional village parks. The District has 74.59 acres of community parkland resulting in a current LOS of 1.6 acres per 1,000 residents, which is below the 2.0 acres per 1,000 residents standard. If Bass Lake Regional Park is considered within the analysis as a community park, the District would be at 6.05 acres per 1,000 residents, well above the standard. Bass Lake Regional Park was not envisioned when these standards were established. If Bass Lake Regional Park is not included, the District should add 18.6 acres of community parkland to meet the LOS standard.

There are currently 151 acres of District-owned open space. To adhere to the 2016 Master Plan LOS guideline of 40.5 acres per 1,000 people for the current population, an additional 1,736 acres of open space is needed. At the time of the 2016 plan, there was a total of 2,230 acres of private open space within the District's boundaries. Though there is not current data available on the inventory of privately held open space in the District, the District appears to be meeting its guideline of 40.5 acres per 1,000 people.

Cameron Park Community Services District Recreation Facilities

The Cameron Park CSD's southwestern boundary is near the project site's northern boundary and north of US 50. The project site currently falls outside the boundaries of the Cameron Park CSD and its sphere of influence. The Cameron Park CSD manages approximately 143 acres of parkland, 96.3 acres of which is developed parkland for recreation use (Cameron Park Community Services District 2014). The 143 acres of parkland include four community parks (Cameron Park Community Center, Cameron Park Lake, Christa McAuliffe Park, and Rasmussen Park); six neighborhood park sites (David West Park, Dunbar Park Site [undeveloped], Eastwood Park, Gateway Park, Hacienda Park, and Northview Park), and four natural areas (Knollwood Park Site, Royal Oaks, Sandpiper Park Site, and Bonanza Park Site) (Cameron Park Community Services District 2014). Only one of the natural areas, Royal Oaks, has improvements; the remaining three are currently used for natural resource preservation (Cameron Park Community Services District 2014).

In addition to the park facilities owned and operated by the Cameron Park CSD, several other recreational facilities are available to Cameron Park area residents. The Cameron Park Country Club includes an 18-hole championship golf course, tennis complex, pool, recreation center, and dining room. The campuses for Blue Oak and Green Valley elementary schools and Pleasant Grove Middle School and Camerado Springs Middle School are located within the Cameron Park CSD. They have various multiuse rooms, playgrounds, and sports fields that are used outside of school hours to varying degrees for sports leagues, events, and informal play.

Each category of park within the Cameron Park CSD has a designated service ratio. Table 3.13-3 summarizes the Cameron Park CSD service ratio and current level of service.

Table 3.13-3. Parkland Levels of Service, Cameron Park Community Services District

Park Type	Cameron Park CSD Existing Standard (acres per 1,000 persons)	Acres Needed per Standard (based on 2013 population of 18,986)	Cameron Park CSD Existing Level of Service (acres)	Surplus/ (Deficit) (acres)
Neighborhood	2.0	38.0	32.7	(5.3)
Community	3.0	57.0	77.8	20.8
Open Space Preserves	5.0	94.9	394.3	299.4

Source: Cameron Park Community Services District 2014:52.

The Cameron Park CSD is currently deficient in neighborhood parks by 5.3 acres (Table 3.13-3). Given a projected population of 21,748 people by 2023, the Cameron Park CSD would need a total of 43.5 acres of neighborhood parks, including 10.8 acres of additional neighborhood parkland beyond the existing acreage, to adequately serve its residents (Cameron Park Community Services District 2014:1). The Cameron Park CSD has, and is expected to sustain, a surplus of community parkland and open space preserve acreage.

Lime Rock Valley Specific Plan Area Recreation Facilities

No developed recreational resources currently exist in the project area, nor is the project site directly adjacent to any existing parklands or developed recreational facilities. The unimproved El Dorado Trail forms a portion of the project site's eastern border.

3.13.2 Environmental Impacts

Methods of Analysis

The analysis of the proposed project's impacts on recreational resources was conducted using a review of local recreation planning documents, including the County General Plan Parks and Recreation Element, the El Dorado County *Parks and Trails Master Plan*, the El Dorado Hills CSD *Parks and Recreation Facilities Master Plan*, and the Cameron Park CSD *Recreation Facilities Master Plan*. The recreation impact assessment in this section is based on a comparison of the anticipated population of the project area with the ability of existing and LRVSP-proposed recreational facilities to accommodate that population. The assessment includes an analysis of the County's Quimby Act parkland dedication requirements outlined in County Code Section 120.12.090. The analysis assumes 3.3 people per single-family residential unit and 2.1 people per multifamily unit to estimate the population, in accordance with County Code Section 120.12.090.H.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- 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.
- Require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Impacts and Mitigation Measures

Impact REC-1: 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 (less than significant with mitigation)

Buildout of the LRVSP would include the construction of up to 800 single-family residential units, which would increase the population by 2,336 residents as noted in Section 3.11, *Population and Housing*, or by 2,640 park users, based on a household size of 3.3 people per single-family residential unit (County Code Section 120.12.090), which would increase the use of existing parks and recreational facilities.

As described in Section 3.13.1, *Existing Conditions*, the El Dorado Hills CSD meets or exceeds the neighborhood park acreage requirement but is presently deficient in community parks and Cameron Park CSD is currently deficient in neighborhood parks by 5.3 acres (Table 3.13-2). The proposed project includes development of approximately 343 acres of parks and open space, including an 8-acre village park and 335 acres of open space, as well as a network of pedestrian trails and pathways that would connect and enhance existing and proposed trails in the area, including the unimproved El Dorado Trail (Figure 2-7).

The introduction of the LRVSP recreational amenities would provide additional recreational opportunities for the new residents of the project site and would aid in minimizing the use of similar existing recreational facilities in both the El Dorado Hills CSD and the nearby Cameron Park CSD by LRVSP area residents. In addition, the proposed project encourages development of private

neighborhood parks of 1 to 3 acres. However, 8 acres of village parkland along with the encouragement, rather than dedication, of private neighborhood park development would not meet the Quimby Act as implemented by County Code Section 120.12.090 or the El Dorado Hills CSD standards for neighborhood parkland (i.e., 13.2 acres to meet the requirement of 5.0 acres/1,000 population). However, Mitigation Measure REC-1 is included below to reduce impacts to less than significant by providing parkland and/or payment of in-lieu fees.

The project applicant is proposing annexation to the El Dorado Hills CSD and, by agreement between the project applicant and El Dorado Hills CSD, the El Dorado Hills CSD would accept either 5.2 acres of private parks or in-lieu fees in satisfaction of its parkland dedication requirements that exceed the proposed 8-acre village park.

The LRVSP contains the following policies that address open space and parkland dedication and use. Implementation of these policies, in combination with the proposed agreement with the El Dorado Hills CSD described above, would minimize potential effects associated with deterioration of existing neighborhood parks.

Land Use Policies

Policy 3.8: Set aside a minimum of 30 percent open space consistent with the El Dorado County General Plan.

Policy 3.10: Provide private neighborhood parks and public village parks at an overall minimum standard of 5 acres per 1,000 residents, linking them to residential areas and activity centers through a network of sidewalks, bike paths, and trails.

Open Space Policies

Policy 5.40: Create community and foundation or private open space zones, which may contain limited recreation uses and facilities, storm water quality detention basins, water quality structures, wetland and tree mitigation areas, and other potential public utilities.

Policy 5.41: Open space areas shall incorporate sensitive natural resources, including oak woodlands, Deer and Marble Creeks and their intermittent tributaries, steep hillsides, and cultural resources.

Policy 5.42: Locate bicycle paths, or paved and unpaved trails throughout the public and private open space, including emergency access for fire protection unless prohibited by state or federal agencies.

Public Services and Facilities Policies

Policy 6.4: The Specific Plan Village Park designation shall have the same definition and function as neighborhood parks in the General Plan except that the size shall range from 2 to 15 acres.

Policy 6.5: The Village Park shall accommodate a variety of active and passive recreational facilities and activities that meet the needs of public and Plan Area residents of all ages, abilities, including the disabled.

Policy 6.6: Park designs and landscape materials must provide shade, easy maintenance, water efficiency, and accommodate a variety of recreational uses.

Policy 6.10: Private neighborhood parks, if provided, shall be a minimum of 1 acre in size.

Policy 6.10: Private neighborhood parks, if provided, shall be a minimum of 1 acre in size.

Policy 6.11: Acceptable amenities for neighborhood parks include open turf for unstructured play, landscape improvements, playground structures, site furnishings (picnic tables and shelters, benches, bike racks, drinking fountains, trash receptacles, etc.), site identification and

interpretive signage, basketball court (full or half), natural areas, and walking paths. Sports fields, artificial turf, off-street parking, and restrooms are not allowed.

Policy 6.12: For public parks to be owned and/or maintained by the EDHCSD, the Project Proponent will determine the type and design of the improvements in consultation with the EDHCSD.

Policy 6.13: In addition to the acceptable amenities for neighborhood parks, the Village Park may include sports fields (natural or artificial turf and lighted or unlighted); restrooms; active recreation facilities appropriate for the size, scale, and topography of the park; and off-street parking. Prohibited amenities include regional-scale facilities, large indoor facilities, swimming pools, and large storage and maintenance buildings.

Policy 6.14: Designated open space shall not be credited as park land acreage. These areas may be used for park activities, but not to satisfy Quimby park land dedication requirements.

Because of the project site's location relative to the El Dorado Hills CSD and the Cameron Park CSD service areas, implementation of the LRVSP would increase the use of neighborhood parks in the El Dorado Hills CSD and Cameron Park CSD service areas, which could intensify or accelerate the physical deterioration of facilities in both districts, regardless of the district to which the project site is annexed. The increased use of existing neighborhood parks and associated physical deterioration due to a lack of adequate parkland within the LRVSP area would be a significant impact.

Implementation of Mitigation Measure REC-1, which would require that the 5.2 acres of private parkland be in addition to the public parkland already included in the proposed project, would reduce this impact to a less-than-significant level and will reduce the physical deterioration of existing park facilities by providing adequate facilities for LRVSP area residents.

Mitigation Measure REC-1: Designate at least 5.2 acres of private neighborhood parkland in the LRVSP or pay in-lieu fees

To compensate for the shortfall of parkland associated with the proposed project, the project applicant shall either designate a minimum of 5.2 acres of private neighborhood parkland within the LRVSP area or pay in-lieu fees to the El Dorado Hills CSD. The El Dorado Hills CSD shall determine which of these approaches it prefers at the time of development. This requirement shall be included in the Development Agreement. The dedication of parkland or payment of in-lieu fees may be prorated with each subdivision map that is filed.

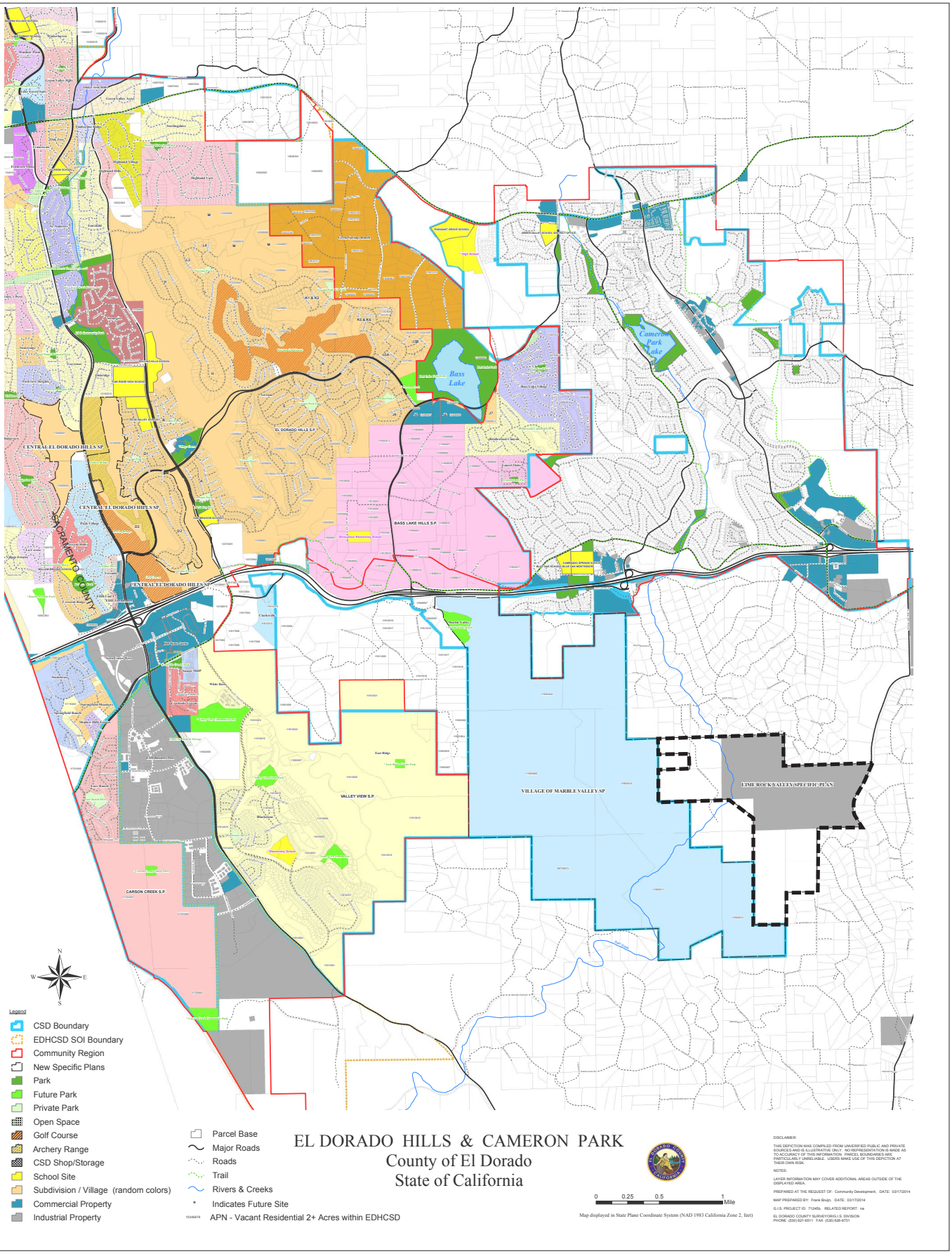
Impact REC-2: Require the construction or expansion of offsite recreational facilities that might have an adverse physical effect on the environment (less than significant with mitigation)

As described in *Existing Conditions* and Impact REC-1, the El Dorado Hills CSD service area is deficient in community parkland and the Cameron Park CSD service area is deficient in neighborhood parkland. The proposed project at buildout would introduce new park users to an area already deficient in parks. As noted above, although the proposed project would provide some parkland, either dedication of additional parkland or payment of in-lieu fees would still be required to accommodate project residents. Additional dedication or payment of in-lieu fees as required by Mitigation Measure REC-1 would ensure establishment of additional parkland within the El Dorado Hills CSD.

Construction or expansion of offsite park and recreation facilities or establishment of an additional 5.2 acres of private neighborhood parkland within the project area as required by Mitigation

Measure REC-1 to achieve and maintain acceptable service ratios accommodating project residents could result in significant impacts on such resources as aesthetics, air quality, biology, cultural resources, geology, hazards and hazardous materials, water quality, noise, and transportation. Because the location of any such offsite recreation facilities has not been determined, and neither the LRVSP nor the El Dorado Hills CSD 2021 Master Plan identifies actual facilities or locations for future projects, precise environmental impacts associated with them would be speculative to address at this time. The actual impacts of new park facilities would depend on the precise type and location of those facilities and would, therefore, be required to undergo project-specific environmental review. However, implementation of Mitigation Measure REC-1 would ensure establishment of additional parkland within the El Dorado Hills CSD by providing additional parkland and/or payment of in-lieu fees.

Mitigation Measure REC-1: Designate at least 5.2 acres of private neighborhood parkland in the LRVSP or pay in-lieu fees



Graphics/County of ElDorado (03-28-14) SS

Figure 3.13-1
Parks in the Project Vicinity

3.14 Transportation and Circulation

This section describes the environmental setting related to transportation, as well as impacts associated with the proposed project. It also proposes mitigation for significant impacts. The preliminary roadway circulation plan is shown in Figure 2-7, and the preliminary trail circulation plan is shown in Figure 2-6. The information presented herein, and the evaluation of impacts is based on a transportation impact analysis prepared by Fehr and Peers, which is provided in Appendix K, *Transportation Impact Analysis*. This section provides the results of the existing-plus-project conditions analysis. The analysis of cumulative transportation and circulation impacts is presented in Chapter 5, Section 5.2, *Cumulative Impacts*.

3.14.1 Existing Conditions

Regulatory Setting

State

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for operating and maintaining the state highway system. In the project vicinity, U.S. Highway (US) 50 is under Caltrans jurisdiction. Caltrans provides administrative support for transportation programming decisions made by the California Transportation Commission (CTC) for state funding programs. CTC adopts the State Transportation Improvement Program (STIP), a multiyear capital improvement program that sets priorities and funds transportation projects envisioned in long-range transportation plans.

In June 2014, Caltrans approved the *Transportation Concept Report and Corridor System Management Plan for Highway 50* (TCR/CSMP) (California Department of Transportation 2014). The US 50 TCR/CSMP is a long-range (20-year) planning document that identifies existing route conditions and future needs. The US 50 TCR/CSMP applies to US 50 from Interstate 80 in West Sacramento to the Cedar Grove exit, which is east of the study area.

Senate Bill 743

Passed in 2013, Senate Bill (SB) 743 changes the focus of a transportation impact analysis under the California Environmental Quality Act (CEQA) from measuring impacts on drivers, to measuring the impact of driving. The change in focus is being implemented by replacing level of service (LOS) of roadways and intersection with vehicle miles traveled (VMT). This shift in transportation impact focus is intended to better align transportation impact analysis and mitigation outcomes with California's goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation. LOS or other delay metrics may still be used to evaluate the impact of projects on drivers as part of land use entitlement review and impact fee programs.

In January 2019, the Natural Resources Agency finalized updates to the State CEQA Guidelines including the incorporation of SB 743 modifications. The guideline changes were approved by the Office of Administrative Law and are now in effect. Specific to SB 743, Section 15064.3(c) states, "A

lead agency may elect to be governed by the provisions of this section immediately." The provisions apply statewide as of July 1, 2020.

To help aid lead agencies with SB 743 implementation, the Governor's Office of Planning and Research (OPR) produced the Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) that provides guidance about the variety of implementation questions they face with respect to shifting to a VMT metric.

Key guidance from this document includes the following.

- VMT is the most appropriate metric to evaluate a project's transportation impact.
- OPR recommends tour- and trip-based travel models to estimate VMT, but ultimately defers to local agencies to determine the appropriate tools.
- OPR recommends measuring VMT for residential and office projects on a "per rate" basis.
- OPR recommends that a per capita or per employee VMT that is 15% below that of existing development may be a reasonable threshold. In other words, an office project that generates VMT per employee that is more than 85% of the regional VMT per employee could result in a significant impact. OPR notes that this threshold is supported by evidence that connects this level of reduction to the state's emissions goals.
- OPR recommends that where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.
- Lead agencies have the discretion to set or apply their own significance thresholds.

Regional

Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is an association of local governments in the six-county Sacramento region. Its members consist of Sacramento, El Dorado, Placer, Sutter, Yolo, and Yuba Counties, as well as 22 cities. SACOG provides transportation planning and funding for the region and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range transportation plan, SACOG assists with planning related to transit, bicycle networks, clean air, and airport land uses.

The *Metropolitan Transportation Plan/Sustainable Communities Strategy for 2040* (MTP/SCS) (Sacramento Area Council of Governments 2019) is a federally mandated long-range, fiscally constrained transportation plan for the six-county area. Most of this area is designated a federal non-attainment area for ozone, indicating that the transportation system is required to meet stringent air quality emissions budgets to reduce pollutant levels that contribute to ozone formation. To receive federal funding, transportation projects nominated by cities, counties, and agencies must be consistent with the MTP/SCS.

The *2021-2024 Metropolitan Transportation Improvement Program* (MTIP) is a list of transportation projects and programs to be funded and implemented between the years 2021 and 2024 (Sacramento Area Council of Governments 2021). SACOG submits the MTIP to Caltrans and amends the program on a quarterly cycle. Only projects listed in the MTP/SCS may be included in the MTIP.

Local

El Dorado County Transportation Commission

The El Dorado County Transportation Commission (EDCTC) is the Regional Transportation Planning Agency (RTPA) for the County, except for that portion of the County within the Tahoe Basin, which is under the jurisdiction of the Tahoe Regional Planning Agency. EDCTC prepares the County's regional transportation plan. The *El Dorado County Regional Transportation Plan 2020–20405* (RTP) is designed to be a blueprint for the systematic development of a balanced, comprehensive, multimodal transportation system (El Dorado County Transportation Commission 2020a). EDCTC submits the RTP to SACOG for inclusion in the MTP/SCS process.

The *El Dorado County Active Transportation Plan* establishes a long term vision for improving walking and bicycling in El Dorado County (El Dorado County Transportation Commission 2020b). The plan is a critical tool in guiding a balanced transportation system in the County. The plan updates the previous 2010 *El Dorado County Bicycle Master Plan*.

In May 2013, EDCTC completed the *El Dorado Hills Community Transit Needs Assessment and US 50 Corridor Operations Plan* (Transit Plan), which explores how recent growth and projected development affect the need for transit services and identifies the most appropriate type and level of service needed given the demand (El Dorado County Transportation Commission 2013). The Transit Plan represents a recommendation from the *Western El Dorado County 2019 Short- and Long-Range Transit Plan* to study and consider improved transit service in the El Dorado Hills area (LSC Transportation Consultants, Inc. 2019).

In April 2015, EDCTC adopted the *Coordinated Public Transit Human Services Transportation Plan, El Dorado County*, which is intended to improve mobility of individuals who are disabled, elderly, or of low-income status (El Dorado County Transportation Commission 2015). The plan identifies needs specific to those population groups and strategies to meet their needs.

El Dorado County

The County provides for the mobility of people and goods within El Dorado Hills, which is an unincorporated area of the County. All of the study intersections are within the County's jurisdiction.

The Transportation and Circulation Element of the County General Plan outlines goals and policies that coordinate the transportation and circulation system with planned land uses. The following goals and their associated policies are relevant to the proposed project (El Dorado County 2019). See Section 3.9, *Land Use Planning and Agricultural Resources*, for an analysis of the proposed project's consistency with County General Plan policies, as required under State CEQA Guidelines Section 15125.

> **County General Plan Goal TC-1:** "To plan for and provide a unified, coordinated, and cost-efficient countywide road and highway system that ensures the safe, orderly, and efficient movement of people and goods."
>
> > **Policy TC-1b:** In order to provide safe, efficient roads, all roads should incorporate the cross sectional road features set forth in Table TC-1.
> >
> > **Policy TC-1p:** The County shall encourage street designs for interior streets within new subdivisions that minimize the intrusion of through traffic on pedestrians and residential uses while providing efficient connections between neighborhoods and communities.
> >
> > **Policy TC-1q:** The County shall utilize road construction methods that seek to reduce air, water, and noise pollution associated with road and highway development.

Policy TC-1w: New streets and improvements to existing rural roads necessitated by new development shall be designed to minimize visual impacts, preserve rural character, and ensure neighborhood quality to the extent possible consistent with the needs of emergency access, on street parking, and vehicular and pedestrian safety.

County General Plan Goal TC-X: "To coordinate planning and implementation of roadway improvements with new development to maintain adequate levels of service on County roads."

Policy TC-Xa: Except as otherwise provided, the following TC-Xa policies shall remain in effect indefinitely, unless amended by voters:

- Traffic from residential development projects of five or more units or parcels of land shall not result in, or worsen, Level of Service F (gridlock, stop-and-go) traffic congestion during weekday, peak-hour periods on any highway, road, interchange or intersection in the unincorporated areas of the county.
- The County shall not add any additional segments of U.S. Highway 50, or any other highways and roads, to the County's list of roads from the original Table TC-2 of the 2004 General Plan that are allowed to operate at Level of Service F without first getting the voters' approval.
- The County shall not create an Infrastructure Financing District unless allowed by a 2/3rds majority vote of the people within that district.
- Before giving approval of any kind to a residential development project of five or more units or parcels of land, the County shall make a finding that the project complies with the policies above. If this finding cannot be made, then the County shall not approve the project in order to protect the public's health and safety as provided by state law to assure that safe and adequate roads and highways are in place as such development occurs.

Policy TC-Xb: To ensure that potential development in the County does not exceed available roadway capacity, the County shall:

- Every year prepare an annual Capital Improvement Program (CIP) specifying expenditures for roadway improvements within the next 10 years. At least every five years prepare a CIP specifying expenditures for roadway improvements within the next 20 years. Each plan shall contain identification of funding sources sufficient to develop the improvements identified;
    - At least every five years, prepare a Traffic Impact Mitigation (TIM) Fee Program specifying roadway improvements to be completed within the next 20 years to ensure compliance with all applicable level of service and other standards in this plan; and
    - Annually monitor traffic volumes on the county's major roadway system depicted in Figure TC-1.

Policy TC-Xc: Developer paid traffic impact fees combined with any other available funds shall fully pay for building all necessary road capacity improvements to fully offset and mitigate all direct and cumulative traffic impacts from new development during peak hours upon any highways, arterial roads and their intersections during weekday, peak-hour periods in unincorporated areas of the County.

Policy TC-Xf: At the time of approval of a tentative map for a single family residential subdivision of five or more parcels that worsens (defined as a project that triggers Policy TC-Xe [A] or [B] or [C]) traffic on the County road system, the County shall do one of the following: (1) condition the project to construct all road improvements necessary to maintain or attain Level of Service standards detailed in this Transportation and Circulation Element based on existing traffic plus traffic generated from the development plus

forecasted traffic growth at 10-years from project submittal; or (2) ensure the commencement of construction of the necessary road improvements are included in the County's 10-year CIP.

For all other discretionary projects that worsen (defined as a project that triggers Policy TC-Xe [A] or [B] or [C]) traffic on the County road system, the County shall do one of the following: (1) condition the project to construct all road improvements necessary to maintain or attain Level of Service standards detailed in this Transportation and Circulation Element; or (2) ensure the construction of the necessary road improvements are included in the County's 20-year CIP.

Policy TC-Xg: Each development project shall dedicate right-of-way, design and construct or fund any improvements necessary to mitigate the effects of traffic from the project. The County shall require an analysis of impacts of traffic from the development project, including impacts from truck traffic, and require dedication of needed right-of-way and construction of road facilities as a condition of the development. This policy shall remain in effect indefinitely unless amended by voters.

Policy TC-Xh: All subdivisions shall be conditioned to pay the traffic impact fees in effect at the time a building permit is issued for any parcel created by the subdivision.

County General Plan Goal TC-2: "To promote a safe and efficient transit system that provides service to all residents, including senior citizens, youths, the disabled, and those without access to automobiles that also helps to reduce congestion, and improves the environment."

Policy TC-2d: The County shall encourage the development of facilities for convenient transfers between different transportation systems (e.g., rail-to-bus, bus-to-bus).

County General Plan Goal TC-3: "To reduce travel demand on the County's road system and maximize the operating efficiency of transportation facilities, thereby reducing the quantity of motor vehicle emissions and the amount of investment required in new or expanded facilities."

Policy TC-3c: The County shall encourage new development within Community Regions and Rural Centers to provide appropriate on-site facilities that encourage employees to use alternative transportation modes. The type of facilities may include bicycle parking, shower and locker facilities, and convenient access to transit, depending on the development size and location.

County General Plan Goal TC-4: "To provide a safe, continuous, and easily accessible non-motorized transportation system that facilitates the use of the viable alternative transportation modes."

Policy TC-4a: The County shall implement a system of recreational, commuter, and inter-community bicycle routes in accordance with the County's Bikeway Master Plan. The plan should designate bikeways connecting residential areas to retail, entertainment, and employment centers and near major traffic generators such as recreational areas, parks of regional significance, schools, and other major public facilities, and along recreational routes.

Policy TC-4b: The County shall construct and maintain bikeways in a manner that minimizes conflicts between bicyclists and motorists.

Policy TC-4c: The County shall give priority to bikeways that will serve population centers and destinations of greatest demand and to bikeways that close gaps in the existing bikeway system.

Policy TC-4d: The County shall develop and maintain a program to construct bikeways, in conjunction with road projects, consistent with the County's Bikeway Master Plan [changed in 2015 to Bicycle Transportation Plan], taking into account available funding for construction and maintenance.

Policy TC-4g: The County shall support development of facilities that help link bicycling with other modes of transportation.

Policy TC-4i: Within Community Regions and Rural Centers, all development shall include pedestrian/bike paths connecting to adjacent development and to schools, parks, commercial areas and other facilities where feasible. In Rural Regions, pedestrian/bike paths shall be considered as appropriate.

Goal TC-5: To provide safe, continuous, and accessible sidewalks and pedestrian facilities as a viable alternative transportation mode.

Policy TC-5a: Sidewalks and curbs shall be required throughout residential subdivisions, including land divisions created through the parcel map process, where any residential lot or parcel size is 10,000 square feet or less.

Policy TC-5b: In commercial and research and development subdivisions, curbs and sidewalks shall be required on all roads. Sidewalks in industrial subdivisions may be required as appropriate.

Policy TC-5c: Roads adjacent to schools or parks shall have curbs and sidewalks.

The El Dorado County CDA *Transportation Impact Study Guidelines* set forth the protocols and procedures for conducting transportation analysis in the County (El Dorado County 2014), including the identification of the study area. This traffic analysis is consistent with the County-established methods in place at the commencement of the project.

El Dorado County Transit Authority

The El Dorado County Transit Authority (EDCTA) operates El Dorado Transit, which provides public transit service in the project area. El Dorado Hills is currently served by El Dorado Transit Dial-A-Ride services, Commuter Service, and the Iron Point Connector Route.

The *El Dorado County Park-and-Ride Master Plan* calls for constructing eight new facilities over 20 years (El Dorado County Transit Authority 2017). The plan calls for EDCTA to assume primary responsibility for existing park-and-ride facilities in the County and sets forth an annual program to fund upkeep and operation. The plan reiterates that demand exceeds supply at the park-and-ride lot in El Dorado Hills, referred to as the El Dorado Hills Multimodal Facility, located in the northeast corner of the White Rock Road/Latrobe Road intersection. In particular, Table 3 of the plan indicates that the future (year 2027) deficiency at this location will total 172 spaces.

The plan identifies construction of the Bass Lake Hills Multimodal Facility as the third priority. The *Bass Lake Hills Specific Plan* (El Dorado County 1995) requires a suitable site to be designated for construction of a 200-space park-and-ride facility. New development is required to construct the first 100 spaces. The *El Dorado Park-and-Ride Facilities Master Plan* (El Dorado County Transit Authority 2017) states that completion of the 200-space facility will fully address parking deficiencies in the Cameron Park area. Another facility, the Marble Valley park-and-ride lot, has been proposed on the south side of US 50 at the Bass Lake Road interchange as part of Marble Valley development that was previously approved by the County. However, the plan states that the Marble Valley park-and-ride lot would be redundant with the Bass Lake Hills Multimodal Facility and instead suggests that the developer provide an in-lieu payment toward another proposed park-and-ride facility, such as the Bass Lake Hills Multimodal Facility.

El Dorado County Capital Improvement Program and Traffic Impact Fees

Capital Improvement Program

A CIP is a planning document that identifies capital improvement projects (e.g., roads and bridges) that a local government or public agency intends to build over a certain time horizon (usually 5 to 20 years). Capital improvements are projects that provide tangible long-term improvements or additions of a fixed or permanent nature, have value, and can be depreciated. CIPs typically provide key information for each project, including delivery schedule, cost, and revenue sources. The CIP serves as a planning and implementation tool for the development, construction, rehabilitation, and maintenance of the County's infrastructure. The County's CIP and Traffic Impact Fee (TIF) Program are also subject to CEQA. The CIP and TIF Program Final EIR was certified on December 6, 2016, and the accompanying TIF Fees went into effect on February 13, 2017. An Addendum to the EIR was certified on June 26, 2018, and the fees were updated in 2019 and 2020.

To maintain the integrity of the County's roadway network, the County is required to implement County General Plan Policy TC-Xb and Implementation Measures TC-A and TC-B. These measures require the development of a 10- and 20-year CIP. These policies also require an update of the 20-year growth forecast every 5 years. The forecast is needed to update the CIP and TIF Program. Forecasting growth is an iterative and ongoing process; forecasts are reviewed and adjusted annually as well as every 5 years. Routinely verifying and updating growth forecasts allows the County to account for new information and adjust its assumptions and plans accordingly. In addition, the CIP must identify funding sources sufficient to develop the improvements identified. The CIP process includes identifying, prioritizing, and developing funding for needed projects. The CIP includes ongoing projects started in previous years and new projects starting in the current and future fiscal years. The County Board of Supervisors adopts CIPs on an annual basis.

The TIF Program also includes a line item for unprogrammed traffic signal installation and operational and safety improvements at intersections, including improvements such as construction of new traffic signals and turn pockets, and the upgrade of existing traffic signal systems. The County monitors intersections with potential need for improvement through the annual Intersection Needs Prioritization process, which is then used to inform the annual update to the CIP. The County Board of Supervisors can add improvements to the CIP as funding becomes available.

Traffic Impact Fee Program

The County has a TIF Program that is used to fund capital improvements to the road system to mitigate traffic impacts resulting from development. The 20-year County CIP and TIF Program was adopted in 2006, with the latest TIF Program update completed on December 8, 2020, and the latest CIP adopted on June 8, 2021. This program is separate from CEQA and, on the basis of SB 743, is not related to an environmental impact under CEQA.

TIF Program fees are collected at the time of issuance of a building permit for new development. In order to ensure that adequate funding is available and sufficient revenue is collected to fund CIP projects identified to be required as a result of development and to maintain a LOS consistent with County General Plan policies, the TIF Program and TIF fees are adjusted and updated on an annual and 5-year basis along with the CIP.

Through careful monitoring and implementation of the CIP and TIF Program, the County has a high level of certainty that projects in the CIP will be constructed when improvements are needed and

can be implemented in their entirety over time. Implementation of CIP projects alleviates forecasted General Plan level of service deficiencies.

As allowed under state law, the County and project may establish an Area of Benefit for improvements excluded from the County's TIF Program, to equitably distribute costs of such improvements on a proportionate fair share basis. All public improvements are subject to review and approval by the County and are implemented through an encroachment permit or road improvement agreement, as determined by the County.

El Dorado County and City of Placerville SB 743 Implementation Plan

In 2019, the EDCTC completed the El Dorado County and City of Placerville SB 743 Implementation Plan (July 19, 2019) to support the County and the City of Placerville with implementation of SB 743, including the selection of VMT analysis methodology, setting thresholds of significance, and potential mitigation. With Resolution 141-2020 (October 6, 2020), the Board of Supervisors of the County-adopted VMT thresholds of significance for purposes of analyzing transportation impacts under CEQA.

The County's VMT thresholds consider the VMT performance of residential and office components of a project separately, using the efficiency metrics of VMT per capita and VMT per employee, respectively. For retail components of a project, the county-wide VMT effect is analyzed. The County VMT thresholds of significance are summarized below for each of these components:

- Residential—15% below baseline unincorporated countywide VMT per capita
- Commercial office—15% below baseline unincorporated countywide VMT per employee
- Commercial retail—No net increase in VMT

Environmental Setting

Vehicular Circulation

Under CEQA, vehicle or automobile circulation is addressed in terms of vehicle miles traveled (VMT). This metric focuses impact analysis on those impacts to the environment related to transportation and traffic, as opposed to impact on drivers. VMT is estimated using travel demand models. VMT is then divide by number of people to determine VMT efficiency. Different land uses have different overall patterns and different drivers, therefore, guidance suggests that VMT for residential land uses be measured on a per capita basis, while commercial uses be measured on a per employee basis. Because the threshold of significance for commercial retail is different than that of commercial office, commercial land uses are divided into those two categories. This results in three VMT numbers for comparison and analysis with County-wide averages.

VMT estimation was conducted using the El Dorado County Travel Demand Forecasting Model (EDCTDM). The VMT estimation process generates estimates in a manner that is consistent with OPR's Technical Advisory and the selected VMT significance thresholds. To provide a full accounting of vehicle travel, the EDCTDM provides VMT estimates that include the VMT from intrazonal vehicle trips and trip length adjustments for the trips that enter or exit the area covered by the EDCTDM.

The EDCTDM includes a buffer area that extends along US 50 from El Dorado County into eastern Sacramento County, including the city of Folsom and city of Rancho Cordova. The buffer area allows for more detailed modeling of travel interaction between El Dorado County and eastern Sacramento

County. However, even with the buffer area, adjustments to the length of trips passing through the EDCTDM's gateway locations are necessary to account for the full length of trips throughout California.

Table 3.14-1 shows VMT in unincorporated El Dorado County in 2018 and 2040 for residential, commercial office, and commercial retail.

Table 3.14-1. Vehicle Miles Traveled in Unincorporated El Dorado County

Scenario	VMT	Total Population	VMT efficiency
Residential			
2018 Baseline	3,088,005	136,108	22.7 per capita
2040 Baseline	3,102,953	181,914	17.1 per capita
Commercial Office			
2018 Baseline	428,483	33,076	13.0 per employee
2040 Baseline	675,594	56,413	12.0 per employee
Commercial Retail			
2018 Baseline	3,277,660		
2040 Baseline	3,256,081		

Source: Fehr & Peers 2021.

Pedestrian Circulation

Attached or landscaped-separated detached sidewalks are provided intermittently throughout the study area. Because of the primarily rural residential nature of El Dorado Hills and Cameron Park, sidewalk areas are not common. That said, some of the following major roadway facilities lack sidewalks and result in pedestrian network gaps.

- Both sides of Bass Lake Road from Country Club Drive to Hollow Oak Drive lack sidewalks; however, this area currently serves only a few large residential parcels and no services are within walking distance.
- Both sides of Country Club Drive west of Trinidad Drive lack sidewalks; however, there are limited land uses that would benefit from sidewalks near the street.
- A sidewalk is missing on the south side of Country Club Drive between Merrychase Drive and opposite Placitas Drive (Cameron Park Library driveway). This segment is adjacent to Blue Oak Elementary/Charter Montessori School and Camerado Springs Middle School.
- Country Club Drive lacks sidewalks from approximately 300 feet east of Placitas Drive to 200 feet west of Cameron Park Drive and between El Norte Road and half-way up Country Club Drive.
- Cambridge Road and Flying C Road (south of US 50) lack sidewalks, except for the east side near the US 50 interchange.

Most study area intersections are unsignalized and lack physical pedestrian features such as curb ramps and marked crosswalks. The three signalized study area intersections do provide controlled pedestrian crossings or are otherwise restricted. As described below, Class I bicycle paths double as pedestrian facilities. For example, the Class I path along the east side of Bass Lake Road between Hollow Oak Drive and Serrano Parkway provides pedestrian facilities that are redundant to the detached sidewalk on the west side.

Bicycle Circulation

Existing and proposed bicycle facilities in the study area are displayed in Figure 3.14-4. Bicycle facilities can be classified into the following three categories.

- **Class I Bicycle Path**. Off-street bike paths within exclusive right-of-way; usually shared with pedestrians.
- **Class II Bicycle Lane**. Striped on-road bike lanes adjacent to the outside travel lane on preferred corridors for biking.
- **Class III Bicycle Route.** Shared on-road facility, usually delineated by signage and pavement markings.

According to the *El Dorado County Active Transportation Plan* (El Dorado County Transportation Commission 2020b), mapping information, and field observations, the following major bikeway facilities are present in the study area.

- Class II bicycle lanes on Serrano Parkway, White Rock Road, Latrobe Road, and portions of Silva Valley Parkway, Country Club Drive, and El Dorado Hills Drive.
- Class I bicycle paths at Bass Lake Road (Hollow Oak Drive to Serrano Parkway) and New York Creek Nature Trail, which is adjacent to El Dorado Hills Drive on the east side between Serrano Parkway and St. Andrews Drive.

Figure 3.14-4 identifies existing and planned bikeways presented in the *El Dorado Bicycle Transportation Plan, 2010 Update* and the MTP/SCS for 2036.

Transit

EDCTA provides public transit service within the project area. El Dorado Hills is currently served by El Dorado Transit Dial-A-Ride services, Commuter Service, and the Iron Point Connector Route. The Commuter Service and the Iron Point Connector Route serve only the El Dorado Hills park-and-ride lot and do not circulate within the community.

The Transit Plan explores how recent growth and projected development affect the need for transit services and identifies the most appropriate type and level of service based on demand. All four services are addressed in the Transit Plan and described briefly below.

- **Dial-A-Ride.** Dial-A-Ride service is a demand-response service for seniors and disabled passengers, with limited access available for the general public. The service is available on a first-come, first-serve basis Monday through Friday from 7:30 a.m. to 5:00 p.m. and from 8:00 a.m. to 5:00 p.m. on Saturdays and Sundays. El Dorado Hills is one of 12 geographic zone service areas.
- **Commuter Service.** Commuter Service is offered Monday through Friday between El Dorado County and downtown Sacramento. Morning departures from El Dorado County locations are scheduled from 5:10 a.m. to 8:00 a.m., and eastbound afternoon service departs Sacramento from 2:40 p.m. to 6:00 p.m. A reverse commuting service is also offered. The El Dorado Hills park-and-ride lot located in Town Center at the White Rock Road/Post Street intersection would be the stop nearest to the proposed project. According to the Transit Plan, nearly one-half of commute passengers boarded at the El Dorado Hills park-and-ride in the mornings, which means this location has the greatest number of Commuter Service boardings.

- **Iron Point Connector Route.** The Iron Point Connector Route provides direct service from El Dorado County to Folsom, with connections to Sacramento Regional Transit light rail on weekdays. This route runs twice in the morning and twice in the afternoon from the Central Transit Center to the Iron Point Light Rail Station in Folsom. The El Dorado Hills park-and-ride located in Town Center at the White Rock Road/Post Street intersection would be the stop nearest to the project area.
- **Cameron Park Route**. The Cameron Park Route is a fixed-route service that begins at the Missouri Flat Transfer Center in Placerville. The route serves the Folsom Lake College/El Dorado Center, then continues to Cameron Park. After serving Cameron Park in a clockwise direction, the route serves the Cambridge park-and-ride and returns via Country Club Drive. The Cameron Park Route operates four runs daily and one morning express run with limited stops. Deviations are not permitted on the express run. Monthly ridership was 2,583 during fiscal year 2017-2018 (LSC Transportation Consultants 2019).
- Based on ridership data presented in the Transit Plan, El Dorado Hills residents make 41,760 annual commute trips (one-way) using El Dorado Transit Commuter Service (El Dorado County Transportation Commission 2013). Residents of El Dorado Hills account for about 72% of boardings at the El Dorado Hills park-and-ride lot, including transit riders who park in the lot and riders who use other means to access the service (i.e., walk, bike, and drop-off). Assuming a population of 46,593 in El Dorado Hills (World Population Review 2021), this means about one annual commute trip is generated per El Dorado Hills resident. This estimate provides a basis for projecting the potential transit trip generation associated with the project and evaluating the adequacy of transit services and facilities (e.g., park-and-ride parking spaces) under project conditions.

The El Dorado Hills park-and-ride lot provides 120 parking spaces. The Park-and-Ride Facilities Master Plan reports that parking demand exceeds supply. Specifically, Table 3 of the Master Plan reports a deficiency of 23 spaced in 2017. Similarly, the Cameron Park Park-and-Ride had a deficiency of 14 spaces (El Dorado County Transit Authority 2017).

The Transit Plan also describes other transit providers that serve western El Dorado County, including the Senior Shuttle Program, which recently initiated service in El Dorado Hills.

3.14.2 Environmental Impacts

Methods of Analysis

The following describes how existing and existing-plus-project conditions were evaluated. The assumptions and procedures for evaluating cumulative impacts are presented in Section 5.2, *Cumulative Impacts*.

Vehicle Miles Traveled Analysis Procedures

The following is a summary of the method used to forecast VMT under existing and cumulative conditions. A more detailed discussion is presented in VMT Analysis prepared for the project and provided in Appendix K, *Transportation Impact Analysis*.

- Existing Conditions (2018). For existing conditions (i.e., baseline conditions), the base year model land use and transportation network from the County traffic model were used to estimate

baseline average VMT per capita and average VMT per employee for unincorporated El Dorado County.

- Existing Plus Project Conditions. For existing plus project conditions, the proposed project's land use was added to the modified model, increasing the base year population and employment. Project-generated average VMT per capita and VMT per employee were calculated.
- Cumulative Conditions (2040). For cumulative conditions, the future year model was used to estimate cumulative (2040) average VMT per capita and average VMT per employee. For cumulative plus project conditions, the proposed project's land use was added to the model, increasing the cumulative year population and employment. Project-generated average VMT per capita and VMT per employee were calculated.

Pedestrian and Bicycle Circulation

Proposed pedestrian and bicycle facilities in the project area were reviewed and qualitatively evaluated for their integration with existing and planned facilities in the study area, as well as their ability to provide connectivity and safe means of access between existing and proposed land uses. In particular, access to existing schools and commercial land uses was considered in assessing the adequacy of the proposed non-motorized transportation network.

Transit

The estimate of transit trip generation is based on a review of existing ridership information in the study area. As described above, it is estimated that about one annual commute trip is generated per El Dorado Hills resident. This figure was used to assess the potential for additional demand for transit services and facilities as a result of implementation of the proposed project. This additional demand was then compared with existing LOS in the study area to assess whether project-induced ridership would exceed existing transit service levels.

Thresholds of Significance

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in a significant adverse impact on the environment. Informed by the CEQA Guidelines, specifically Appendix G, the following criteria have been established to determine whether or not the proposed project would have a significant impact on transportation and circulation.

Implementation of the proposed project would have a potentially significant impact on transportation and circulation if it would result in any of the conditions listed below.

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

Impacts and Mitigation Measures

Impact TRA-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian (less than significant)

Roadway

The proposed project would pay applicable TIF fees that would pay the project's fair share of roadway improvements needed to accommodate planned growth, consistent with General Plan Policy TC-Xb and TC-Xc. Therefore, the proposed project would not conflict with the County General Plan policies addressing vehicle circulation. The project will comply with General Plan Goal TC-X and its implementing Policies TC-Xf and TC-Xh.

Pedestrian Circulation

The proposed project would have a network of pedestrian trails and pathways to provide connectivity among land uses for non-motorized transportation and public recreation. Lime Rock Valley is bordered on the east by the Sacramento–Placerville Transportation Corridor, which is home to the El Dorado Trail. A comprehensive network of pedestrian trails and pathways throughout the project area would connect the El Dorado Trail to the regional park and link with the trail system in and through the neighboring Village of Marble Valley. The proposed trails are designed as a combination of paved Class I multi-use paths in developed areas and unpaved gravel or dirt trails. Additionally, sidewalks may be provided on one or both sides of local residential streets.

The provision of these facilities would support County General Plan Goal TC-4 and policies related to providing safe routes to schools (specifically, Policies TC-4a and TC-4i) by providing new bicycle lanes or multi-use paths or trails along Lime Rock Valley Road and other areas in the project area, which would provide bicycle and/or pedestrian access from residential areas to proposed elementary schools in the Village of Marble Valley to the west of the project area.

In the near-term the proposed project would increase the demand for pedestrian facilities. The project proposes constructing additional pedestrian facilities that would connect and integrate with existing and planned facilities adjacent to the project area. The project would not conflict with adopted policies, plans, or programs, or otherwise degrade the performance or safety of pedestrian facilities.

Bicycle Circulation

The proposed project would have Class I multi-use paths and Class II bicycle lanes along the major transportation corridors, particularly in the northern portion of the project area. Less-formal trails are proposed that would traverse the preserved open space areas. Pathways that would be open to bicycles would lead to the proposed Foundation Regional Park in the southern portion of the project area, and a Class I bike path would connect the project area to the El Dorado Trail.

In the near-term the proposed project would increase the demand for bicycle facilities. The project proposes constructing additional bicycle facilities that would connect and integrate with existing and planned facilities adjacent to the project area. The project would not conflict with adopted policies, plans, or programs, or otherwise degrade the performance or safety of bicycle facilities.

Transit

No transit enhancements are proposed as part of the project. However, the project would provide bicycle and pedestrian connections to existing and planned bicycle and pedestrian facilities. Based on ridership data presented in the El Dorado Hills Community Transit Needs Assessment and US 50 Corridor Transit Operations Plan, 41,760 annual commute trips are made by El Dorado Hills residents using El Dorado Transit Commuter Service. Residents of El Dorado Hills account for about 72% of boardings at the El Dorado Hills park-n-ride lot, which includes riders that park in the lot and riders that use other means to access the service (i.e., walk, bike, and drop-off).

The traffic study indicates that approximately one annual commute trip is generated per El Dorado Hills resident, assuming a population of 42,100 in El Dorado Hills. Therefore, the Lime Rock Valley Specific Plan's (LRVSP) 800 dwelling units could result in demand of about 2,100 annual commute trips, (assuming a household population of 2.6 persons) or about 8 commute trips per workday.[1] Trips are counted as one-way; therefore, it is estimated that the proposed project would result in the need for four parking stalls dedicated to park-and-ride use.

The analysis in the full report is based on the population at project buildout. The project would not be built out in the near-term. Consequently, the project would generate fewer than 9 trips per day, applying this methodology.

Due to the high utilization of the El Dorado Hills Park and Ride lot, El Dorado Transit operates a secondary park-and-ride lot near the Vine Street/Mercedes Lane intersection in Town Center. The Vine Street/Mercedes Lane park-and-ride lot has sufficient capacity to accommodate increased transit commute trips generated by the project. Therefore, no additional park and ride facilities are needed to accommodate the additional commute trips associated with the project and the impact would be less than significant.

Impact TRA-2: Conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) (significant and unavoidable)

The project includes residential and park land uses. Table 3.14-2 summarizes the project's trip generating land uses.

Table 3.14-2. Lime Rock Valley Specific Plan Land Use

Land Use			
Category		Units	Total
Residential	Single Family	Dwellings	800
Non-Residential	Village Park	Acres	8

Source: Fehr & Peers 2021.

[1] The project would add approximately 2,100 potential transit riders to the study area (2.6 persons per household x 800 dwelling units = ~2,080 persons). Assuming one annual trip per person, the project would add approximately 2,100 commute trips per year. There are approximately 260 weekdays per year (5 weekdays x 52 weeks). Therefore, the new population would be expected to demand approximately 8 commute trips per weekday (2,100 commute trips per year/260 weekdays per year). Because trips are counted as one-way, it is assumed that each parking stall at the park-and-ride lot would serve two trips per day. Therefore, 4 park-and-ride stalls would be considered adequate to meet the estimated 8 daily commute trips.

A VMT technical memorandum was prepared for the project in April 2021 by Fehr & Peers (Fehr & Peers 2021) and is included as Appendix K, *Transportation Impact Analysis*. The analysis of the proposed project (residential land use) was conducted following the County's VMT methodology.

The LRVSP is proposed east of the proposed Village of Marble Valley Specific Plan (VMVSP) and would rely on VMVSP roadways for access. Therefore, the VMT analysis considers the performance of the LRVSP with and without the VMVSP. The following analysis scenarios were analyzed:

- LRVSP Conditions
- LRVSP with VMVSP Conditions
- LRVSP with VMVSP Mitigation Conditions
- LRVSP Mitigation Conditions
- LRVSP Mitigation with VMVSP Mitigation Conditions

LRVSP Conditions

Table 3.14-3 summarizes the analysis of the LRVSP in isolation. As shown, under both base year and future year conditions, the VMT per capita for the LRVSP exceeds the established residential threshold for residential land use by 45% and 48% under 2018 and 2040 conditions, respectively. The LRVSP is proposed in a sparsely populated area about 1.5 miles from the US 50/Bass Lake Road interchange, which would contribute to the proposed project VMT.

Table 3.14-3. Lime Rock Valley Specific Plan's Vehicle Miles Traveled—Residential Component

Scenario	Analysis Geography	VMT	Total Population	VMT per Capita
2018 Baseline	Unincorporated El Dorado County	3,088,005	136,108	22.7
2018 Baseline Threshold (85% of Unincorporated El Dorado County Total Average VMT per capita)				19.3
2018 Baseline Plus Project	Project Area	65,687	2,358	27.9
		VMT Threshold Exceeded?		**Yes**
2040 Baseline	Unincorporated El Dorado County	3,102,953	181,914	17.1
2040 Baseline Threshold (85% of Unincorporated El Dorado County Total Average VMT per capita)				14.5
2040 Baseline Plus Project	Project Area	50,585	2,358	21.5
		VMT Threshold Exceeded?		**Yes**

Source: Fehr & Peers 2021.

LRVSP with VMVSP Conditions

Table 3.14-4 compares the VMT per capita for LRVSP to the established residential threshold for residential land use, assuming that VMVSP is also developed. The combined projects' VMT per capita is reported. Total VMT for LRVSP was estimated by multiplying the LRVSP population by the combined VMT per capita. As shown, under both 2018 and 2040 conditions, the VMT per capita for the LRVSP exceeds the established residential threshold for residential land use by 3% and 1% under 2018 and 2040 conditions, respectively, which is substantially better performance than the LRVSP in isolation.

The value presented in Table 3.14-4 is for both projects combined. However, because the LRVSP is farther from US 50 than VMVSP, its VMT per capita is expected to be higher than VMVSP's VMT per capita. Therefore, the VMT per capita for LRVSP shown in Table 3.14-4 may be higher but would be lower than the values in Table 3.14-3. The VMT calculations for all scenarios are included in Appendix K, *Transportation Impact Analysis*, Attachment A.

For the scenario that includes Marble Valley, the LRVSP's future year VMT per capita is substantially smaller than the project's base year VMT per capita. Under base year conditions, the area surrounding the proposed project is sparsely populated with few local commercial opportunities. Therefore, trips to/from the project area would have to travel farther to reach their destination. Under future year conditions, more development is planned near the project (e.g., Bass Lake Hills Specific Plan), which would reduce the length of trips to/from the project. Planned population and employment growth in these areas contributes to the reduction in the proposed project's VMT per capita from base year to future year conditions.

Table 3.14-4. Lime Rock Valley Specific Plan with Village of Marble Valley Specific Plan VMT – Residential Component

Scenario	Analysis Geography	VMT	Total Population	VMT per Capita
2018 Baseline	Unincorporated El Dorado County	3,088,005	136,108	22.7
2018 Baseline Threshold (85% of Unincorporated El Dorado County Total Average VMT per capita)				19.3
2018 Baseline Plus Project	Project Area	46,924	2,358	19.9
			VMT Threshold Exceeded?	**Yes**
2040 Baseline	Unincorporated El Dorado County	3,102,953	181,914	17.1
2040 Baseline Threshold (85% of Unincorporated El Dorado County Total Average VMT per capita)				14.5
2040 Baseline Plus Project	Project Area	34,427	2,358	14.6
			VMT Threshold Exceeded?	**Yes**

Source: Fehr & Peers 2021.

LRVSP with VMVSP Mitigation Conditions

Table 3.14-5 summarizes the LRVSP VMT per capita with the VMVSP and a shift of 25,000 square feet of commercial offices land use to commercial retail land use (i.e., proposed VMVSP mitigation). As shown, the 2018 VMT per capita for the LRVSP would continue to exceed the established residential threshold by 3%. However, 2040 VMT per capita would not exceed the established residential threshold.

Table 3.14-5. Lime Rock Valley Specific Plan with Village of Marble Valley Specific Plan VMT – Residential Component (with 25,000 Square Foot Commercial Office Shift to Commercial Retail in VMVSP)

Scenario	Analysis Geography	VMT	Total Population	VMT per Capita
2018 Baseline	Unincorporated El Dorado County	3,088,005	136,108	22.7
2018 Baseline Threshold (85% of Unincorporated El Dorado County Total Average VMT per capita)				19.3
2018 Baseline Plus Project	Project Area	46,924	2,358	19.9
			VMT Threshold Exceeded?	**Yes**

Scenario	Analysis Geography	VMT	Total Population	VMT per Capita
2040 Baseline	Unincorporated El Dorado County	3,102,953	181,914	17.1
2040 Baseline Threshold (85% of Unincorporated El Dorado County Total Average VMT per capita)				14.5
2040 Baseline Plus Project	Project Area	34,191	2,358	14.5
			VMT Threshold Exceeded?	**No**

Source: Fehr & Peers 2021.

The project would result in a significant impact related to VMT. Mitigation measure TRA-2 below, to add 22,00 square feet of commercial land use and introduce traffic demand management measures, would reduce this impact by reducing VMT per capita as shown in Table 3.14-6.

An important consideration for the mitigation effectiveness is the scale for TDM strategy implementation. The biggest effects of TDM strategies on VMT derive from regional policies related to land use location efficiency and infrastructure investment that support transit, walking, and bicycling. While there are many measures that can influence VMT that relate to site design and building operations, they have smaller effects that are often dependent on final building tenants. In addition, the effectiveness of these strategies is also affected by the rural/suburban setting of development in El Dorado County. Also, disruptive trends, including, but not limited to, transportation network companies (TNCs), autonomous vehicles (AVs), internet shopping, micro-transit, changes in the share of people that work-from-home (i.e., due to COVID-19), and the proliferation of transportation-oriented ridesharing and carpooling applications may affect the future effectiveness of TDM strategies and travel behavior of LRVSP residents.

LRVSP Mitigation Conditions and LRVSP Mitigation with VMVSP Mitigation Conditions

Table 3.14-6 summarizes the VMT analysis for the residential with the mitigation outlined above for the LRVSP with and without the VMVSP and a shift of 25,000 square feet of commercial offices land use to commercial retail land use. As shown, implementation of the proposed mitigation would reduce VMT per capita for the residential component.

Under 2018 conditions, VMT per capita would decrease from 27.9 to 24.7 with the addition of 22,000 square feet of commercial retail (without the VMVSP) and the TDM strategies outlined above. The TDM strategies would reduce VMT per capita by 0.25% (i.e., by 0.06 VMT per capita). With the VMVSP and a shift of 25,000 square feet of commercial offices land use to commercial retail land use in the VMVSP (i.e., VMVSP Mitigation), the VMT per capita would reduce further to 19.7, within 2% of the 2018 threshold. The TDM strategies would reduce VMT per capita by 0.25% (i.e., by 0.05 VMT per capita).

Under 2040 conditions, VMT per capita would decrease from 21.5 to 19.1 with the addition of 22,000 square feet of commercial retail (without the VMVSP) and the TDM strategies outlined above. The TDM strategies would reduce VMT per capita by 0.25% (i.e., by 0.05 VMT per capita). With the VMVSP and a shift of 25,000 square feet of commercial offices land use to commercial retail land use (i.e., VMVSP Mitigation), the VMT per capita would reduce further to 14.5, which would satisfy the 2040 threshold. The TDM strategies would reduce VMT per capita by 0.25% (i.e., by 0.04 VMT per capita).

As outlined, implementation of the proposed mitigation would reduce VMT per capita for the residential component. In combination with the VMVSP and its proposed mitigation, the VMT per capita would be reduced further to a level that would satisfy the VMT per capita threshold

under 2018 and 2040 conditions and therefore the impact would be less than significant. However, under the analysis scenario where the project is implemented in the short term in isolation (without VMVSP), the project's VMT per capita would continue to exceed the established threshold. Therefore, the impact would remain significant and unavoidable in the short term.

Table 3.14-6. Lime Rock Valley Specific Plan VMT – Residential Component (With Mitigation)

Scenario	Analysis Geography	VMT	Total Population	VMT per Capita	VMT Threshold Exceeded	Percent of Threshold
2018 and 2040 Baseline Conditions						
2018 Baseline	Unincorporated El Dorado County	3,088,005	136,108	22.7	-	-
		2018 Baseline Threshold[a]		19.3	-	-
2040 Baseline	Unincorporated El Dorado County	3,102,953	181,914	17.1	-	-
		2040 Baseline Threshold[a]		14.5	-	-
LRVSP Conditions						
2018 Baseline Plus Project	Project Area	65,687	2,358	27.9	Yes	145%
2040 Baseline Plus Project	Project Area	50,585	2,358	21.5	Yes	148%
LRVSP with VMVSP Conditions						
2018 Baseline Plus Project	Project Area	46,924	2,358	19.9	Yes	103%
2040 Baseline Plus Project	Project Area	34,427	2,358	14.6	Yes	101%
LRVSP with VMVSP Mitigation Conditions						
2018 Baseline Plus Project	Project Area	46,924	2,358	19.9	Yes	103%
2040 Baseline Plus Project	Project Area	34,191	2,358	14.5	No	100%
LRVSP Mitigation Conditions						
2018 Baseline Plus Project	Project Area	58,377	2,358	24.7	Yes	128%
2040 Baseline Plus Project	Project Area	45,090	2,358	19.1	Yes	131%
LRVSP Mitigation with VMVSP Mitigation Conditions						
2018 Baseline Plus Project	Project Area	46,453	2,358	19.7	Yes	102%
2040 Baseline Plus Project	Project Area	34,191	2,358	14.5	No	100%

Source: Fehr & Peers 2021.

[a] 85% of Unincorporated El Dorado County Total Average VMT per employee.

Mitigation Measure TRA-2: TDM strategies to reduce the impact of the residential component

1. **Land Use/location.** Increase diversity of land use by adding 22,000 square feet of commercial retail land use to the LRVSP. Mixing land use within a single development can decrease VMT by providing local options for residents so they do not need to drive, or drive as far, to meet all their needs.
2. **Implement Commute Trip Reduction Marketing (TDM Strategy T-6)** – Implement a marketing strategy to promote the project site employer's Commute Trip Reduction (CTR) program. Information sharing and marketing promote and educate employees about their travel choices to the employment location beyond driving such as carpooling, taking transit, walking, and biking. The marketing strategy must include the following (or similar):
    a. On-site or online commuter information services
    b. Employee transportation coordinators
    c. On-site or online transit pass sales
    d. Guaranteed ride home service
3. **Community-Based Travel Planning (TDM Strategy T-22) –** Target residences in the community with community-based travel planning (CBTP). CBTP is a residential-based approach to outreach that provides households with customized information, incentives, and support to encourage the use of transportation alternatives in place of single occupancy vehicles, thereby reducing VMT and associated GHG emissions. CBTP involves tailored education for residents about travel needs and the transportation options available to them.
4. **Provide End-of-Trip Bicycle Facilities (TDM Strategy T-9)** – Install and maintain end-of-trip facilities for employee use. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers. Implementation of the three TDM strategies identified above would result in a 2.3% reduction in residential component VMT.

Impact TRA-3: Substantially increase hazards because of a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (less than significant)

LRVSP Section 4.2, *Roadway Classifications*, describes a selection of street widths and designs that has been included to accommodate a range of anticipated traffic volumes within the project site in a manner compatible with adjacent land uses. Streets would generally be curvilinear in design, conforming vertically, horizontally, and as closely as possible to natural topography. If approved, the proposed project's circulation system would be consistent with the County's functional road classification system. Additionally, Section 4.3 of the LRVSP describes features that would be used to reduce vehicular speed, including roundabouts, intersection and mid-block controls, and special pavement markings or textured paving. Therefore, with implementation of this policy, the project would not substantially increase hazards. This would be a less-than-significant impact.

Impact TRA-4: Result in inadequate emergency access (less than significant with mitigation)

The proposed project would have US 50 access at the Bass Lake Road interchange via the proposed Marble Valley Road and Lime Rock Valley Boulevard. There would also be two emergency access

points at Shingle Lime Mine Road to the north and Amber Fields Drive to the east. All roads would comply with the California Fire Code, California Code of Regulations, Title 24, Part 9, Chapter 5, Section 503 and California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 2, Article 2, and Emergency Access, Section 1273.01 of the Fire Safe Regulations. The proposed project would also improve emergency connections to the existing neighborhoods to the north, east, and west by providing controlled emergency access points, where feasible and as required by emergency responders. Additionally, emergency access to and through the project area would be maintained during construction activities associated with the proposed project. However, during construction of infrastructure improvements and development associated with the LRVSP, an increase in truck traffic on offsite roadways could restrict access for emergency vehicles in and around the project area. Because the proposed project could result in inadequate emergency access, this would be a significant impact. Implementation of Mitigation Measure TRA-4 would reduce this impact to a less-than-significant level.

Mitigation Measure TRA-4: Implement site-specific transportation management plan during construction

Prior to construction activities, the project applicant shall prepare for County review and approval a site-specific construction transportation management plan (TMP) that addresses the specific steps to be taken before, during, and after construction to minimize traffic impacts, including the mitigation measures identified in this EIR. This shall include all potentially significantly affected roadway segments.

The project applicant shall be responsible for developing the TMP in consultation with the applicable transportation entities, including El Dorado County, Caltrans (for state and federal roadway facilities), and EDCTA.

The project applicant shall also ensure that the TMP is implemented prior to beginning construction at a site. The County shall review and approved the TMP prior to issuing a grading permit. If necessary, to minimize unexpected operational impacts or delays experienced during real-time construction, the project applicant shall also be responsible for modifying the TMP to reduce these effects.

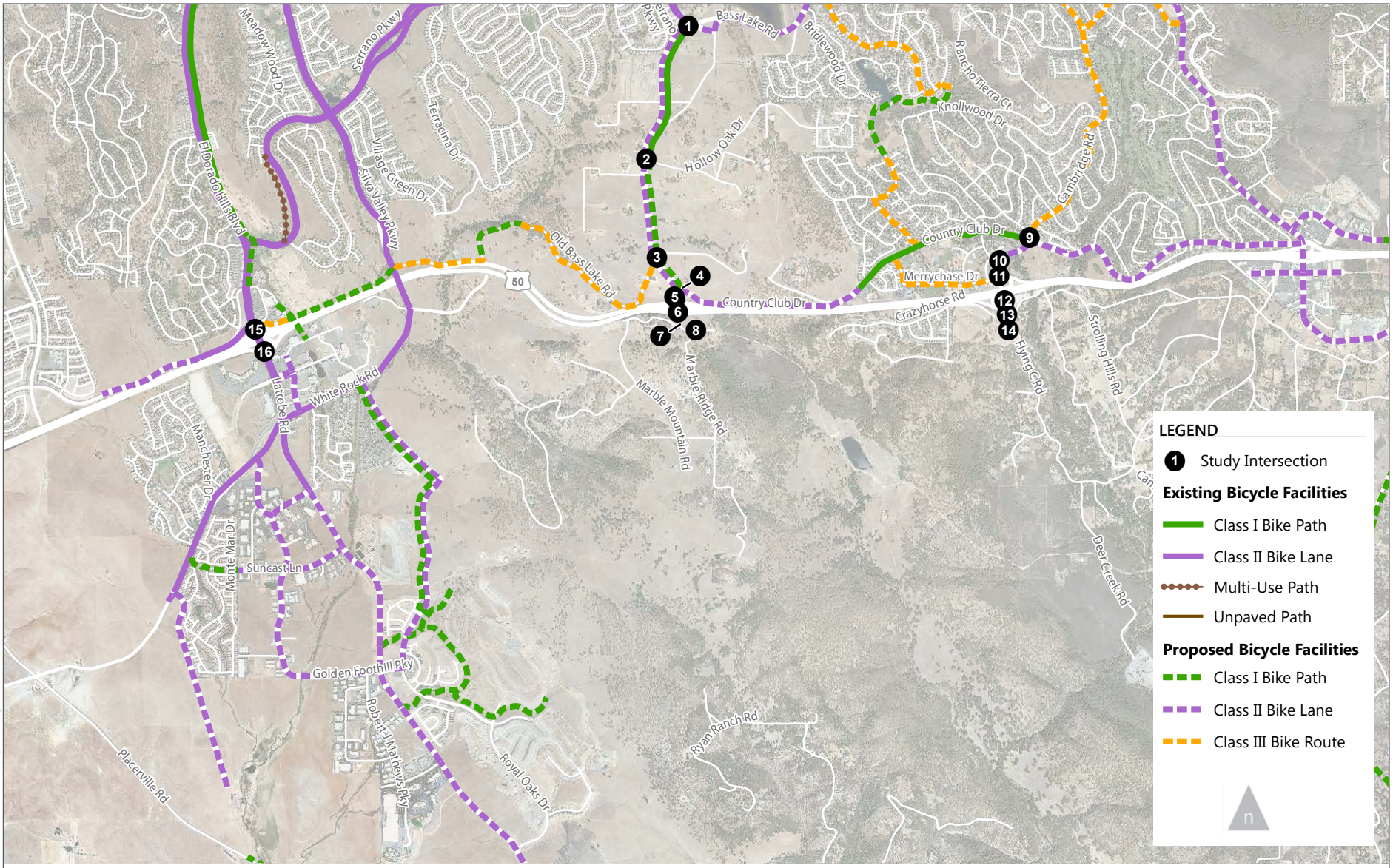
The TMP shall include the following performance features.

- Signage warning of roadway surface conditions such as loose gravel, steel plates, or similar conditions that could be hazardous to road cycling activity on roadways that are open to bicycle traffic.
- Signage and barricades around the work sites.
- Use of flag people or temporary traffic signals/signage as necessary to slow or detour traffic.
- Advance notifications for the public, emergency providers, cycling organizations, bike shops, and schools, where applicable, describing construction activities that could affect transportation.
- Outreach (via public meetings and/or flyers and other advertisements) to provide advance information about construction activities to residents of surrounding areas.
- Procedures for construction area evacuation in the case of an emergency declared by County or other local authorities. This shall include the locations of emergency evacuation routes.

- Alternate access routes via detours to maintain continual circulation for local travelers in and around construction zones, including bicyclists and pedestrians, where applicable.
- Description of construction staging areas and material delivery routes and specification of construction vehicle travel hour limits.
- Designation of areas where nighttime construction will occur.
- Plans to relocate school bus drop-off and pick-up locations if they will be affected during construction.
- Scheduling for oversized material deliveries to the work site and haul routes to minimize conflict with emergency access.
- Provisions that direct haulers are to pull over in the event of an emergency. Specific measures to ensure that appropriate maneuvers shall be conducted by construction vehicles to allow continual access for emergency vehicles at the time of an emergency.
- Control for any temporary road closure, detour, or other disruption to traffic circulation.
- Designated offsite vehicle staging and parking areas.
- Publicly posted contact information at entry in case of emergency or complaint.
- Coordination with EDCTA to develop, where feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed.
- Other actions to be identified and developed as may be needed by the construction manager/resident engineer to ensure that temporary impacts on transportation facilities are minimized.

Impact TRA-5: Impacts on circulation as a result of offsite improvements (less than significant)

As described in Chapter 2, *Project Description*, and shown in Figure 2-9, the proposed project would include several offsite improvements, including roadway improvements through the VMVSP project site, improvements to the US 50/Bass Lake Road interchange, improvements to Cambridge Road intersections with County Club Drive and Knollwood Drive, a new water transmission line, and portions of the potable water transmission main improvements. The water transmission improvements would not be anticipated to affect circulation for vehicles, bicyclists, or pedestrians. Therefore, they would not result in an impact. Roadway improvements would provide access to the proposed project and adjacent area and would include bicycle and pedestrian access to the existing and planned non-motorized transportation network north of US 50. The offsite road improvements would have beneficial effects on traffic circulation. If the VMVSP project site is not constructed then the proposed project would be required to implement interim improvements by phase, which would not be anticipated to affect circulation for vehicles, bicyclists, or pedestrians. The July 9, 2015, *Marble Valley Off-Site Roadway Improvement Phasing* memorandum provides detailed information on improvement phasing. Therefore, this impact would be less than significant.



Source: Fehr & Peers, *Draft Transportation Impact Analysis* (January 2014)

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Figure 3.14-1
Bicycle Facilities